

**STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY**

SEAC- 2015/CR-86/TC-2  
 Environment department  
 Room No. 217, 2<sup>nd</sup> floor,  
 Mantralaya Annex,  
 Mumbai- 400 032.  
 Dated: 2<sup>nd</sup> February, 2017

To,  
 M/s. Sudarshan Chemicals Industries Ltd  
 At- plot no 44, 44 part 45, 46 & 46 part,  
 MIDC Dhatav Roha, Raigad

Subject: Environment clearance for proposed expansion of pigment pesticide and intermediate manufacturing facility at plot no 44, 44 part 45, 46 & 46 part MIDC Dhatav Roha, Raigad by M/s. Sudarshanchem industries ltd.

Reference: Your vide letter dated- 05.01.2017 regarding amendment in EC granted to us.

Sir,

This has reference to your communication on the above mentioned subject. The proposal was considered as per the EIA Notification, 2006, by the State Level Expert Appraisal Committee-I, Maharashtra in its 108<sup>th</sup> meeting and decided to recommend the project for prior environmental clearance to SEIAA. Information submitted by you has been considered by State Level Environment Impact Assessment Authority in its 90<sup>th</sup> & 106<sup>th</sup> meeting.

2. It is noted that the proposal is considered by SEAC-I under screening category 5 (f), B1 & 1 (d), B1 as per EIA Notification 2006.

**Brief Information of the project submitted by Project Proponent is as:**

|   |  |  |
|---|--|--|
| 1 | Name of project  | Proposed expansion of Synthetic Organic Chemical Manufacturing facility by Sudarshan Chemicals Industries Ltd, Plot No. 46 MIDC Dhatav, Roha, Dist: Raigad                                       |
| 2 | Project Proponent  | Sudarshan Chemicals Industries Ltd.  |
| 3 | Consultant   | Aditya Environmental Service Pvt. Ltd.   |
| 5 | New Project / Expansion in existing project/ Modernization/ Diversification in exiting project | Expansion of Pigment Manufacturing Facility in Existing Manufacturing Industry.  |
| 6 | If expansion / Diversification, whether  | Existing Pigment manufacturing Facility was established in 1974 hence NA while company had obtained Environmental Clearance for its Pesticide manufacturing facility as per the EIA notification |

EC SEIAA-Item No.17 of 106<sup>th</sup> Meeting.

|    |   |  |  |   |                      |   |
|----|---|--|--|---|----------------------|---|
|    | environmental clearance has been obtained for existing project (If yes, enclose a copy with compliance table) | 1994. No: (No. J. 11011/37/96-IA II dated 14 <sup>th</sup> Feb 1997) and filing compliance regularly.                                |  |   |                      |   |
| 7  | Activity schedule in the EIA Notification   | 5(f)-B   |  |   |                      |   |
| 8  | Area Details  | Total plot area (sq. m.): 337826 (Existing+ Proposed)<br>Built up area (Sq. m.): 121723.45 (Existing+ Proposed)                      |  |   |                      |   |
| 9  | Name of the Notified Industrial area / MIDC area  | MIDC Dhatav  |  |   |                      |   |
| 10 | TOR given by SEAC? (If yes then specify the meeting)  | Yes. 80 <sup>th</sup> SEAC-I meeting dated 30-31 <sup>st</sup> May 2014  |  |   |                      |   |
| 11 | Estimated capital cost of the Project (including cost for land, building, plant and machinery separately)     | Rs. 980 Crores   |  |   |                      |   |
| 12 | Location details of the project :   | Latitude: 18° 25' 28.17"N<br>Longitude: 73° 09' 42.99"E<br>Location: MIDC Dhatav<br>Elevation above Mean Sea Level (meters): 20      |  |   |                      |   |
| 13 | Distance from Protected Areas / Critically Polluted areas / Eco-sensitive areas / inter-State boundaries      | There is no notified Protected Areas / Critically Polluted areas / Eco-sensitive areas / inter-State boundaries upto 10 km distance. |  |   |                      |   |
| 14 | Raw materials (including Process chemicals, catalysts, & additives).  | List of raw material to be used  | Physical & chemical nature of raw material | Quantity (tons year in ) full production capacity | Source of materials  | Means of transportation (source to storage site) with justification |
|    |   | Acetic acid  | Liquid                                     | 1656  | Aarey drugs, Tarapur | By road   |
|    |   | Sulphuric acid   | Liquid                                     | 2187  | Shree Pushkar, Lote  | By road   |
|    |   | Hydrochlori  | Liquid                                     | 1539  | Amit                 | By road   |

EC SEIAA-Item No.17 of 106<sup>th</sup> Meeting.

|             |   | c acid  |           |      | international                 |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|-------------|---|---|-----------|------|-------------------------------|---------|-------|--------------|-----------------|----|---|--------|-------------|---|----------|----|---------------------|------|----|-----------------------|-------|------|--------|-----------|
|             |   | Calcium chloride  | Liquid    | 1557 | Sameer chemicals              | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Caustic soda lye  | Liquid    | 7163 | Laxmi organic, Mahad          | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Isopropanol   | Liquid    | 907  | Sachin chemicals              | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Methanol  | Liquid    | 3379 | Jubilant, Pune                | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Phosphoric acid   | Liquid    | 221  | Punjab chemicals Tarapur      | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Sod. Nitrite  | Liquid    | 2920 | B.h. enterprise               | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Dimethyl formamide  | Liquid    | 283  | Krishna solve chem            | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Dimethyl sulphate   | Solid     | 115  | Aarti industries Tarapur      | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Beta. Naphthol  | solid     | 1232 | Emco dyestuff                 | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Naphthol AS   | Soild     | 304  | Siena chemicals pvt. Ltd.     | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Ortho nitro aniline   | Solid     | 67   | Premier orgochem ind.pvt.ltd, | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | C-acid  | Solid     | 528  | Kangaroo industries           | By road |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
| 15          | Production details  | Existing facility is manufacturing the following products:  |           |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | <table border="1"> <thead> <tr> <th>S. N.</th> <th>Product Name</th> <th>Quantity (MT/A)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Pigments</td> <td>20088</td> </tr> <tr> <td>2.</td> <td>Intermediates for Pigments, Agro Chem. &amp; Fine Chemicals</td> <td>4824</td> </tr> <tr> <td>3.</td> <td>Pesticide Technical</td> <td>5958</td> </tr> <tr> <td rowspan="2">4.</td> <td rowspan="2">Pesticide Formulation</td> <td>Solid</td> <td>1200</td> </tr> <tr> <td>Liquid</td> <td>5000 KL/A</td> </tr> </tbody> </table> |           |      |                               |         | S. N. | Product Name | Quantity (MT/A) | 1. | Pigments  | 20088  | 2.          | Intermediates for Pigments, Agro Chem. & Fine Chemicals | 4824     | 3. | Pesticide Technical | 5958 | 4. | Pesticide Formulation | Solid | 1200 | Liquid | 5000 KL/A |
| S. N.       | Product Name  | Quantity (MT/A)   |           |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
| 1.          | Pigments  | 20088   |           |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
| 2.          | Intermediates for Pigments, Agro Chem. & Fine Chemicals   | 4824  |           |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
| 3.          | Pesticide Technical   | 5958  |           |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
| 4.          | Pesticide Formulation   | Solid   | 1200      |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | Liquid  | 5000 KL/A |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | <i>Proposed Manufacture of following products:</i>  |           |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
|             |   | <table border="1"> <thead> <tr> <th>S. N.</th> <th>Product Name</th> <th>Quantity (MT/A)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Pigments (Organic, Inorganic, Pearl, Pigment Preparation, Fluorescent, High Performance, HP Dyes &amp; Intermediates)</td> <td>30,480</td> </tr> <tr> <td colspan="2">By-products</td> <td>Quantity</td> </tr> </tbody> </table>  |           |      |                               |         | S. N. | Product Name | Quantity (MT/A) | 1. | Pigments (Organic, Inorganic, Pearl, Pigment Preparation, Fluorescent, High Performance, HP Dyes & Intermediates) | 30,480 | By-products |   | Quantity |    |                     |      |    |                       |       |      |        |           |
| S. N.       | Product Name  | Quantity (MT/A)   |           |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
| 1.          | Pigments (Organic, Inorganic, Pearl, Pigment Preparation, Fluorescent, High Performance, HP Dyes & Intermediates) | 30,480  |           |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |
| By-products |   | Quantity  |           |      |                               |         |       |              |                 |    |   |        |             |   |          |    |                     |      |    |                       |       |      |        |           |

|    |   |  |   |                               |                                |  |
|----|---|--|---|-------------------------------|--------------------------------|--|
|    |   |  |   | (MT/M)                        |                                |  |
|    |   | i  | Phosphoric acid (12- 15 %)                  | 250                           |                                |  |
|    |   | OR   |   |                               |                                |  |
|    |   | i  | Di-calcium Phosphate                        | 400                           |                                |  |
|    |   | ii   | Recovered Pigment                           | 6                             |                                |  |
|    |   | 2  | Co- Generation plant                        | 10 MW                         |                                |  |
| 16 | Process details / manufacturing details | As per EIA report submitted chapter 2  |   |                               |                                |  |
| 17 | Rain Water Harvesting (RWH)             | <ul style="list-style-type: none"> <li>• Level of the Ground water table: NA</li> <li>• Size and no of RWH tank(s) and Quantity: NA</li> <li>• Location of the RWH tank(s): NA</li> <li>• Size, nos of recharge pits and Quantity: NA</li> <li>• Budgetary allocation (Capital cost and O&amp;M cost): NA</li> </ul>   |   |                               |                                |  |
| 18 | Total Water Requirement                 | <p>Total water requirement:</p> <ul style="list-style-type: none"> <li>• Fresh water (CMD): 12,580 CMD (existing 6896 &amp; proposed 5684)</li> <li>• Source: MIDC Dhatav</li> <li>• Recycled water (CMD): approx. 4000 cmd Mica treated eff</li> </ul> <p>Use of the water:</p> <ul style="list-style-type: none"> <li>• Process (CMD): 11260 (existing+ proposed)</li> <li>• Cooling water (CMD): 351 (existing+ proposed)</li> <li>• DM Water (CMD): --</li> <li>• Dust Suppression (CMD): --</li> <li>• Drinking (CMD): 288 (existing+ proposed)</li> <li>• Green belt (CMD): 10 (existing+ proposed)</li> <li>• Fire service (CMD): --</li> <li>• Others (CMD): 671 (existing+ proposed)</li> </ul> |   |                               |                                |  |
| 19 | Storm water drainage                    | <ul style="list-style-type: none"> <li>• Natural water drainage pattern: NA</li> <li>• quantity of storm water: NA</li> <li>• Size of SWD: NA</li> </ul>   |   |                               |                                |  |
| 20 | Sewage generation and treatment         | <ul style="list-style-type: none"> <li>• Amount of sewage generation (CMD): 72 (existing+ proposed)</li> <li>• Proposed treatment for the sewage: Treated in the existing ETP</li> <li>• Capacity of the STP (CMD) (If applicable): NA</li> </ul>  |   |                               |                                |  |
| 21 | Effluent characteristic                 | Mica Effluent (Mica Water Recycle Plant)   |   |                               |                                |  |
|    |   | Sr. No.  | Parameters (pH, BOD, COD, heavy metal, etc) | Inlet effluent Characteristic | Outlet effluent Characteristic | Effluent discharge standards (CPCB / MPCB) |
|    |   | 1  | B.O.D. (mg/lit)                             | 0                             | 0                              | 100  |
|    |   | 2  | C.O.D. (mg/lit)                             | 80                            | 20                             | 250  |
|    |   | 3  | Oil & Grease (mg/lit)                       | --                            | <5                             | 10   |
|    |   | 4  | pH  | 6.5 to 8.5                    | 6.5 to 8.5                     | 6.5 to 8.5                                 |

EC SEIAA-Item No.17 of 106<sup>th</sup> Meeting.

|    |  |  |   |                               |                                |  |
|----|--|--|---|-------------------------------|--------------------------------|--|
|    |  | 5  | Suspended Solids (mg/lit)                       | 3336                          | 10                             | 100  |
|    |  | Combined Effluents from Pigments, Agrochemicals, Sewage and Utilities (Separate ETP)   |   |                               |                                |  |
|    |  | Sr. No.  | Parameters (pH, BOD, COD, heavy metal, etc)     | Inlet effluent Characteristic | Outlet effluent Characteristic | Effluent discharge standards (CPCB / MPCB) |
|    |  | 1  | B.O.D. (mg/lit)                                 | 729                           | 80                             | 100  |
|    |  | 2  | C.O.D. (mg/lit)                                 | 1122                          | 230                            | 250  |
|    |  | 3  | Oil & Grease (mg/lit)                           | --                            | <5                             | 10   |
|    |  | 4  | pH  | 6.5 to 8.5                    | 6.5 to 8.5                     | 6.5 to 8.5                                 |
|    |  | 5  | Suspended Solids (mg/lit)                       | 334                           | 80                             | 100  |
| 22 | ETP Details                                | <ul style="list-style-type: none"> <li>Amount of effluent generation (CMD) 3872 + 10732</li> <li>Capacity of the ETP (CMD):4000 Mica Water Recycle Plant + 11,000 combined ETP</li> <li>Amount of treated effluent recycled (CMD): 3801cmd from Mica Water recycle plant</li> <li>Amount of water send to the CETP (CMD): 10703 cmd</li> <li>Membership of the CETP (If require): If yes then attach the letter Enclosed Annexure I</li> </ul> |   |                               |                                |  |
| 23 | Note on ETP technology to be used          | Mica Water Recycle Plant : Physico chemical treatment followed by NF/RO and reject to MEE<br>Combined ETP for other Effluents : Neutralization >Flash mixing > Flocculation> Equalization > Aeration > Secondary Clarifier   |   |                               |                                |  |
| 24 | Disposal of the ETP sludge (If applicable) | CHWTSDF, Taloja  |   |                               |                                |  |
| 25 | Solid waste Management                     | Solid Waste Generation   |   |                               |                                |  |
|    |  | Sr No  | Type of Waste                                   | Quantity                      | UOM                            | Mode of Disposal                           |
|    |  | 1  | Boiler Ash                                      | 130                           | MTPD                           | to brick making units/landfill             |
|    |  | 2  | Paper, Plastic, Seepages, Fiber drum            | 275                           | MTPA                           | Onsite incineration                        |
|    |  | 3  | Mica waste (dry)                                | 3500                          | MTPA                           | to offsite recycling /CHWTSDF              |
|    |  | 4  | Canteen waste                                   | 16                            | MTPA                           | Use in biogas plant/ compost               |
|    |  | 5  | Rubber, Hand gloves, PVC shoes, Tarpaulin, Hose | 20                            | MTPA                           | Sale for offsite recycling/ CHWTSDF        |

EC SEIAA-Item No.17 of 106<sup>th</sup> Meeting.

|    |                                |       |        |  |
|----|--------------------------------|-------|--------|--|
|    | pipes                          |       |        |  |
| 6  | Broken discarded glass         | 5     | MTPA   | Sale for offsite recycling/ CHWTSDF                        |
| 7  | Boiler soot                    | 4     | MTPA   | Sale for offsite recycling/ Landfill                       |
| 8  | Insulating material/ Thermocol | 20    | MTPA   | Sale to authorized vendor/ CHWTSDF                         |
| 9  | Excess biomass from ETP ( Dry) | 100   | MTPM   | Use as bio fertilizer/ compost/ CHWTSDF/ Sale to other ETP |
| 10 | Iron scrap                     | 800   | MTPA   | Sale to authorized vendor for offsite recycling            |
| 11 | Plastic (Nonmetallic scrap)    | 300   | MTPA   | Sale for offsite recycling/ CHWTSDF                        |
| 12 | Paper                          | 200   | MTPA   | Sale for offsite recycling/ CHWTSDF                        |
| 13 | Electric scrap                 | 20    | MTPA   | Sale for offsite recycling/ CHWTSDF                        |
| 14 | Discarded Barrels              | 20000 | No. PA | Sale after decontamination                                 |
| 15 | Wooden scrap                   | 300   | MTPA   | Sale for offsite recycling                                 |

Hazardous waste generation:

| Sr No | Category | Type of Waste                  | Quantity | UOM  | Mode of Disposal   |
|-------|----------|--------------------------------|----------|------|--|
| 1     | 5.1      | Used/ Spent Oil                | 12       | KLPA | CHWTSDF/ Sale to Authorized party approved by MOEF / CPCB/MPCB |
| 2     | 15.2     | Discarded Asbestos / AC sheets | 10       | MTPA | CHWTSDF  |
| 3     | 20.2     | Spent Solvent                  | 5500     | MTPM | Recover & Reuse onsite OR sale to authorized recycler          |
| 4     | 20.3     | Distillation                   | 36       | MTP  | CHWTSDF/   |

EC SEIAA-Item No.17 of 106<sup>th</sup> Meeting.

|   |      |   |       |            |   |
|---|------|---|-------|------------|---|
|   |      | residue   |       | A          | Incinerator   |
| 5   | 26.1 | Process waste, sludge/residues from pigment manufacture | 15    | MTP<br>A   | CHWTSDF/<br>Sale to<br>Authorized<br>Recycler/<br>Manufacturer<br>& Suppliers |
| 6   | 29.1 | Process Residue (waste salt, waste super cell)          | 40    | MTP<br>A   | CHWTSDF/In<br>cinerator   |
| 7   | 33.1 | Decontamination residue                                 | 1     | MTP<br>A   | CHWTSDF/<br>Incinerator   |
| 8   | 33.3 | Discarded containers/ barrels                           | 12000 | Nos.<br>PA | Sale to<br>authorized<br>party after<br>decontaminati<br>on                   |
| 9   | 33.3 | Discarded liners  | 37    | MTP<br>A   | Sale to<br>authorized<br>party after<br>decontaminati<br>on<br>/CHWTSDF       |
| 10  | 33.3 | Fiber drums/<br>material                                | 2     | MTP<br>A   | CHWTSDF/<br>Incinerate<br>plant   |
| 11  | 34.1 | Flue gas cleaning residue                               | 3     | MTP<br>A   | CHWTSDF   |
| 12  | 34.2 | Spent Ion Exchange residue                              | 0.5   | MTP<br>A   | CHWTSDF   |
| 13  | 34.3 | Chemical sludge from waste water treatment              | 3500  | MTP<br>A   | CHWTSDF   |
| 14  |      | Solid waste from MEE                                    | 5600  | MTP<br>A   | CHWTSDF   |
| 15  | 35.1 | Filter Cloth (contaminated)                             | 28    | MTP<br>A   | Sale after<br>decontaminati<br>on for offsite<br>recycling/<br>CHWTSDF        |
| 16  | -    | Used Batteries other than lead acid                     | 400   | KGP<br>A   | CHWTSDF/<br>Registered<br>recycler/Deale<br>r                                 |
| <p>If waste(s) contain any hazardous/toxic substance/ radioactive materials or heavy metals then provide quantity, disposal data and proposed precautionary measures: PPEs will be provided, separate segregated storage will be provided<br/>                 What are the possibilities of recovery and recycling of wastes? As given above</p> |      |   |       |            |   |

|         |  | Possible users of solid waste as given above<br>Method of disposal of solid waste as given above   |                       |   |                    |                       |   |   |     |        |      |     |   |                 |        |       |      |   |                 |        |      |      |   |    |        |    |    |   |       |    |    |    |
|---------|--|--|-----------------------|---|--------------------|-----------------------|---|---|-----|--------|------|-----|---|-----------------|--------|-------|------|---|-----------------|--------|------|------|---|----|--------|----|----|---|-------|----|----|----|
| 26      | Atmospheric Emissions (Flue gas characteristics SPM, SO <sub>2</sub> , NO <sub>x</sub> , CO, etc.) | Two new boilers 45 TPH each are proposed<br><table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Pollutant</th> <th>Source of Emission</th> <th>Emission rate (kg/hr)</th> <th>Concentration in flue gas (mg/Nm<sup>3</sup>)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>TPM</td> <td>Boiler</td> <td>5.52</td> <td>150</td> </tr> <tr> <td>2</td> <td>SO<sub>2</sub></td> <td>Boiler</td> <td>142.4</td> <td>3860</td> </tr> <tr> <td>3</td> <td>NO<sub>x</sub></td> <td>Boiler</td> <td>53.4</td> <td>1449</td> </tr> <tr> <td>4</td> <td>CO</td> <td>Boiler</td> <td>--</td> <td>--</td> </tr> <tr> <td>5</td> <td>Other</td> <td>--</td> <td>--</td> <td>--</td> </tr> </tbody> </table> <p>For modelling purpose the emissions at maximum possible values as given above have been used assuming TPM @ 150 mg/NM<sup>3</sup>.<br/>SO<sub>2</sub> based on 0.8% sulfur in coal</p> | Sr. No.               | Pollutant                                       | Source of Emission | Emission rate (kg/hr) | Concentration in flue gas (mg/Nm <sup>3</sup> ) | 1 | TPM | Boiler | 5.52 | 150 | 2 | SO <sub>2</sub> | Boiler | 142.4 | 3860 | 3 | NO <sub>x</sub> | Boiler | 53.4 | 1449 | 4 | CO | Boiler | -- | -- | 5 | Other | -- | -- | -- |
| Sr. No. | Pollutant  | Source of Emission   | Emission rate (kg/hr) | Concentration in flue gas (mg/Nm <sup>3</sup> ) |                    |                       |   |   |     |        |      |     |   |                 |        |       |      |   |                 |        |      |      |   |    |        |    |    |   |       |    |    |    |
| 1       | TPM  | Boiler   | 5.52                  | 150   |                    |                       |   |   |     |        |      |     |   |                 |        |       |      |   |                 |        |      |      |   |    |        |    |    |   |       |    |    |    |
| 2       | SO <sub>2</sub>  | Boiler   | 142.4                 | 3860  |                    |                       |   |   |     |        |      |     |   |                 |        |       |      |   |                 |        |      |      |   |    |        |    |    |   |       |    |    |    |
| 3       | NO <sub>x</sub>  | Boiler   | 53.4                  | 1449  |                    |                       |   |   |     |        |      |     |   |                 |        |       |      |   |                 |        |      |      |   |    |        |    |    |   |       |    |    |    |
| 4       | CO   | Boiler   | --                    | --  |                    |                       |   |   |     |        |      |     |   |                 |        |       |      |   |                 |        |      |      |   |    |        |    |    |   |       |    |    |    |
| 5       | Other  | --   | --                    | --  |                    |                       |   |   |     |        |      |     |   |                 |        |       |      |   |                 |        |      |      |   |    |        |    |    |   |       |    |    |    |

| 27                                       | Stack emission Details: (All the stacks attached to process units. Boilers, captive power plant, D.G. Sets, Incinerator both for existing and proposed activity). Please indicate the specific section to which the stack is attached. e.g.: Process section, D. G. Set, Boiler, Power Plant, incinerator etc. Emission rate (kg/hr.) for each pollutant (SPM, SO <sub>2</sub> , NO <sub>x</sub> etc. should be specified | Existing stack details<br><table border="1"> <thead> <tr> <th>Stack No.</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>13</th> <th>14</th> <th>15</th> <th>16</th> </tr> <tr> <th>Stack No.</th> <th colspan="4">SPM</th> <th colspan="4">SO<sub>2</sub></th> <th colspan="4">NO<sub>x</sub></th> <th colspan="4">Other</th> </tr> <tr> <th>Stack No.</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>13</th> <th>14</th> <th>15</th> <th>16</th> </tr> </thead> <tbody> <tr> <td>Stack attached to</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> <td>Process</td> </tr> <tr> <td>Capacity (TPH)</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> </tr> <tr> <td>Height (m)</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> </tr> <tr> <td>Temperature (°C)</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> </tr> <tr> <td>Type of fuel</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> <td>Coal</td> </tr> <tr> <td>Fuel consumption (kg/hr)</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> <td>100</td> </tr> <tr> <td>Control equipment</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> <td>None</td> </tr> <tr> <td>Time of day</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> <td>24</td> </tr> <tr> <td>Velocity (m/s)</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> <td>15</td> </tr> <tr> <td>Total gas quantity (Nm<sup>3</sup>/hr)</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> <td>1500</td> </tr> <tr> <td>SPM (mg/Nm<sup>3</sup>)</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> <td>150</td> </tr> <tr> <td>SO<sub>2</sub> (kg/day)</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> <td>142.4</td> </tr> <tr> <td>NO<sub>x</sub> (kg/day)</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> <td>53.4</td> </tr> <tr> <td>CO (kg/day)</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Other (kg/day)</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table> | Stack No. | 1       | 2               | 3       | 4       | 5       | 6               | 7       | 8       | 9       | 10      | 11      | 12      | 13      | 14 | 15 | 16 | Stack No. | SPM |  |  |  | SO <sub>2</sub> |  |  |  | NO <sub>x</sub> |  |  |  | Other |  |  |  | Stack No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | Stack attached to | Process | Process | Process | Process | Process | Process | Process | Process | Process | Process | Process | Process | Process | Process | Process | Process | Capacity (TPH) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | Height (m) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | Temperature (°C) | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | Type of fuel | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Coal | Fuel consumption (kg/hr) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | Control equipment | None | None | None | None | None | None | None | None | None | None | None | None | None | None | None | None | Time of day | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | Velocity (m/s) | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | Total gas quantity (Nm <sup>3</sup> /hr) | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | SPM (mg/Nm <sup>3</sup> ) | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | SO <sub>2</sub> (kg/day) | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | 142.4 | NO <sub>x</sub> (kg/day) | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | 53.4 | CO (kg/day) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Other (kg/day) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|--|---|---|-----------|---------|-----------------|---------|---------|---------|-----------------|---------|---------|---------|---------|---------|---------|---------|----|----|----|-----------|-----|--|--|--|-----------------|--|--|--|-----------------|--|--|--|-------|--|--|--|-----------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|-------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stack No.                                | 1   | 2   | 3         | 4       | 5               | 6       | 7       | 8       | 9               | 10      | 11      | 12      | 13      | 14      | 15      | 16      |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Stack No.                                | SPM   |   |           |         | SO <sub>2</sub> |         |         |         | NO <sub>x</sub> |         |         |         | Other   |         |         |         |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Stack No.                                | 1   | 2   | 3         | 4       | 5               | 6       | 7       | 8       | 9               | 10      | 11      | 12      | 13      | 14      | 15      | 16      |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Stack attached to                        | Process   | Process   | Process   | Process | Process         | Process | Process | Process | Process         | Process | Process | Process | Process | Process | Process | Process |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Capacity (TPH)                           | 15  | 15  | 15        | 15      | 15              | 15      | 15      | 15      | 15              | 15      | 15      | 15      | 15      | 15      | 15      | 15      |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Height (m)                               | 15  | 15  | 15        | 15      | 15              | 15      | 15      | 15      | 15              | 15      | 15      | 15      | 15      | 15      | 15      | 15      |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Temperature (°C)                         | 150   | 150   | 150       | 150     | 150             | 150     | 150     | 150     | 150             | 150     | 150     | 150     | 150     | 150     | 150     | 150     |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Type of fuel                             | Coal  | Coal  | Coal      | Coal    | Coal            | Coal    | Coal    | Coal    | Coal            | Coal    | Coal    | Coal    | Coal    | Coal    | Coal    | Coal    |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Fuel consumption (kg/hr)                 | 100   | 100   | 100       | 100     | 100             | 100     | 100     | 100     | 100             | 100     | 100     | 100     | 100     | 100     | 100     | 100     |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Control equipment                        | None  | None  | None      | None    | None            | None    | None    | None    | None            | None    | None    | None    | None    | None    | None    | None    |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Time of day                              | 24  | 24  | 24        | 24      | 24              | 24      | 24      | 24      | 24              | 24      | 24      | 24      | 24      | 24      | 24      | 24      |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Velocity (m/s)                           | 15  | 15  | 15        | 15      | 15              | 15      | 15      | 15      | 15              | 15      | 15      | 15      | 15      | 15      | 15      | 15      |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Total gas quantity (Nm <sup>3</sup> /hr) | 1500  | 1500  | 1500      | 1500    | 1500            | 1500    | 1500    | 1500    | 1500            | 1500    | 1500    | 1500    | 1500    | 1500    | 1500    | 1500    |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| SPM (mg/Nm <sup>3</sup> )                | 150   | 150   | 150       | 150     | 150             | 150     | 150     | 150     | 150             | 150     | 150     | 150     | 150     | 150     | 150     | 150     |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| SO <sub>2</sub> (kg/day)                 | 142.4   | 142.4   | 142.4     | 142.4   | 142.4           | 142.4   | 142.4   | 142.4   | 142.4           | 142.4   | 142.4   | 142.4   | 142.4   | 142.4   | 142.4   | 142.4   |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| NO <sub>x</sub> (kg/day)                 | 53.4  | 53.4  | 53.4      | 53.4    | 53.4            | 53.4    | 53.4    | 53.4    | 53.4            | 53.4    | 53.4    | 53.4    | 53.4    | 53.4    | 53.4    | 53.4    |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| CO (kg/day)                              | 0   | 0   | 0         | 0       | 0               | 0       | 0       | 0       | 0               | 0       | 0       | 0       | 0       | 0       | 0       | 0       |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Other (kg/day)                           | 0   | 0   | 0         | 0       | 0               | 0       | 0       | 0       | 0               | 0       | 0       | 0       | 0       | 0       | 0       | 0       |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Proposed Fuel Burning Stack Details:     |   |   |           |         |                 |         |         |         |                 |         |         |         |         |         |         |         |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| As per EC No. SEAC – 2015/CR-86/TC-2     |   | As per proposed change  |           |         |                 |         |         |         |                 |         |         |         |         |         |         |         |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Description                              | Stack 1   | Stack 2   |           |         |                 |         |         |         |                 |         |         |         |         |         |         |         |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Stack attached to                        | Boiler  | Boiler  |           |         |                 |         |         |         |                 |         |         |         |         |         |         |         |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Capacity                                 | 62 TPH  | 28 TPH  |           |         |                 |         |         |         |                 |         |         |         |         |         |         |         |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Fuel fired                               | Coal  | Coal  |           |         |                 |         |         |         |                 |         |         |         |         |         |         |         |    |    |    |           |     |  |  |  |                 |  |  |  |                 |  |  |  |       |  |  |  |           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |                   |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |              |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |                |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |                          |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |             |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

EC SEIAA-Item No.17 of 106<sup>th</sup> Meeting.



|    |                          |   |                                     |                                     |                                      |  |
|----|--------------------------|---|-------------------------------------|-------------------------------------|--------------------------------------|--|
|    |                          | Fuel Consumption Kg/Hr.                                       | 12264                               | 5536                                |                                      |  |
|    |                          | Material of construction of stack                             | RCC                                 | RCC                                 |                                      |  |
|    |                          | Height in meters from ground level                            | 69                                  | 54                                  |                                      |  |
|    |                          | Stack ID at top (m)   | 1.6                                 | 1.1                                 |                                      |  |
|    |                          | Stack top Round/Rectangular                                   | Round                               | Round                               |                                      |  |
|    |                          | Gas Quantity m <sup>3</sup> /Hr.                              | 77155                               | 34845                               |                                      |  |
|    |                          | Flue Gas Temperature °C                                       | 180                                 | 180                                 |                                      |  |
|    |                          | Exit velocity of the gas m/Sec.                               | 10.66                               | 10.18                               |                                      |  |
|    |                          | Total particulate matter mg/Nm <sup>3</sup>                   | 50                                  | 50                                  |                                      |  |
|    |                          | SO <sub>2</sub> g/sec.  | 54.51                               | 24.62                               |                                      |  |
|    |                          | NO <sub>x</sub> g/sec.  | 20.44                               | 9.23                                |                                      |  |
|    |                          | Nature of pollutants  | TPM                                 | TPM                                 |                                      |  |
|    |                          | Emission Control System                                       | ESP                                 | ESP                                 |                                      |  |
|    |                          | <b>Emissions from Proposed Process Units</b>                  |                                     |                                     |                                      |  |
|    |                          | Sr. No  | Plant Product                       | Process stage                       | Parameter                            | Control device                           |
|    |                          | 1   | Azo pigment                         | Diazo preparation                   | HNO <sub>2</sub>                     | Water scrubber                           |
|    |                          | 2   | Isoindolone                         | Chlorination                        | HCl                                  | Caustic scrubber                         |
|    |                          |   |                                     | Amination                           | NH <sub>3</sub>                      | Scrubber with water/dilute sulfuric acid |
|    |                          | 3   | Benz                                | Diazo preparation                   | HNO <sub>2</sub>                     | Water scrubber                           |
|    |                          | 4   | Intermediate                        | Acidification                       | HCl                                  | Caustic scrubber                         |
|    |                          | 5   | Mica                                | TiO <sub>2</sub> coating            | HCl                                  | Water scrubbing                          |
|    |                          | 6   | Mixed Metal Oxide                   | Quenching, Powder packing           | TPM                                  | Bag filter                               |
| 28 | Emission Standard        |   |                                     |                                     |                                      |  |
|    |                          | Pollutants (SPM, SO <sub>2</sub> , etc)                       | Emission Standard Limit             | Proposed Limit                      | MPCB Consent                         |  |
|    |                          | For fuel burning stacks                                       |                                     |                                     |                                      |  |
|    |                          | TPM (mg/Nm <sup>3</sup> )                                     | 150                                 | 150                                 | 150                                  |  |
|    |                          | SO <sub>2</sub> (mg/Nm <sup>3</sup> )                         | 2415                                | 3860                                | 3860                                 |  |
|    |                          | For process stacks  |                                     |                                     |                                      |  |
|    |                          | TPM (mg/Nm <sup>3</sup> )                                     | 150                                 | 150                                 | 150                                  |  |
|    |                          | SO <sub>2</sub> (Process) (ppm)                               | 50                                  | 50                                  | 50                                   |  |
|    |                          | NO <sub>x</sub> (ppm)   | 50                                  | 50                                  | 50                                   |  |
|    |                          | HCl   | 20                                  | 20                                  | 20                                   |  |
|    |                          | NH <sub>3</sub> (ppm)   | 50                                  | 50                                  | 50                                   |  |
| 29 | Ambient Air Quality Data | AAQ data after Proposed Expansion (Based on Modeling studies) |                                     |                                     |                                      |  |
|    |                          | AAQM Location   | SO <sub>2</sub> Net Impact (µg/cum) | NO <sub>x</sub> Net Impact (µg/cum) | PM <sub>10</sub> Net Impact (µg/cum) |  |

|    |  |  |              |  |  |
|----|--|--|--------------|--|--|
|    |  | Barsoli  | 15.95        | 17.3   | 68.65  |
|    |  | Vishnu Nagar   | 17.15        | 11.7   | 71.4   |
|    |  | Mahadev Wadi   | 13.2         | 15.0   | 62.85  |
|    |  | Standard   | 80           | 80   | 100  |
| 30 | Details of Fuel to be used:                        | Proposed fuel consumption:   |              |  |  |
|    |  | Sr. No.  | Type of Fuel | Quantity   | UOM  |
|    |  | 1  | Coal         | 430  | TPD  |
|    |  | 2  | LDO          | 2  | KLPD   |
|    |  | 4  | LPG          | 200  | KGPD   |
|    |  | 5  | HSD          | 240  | KLPA   |
| 31 | Energy   | Power supply:  |              |  |  |
|    |  | <ul style="list-style-type: none"> <li>Existing power requirement: --</li> <li>Proposed power requirement: 10 MW</li> </ul>  |              |  |  |
|    |  | DG sets:   |              |  |  |
|    |  | <ul style="list-style-type: none"> <li>Number and capacity DG sets to be used (existing and proposed) –</li> <li>Existing – 1100 KVA, 1150 KVA, 625 KVA &amp; 250 KVA.</li> <li>Proposed – 250 KVA, 1000 KVA, 2 Nos. of 625 KVA</li> </ul>                                   |              |  |  |
|    |  | Details of the non-conventional renewable energy proposed to be used : Solar Power , Anaerobic digester for canteen waste b  |              |  |  |
| 32 | Green Belt Development                             | <ul style="list-style-type: none"> <li>Green belt area (Sq. m.): 57578.69</li> <li>Number and species of trees to be planted –Approx. 500 Nos. of trees of 17 Nos. of species</li> <li>Number, size, age and species of trees to be cut, trees to be transplanted</li> </ul> |              |  |  |
| 33 | Details of Pollution control system                | Sr. No.  |              | Existing pollution control system                | Proposed to be installed                                 |
|    |  | 1  | Air          | ESP, Dust collector, Scrubber, Cyclone separator | ESP, Dust collector, Scrubber, Cyclone separator         |
|    |  | 2  | Water        | ETP,   | Mica Water Recycle plant and upgradation of existing ETP |
|    |  | 3  | Noise        | Acoustic enclose, Silencer.                      | Acoustic enclosure, Silencer.                            |
|    |  | 4  | Solid Waste  | Waste management system                          | Waste management system                                  |
| 34 | Environmental Management plan Budgetary Allocation | Capital cost (With break up):  |              |  |  |
|    |  | O&M cost (With break up):  |              |  |  |
|    |  | Sr. No.  |              | Recurring Cost per annum (Rs. In lakhs)          | Capital cost (Rs. In Lakhs)                              |

|    |  |  |  |      |      |
|----|--|--|--|------|------|
|    |  | 1  | Air Pollution Control                          | 50   | 2500 |
|    |  | 2  | Water Pollution Control                        | 800  | 2000 |
|    |  | 3  | Noise Pollution Control                        | --   | --   |
|    |  | 4  | Environment Monitoring and Management          | 10   | 100  |
|    |  | 5  | Reclamation borrow/ mined area (If applicable) | --   | --   |
|    |  | 6  | Occupational Health                            | 25   | 50   |
|    |  | 7  | Green Belt                                     | 50   | 100  |
|    |  | 8  | Solid waste management                         | 800  | 300  |
|    |  | 9  | Others ( Pl. Specify)                          | 400  | --   |
|    |  |  | Total  | 2135 | 5050 |
| 35 | EIA Submitted (If yes then submit the salient features)                              | Period of data collected: Winter 2013-14<br>Details of the primary data collection (i.e. location of the sample collection, number of visit, etc): AAQ at 6 locations<br>Details of the secondary data collection (i.e. Source and year of data) :<br>Potential hazard and mitigation measures : Odours due VOC handling, Mitigation measures given in chapter 4<br>Conclusion of the EIA study : impacts due to proposed project will be within manageable limits |  |      |      |
| 36 | Public hearing report (If public hearing conducted then submit the salient features) | Date of the public hearing - NA<br>Name of the news paper in which the advertisement appeared (Please attach the copy) Location of the public hearing<br>Number of people attended the hearing Objection(s) / Suggestion(s) if any   |  |      |      |
| 37 | Air pollution, water pollution issues in the project area, If any                    | No Issues  |  |      |      |

### 38. Storage of chemicals (inflammable /explosive/hazardous/toxic substances)

| Sr. No. | Name       | Number of Storages | Capacity (TPD) | Physical and Chemical Composition | Consumption (in TPD)        | Maximum Quantity of storage at any point of time | Source of Supply            | Means of Transportation |
|---------|------------|--------------------|----------------|-----------------------------------|-----------------------------|--|-----------------------------|-------------------------|
| HPP     | IBA, fresh | 1                  | 76             | Liquid                            | As per EIA report Table 2.5 | 76   | As per EIA report Table 2.5 | By Road                 |
|         | IPA, fresh | 1                  | 76             | Liquid                            |                             | 76   |                             | By Road                 |
|         | HCl, 31%   | 1                  | 198            | Liquid                            |                             | 198  |                             | By Road                 |
|         | IPA, Rec.  | 2                  | 151            | Liquid                            |                             | 151  |                             | By Road                 |
|         | DMF,       | 2                  | 20             | Liquid                            |                             | 20   |                             | By Road                 |

EC SEIAA-Item No.17 of 106<sup>th</sup> Meeting.

|               |                                |             |     |        |        |     |         |
|---------------|--------------------------------|-------------|-----|--------|--------|-----|---------|
|               | Rec.                           |             |     |        |        |     |         |
|               | DMF, Fresh                     | 1           | 137 | Liquid |        | 137 | By Road |
|               | TAA, Fresh                     | 1           | 8   | Liquid |        | 8   | By Road |
|               | DMS, Fresh                     | 1           | 15  | Liquid |        | 15  | By Road |
|               | H <sub>3</sub> PO <sub>4</sub> | 1           | 89  | Liquid |        | 89  | By Road |
|               | TOC                            | 1           | 95  | Liquid |        | 95  | By Road |
| <b>Mica</b>   | Liq. Ammonia                   | 1           | 308 | Liquid |        | 308 | By Road |
|               | Caustic lye                    | 1           | 227 | Liquid |        | 227 | By Road |
|               | SnCl <sub>2</sub>              | 1           | 4   | Solid  |        | 4   | By Road |
|               | FeCl <sub>3</sub>              | 1           | 232 | Solid  |        | 232 | By Road |
|               | HCl                            | 1           | 20  | Liquid |        | 20  | By Road |
|               | FeSO <sub>4</sub>              | 1           | 265 | Solid  |        | 265 | By Road |
|               | Caustic                        | 1           | 422 | Solid  |        | 422 | By Road |
| <b>Azo</b>    | BaCl <sub>2</sub>              | 1           | 118 | Solid  |        | 118 | By Road |
|               | Rosin                          | 1           | 87  | Solid  |        | 87  | By Road |
|               | NaNO <sub>2</sub>              | 1           | 198 | Solid  |        | 198 | By Road |
|               | HCl                            | 2           | 327 | Liquid |        | 327 | By Road |
|               | HNO <sub>3</sub>               | 1           | 199 | Liquid |        | 199 | By Road |
|               | CaCl <sub>2</sub>              | 1           | 79  | Solid  |        | 79  | By Road |
|               | <b>SRP</b>                     | MeOH, Spent | 3   | 301    | Liquid |     | 301     |
| IPA, Spent    |                                | 2           | 301 | Liquid |        | 301 | By Road |
| DMF, Spent    |                                | 2           | 64  | Liquid |        | 64  | By Road |
| <b>Common</b> | Methanol                       | 2           | 385 | Liquid |        | 385 | By Road |
|               | MeOH, Rec.                     | 2           | 203 | Liquid |        | 203 | By Road |
|               | Toluene, Fresh                 | 1           | 15  | Liquid |        | 15  | By Road |
|               | Xylene, Fresh                  | 1           | 4   | Liquid |        | 4   | By Road |

3. The proposal has been considered by SEIAA in its 90<sup>th</sup> & 106<sup>th</sup> meeting & decided to accord environmental clearance to the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to implementation of the following terms and conditions :

**General Conditions for Pre- construction phase:-**

- (i) No additional land shall be used /acquired for any activity of the project without obtaining proper permission.
- (ii) This environment clearance is issued subject to implement continuous online air monitoring.


EC SEIAA-Item No.17 of 106<sup>th</sup> Meeting.

- 23
- (iii) For controlling fugitive natural dust, regular sprinkling of water & wind shields at appropriate distances in vulnerable areas of the plant shall be ensured.
  - (iv) Regular monitoring of the air quality, including SPM & SO<sub>2</sub> levels both in work zone and ambient air shall be carried out in and around the power plant and records shall be maintained. The location of monitoring stations and frequency of monitoring shall be decided in consultation with Maharashtra Pollution Control Board (MPCB) & submit report accordingly to MPCB.
  - (v) Necessary arrangement shall be made to adequate safety and ventilation arrangement in furnace area.
  - (vi) Proper Housekeeping programmers shall be implemented.
  - (vii) In the event of the failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.
  - (viii) A stack of adequate height based on DG set capacity shall be provided for control and dispersion of pollutant from DG set.(If applicable)
  - (ix) A detailed scheme for rainwater harvesting shall be prepared and implemented to recharge ground water.
  - (x) Arrangement shall be made that effluent and storm water does not get mixed.
  - (xi) Periodic monitoring of ground water shall be undertaken and results analyzed to ascertain any change in the quality of water. Results shall be regularly submitted to the Maharashtra Pollution Control Board.
  - (xii) Noise level shall be maintained as per standards. For people working in the high noise area, requisite personal protective equipment like earplugs etc. shall be provided.
  - (xiii) The overall noise levels in and around the plant are shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures, etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989.
  - (xiv) Green belt shall be developed & maintained around the plant periphery. Green Belt Development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/ Agriculture Dept.
  - (xv) Adequate safety measures shall be provided to limit the risk zone within the plant boundary, in case of an accident. Leak detection devices shall also be installed at strategic places for early detection and warning.
  - (xvi) Occupational health surveillance of the workers shall be done on a regular basis and record maintained as per Factories Act.
  - (xvii) The company shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling.
  - (xviii) The project authorities must strictly comply with the rules and regulations with regard to handling and disposal of hazardous wastes in accordance with the Hazardous Waste (Management and Handling) Rules, 2003 (amended). Authorization from the MPCB shall be obtained for collections/treatment/storage/disposal of hazardous wastes.
  - (xix) The company shall undertake following Waste Minimization Measures :
    - Metering of quantities of active ingredients to minimize waste.
    - Reuse of by- products from the process as raw materials or as raw material substitutes in other process.
    - Maximizing Recoveries.
    - Use of automated material transfer system to minimize spillage.

- (xx) Regular mock drills for the on-site emergency management plan shall be carried out. Implementation of changes / improvements required, if any, in the on-site management plan shall be ensured.
- (xxi) A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.
- (xxii) Transportation of ash will be through closed containers and all measures should be taken to prevent spilling of the ash.
- (xxiii) Separate silos will be provided for collecting and storing bottom ash and fly ash.
- (xxiv) Separate funds shall be allocated for implementation of environmental protection measures/EMP along with item-wise breaks-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes and year-wise expenditure should reported to the MPCB & this department
- (xxv) The project management shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the marathi language of the local concerned within seven days of issue of this letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Maharashtra Pollution Control Board and may also be seen at Website at <http://ec.maharashtra.gov.in>
- (xxvi) Project management should submit half yearly compliance reports in respect of the stipulated prior environment clearance terms and conditions in hard & soft copies to the MPCB & this department, on 1<sup>st</sup> June & 1<sup>st</sup> December of each calendar year.
- (xxvii) A copy of the clearance letter shall be sent by proponent to the concerned Municipal Corporation 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.
- (xxviii) The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
- (xxix) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.
- (xxx) The environmental statement for each financial year ending 31<sup>st</sup> March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the

status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.

4. The environmental clearance is being issued without prejudice to the action initiated under EP Act or any court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision under EP Act or of the Hon'ble court will be binding on the project proponent. Hence this clearance does not give immunity to the project proponent in the case filed against him, if any or action initiated under EP Act.
5. The Environment department reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the department or for that matter, for any other administrative reason.
6. **Validity of Environment Clearance:** The environmental clearance accorded shall be valid for a period of 7 years as per MoEF&CC Notification dated 29<sup>th</sup> April, 2015 to start of production operations.
7. In case of any deviation or alteration in the project proposed from those submitted to this department for clearance, a fresh reference should be made to the department to assess the adequacy of the condition(s) imposed and to incorporate additional environmental protection measures required, if any.
8. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution ) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling ) Rules, 1989 and its amendments, the public Liability Insurance Act, 1991 and its amendments.
9. Any appeal against this environmental clearance shall lie with the National Green Tribunal (Western Zone Bench, Pune), New Administrative Building, 1<sup>st</sup> Floor, D-, Wing, Opposite Council Hall, Pune, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

  
 (S. M. Gavai)  
 Member Secretary, SEIAA.

**Copy to:**

1. Shri. R. C. Joshi, IAS (Retd.), Chairman, SEIAA, Flat No. 26, Belvedere, Bhulabhai desai road, Breach candy, Mumbai- 400026.
2. Shri T. C. Benjamin, IAS (Retired), Chairman, SEAC-I, 602, PECAN, Marigold, Behind Gold Adlabs, Kalyani Nagar, Pune – 411014. .
3. Additional Secretary, MoEF & CC, Indira Paryavaran Bhavan, Jorbagh Road, Aliganj, New Delhi-110003.

4. Member Secretary, Maharashtra Pollution Control Board, with request to display a copy of the clearance.
5. Regional Office (WCZ), Ministry of Environment, Forest and Climate Change, Nagpur
6. Regional Office, MPCB, Raigad.
7. Collector, Raigad
8. IA- Division, Monitoring Cell, MoEF & CC, Indira Paryavaran Bhavan, Jorbagh Road, Aliganj, New Delhi-110003.
9. Select file (TC-3)

(EC uploaded on )