



Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), JHARKHAND)

To,

The Vice President  
THE INDIAN STEEL AND WIRE PRODUCTS LIMITED  
Indranagar, Jamshedpur, East Singhbhum-831008, -831004

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/JH/IND1/440210/2023 dated 15 Aug 2023. The particulars of the environmental clearance granted to the project are as below.

- EC Identification No.** EC23B008JH110673
- File No.** EC/SEIAA/2023-24/2785/2023
- Project Type** Expansion
- Category** B
- Project/Activity including Schedule No.** 3(a) Metallurgical industries (ferrous & non ferrous)
- Name of Project** Expansion of existing Rebars & Wire Rods at Wire Rod Mill from capacity 2,67,000 TPA to 4,75,200 TPA & HC & MS GI Wires at Wire Mill from 62,050 TPA to 2,37,600 TPA and 100 TPA Graphene Powder production facility, located at Jamshedpur Notified Area Committee, District: East Singhbhum, Jharkhand
- Name of Company/Organization** THE INDIAN STEEL AND WIRE PRODUCTS LIMITED
- Location of Project** JHARKHAND
- TOR Date** N/A

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 11/09/2023

(e-signed)  
Ashok Kumar, IFS  
Member Secretary  
SEIAA - (JHARKHAND)

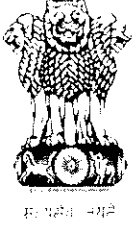
*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.*

*This is a computer generated cover page.*

PARIVESH

(Pro-Active and Responsive Facilitation by Interactive,  
and Virtuous Environmental Single-Window Hub)





**State Level Environment Impact Assessment Authority, Jharkhand.**

Nursery Complex, Near Dhurwa Bus Stand, Dhurwa, Ranchi, Jharkhand-834 004.

E-mail: [msseiaa.jhk@gmail.com](mailto:msseiaa.jhk@gmail.com)/[chr-sciaajhr@gov.in](mailto:chr-sciaajhr@gov.in)

website: [www.jseiaa.org](http://www.jseiaa.org)

Letter No.- EC/SEIAA/2022-23/2785/2023/

Ranchi, Date:

To: **M/s The Indian Steel and Wire Products Limited,  
Sri Indrajit Nandi,  
Vice President (Engg. & Project),  
Flat no. 7 D & E, 7<sup>th</sup> Floor, Everest House,  
46 C Chowringhee Road, Kolkata - 700071.**

Sub.: Environmental Clearance for the project **“Expansion of existing Rebars & Wire Rods at Wire Rod Mill from capacity 2,67,000 TPA to 4,75,200 TPA & HC & MS GI Wires at Wire Mill from 62,050 TPA to 2,37,600 TPA and 100 TPA Graphene Powder production facility by M/s The Indian Steel and Wire Products Limited at Jamshedpur Notified Area Committee, Distt. : East Singhbhum, Jharkhand”** (Proposal No. : SIA/JH/IND1/440210/2023) – regarding.

Ref: Your application no. ISWP/POLL/2023-24/392/14, dated - 14.08.2023.

Sir,

It is in reference to the project **“Expansion of existing Rebars & Wire Rods at Wire Rod Mill from capacity 2,67,000 TPA to 4,75,200 TPA & HC & MS GI Wires at Wire Mill from 62,050 TPA to 2,37,600 TPA and 100 TPA Graphene Powder production facility by M/s The Indian Steel and Wire Products Limited at Jamshedpur Notified Area Committee, Distt. : East Singhbhum, Jharkhand”**, submitted by you for seeking prior Environmental Clearances (EC).

This is an expansion project which has been taken for appraisal on 18.08.2023.

M/s The Indian Steel and Wire Products Limited has made an online application vide proposal no. SIA/JH/ IND1/ 440210/2023 along with copy of EIA/EMP report seeking Environment Clearance (EC) under the provision of the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at schedule no. 3(a) “Metallurgical Industries (Ferrous and Non-Ferrous)” under category “B” of the schedule of the EIA notification, 2006.

This is an expansion and modernization proposal within the existing plant premises of 27.56 ha (68.10 Acres). The project of M/s The Indian Steel and Wire Products Limited is located at Indranagar, Golmuri, Jamshedpur, Khata no. 33, Ward no. 14 of Jamshedpur Notified Area Committee, District East Singhbhum, Jharkhand.

The proposal is for Expansion of existing Rebars & Wire Rods at Wire Rod Mill from capacity 2,67,000 TPA to 4,75,200 TPA; HC, MS & GI/LRPC Wires at Wire Mill from 62,050 TPA to 2,37,600 TPA and 100 TPA Graphene Powder production facility.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 102<sup>nd</sup> meeting held on 21-25.03.2023 and SEIAA, Jharkhand has approved the ToRs in 103<sup>rd</sup> meeting held on 01<sup>st</sup> & 02<sup>nd</sup> April, 2023. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2785/2023/23, date 12.04.2023. The final EIA / EMP submitted by PP to SEIAA on 14.08.2023 and which was forwarded to SEAC on 14.08.2023.

Environmental Site Settings:

| Sl. No.            | Particulars  | Details   |            |          | Remarks                     |                    |      |       |               |      |      |   |  |  |
|--------------------|--|---|------------|----------|-----------------------------|--------------------|------|-------|---------------|------|------|---|--|--|
| 1                  | Total Land   | 27.56 ha (68.10 Acres)  |            |          | Industrial Land             |                    |      |       |               |      |      |   |  |  |
| 2                  | Land Acquisition Details   | The land is leased to ISWPL and complete land is in possession of the company. Expansion is proposed in the existing premises itself.   |            |          | No additional land required |                    |      |       |               |      |      |   |  |  |
| 3                  | Existence of habitation & involvement of R&R, if any   | No habitation is present within the project area.<br>Nearest habitation in study area is Maniit, Namda Basti situated adjacent to plant site in SSW direction   |            |          | R&R not applicable          |                    |      |       |               |      |      |   |  |  |
| 4                  | Latitude and longitude of all corners of the project site  | The project lies in between latitude 22°46'13.916" N to 22°46'38.061" N and longitude 86°13'51.326" E to 86°14'9.540" E   |            |          |                             |                    |      |       |               |      |      |   |  |  |
| 5                  | Elevation of the project site  | 170 m to 172 m above mean sea level   |            |          |                             |                    |      |       |               |      |      |   |  |  |
| 6                  | Involvement of forest land if any  | No forest land is involved in the project   |            |          |                             |                    |      |       |               |      |      |   |  |  |
| 7                  | Water body (River, Lakes, Pond, Nala, Natural Drainage, Canal etc.) exists within the project site as well as study area | <table border="1"> <thead> <tr> <th>Water Body</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>Subarnarekha River</td> <td>2.90</td> <td>North</td> </tr> <tr> <td>Kharkai River</td> <td>5.10</td> <td>West</td> </tr> </tbody> </table> | Water Body | Distance | Direction                   | Subarnarekha River | 2.90 | North | Kharkai River | 5.10 | West | <b>Project Site:</b> RWII/Works Pond SSW<br><b>Study Area:</b><br>ISWP Pond – 0.1 km E<br>Teleo Pond – 0.65 km NE<br>Tata Steel Pond – 4.65 km W<br>Jayanti Sarovar – 5.65 km NW<br>Dimna Lake – 9.16 NNE |  |  |
| Water Body         | Distance   | Direction   |            |          |                             |                    |      |       |               |      |      |   |  |  |
| Subarnarekha River | 2.90   | North   |            |          |                             |                    |      |       |               |      |      |   |  |  |
| Kharkai River      | 5.10   | West  |            |          |                             |                    |      |       |               |      |      |   |  |  |
| 8                  | Existence of   | <b>Project located outside ESZ</b>  |            |          | Integrated                  |                    |      |       |               |      |      |   |  |  |

|   |   |   |
|---|---|---|
| ESZ/ESA/National Park/Wildlife Sanctuary/Biosphere Reserve/Tiger Reserve/Elephant Reserve etc. if any within the study area | <b>Name of ESZ:</b> Dalma Wildlife Sanctuary<br><b>Status of Notification:</b> Notified<br><b>Distance from Project:</b> 7 km NNE*<br><b>List of RF and PF:</b><br>Kamargora Protected Forest - 8.57 NW<br>Kudada Reserve Forest - 7.48 SW<br>Bardih Protected Forest - 7.40 N<br>Bhelaipahari Reserve Forest - 7.3NE<br>Dalma Wildlife Sanctuary – 7 NNE*<br>Rahergarah Protected Forest - 5.86 NE<br>Dhan Chatani Reserved Forest - 3.32 SE | wildlife management plan has been prepared and submitted. |
|---|---|---|

The proposed mill is located in Khata no. 33, Ward no. 14 of Jamshedpur Notified Area Committee, District East Singhbhum, Jharkhand. The project lies in between latitude 22°46'13.916" N to 22°46'38.061" N and longitude 86°13'51.326" E to 86°14'9.540" E, details of the corner coordinates are as below:

| Pillar no | Latitude        | Longitude       |
|-----------|-----------------|-----------------|
| 1         | 22°46'38.061" N | 86°13'51.647" E |
| 2         | 22°46'36.104" N | 86°13'53.563" E |
| 3         | 22°46'36.599" N | 86°13'54.203" E |
| 4         | 22°46'35.658" N | 86°13'54.203" E |
| 5         | 22°46'37.256" N | 86°13'57.174" E |
| 6         | 22°46'34.206" N | 86°14'0.806" E  |
| 7         | 22°46'33.158" N | 86°14'9.540" E  |
| 8         | 22°46'16.650" N | 86°14'8.957" E  |
| 9         | 22°46'15.678" N | 86°14'0.446" E  |
| 10        | 22°46'13.916" N | 86°13'56.334" E |
| 11        | 22°46'14.372" N | 86°13'51.326" E |
| 12        | 22°46'26.592" N | 86°13'51.640" E |

**Land details:**

| Khata Number | Plot Number   |
|--------------|---|
| 33           | 306, 307, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 565, 566, 760, 761 (ward no. 14, Jamshedpur Notified). |

*RSK*

*SY*

*h*

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

| Unit                            | Existing  | Addition  | Final (TPH) | Capacity (TPA)                           | Remarks   |
|---------------------------------|---|---|-------------|--|---|
| <b>Rod Mill</b>                 |   |   |             |  |   |
| Reheating Furnace               | x 55 TPH<br>For<br>2,77,947<br>TPA<br>Billets<br>heating      | Process & efficiency optimization to achieve.<br>1 x 60 TPH | 1 x 60      | 4,94,683<br>Billets<br>heating           | Expansion through process optimization and maximum equipment efficiency utilization.<br>No additional/new equipment installation. |
| Rod Mill (25 Strands)           | 1 x 55 TPH<br>For<br>2,67,000<br>TPA<br>Rebars &<br>Wire Rods | Process & efficiency optimization to achieve.<br>1 x 60 TPH | 1 x 60      | 4,75,200<br>Rebars &<br>Wire Rods        |   |
| <b>Wire Mill</b>                |   |   |             |  |   |
| Wire Drawing                    | 7 x 1 TPH<br>For<br>62,050<br>TPA<br>HC, MS &<br>GI Wires     | 23 x 1 TPH  | 30 x 1      | 2,37,600<br>HC, MS &<br>GI/LRPC<br>Wires | Addition of new lines<br>* The total product mix of HC, MS & GI/LRPC Wires will be maintained within 2,37,600 TPA                 |
| Galvanizing Line                | 1 x 7.6<br>TPH  | 1 x 7.6 TPH   | 2 x 7.6     | 1,20,000<br>GI Wires                     |   |
| <b>Graphene Powder Facility</b> |   |   |             |  |   |
| Pusher Furnace                  | 1 x 0.014   | -   | 1 x 0.014   | 100                                      | No change proposed  |
| Balling Machine                 |   |   |             |  |   |
| Packaging Machine               |   |   |             |  |   |

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

| #                             | Section   | Raw Material | Existing | Additional | Final    | Source             | Mode of Transportation |
|-------------------------------|-----------|--------------|----------|------------|----------|--------------------|------------------------|
| <b>Wire Rod Mill – annual</b> |           |              |          |            |          |                    |                        |
| 1                             | Rod Mill  | Billets (T)  | 2,77,947 | 2,16,736   | 4,94,683 | Tata Steel, others | Road                   |
| 2                             | Wire Mill | Wire Rod (T) | 63,272   | 1,79,009   | 2,42,281 | In-house, others   | Road                   |

| Graphene Powder Facility - annual |                             |  |          |          |          |                       |          |
|-----------------------------------|-----------------------------|--|----------|----------|----------|-----------------------|----------|
| 1                                 | Graphene Powder             | Shellac.<br>Intercalated<br>Graphene (T) | 175      | -        | 175      | Tata<br>Steel         | Road     |
| Fuel Requirements - annual        |                             |  |          |          |          |                       |          |
| 1                                 | LDO/FO<br>- Existing        | Furnace Oil<br>(KL)                      | 9,474    | 7,841    | 17,314   | IOCL                  | Road     |
| 2                                 | Natural Gas* --<br>Proposed | Natural Gas<br>(mmbtu)                   | 2,84,022 | 3,01,045 | 5,85,067 | GAIL                  | Pipeline |
| Other Requirements - annual       |                             |  |          |          |          |                       |          |
| 1                                 | Wire Mill &<br>Graphene     | LPG<br>(Existing, kg)                    | 2,284    | 5,064    | 7,348    | IOCL                  | Road     |
| 2                                 | For Galvanizing             | Zinc (T)                                 | 1,139    | 2,532    | 3,671    | Hindus<br>tan<br>Zinc | Road     |
|                                   |                             | Lead (T)                                 | 126      | 281      | 408      | Hindus<br>tan<br>Zinc | Road     |
|                                   |                             | HCL (KL)                                 | 696      | 1,547    | 2,243    | Local<br>Market       | Road     |

The company has proposed to shift to cleaner fuel of Natural Gas within 14 months of operation of the expanded facility.

The makeup water requirement for the proposed expansion is estimated as 769 KLD which will be met through pipeline from TSUIL (Formerly JUSCO). Total makeup water requirement at final stage after expansion will be 1354 KLD.

Industrial wastewater will be about 82 KLD out of which 80 KLD rinse water from acid bath will be treated in ETP approx. 1.63 KLD water will be evaporation, sludge and other losses. 0.37 KLD Waste Pickle Liquor will be disposed to Adityapur TSDF. The existing ETP has a capacity of 40 KLD. It will be augmented and upgraded to treat 80 KLD wastewater. Domestic wastewater generated is envisaged as 38 KLD. It will be treated in SIP of 900 KLD (800 + 100 KLD) capacity situated outside the plant premises operated by ISWPL.

The power requirement for the proposed expansion is envisaged as 4 MW, which will be obtained from TSUIL. Total power requirement at the final stage after expansion will be 12 MW. DG set of 250 KVA is present for backup.

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

**Baseline Environmental Status :**

|  |   |
|--|---|
| <b>Period</b>  | October 2021 to December 2021 (post monsoon)  |
| <b>Air Environment</b>   | PM <sub>10</sub> – 64.8 to 98.8 µg/m <sup>3</sup><br>PM <sub>2.5</sub> – 30.3 to 55.9 µg/m <sup>3</sup><br>SO <sub>2</sub> – 10.2 to 18.2 µg/m <sup>3</sup><br>NO <sub>x</sub> – 22.8 to 36.6 µg/m <sup>3</sup>   |
| <b>AAQ Modelling max. Incremental GLCs (with control measures)</b> | PM <sub>10</sub> – 0.70 µg/m <sup>3</sup><br>PM <sub>2.5</sub> – 0.50 µg/m <sup>3</sup><br>SO <sub>2</sub> – 1.00 µg/m <sup>3</sup><br>NO <sub>x</sub> – 0.80 µg/m <sup>3</sup><br>at 150 m from Stack towards ENE  |
| <b>Groundwater Quality</b>   | pH: 7.21 to 7.44, Total Hardness: 64 to 140 mg/l, Chloride: 18.8 to 42.2 mg/l, Fluoride: 0.051 to 0.23 mg/l, Alkalinity – 60 to 132.0 mg/l, TDS: 142 to 230 mg/l  |
| <b>Surface Water Quality</b>                                       | pH: 7.12 to 7.52, DO – 6.1 to 6.8 mg/l, BOD – 2.1 to 2.6 mg/l, COD – 4.1 to 10.6 mg/l   |
| <b>Noise Environment</b>   | 41.1 to 72.4 dB(A) at Daytime and 32.5 to 63.1 dB(A) at Night-time  |
| <b>Soil Environment</b>  | pH: 6.88 to 7.22, Conductivity: 349.6 to 511.6 µS, Moisture%: 6.8 to 7.8%, Potassium: 366 to 418 kg/ha, Nitrogen: 144 to 208 kg/ha  |
| <b>Traffic assessment study</b>                                    | <ul style="list-style-type: none"> <li>• Traffic study has been conducted at Cummin's Road joining the material gate of the project, Namdih road located adjacent to project site and Teleo Road, an intersection of importance.</li> <li>• Transportation of raw material and finished goods will be done 100% by road.</li> <li>• Existing PCU is 511.4 PCU/hr and existing LOS is C</li> <li>• Proposed PCU during operation phase is 740 PCU/hr and the service remains as LOS C</li> </ul> |
| <b>Flora &amp; Fauna</b>   | 12 schedule-I species identified in the study area. Integrated Wildlife Conservation Plan has been submitted to PCCF vide ISWP/PCCF/IWMP/285/23 on 12/07/2023.  |

*AG*

*B*

*h*

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

| Facility                         | Waste                    | Existing | Additional | Final    | Management   |
|----------------------------------|--------------------------|----------|------------|----------|--|
| <b>Solid Waste per annum</b>     |                          |          |            |          |  |
| Wire Rod & Wire Mill             | Scrap (T)                | 7,215    | 7,279      | 14,494   | Used in foundry - JEMCO                                  |
|                                  | Mill scale (T)           | 2,732    | 2,258      | 4,990    |  |
|                                  | Dry Burnt Lubricant (T)  | 72       | 84         | 156      | Supplied to industrial lubricant soap manufacturing      |
| <b>Hazardous Waste per annum</b> |                          |          |            |          |  |
| All units                        | Used Oil (KL.)           | 12.9 KL. | 2.65 KL.   | 15.55 KL | Stored and disposed to Authorized recyclers as per norms |
| Wire Mill                        | Lead Ash (T)             | 129      | -          | -        | Stored and disposed to Authorized recyclers              |
|                                  | Zinc Dross (T)           | 155      | 117        | 272      |  |
|                                  | Zinc Ash (T)             | 358      | 382        | 740      |  |
|                                  | Waste Pickle Liquor (KL) | 45       | 80         | 125      | Adityapur Waste Management Pvt. Ltd. TSDF, Adityapur     |
| ETP                              | Sludge (T)               | 77       | 78         | 155      |  |

**Public Consultation:**

|                             |  |
|-----------------------------|--|
| Details of advertisement    | 15.06.2023 in Prabhat Khabar and Times of India  |
| Date of public consultation | 24.07.2023   |
| Venue                       | Tinplate Kali Mandir marriage Hall, Jamshedpur   |
| Presiding Officer           | Mr. Piyush Sinha, SDO, Jamshedpur  |
| Major Issues Raised         | <ul style="list-style-type: none"> <li>• Upgradation of basic infrastructure like road, electricity, drinking water &amp; drainage system.</li> <li>• Support on education, sports, and Health care facilities.</li> <li>• Ensure safety of the processes.</li> <li>• Ensure pollution control facilities.</li> <li>• Employment opportunity.</li> </ul> |

BB

*[Handwritten signature]*

*[Handwritten signature]*



Action plan as per MoEF & CC O.M. dated 30.09.2020.

| S. No.   | Physical Activity and Action Plan             |                        | Year Wise Proposed Public Hearing Compliances Budget (Rs. In Lakhs) |                      |                      | Total Amount (Rs. In Lakhs) | Detail of the Physical Target  |
|----------|---|------------------------|---|----------------------|----------------------|-----------------------------|--|
|          | Name of the Activity                          | Total Physical Targets | 1 <sup>st</sup> Year  | 2 <sup>nd</sup> Year | 3 <sup>rd</sup> Year |                             |  |
| <b>A</b> | <b>Education</b>                              |                        |   |                      |                      |                             |  |
| 1        | Primary education for Childrens of Basti area | 40/Year                | 2.40  | 3.00                 | 3.40                 | 8.80                        | Support for education of under privilege children- Children from Birsanagar zone no. 4, 5 & 6. Ramadhin Bagan. & Gaitri Nagar of project site will be mainstreamed in schools    |
| 2        | Jyoti Fellowship                              | 30/year                | 2.00  | 2.40                 | 2.80                 | 7.20                        | Merit Base Scholarship to students of class VII std. to Post Graduation Std. under Affirmative Actions Program from Birsanagar zone no. 4, 5 & 6. Ramadhin Bagan. & Gaitri Nagar |
|          | <b>Sub Total (Education)</b>                  |                        | <b>4.40</b>   | <b>5.40</b>          | <b>6.20</b>          | <b>16.00</b>                |  |
| <b>B</b> | <b>Health</b>                                 |                        |   |                      |                      |                             |  |
| 1        | Mobile Public Health camps                    | 200 footfall/month     | 2.00  | 2.60                 | 3.80                 | 8.40                        | Primary health check-up. awareness and pathological tests for the community in Birsanagar zone no. 4, 5 & 6 and Ramadhin Bagan which are close to ISWP                           |

|          |  |                               |              |              |              |              |   |
|----------|--|-------------------------------|--------------|--------------|--------------|--------------|---|
|          |  |                               |              |              |              |              | company.  |
|          | <b>Sub Total (Health)</b>  |                               | <b>2.00</b>  | <b>2.60</b>  | <b>3.80</b>  | <b>8.40</b>  |   |
| <b>C</b> | <b>Drinking Water</b>  |                               |              |              |              |              |   |
| 1        | Assurance of Drinking water quality  | Birsanagar zone number 4,5 &6 | 3.00         | 3.50         | 4.00         | 10.50        | Drinking water quality regularly checked and assurance for good quality drinking water in birsanagar zone 4, 5 & 6                                      |
|          | <b>Sub Total (Drinking Water)</b>  |                               | <b>3.00</b>  | <b>3.50</b>  | <b>4.00</b>  | <b>10.50</b> |   |
| <b>D</b> | <b>Environment</b>   |                               |              |              |              |              |   |
| 2        | Display of AQI/OCEMS Board at factory Main gate.                                       | 2 nos                         | 13.00        | 6.00         | 0.00         | 19.00        | 1 nos of OCEMS board will be installed in ISWP and 1 nos in JEMCO   |
| 3        | Plantation/Afforestation Drive (including sampling and protection like tree guard etc) | 15000 trees                   | 30.00        | 19.00        | 19.00        | 68.00        | 15000 trees will be planted in the nearby vicinity of plant. @ Rs.453 per plant   |
|          | <b>Sub Total (Environment)</b>   |                               | <b>43.00</b> | <b>25.00</b> | <b>19.00</b> | <b>87.00</b> |   |
| <b>E</b> | <b>Livelihood</b>  |                               |              |              |              |              |   |
| 1        | Employability of youths through Skill Development programme                            | 20 person/Year                | 3.00         | 3.00         | 4.00         | 10.00        | Skill development programme at professional institutions- ITI; TSTI, JNTVTI Bur namines; Motor Driving Training thru Maruti Driving Training Institute; |

|          |   |   |              |              |              |               |   |
|----------|---|---|--------------|--------------|--------------|---------------|---|
|          |   |   |              |              |              |               | Nursing Training; etc.  |
| 2        | Women empowerment through tailoring, beautician, hospitality, etc | 15 person                                   | 0.50         | 1.00         | 1.50         | 3.00          | Women empowerment through vocational trainings like tailoring, beautician training, hospitality training etc. |
|          | <b>Sub Total (Livelihood)</b>                                     |   | <b>3.50</b>  | <b>4.00</b>  | <b>5.50</b>  | <b>13.00</b>  |   |
| <b>F</b> | <b>Infrastructure</b>   |   |              |              |              |               |   |
| 1        | Road patchwork along with Drain in the locality                   | Ramadhin Bagan to Rajak Samaj road - 0.5 Km | 10.00        | 11.30        | 0.00         | 21.30         | Road patchwork of 0.5 km long with drainage in Ramadhin Bagan to Rajak Samaj Road                             |
| 2        | Streetlights  | 20 nos. from Ramadhin Bagan to Rajak Samaj  | 2.00         | 4.00         | 2.40         | 8.40          | 20 nos. of street light facility from JEMCO bus stand to Rajak Samaj.   |
|          | <b>Sub Total (Infrastructure)</b>                                 |   | <b>12.00</b> | <b>15.30</b> | <b>2.40</b>  | <b>29.70</b>  |   |
|          | <b>Grand Total</b>  |   | <b>67.90</b> | <b>55.80</b> | <b>40.90</b> | <b>164.60</b> |   |

The existing capital cost of the project is Rs. 141 Crores, additional cost envisaged is Rs. 109 Crores. Final Project cost will be Rs. 250 Crores.

Cost for environmental protection measures is proposed as Rs. 9.29 Crores. The annual recurring cost towards the environmental protection measures is envisaged as Rs. 3.34 Crores. The details of cost for environmental protection measures are follows:

| Sl. No. | Unit | Detail          | Capital Cost   |          | Operating Cost |          | Maintenance Cost |          | Recurring Cost |          |
|---------|------|-----------------|----------------|----------|----------------|----------|------------------|----------|----------------|----------|
|         |      |                 | (Rs. in Lakhs) |          | (Rs. in Lakhs) |          | (Rs. in Lakhs)   |          | (Rs. in Lakhs) |          |
|         |      |                 | Existing       | Proposed | Existing       | Proposed | Existing         | Proposed | Existing       | Proposed |
| 1       | Air  | APCD (Recuperat | 50             | -        | 5              | -        | 5                | -        | 10             | -        |

|   |                               |   |               |               |                |               |                |                |               |               |
|---|-------------------------------|---|---------------|---------------|----------------|---------------|----------------|----------------|---------------|---------------|
|   |                               | or)   |               |               |                |               |                |                |               |               |
| 2 | Waste water                   | ETP, Fumeless Pickling  | 45            | 70            | 16.44          | -             | 24.67          | -              | 41.11         | -             |
| 3 | Noise                         | Mufflers, Acoustic Enclosures                                 | 20            | 20            | -              | -             | -              | 1              | -             | 1             |
| 4 | Post Environmental Monitoring | Air, Water, Noise, & Soil, CAAQMS, Stack Monitoring           | 35            | 70            | 9              | 18            | 3              | 6              | 12            | 24            |
| 5 | Green belt Development        | Plantation  | 10            | 74.76         | -              | -             | -              | 15             | -             | 15            |
| 6 | Occupational Health & Safety  | Medical Health check-up, PPE, Fire safety, Natural Gas Safety | 50            | 321.1         | 12             | 64.695        | 45             | 109.695        | 57            | 174.39        |
| 7 | Public Hearing Compliances    | Solar Panel & Road construction etc. as required              | -             | 164           | -              | -             | -              | -              | -             | -             |
|   | <b>Sub-Total</b>              |   | <b>210</b>    | <b>719.86</b> | <b>42.44</b>   | <b>82.695</b> | <b>77.67</b>   | <b>131.695</b> | <b>120.11</b> | <b>214.39</b> |
|   | <b>Total</b>                  |   | <b>929.86</b> |               | <b>125.135</b> |               | <b>209.365</b> |                | <b>334.5</b>  |               |

Total manpower requirement for the project will remain same as 674. Locals will be employed during the construction phase.

Existing greenbelt has been developed over 6.14 ha which is about 22.27% of the total project area. Gap plantation will be undertaken in the same. A 10 m wide greenbelt consisting of at least 3 tiers around the plant boundary will be developed as greenbelt and green cover. Additionally, a 4.04 ha area has been identified for plantation outside the plant premises. Local and native species will be planted with a density of 2500 trees per hectare. A total of 15,523 saplings will be planted and nurtured over the combined area of 10.18 ha in 3 years. Total plantation area i.e. 10.18 ha. will be 36.93% of the plant area and approx. 33% of the total area.

*AS*

*g*

*A*

**STATUTORY CLEARANCES:**

|   |   |   |
|---|---|---|
| 1 | LOI/Lease docs  | : The land owned by Tata Steel for the period of 99 years vide lease deed no. 7415-7051, dated 01.06.1935.  |
| 2 | CO  | : The CO, Jamshedpur, East Singhbhum vide memo no. 2359, dated 07.12.2022 has mentioned the plot no. of the project is not recorded as "Jungle Jhari" in R.S. Khatiyan & Register II. |
| 3 | DFO Wild Life   | : DFO, Dalma Elephant Project vide letter no. 1811, dated 13.12.2022 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.              |
| 4 | DFO Forest Distance                                   | : DFO, Jamshedpur Forest Division vide letter no. 3048, dated 15.12.2022 certified that the distance of reserved / protected forest is more than 250 m from project site.             |
| 5 | Consent to Establish (CTE) & Consent to Operate (CTO) | : <b>Combined Consent (CTE &amp; CTO)</b> issued by JSPCB vide Ref. no. JSPCB/RO/JSR/CTE/CTO-6875830/2019/49, dated 10.12.2019.   |
| 6 | Consent to Establish (CTE)                            | : <b>CTE</b> issued by JSPCB vide Ref. no. :<br>i. JSPCB/HO/RNC/CTE-6149603/2020/85, dated 07.02.2020.<br>ii. JSPCB/HO/RNC/CTE-6419916/2020/84, dated 07.02.2020.                     |
| 7 | Consent to Operate (CTO)                              | : <b>CTO</b> granted by JSPCB vide Ref. no. :<br>i. JSPCB/RO/JSR/CTO-9498890 /2021/50, dated 15.03.2021.<br>ii. JSPCB/HO/RNC/CTO-11018282 /2023/226, dated 02.02.2023.                |
| 8 | Hazardous Waste Authorization                         | : JSPCB/HO/RNC/HWM-1685952 / 2018 / 30, dated 08.04.2018.   |
| 9 | Public Hearing  | : JSPCB vide Ref. no. PC/P.H./JSPCB/62/05-2023/B-1598, dated 13.06.2023 informed that Public Hearing conducted on 24.07.2023.   |

There are no violations, court cases, show cause or direction issued by any authority against the project as informed by project proponent.

The proposal was appraised by State Level Expert Appraisal Committee (SEAC) and recommended for grant of Environmental Clearance in its 107<sup>th</sup> meeting held on 16<sup>th</sup>, 17<sup>th</sup>, 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> August, 2023.

State Level Environment Impact Assessment Authority (SEIAA), Jharkhand in its 108<sup>th</sup> meeting held on 27<sup>th</sup> & 28<sup>th</sup> August, 2023 discussed the project proposal along with recommendations made by SEAC and decided to grant EC to the project.

Following the decision of SEIAA, as mentioned above, Environmental Clearance is hereby issued to the **“Expansion of existing Rebars & Wire Rods at Wire Rod Mill from capacity 2,67,000 TPA to 4,75,200 TPA & HC & MS GI Wires at Wire Mill from 62,050 TPA to 2,37,600 TPA and 100 TPA Graphene Powder production facility by M/s The Indian Steel and Wire Products Limited at Jamshedpur Notified Area Committee, Distt. : East Singhbhum, Jharkhand”** alongwith the following specific conditions as recommended by SEAC.

**I. Specific Conditions :**

1. This Environmental Clearance is valid subject to the following condition below –  
That this project has-
  - a. Obtained all legal rights to operate at concerned place.
  - b. Complied with all existing concerned laws of the land and
  - c. Complied with the decisions of SEIAA on the issue of Environmental Clearance till date.
2. Process water and storm water to be handled seperatly and should not be mixed.
3. Treated effluent water to be reused suitably and shall not be discharged outside.
4. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.
5. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.
6. All raw material to be stored only under covered shed.
7. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.
8. Developers to promote energy conservation measures such that it offsets not less than 02 % of connected load. It is to be achieved by solar panels etc meetirg ECBC norms.
9. Trees should be developed & maintained not less than 33% of project area.
10. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.
11. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is collected and harvested including reuse on 100% basis.
12. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.
13. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.



14. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management

## **II. Statutory Compliance :**

1. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
2. The project proponent shall obtain clearance from the National Board for Wildlife if applicable.
3. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area).
4. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to".
5. The project proponent shall obtain Consent to Establish & Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board Committee.
6. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water from the competent authority concerned in case of drawl of surface water required for the project.
7. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.
8. No mining/activity shall be undertake in the forest land or deemed forest without obtaining requisite prior forestry clearance.
9. This Environmental Clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT, MoEF & CC and any other Court of Law, if any, as may be applicable to this project.
10. Environmental clearance is subject to obtaining prior clearance from forestry and Wildlife angle including clearance from standing committee of NBWL, as may be applicable to this project (in case any fauna occurs / is found in the Project area or if the area involves forest land or Wildlife habitat i.e. core zone of elephant/tiger reserve etc. and or located with in 10 km. of protected area).
11. The project proponent may apply simultaneously for forest and NBWL clearance, in order to complete the formalities without undue delay, which till process on their respective merits, no rights will vest in or accrue to them unless all clearance are obtained.

### III. Air quality monitoring and preservation :

1. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31<sup>st</sup> March 2012 (applicable to IF/EAF) as amended from time to time: S.O. 3305 (E) dated 7th December 2015(Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.
2. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.
3. The project proponent shall install system carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM25 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the plant area (at least at four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions. (case to case basis small plants: Manual: Large plants: Continuous)
4. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
5. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources.
6. The project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags.
7. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.
8. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after *briquetting* agglomeration.
9. The project proponent shall use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.
10. The project proponent shall provide covered sheds for raw materials like scrap and sponge iron, lump ore, coke, coal, etc.
11. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.
12. Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.





#### **IV. Water quality monitoring and preservation:**

1. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF / EAF) as amended from time to time: S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. (case to case basis small plants: Manual: Large plants: Continuous).
2. The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.
3. The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
4. Adhere to 'Zero Liquid Discharge'.
5. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.
6. The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31<sup>st</sup> March 2012 (applicable to IF/EAF) as amended from time to time.
7. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off
8. The project proponent shall practice rainwater harvesting to maximum possible extent.
9. The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water

#### **V. Noise monitoring and prevention:**

1. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
2. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

## **VI. Energy Conservations measures:**

1. The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.
2. Practice hot charging of slabs and billets/blooms as far as possible.
3. Ensure installation of regenerative type burners on all reheating furnaces.
4. Provide solar power generation on rooftops of buildings. for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.
5. Provide the project proponent for LED lights in their offices and residential areas.

## **VII. Waste Management:**

1. Used refractories shall be recycled as far as possible.
2. Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused melting Furnaces
3. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.
4. The waste oil, grease and other hazardous waste shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.
5. Kitchen waste shall be composted or converted to biogas for further use. *(to be decided on case to case basis depending on type and size of plant).*

## **VIII. Green Belt:**

1. Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant.
2. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration including plantation.

## **IX. Public Hearing and Human Health issues:**

1. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
2. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
3. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The



housing may be in the form of temporary structures to be removed after the completion of the project.

**X. Corporate Environment Responsibility:**

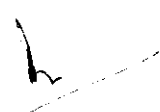
1. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1<sup>st</sup> May 2018, as applicable, regarding Corporate Environment Responsibility.
2. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
3. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
4. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry / Regional Office along with the Six Monthly Compliance Report.
5. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
6. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the plants shall be implemented.
7. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

**XI. Miscellaneous:**

1. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
2. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.







3. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
4. The project proponent shall monitor the criteria pollutants level namely: PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
5. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
6. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
7. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
8. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
9. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
10. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
11. Concealing factual data or submission of false / fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
12. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
13. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
14. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
15. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their

amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

16. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

## **XII. Other Conditions:**

1. The Authority reserves the right to add any new condition or modify the above conditions or to revoke the clearance if conditions stipulated above are not implemented to the satisfaction of Authority or for that matter for any other Administrative reason.
2. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.
3. In case of any deviation or alteration in the project proposed from those submitted to SEIAA, Jharkhand for clearance, a fresh reference should be made to SEIAA to assess the adequacy of the conditions imposed and to incorporate any new conditions if required.

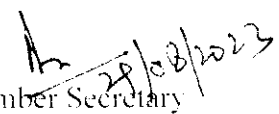
Sd/-  
Member Secretary  
State Level Environment Impact  
Assessment Authority, Jharkhand.

Memo No.- EC/SEIAA/2022-23/2785/2023/ 237

Dated: 29.08.2023

Copy to:

1. Additional Chief Secretary, Department of Forests, Environment & Climate Change, Govt. of Jharkhand.
2. Deputy Commissioner, District- East Singhbhum, Jamshedpur Jharkhand.
3. Divisional Forest Officer, Jamshedpur Forest Division, Jamshedpur, Jharkhand.
4. Deputy Conservator of Forest & Field Director, Elephant Project, Jamshedpur, Jharkhand.
5. Director IA Division, Monitoring Cell, MoEF and Climate Change, Indira Paryavaran Bhavan, Jorbag Road, Aliganj, New Delhi - 110003.
6. Integrated Regional Office, Ranchi, Ministry of Environment, Forest and Climate Change, 2<sup>nd</sup> Floor, Jharkhand State Housing Board (HQ), Harmu Chowk, Ranchi, Jharkhand - 834002.
7. Member Secretary, Jharkhand State Pollution Control Board, Ranchi.
8. Secretary, Jharkhand State Expert Appraisal Committee, Ranchi.
9. Website.
10. Guard file.

  
Member Secretary  
State Level Environment Impact  
Assessment Authority, Jharkhand.