

Executive Summary

for
Proposed Steel Manufacturing Industry
at
Plot No. E-14 (MIDC, Butibori) and Survey No. 67
and 70/B, Mouza, Kinhi, Butibori, District
Nagpur, State- Maharashtra

Proposed By
Sharda Shree Ispat Ltd.



CONSULTANT
Mahabal Enviro Engineers Pvt. Ltd.
Plot F-7, Road 21, MIDC Wagle Estate,
Thane 400604
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Executive Summary

1.0 Introduction:

Sharda Shree Ispat Ltd, will form an establish company registered under Indian Company Act 1956, will be carrying the Manufacturing business of Basic Iron & Steel, it proposes a plant that will locate at Plot No. E-14 (MIDC, Butibori) and Survey No. 67 and 70/B, Mouza, Kinhi, Butibori, District Nagpur, State- Maharashtra. To cater the basic iron & steel requirements for sectors in India with an investment of Rs. **198.75 Crore**.

The plant is going to propose 3,02,664 Mt/year Billets, 72,000 Mt/year TMT, 60,000 Mt/year Spring Steel Flat, 60,000 Mt/year Wire Rod Coil and 48,000 Mt/year alloy steel round/round cornered square capacity with an investment of Rs.198.75 Crore.

The Sharda Shree Ispat Ltd industry will spread over **44,280 m²** of land; It will be one of the largest manufacturers of Basic Iron & Steel. More than **50%** of the Company's products will be exporting to overseas countries worldwide and it will have a customer base in many advanced markets such as USA, and European countries.

The Company's manufacturing facilities will be locating at village Mouza Kinhi Butibori, Nagpur in the state of Maharashtra, India, which will be close to Railway Station & Airport. This will provide the company with easy access to import & export of the raw materials and finished good. The Company is an **ISO 9001: 2008, IATF 1694, ISO 14001 and ISO 45001** accredited.

The purpose of this **Environmental Impact Assessment (EIA)** study is to provide information on the surroundings and the extent of environmental impact likely to arise on account of the proposed project.

1.1 Purpose of Study

The proposed industry is listed under EIA Notification dated 14-09-2006 and as amended in December 2009 of Ministry of Environment and Forests (MoEF), Government of India. As per this notification, the industry is categorized under **Schedule 3(a)**, for Primary **Metallurgical Industries (Ferrous & Non-Ferrous)**, and **Category-B**. As per the notification, prior Environmental Clearance (EC) from State Environmental Impact Assessment Authority (SEIAA), Government of Maharashtra is mandatory before establishment of this industry. Hence, the industry has to follow due course of procedure to secure Environmental Clearance including application to State Expert Appraisal Committee (SEAC) for EC clearance, Terms of references from SEAC for conduct of EIA studies, and public hearing/consultations.

Accordingly, the project proponents have submitted prescribed application along with pre-feasibility report to the State Expert Appraisal Committee (SEAC), Government of Maharashtra seeking terms of references for conduct of EIA

studies. on **10th October 2022**. The Terms of Reference letter dated **13th October 2022** was published on the PARIVESH Portal.

Accordingly, EIA studies were conducted and report is prepared for submission to Authorities. EIA report has been prepared as per Terms of references granted by MoEF & CC. The auto ToR has been given as below

File No.SIA/MH/IND1/401395/2022
Government of India
State Level Environment Impact Assessment Authority
Maharashtra

To,

M/s SHARDASHREE ISPAT LIMITED
DA Rock Building, Hill Road, Shivaji Nagar, Nagpur-10,
Nagpur-441108
Maharashtra

Tel.No.--1; Email:mahabal.thane165@gmail.com

Sub. Terms of Reference to the Proposed "Unit 3" steel manufacturing industry by Shardashree Ispat Limited, E-12, MIDC Industrial Area Butibori, Nagpur-MH 441108

Dear Sir/Madam,

This has reference to the proposal submitted in the Ministry of Environment, Forest and Climate Change to prescribe the Terms of Reference (TOR) for undertaking detailed EIA study for the purpose of obtaining Environmental Clearance in accordance with the provisions of the EIA Notification, 2006. For this purpose, the proponent had submitted online information in the prescribed format (Form-1) along with a Pre-feasibility Report. The details of the proposal are given below:

- | | |
|----------------------------------|---|
| 1. Proposal No.: | SIA/MH/IND1/401395/2022 |
| 2. Name of the Proposal: | Proposed "Unit 3" steel manufacturing industry by Shardashree Ispat Limited |
| 3. Category of the Proposal: | Industrial Projects - 1 |
| 4. Project/Activity applied for: | 3(a) Metallurgical industries (ferrous & non ferrous) |
| 5. Date of submission for TOR: | 10 Oct 2022 |

Date : 13-10-2022

Shri Pravin C. Darade , I.A.S.
(Secretary, Environment & Climate change Department (MH))

Office : 217, 2nd Floor, Annexe Building, Mantralaya, mumbai-400032.

Phone No : -1 Mobile : 9881496288

Email id : psec.env@maharashtra.gov.in

Note : This is auto tor granted letter.

1.2 Extent of Study and Study Covered

Keeping in view the nature of activities involved in the production of Steel and various environmental guidelines, the area covering a radial distance of about 10 km from the site of the plant was selected as a study area for the purpose of formulating EIA.

To establish the baseline status of air, water, noise, land, and biological and socio-economic environment in the study area; extensive field studies have been undertaken during the winter season covering a period of 3 months from **November 2023 to February 2023.**

Method of Study

The present environmental impact assessment report is prepared considering model ToRs for Primary and Secondary Ferrous Metallurgical Industries. This Report is prepared based on the 'General Structure of EIA' given in Appendix III of EIA Notification dated 14th September 2006. The present environmental impact assessment report is prepared by **Mahabal Enviro Engineers Pvt. Ltd.** NABET accredited EIA consultant organization for this category (Primary and Secondary Ferrous Metallurgical Industries') considering mainly the risk assessment and the impacts due to project proposals on the surrounding environment.

2.0 Type of Project

The proposed project falls under **Category 'B1'** (S. No. **3 (a)** of Schedule: 'Primary and Secondary Ferrous Metallurgical Industries') of the 'List of project or activities requiring prior environmental clearance' of MoEF notification dated 14th September 2006 in connection with **Environment (Protection) Rules 1986**

2.1 Specific location and connectivity

Table 2.1- Location details

Particulars	Information
Name of the project	Sharda Shree Ispat Ltd. Proposed Steel Manufacturing Industry
Screening category	3 (a) B1 Category
Location details	Plot No. E-14 and Survey No. 67 and 70/B, MIDC, Mouza Kinhi, Butibori, District Nagpur, State- Maharashtra - 441108
Project cost	Rs. 198.75 Crore
Name, contact and email ID of the project proponent	Sharda Shree Ispat Ltd. Mr. Rudesh Gedam (Sr. General Manager) +91 9881496288 Sharda.gmadmn@gmail.com

2.2 Size or Magnitude of Operation

The proposed products and their capacities are shown in **table 2.2**.

Table 2.2 Details of Proposed Production Capacity of product

Product Description	Proposed Capacity	Unit
Billets	3,02,664	Mt/year
TMT	72,000	Mt/year
Spring Steel Flat	60,000	Mt/year
Wire Rod Coil	60,000	Mt/year
Alloy Steel Round/Round Cornered Square	48,000	Mt/year
Total Capacity	5,42,664	Mt/year

2.3 Requirement of Resources

Land

The proposed SSIL plant will be located at Plot No. E-14 (MIDC, Butibori) and Survey No. 67 and 70/B, MIDC, Mouza Kinhi Butibori, District Nagpur, State-Maharashtra. The total plant area will be about 44,280 m², which will be adequate for establishing the proposed project.

Raw material

The proposed raw material details of the project are given in **Table 2.3**

Table 2.3: Raw materials

Sr.No.	Raw material	Quantity (Mt/year)	Transportation
1	Scrap	1,69,908	Rail/Road
2	Sponge Iron	1,95,564	Road

Water Requirement and Source

Total water consumption of proposed project will be **200 m³/day** for industrial & domestic purpose. Source of water is MIDC (Government of Maharashtra Irrigation Department) has already sanctioned the same. **8.5 m³/day** sewage will be generated. Domestic effluent will be treated in dedicated septic tanks and will be disposed of in soak pit.

Power Requirement

Power requirement of the project will be **37 MW**. Source of the power will be MSEDCL.

Energy saving measures:

- Provision of Solar for street lighting, and common areas.

Details of stack

There will be **3 nos.** of stacks in the proposed project. Details of the stack emission analysis report for the proposed project will be provided after commissioning. Proposed stack details are given in Table 2.4

Table 2.4: Stack details

Sr. no	Stack no.	Description of stack/source	Number of stacks	Height (m)
1	S-1	Common Stack for 2 Induction Furnaces and 1 LRF	1	40.0
2	S-2	Vacuum Degassing Unit	1	40.0
3	S-3	Slag Processing Unit	1	30.0

Man Power requirement

It is expected to employ about **125 people** directly & indirectly of various skills during the construction phase. During the operation phase about **125 people** will be employed.

2.4 Waste Generation

Effluent Generation

The sewage generation will be **8.5 m³/day**. Domestic effluent will be treated in dedicated septic tanks and will be disposed of in soak pit.

Water requirement and effluent generation for the proposed project is given in **Table 2.5**

Table 2.5: Water requirement details

Sr.	Details	Proposed	Unit
1	Domestic water requirement	10	m ³ /day
2	Industrial Cooling Spraying	190	m ³ /day
3	Sewage Effluent	8.5	m ³ /day

Solid waste generation

Details of Solid waste generation and its disposal methods are given in **Table 2.6**

Table 2.6: Solid waste generation

Sr.	Solid waste	Proposed	Unit	Disposal
1	Metal Scrap	240	Mt/year	sold to Authorized parties
2	Scale	1,212	Mt/year	sold to Authorized parties
3	Mis roll	1,212	Mt/year	sold to Authorized parties

2.5 Cost and time completion of the project

Cost of the project

The total cost of the project will be **Rs.198.75 Crore**.

Time completion of the project

After obtaining Environmental clearance and Consent to Establish from MPCB, the company shall initiate and commissioning of the proposed this steel manufacturing engineering industry.

3.0 Baseline Environment

Keeping in view the nature of activities involved in the production of Steel and various environmental guidelines, the area covering a radial distance of about 10 km from the site of the plant was selected as a study area for the purpose of formulating EIA.

To establish the baseline status of air, water, noise, land, and biological and socio-economic environment in the study area; extensive field studies have been undertaken during the winter season covering a period of 3 months from **November 2022 to February 2023**.

3.1 Meteorology

The predominant wind direction is from **NNW to E**. The wind velocity was mostly between 1.24 m/sec. Ground-based inversions and mixing height were also collected from IMD (Indian Meteorological Department).

Ambient Air Quality

Eight AAQ monitoring stations were monitored. During the monitoring period, 24 hourly samples were collected twice a week and one hourly sample were taken on each monitoring day. It was observed that the average value for PM₁₀ and all the values of PM_{2.5}, SO₂, NO_x and CO during the monitoring period were well within the norms for Industrial, Residential, Rural and other areas.

Analysis of Ambient Air Quality

PM₁₀: The minimum average value of PM₁₀ found in the project site was **48 µg/m³**, and the maximum average value was **61.5 µg/m³** found in Salaidhaba.

PM_{2.5}: The minimum average value was **12 µg/m³** found in Mohangaon Near NH, and maximum average value was **21.5 µg/m³** found in Takalghat & Salaidhaba.

SO₂: The minimum average value was **7.2 µg/m³** found in Borkhedi & Gangapur Village and maximum average value was **9.6 µg/m³** found in Takalghat.

NO_x: The minimum average value was **7.9 µg/m³** found in Gangapur Village and maximum average value was **11.75 µg/m³** found in Takalghat.

NH₃: The minimum & maximum average value was below limit of quantification found.

Ozone (O₃): The minimum & maximum average value was below limit of quantification found.

Lead (Pb): The minimum & maximum average value was below limit of quantification found.

Carbon monoxide (CO): The minimum average value was **1.235 mg/m³** found in Borkhedi Village, and maximum average value was **2.145 µg/m³** found in Butibori Raod.

Benzene (C₆H₆): The minimum average value was **0.87 µg/m³** found in Gangapur, and maximum average value was **3.25 µg/m³** found in Takalghat

Benzo Pyrene (BaP): The minimum & maximum average value was below limit of quantification found.

Arsenic (As): The minimum & maximum average value was below limit of quantification found.

Nickle (Ni): The minimum & maximum average value was below limit of quantification found.

This shows that all the parameters are within the limit of the National Ambient Air Quality Standards (NAAQS). Hence, there is no harm to the nearby environment.

Water quality

Surface Water

In order to assess the present water quality of the region, 4 surface water samples were collected and analyzed for selected environmental parameters viz. physical, inorganic, organic and nutrient parameters and heavy metals. Surface water samples were taken from River Downstream, River Upstream, Pond near Bidganeshpur and Kanholibara river.

Ground Water

Groundwater samples were collected from Project site and examined as per the expertise of FAE and guidelines in standard ToR. The results of analysis reveal that the values for all the parameters were within the acceptable limits prescribed in '**IS Standards for Drinking Water (IS3025:2004)**'.

This is concluding that the surface and groundwater in the study area is not polluted by any source during the study period.

Noise

Eight noise monitoring locations were monitored. The monitoring results are within the CPCB Standards. The minimum noise level 42.1 dB (A) and the maximum noise level 79.8 dB (A) were observed at day time, while minimum Noise level 39.9 dB (A) and maximum 69.7 dB (A) were observed at night time. The relative noise levels are within noise limit.

Soil Quality

Eight soil sampling locations were selected. The samples were collected from different locations to obtain the representative soil strata in and around the project site within the study area using standard procedure of sampling, and then the samples were analysed for relevant parameters. Soil qualities were assessed at 08 locations. The soil from the study area shows low to moderate fertility.

Biological Environment

No wild life of any sort is found within the study area. The fauna found in the area are of common variety and no endangered or threatened species are reported in the study area.

The common tree species observed are Ashoka, Mango, Sadaphuli, Banyan, etc. There are reportedly 31 species of birds existing in the study area. The most common birds observed at various places were house crow, sparrow, myna, dove, bulbul, pigeon etc.

Socio-Economic Environment

The study of socio-economic aspects forms an integral part of the EIA studies. The demographic structure, population dynamics, infrastructure resources, health status of the community and economic attributes such as employment, industrial development, sustainability of the project etc. are taken into consideration for assessing the socio-economics status.

4.0 Anticipated Environmental Impacts and Mitigation Measures

Impacts during construction phase

The environmental impacts caused due to the development of the project can be categorized as primary (direct) and secondary (indirect) impacts.

Impact:

Potential direct and indirect impacts of the project during the construction phase will be the following

- Loss of Topsoil due to Clearing and Grubbing of the new alignment, borrow area, Material Stacking yard
- Temporary impacts in terms of polluted environment on flora and fauna due to construction activities

- Impact on drainage pattern due to raised embankment, and introduction of new culverts
- Impact on Traffic Management System
- Increased air pollution (including dust) during project road construction
- Increased noise level due to the movement of vehicles and construction activities
- Increased soil erosion
- Spillage of oils and other hazardous materials
- Pollution of surface and sub-surface water sources

Mitigation measures:

- Monitoring of air quality at regular intervals will be conducted during construction phase.
- Truck carrying soil, sand, stone dust, and stone will be duly covered to avoid spilling and fugitive emissions.
- To prevent fugitive dust, good housekeeping and speed restriction on vehicle movement will be provided.
- Workers will be provided with adequate protective measures to protect them from inhaling dust.
- Transportation of solid waste will be done through covered truck.

Impacts during operation phase

Potential direct and indirect impacts of the project during operation phase are the following.

Impact:

Air pollution affects humans; and may cause coughing or the irritation of the respiratory tract leading to asthma, and other chronic diseases, respiratory illness, bronchitis and even cancer. Skin problems and irritation may also develop due to air pollution.

Continuous Exposure of workers to high sound levels may result in annoying and distracting and can lead to hearing loss, high blood pressure, sleep disturbance and extreme stress.

Mitigation measures:

- Bag filters with adequate capturing and conveying system will be provided.
- All equipments will be designed to ensure CPCB norms.
- Stack monitoring will be done to ensure proper functioning of different

major stacks.

- Air monitoring will be done in the work-zone to ensure proper functioning of fugitive emission control facilities.
- To prevent fugitive dust, good housekeeping and concrete road with speed restriction on vehicle movement will be provided.
- Vehicles and machineries will be regularly maintained so that emissions are confirmed to be well within the applicable standards.
- Green belt will be developed all around the periphery of the plant premises for noise attenuation.
- Workers will be provided with adequate protective measures to protect them from inhaling dust.
- Transportation of solid waste will be done through covered truck.
- Workers exposed to noise level will be provided with protection devices like ear muffs as per present practice, and will be advised to use them regularly, while at work.

5.0 Environmental Monitoring Programme

A detailed Environmental monitoring programme has been envisaged with the following objectives to ensure proper and effective implementation of the proposed mitigation measures

- To evaluate the performance of mitigation measures proposed.
- To evaluate the adequacy of Environmental Impact Assessment.
- To suggest improvements in environmental management plan, if required.
- To enhance environmental quality.
- To implement and manage the mitigate measures defined in EMP.

Environmental aspects like Meteorological data, monitoring, solid/hazardous wastes generation/utilization, green belt development, Noise, Effluent quality, Ground water quality etc. will be monitored as per the details worked out in the Environmental Monitoring Programme. The Monitoring plan specifies the parameters to be monitored, Location of the monitoring sites, Frequency and duration of monitoring, Applicable standards and responsibilities for implementation and supervision

6.0 Additional Studies

The present project will be of crucial importance for making it economically viable. At the same time, viable project will help long-term development of the region and the state. Risk Assessment and Socio-economic assessment were carried out. Overall, the project is going to improve the socio-economic condition of the area with negligible risk.

7.0 Risk assessment & disaster management plan

The risk assessment helps one in taking care of probable hazards on account of faulty/defective operations of various plants, machinery, equipment etc. Such risk assessment proves helpful in foreseeing the risks involved in various operations to prevent the likely accidents.

7.1 Disaster management plan

Disaster is an undesirable occurrence of events of such magnitude and nature, which adversely affects production and/or causes damage to environment. Risk assessment forms an integral part of disaster management and any realistic 'Disaster Management Plan' could only occur through a scientific risk assessment study and involves;

- Fire extinguishers at all the fire-prone sides will be provided.
- Mock drill will be carried out periodically for emergency preparedness
- Effective communication systems at all parts of the plant will be maintained.
- On-site Disaster Management Plan will be placed. Regular Mock drills will be carried out to assess the efficiency of the On-site Disaster Management Plan.

8.0 Environmental Management plan

EMP is help to mitigate adverse impacts likely to arise out of the proposed project as well as smooth functioning of the steel plant.

Management Policy

Air Environment

The SSIL will install comprehensive pollution control system, and all pollution control measures will be implemented in the factory. For the proposed project, adequate number of pollution control equipment will be provided to mitigate the impact on air. The air pollution control equipment are as follows:

- Bag filter with adequate height of chimney will be provided
- Regular stack and ambient monitoring will be carried out as per MPCB guidelines.
- Breakdowns in the pollution control systems will strictly be avoided or provided with an arrangement such that process operation is synchronized.
- Effective maintenance is introduced to avoid any discontinuity in operation.
- Process operations will be smooth and controlled such that the gaseous

- load will not exceed the load permitted by MPCB at any point of time.
- Cleaning and sweeping of floors will be a regular feature.
- A Green Belt around the plant will reduce the air pollution and attenuation of noise.
- Water sprinkling will be carried out on haulage roads to prevent dust from rising.

Noise Environment

The adverse impacts due to high noise are controlled by implementing various control measures as listed below:

- Regular monitoring of the noise levels will be done.
- Acoustic enclosures for noise-generating machines will be provided
- Foundation of heavy machinery will be properly constructed to avoid noise due to vibrations.
- The operators' cabins (control rooms) will be provided with acoustically insulated special doors and observation windows.
- Noise attenuating devices like ear plugs and ear muffs will be provided to protect the workers from noise levels.
- The operators working in the High-Noise area will be strictly instructed to use ear muffs/ear plugs.
- Noise barriers in the form of additional trees will be recommended to be grown around administrative blocks, and other such units. A green belt around the plant area reduces the noise levels further

Water Environment

For effective water pollution control, the following measures will be implemented:

- Flow measuring devices will be provided at various water intake points to have a precise quantitative assessment of the water consumption patterns.
- Regular monitoring and quantification of water requirements at various unit operations will be carried out with a view to devising remedial measures for reduction in freshwater consumption.
- Daily monitoring of inlet & outlet from soak pits as per norms and complete evaluation of the performance will be done regularly.
- Preventive maintenance of the water distribution system will be undertaken as a regular feature. All the pipeline/tap leakages will be promptly attended.

Land Environment

The EMP for land environment is to scientifically utilize the capabilities of different plant species for attenuation of particulates as well as noise.

The particulates are the major pollutants for which commensurate afforestation and Green Belt development programme will be undertaken on priority.

Socio-Economic Environment

Recommendations to improve the socio-economic environment are summarized below:

- Social welfare programmes with reference to health, education, water use, income generation will be organized in the nearby villages.
- Proposed project create employment opportunities to the local people present around the project site.
- At this stage, it is not possible to accurately determine the number of workers that will be employed on the site during the construction phase, but it is estimated that this number would be between 125 persons throughout the construction phase. These levels of short-term employment opportunities would have a positive impact on the local economy and on regional unemployment. During the operation phase, about 125 people will be employed.

9.0 CER Activities

Corporate Environmental Responsibility (CER) is the continuing commitment by businesses to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large.

Corporate Environmental responsibility isn't just about doing the right thing. It means behaving responsibly and also dealing with suppliers who do the same. It also offers direct business benefits.

Building a reputation as a responsible business sets you apart. Companies often favour suppliers who have responsible policies. This is only because it can have a positive impact on how they are seen by their customers.

Sharda Shree Ispat Ltd will also be engaged in CER and their budget for these activities is around **Rs. 20 Lakh**.

9.1 Occupational Health Measures

- SSIL will have a full-fledged Environment Management Cell which will take care of the issue related to safety, health, and the environment.
- The on-site and off-site emergency plans shall be prepared keeping in view the proposed project
- Adequate Fire-fighting system will be in place to combat the instances of

accidental fire.

10.0 Conclusion

Sharda Shree Ispat Ltd. (SSIL) will be a producer of Basic Iron & Steel. Project activity will not disturb the environmental setting because SSIL has proposed necessary preventive and mitigation measures required for pollution prevention. The risk associated has been identified, risk assessment has been carried out, Maximum Credible Accident (MCA) study is also done and recommendations of the same will be implemented to ensure safety. Moreover, an on-site emergency plan will be prepared to tackle the emergency when it arises.

Trees will be planted and maintained. No Rehabilitation issue will be involved. There will not be problematic waste materials as all will be safely disposed of. Socio-economic benefits are expected due to the creation of direct/indirect employment. Moreover, due to the project other direct and indirect businesses will be benefited.

Sharda Shree Ispat Ltd. will take care that there should not be any kind of pollution from the operation of this project. It can be concluded on a positive note that after the implementation of the Mitigation Measures and Environmental Management Plan, the normal operation of proposed unit of SSIL, will have no negative impact on environment and the proposed project merits grant of environment clearance.