

# Executive Summary

of

**EXPANSION OF  
(2 x 1000 TPD Iron ore Pellet Plant with coal  
Gasifier of 26000 M<sup>3</sup>/hr, 2 x 500 TPD Sponge  
Iron plant and 50 MW CPP  
(25 MW WHRB + 25 MW AFBC)**

Project by

**M/s SMW Ispat Pvt Ltd  
(Formerly known as M/s. Mahalaxmi TMT Pvt. Ltd.)**

At

**Plot No:- B-1/4, B-1/2, SR- 46/2 and Survey no.:- 562,  
564, 565, MIDC Deoli, District – Wardha,  
Maharashtra.**

Environmental Consultant  
Pollution and Ecology Control Services

Accreditation no.: QCI/NABET/ENV/ACO/21/162  
Extension Letter: QCI/NABET/ENV/ACO/21/1730 dated 13<sup>th</sup> May 2021

## EXECUTIVE SUMMARY

### 1.0 INTRODUCTION

M/s SMW Ispat Pvt Ltd (Formerly M/s. Mahalaxmi TMT Pvt. Ltd.) is a steel plant engaged in manufacturing of Sponge Iron, M.S Billet and TMT bars at Deoli Growth Center in Wardha district of Maharashtra from 2010. The project under consideration i.e. 2 x 500 TPD Rotary Kiln & 50 MW of TPP (25 WHRB + 25 MW AFBC) will be installed at plot no. B1/2 which is a vacant land and other unit of project under consideration i.e. 2000 TPD Iron pelletisation plant will be installed at plot no. B-1/4 at the space reserved for 6 x 100 TPD static kiln and beneficiation plant at SR 46/2 as these unit is not installed and In future also these 6 static kiln of 100 TPD and Beneficiation plant will not be installed. Shade and space reserve for 6 x 100 TPD and Beneficiation Plant static kiln and 2000 TPD Beneficiation Plant at plot no. B-1/4 and SR 46/2 will be used for installation & operation of 2000 TPD Iron Ore Pellet Plant.

The proposed project attract the provisions of EIA Notification, 2006 and falling under Category A of Schedule, 3 (a) Metallurgical Industries (Ferrous and Non-ferrous). The Standard Terms of Reference (TOR) for the same has been issued in the name of Mahalaxmi TMT Private Limited vide letter F No.J-11011/664/2009-IA.II (I) dated 16<sup>th</sup> July 2020 for preparation of EIA/EMP report. The name has been changed from Mahalaxmi TMT Private Limited to SMW Ispat Private Limited. The topographical map showing specific location of Project site (10 km) is given in the **following Figure and the Environmental setting of the project is given below**

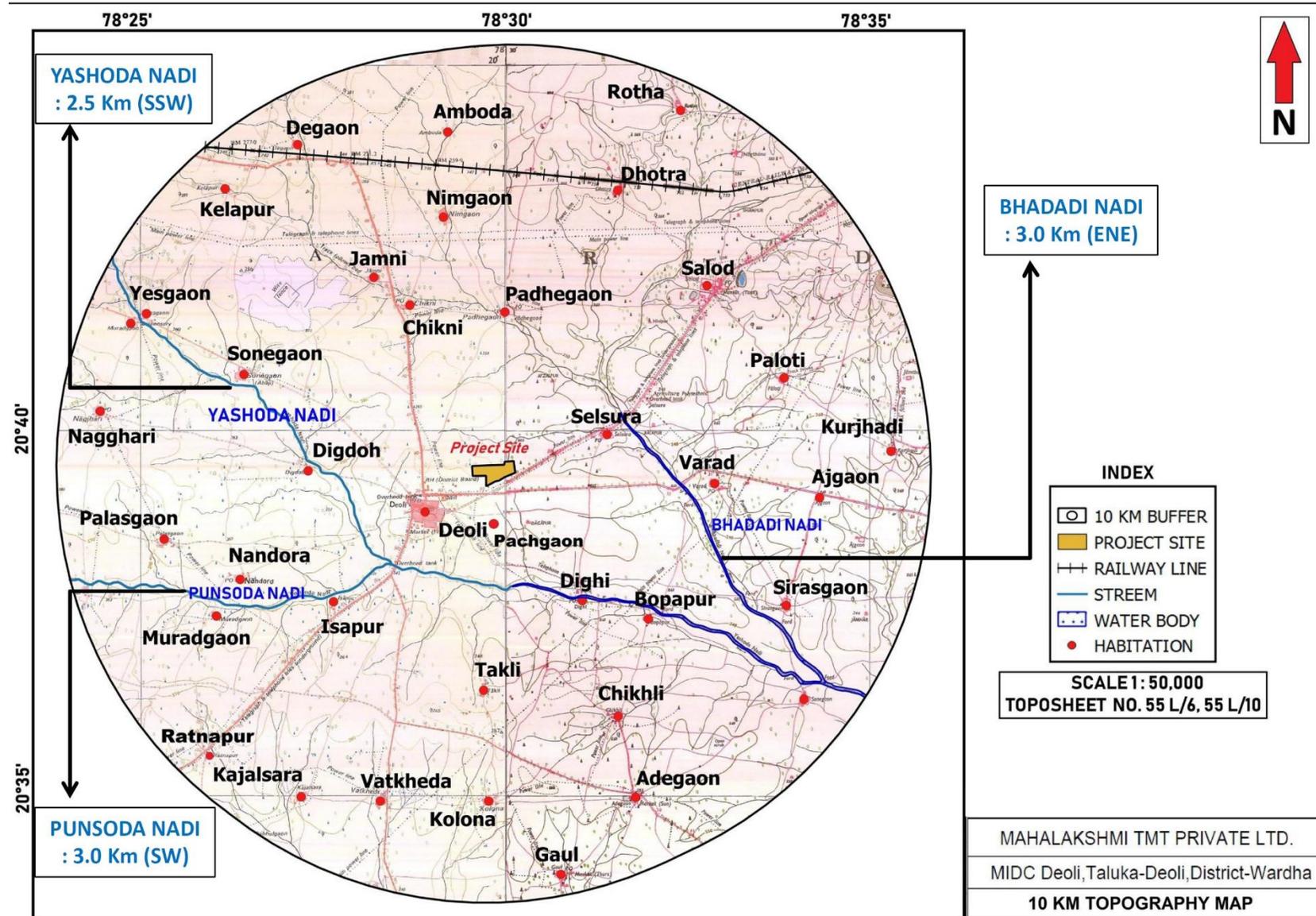
#### Project at a Glance

Sr. No.	Description	Details		
1	Nature of the project	EXPANSION OF (2 x 1000 TPD Iron ore Pellet Plant with coal Gasifier of 26000 M <sup>3</sup> /hr, 2 x 500 TPD Sponge Iron plant and 50 MW CPP (25 MW WHRB + 25 MW AFBC)		
2	Proposed Products	Sr. No	Product	Quantity
		1	Pelletisation Plant	2000 TPD
		2	Coal Gasifier unit	26000 Nm <sup>3</sup> /h
		3	Sponge Iron	500 TPD X 2 Kiln =1000 TPD

		4	WHRB & CPP	(25 MW HRB +25 MW AFBC)
3	Raw Material Requirement	1) Iron Ore fines, Bentonite , Lime Stone / Dolomite for Pellet Plant 2) Pellet, Coal and Dolomite for Sponge iron Plant and 3) Char & Coal for CPP.		
4	Water requirement	The total water requirement will be 5907 KLD Source: MIDC Deoli		
5	Power requirement & Source	Total Power required for proposed expansion project is 15MW. Electric power will be supplied from own captive power plant and MSEB, if required.		
6	Land for proposed plant	The total land of M/s Mahalaxmi TMT Pvt Ltd for the proposed plant is 22.84 Ha. (228495 Sq.m) which is industrial land in MIDC area Deoli.		
7	Total manpower after commissioning of the unit.	The proposed project creates employment for 2050 people.		
8	Estimated Cost of the project	Total cost of the project Rs <b>366.69</b> Cr.		

<b>2.</b>	<b>Location Details</b>	
i.	Plot no.	Plot No:- B-1/4, B-1/2, SR- 46/2 and Survey no.:- 562,564, 565
ii	Village	MIDC Deoli
ii	District	District – Wardha
iv	State	Maharashtra
v	Co-ordinates	<p><b>Plot No. B -1/2</b>                      A) 20°39'38.44"N 78°29'31.25"E                      B) 20°39'38.94"N 78°29'43.81"E                      C) 20°39'30.99"N 78°29'44.10"E                      D) 20°39'30.50"N 78°29'31.71"E</p> <p><b>Plot No. B-1/4</b>                      A) 20°39'39.12"N 78°29'49.86"E                      B) 20°39'39.70"N 78°29'57.77"E                      C) 20°39'29.72"N 78°29'58.15"E                      D) 20°39'25.90"N 78°29'50.24"E</p> <p><b>Plot No. SR 46/2</b>                      A) 20°39'41.86"N 78°29'57.89"E                      B) 20°39'42.57"N 78°30'5.51"E                      C) 20°9'32.96"N 78°30'6.59"E                      D) 20°39'29.59"N 78°29'58.23"E</p>
vi	Toposheet No.	55 L/6, 55 L/10
vii	Elevation above MSL	262
viii	Nearest Highway	NH – 204/SH – 03 : 0.5 Km (SSE)

ix	Nearest Airport	Nagpur Airport : 75.0 Km (NNE)																																		
x	Nearest Railway Station	Wardha : 12.5 (NE)																																		
xi	Nearest Village	Deoli : 1.5 Km (WSW)																																		
xiii	Nearest major water body	Punsod Nadi : 3.0 Km (SW) Yeshoda Nadi : 3.5 Km (SW) Bhadadi Nadi : 3.0 Km (ENE) Canal: Within the plant boundary																																		
xiv	Major Industries within 10 km area	<table border="1"> <thead> <tr> <th>Sr No.</th> <th>Name of Industries</th> <th>Distance</th> <th>Direction</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Wheels India Ltd. (Engineering Unit)</td> <td>0.3 Km</td> <td>N</td> </tr> <tr> <td>2</td> <td>Bajrang Ginning Pvt. Ltd</td> <td>1.0 Km</td> <td>NW</td> </tr> <tr> <td>3</td> <td>Ashoka Industries</td> <td>0.25 Km</td> <td>W</td> </tr> <tr> <td>4</td> <td>Arihant Oil Industries</td> <td>0.38 Km</td> <td>WSW</td> </tr> <tr> <td>5</td> <td>Sanjay Industries</td> <td>0.53 Km</td> <td>SW</td> </tr> <tr> <td>6</td> <td>Jagdamba Industries</td> <td>0.80 Km</td> <td>W</td> </tr> <tr> <td>7</td> <td>Mahalaxmi TMT (SMS &amp; Rolling Mill)</td> <td>Near To Proposed Site</td> <td>N</td> </tr> </tbody> </table>			Sr No.	Name of Industries	Distance	Direction	1	Wheels India Ltd. (Engineering Unit)	0.3 Km	N	2	Bajrang Ginning Pvt. Ltd	1.0 Km	NW	3	Ashoka Industries	0.25 Km	W	4	Arihant Oil Industries	0.38 Km	WSW	5	Sanjay Industries	0.53 Km	SW	6	Jagdamba Industries	0.80 Km	W	7	Mahalaxmi TMT (SMS & Rolling Mill)	Near To Proposed Site	N
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Source: SOI Toposheet

Topographical Map (10 km radius)

## 2.0 PROJECT DESCRIPTION

M/s Mahalaxmi TMT Pvt. Ltd. is a steel plant engaged in manufacturing of Sponge Iron, M.S Billet and TMT bars at Deoli Growth Center in Wardha district of Maharashtra from 2010. Out of 8 x 100 TPD static kiln M/s. Mahalaxmi TMT Pvt Ltd has installed 2 x 100 TPD Static kiln but at present, these two kiln is not in operation. A shed for 2000 TPD Iron Ore Beneficiation plant is installed. This unit is never in operation. In future also it will not be installed/operational.

The project under consideration i.e. 2 x 500 TPD Rotary Kiln& 50 MW of TPP (25 WHRB+ 25 MW AFBC) will be installed at plot no. B1/2 which is a vacant land.

The other unit of project under consideration i.e. 2000 TPD Iron pelletisation plant will be installed at plot no. B-1/4 at the space reserved for 6 x 100 TPD static kiln and beneficiation plant and SR 46/2. In future also these 6 static kiln of 100 TPD and Beneficiation plant will not be installed. Shade and space reserve for 6 x 100 TPD and Beneficiation Plant static kiln and 2000 TPD Beneficiation Plant at plot no. B-1/4 and SR 46/2 will be used for installation & operation of 2000 TPD Iron Ore Pellet Plant.

The Iron Ore Pellets from Plot no. B-1/4 and SR 46/2 will be transported via 25 M wide MIDC Road to plot no. B-1/2 for further processing to manufacturing Sponge Iron. The distance between these two plots is 200 mt. Possibilities are explored to identify the other mode of transportation other than Road but it is not possible since in between plot no. B1/4 & B1/2 there is plot no. B1/3 which is owned by other industry. The sponge Iron from plot no. B1/2 will be transported to plot No. C-2 via MIDC Road. Plot no C-2 is just opposite to plot no. B-1/2.

The present proposal is as follows:-

**Table 2 : Present Proposal**

<b>Plant Details</b>	<b>Unit Capacity</b>	<b>Annual Capacity(TPA)</b>
Pelletisation Plant	2x 1000 TPD	6,60,000
Coal Gasifier unit	26000 Nm <sup>3</sup> /h	26000 Nm <sup>3</sup> /h
Sponge Iron	500 TPD X 2 Kiln	3,30,000
WHRB & CPP	25 MW WHRB +25 MW AFBC	50 MW

## PROCESS DESCRIPTION

### MANUFACTURING PROCESS

#### A) Pelletisation Plant

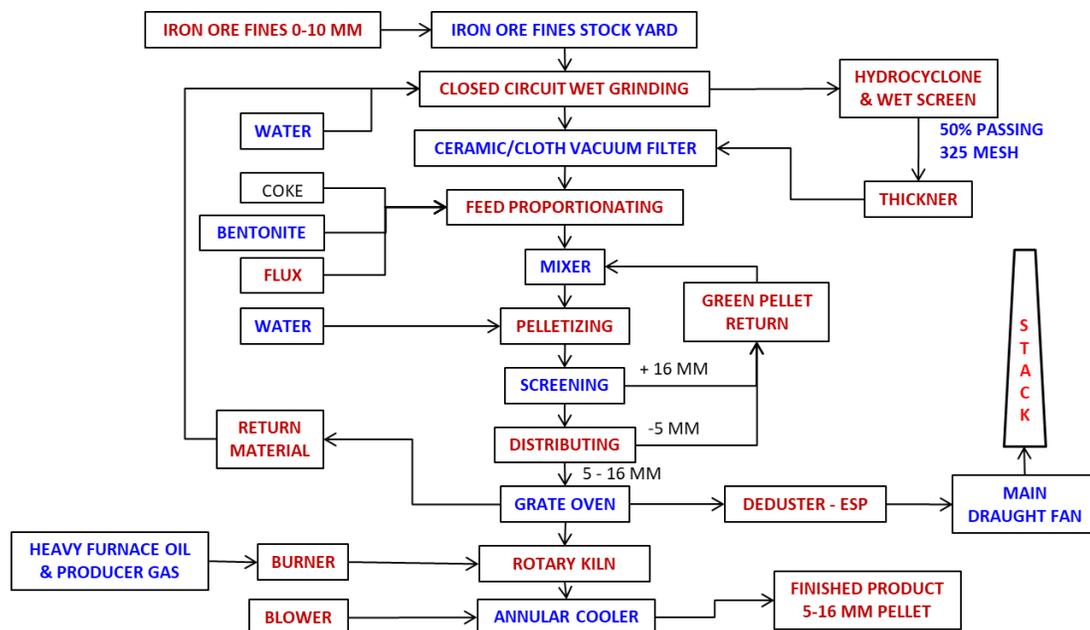
#### Manufacturing Process of Pellet

Following various process involves in pelletisation process

1. Feed Preparation,
2. Green Ball production
3. Green Ball indurations
  - a. Drying
  - b. Preheating
  - c. Firing
4. Cooling of hardened pellets

#### Manufacturing Process of Proposed Coal Gasifier Plant

Extended Shaft Gasifier technology is used in Coal Gasifier Plant. This New Technology is to produce a clean consistent quality Producer Gas of high Calorific Value from majority of grades of Indian Coal from 'A' to 'G' grade and with faster rate of gasification or more coal through-put per unit grate area. The Process is continuous and as controllable and maneuverable as oil firing. The Process is Eco-friendly; the equipment is operation friendly and conforms to all PCB norms. Various Process Steps and Reactions are involved in the coal gasification like Pre-heating, Drying and Distillation Zone, oxidation zone and ash zone. The detailed process flow chart is given as under :

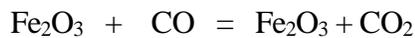


**Flowchart Pelletization plant**

### **Sponge Iron Process**

The process of sponge iron manufacturing involves removal of oxygen from iron ore. Sponge Iron also called as Direct-Reduced Iron (DRI) is produced from direct reduction of iron ore (in the form of lumps, pellets or fines) by a reducing gas using fuel i.e. natural gas or coal. The reducing gas is a mixture majority of Hydrogen (H<sub>2</sub>) and Carbon Monoxide (CO) which acts as reducing agent. This process of directly reducing the iron ore in solid form by reducing gases is called direct reduction. In this process coal will be used for producing reducer gas and the process will be carried out in a Horizontal Rotary Kiln. The finished product i.e. sponge Iron observed under a microscope, resembles a honeycomb structure, which looks spongy in texture. Hence the name is called sponge iron. The reduction of Iron Ore can be achieved by using either carbon bearing material, such as non-coking coal or a suitable reducing gas in the form of reformed natural gas. The processes employing coal are known as solid-reductant of coal-based processes while those employing reducing gases are known as gas-based processes.

The basic reactions in this process are as follows:



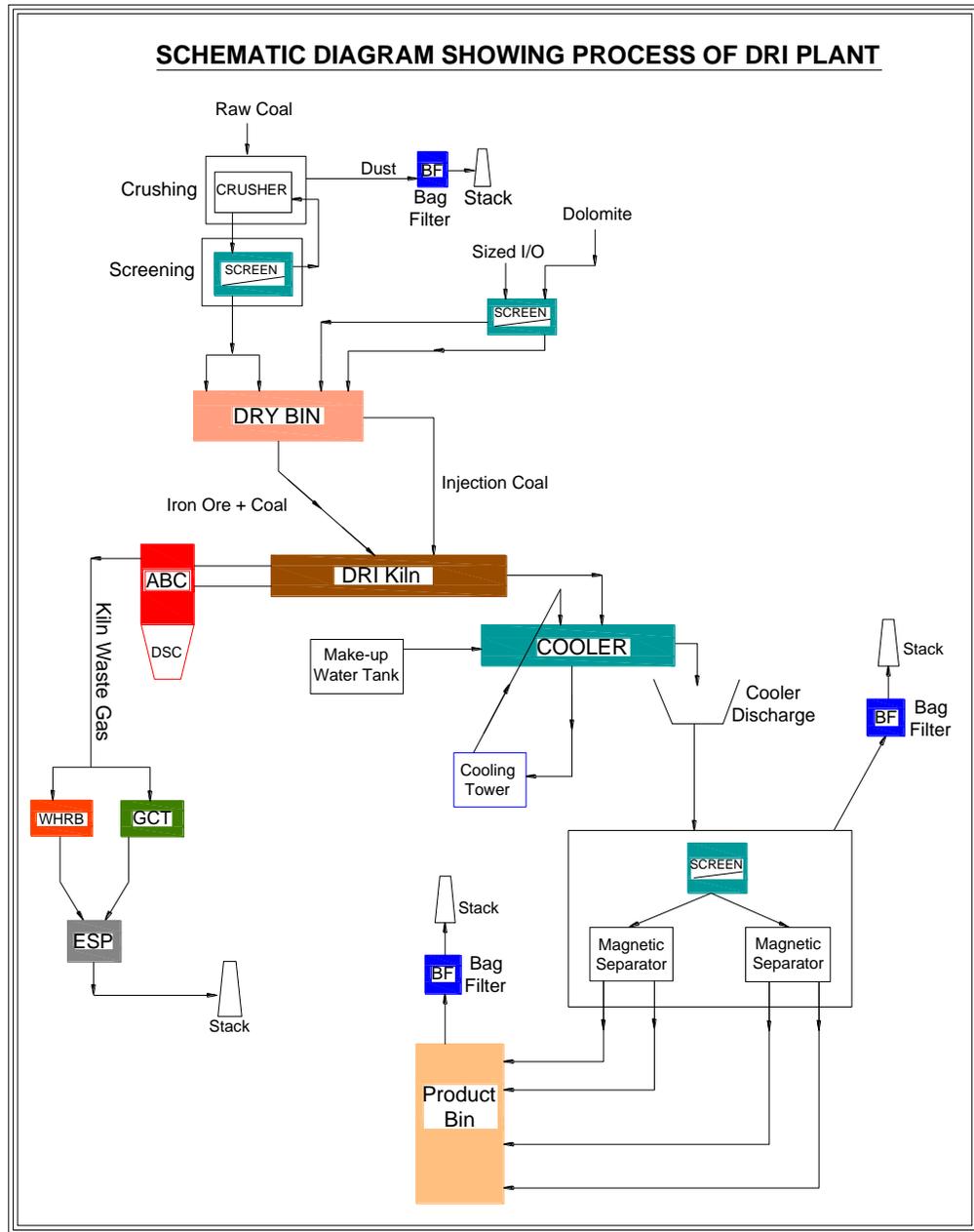


Figure 6: Sponge Iron Manufacturing Process

**C. Waste Heat Recovery System & CPP:**

**Waste heat recovery system to generate Power**

In Sponge Iron manufacturing, flue gases are generated with a temperature of 900-1000 °C during the process. This heat is cooled without utilizing heat by supplying the air by using FD fans. The heat content in the flue gas is enough to generate the power by installing the waste heat recovery system i.e. boiler. The high temperature flue gases are pass through the boiler for

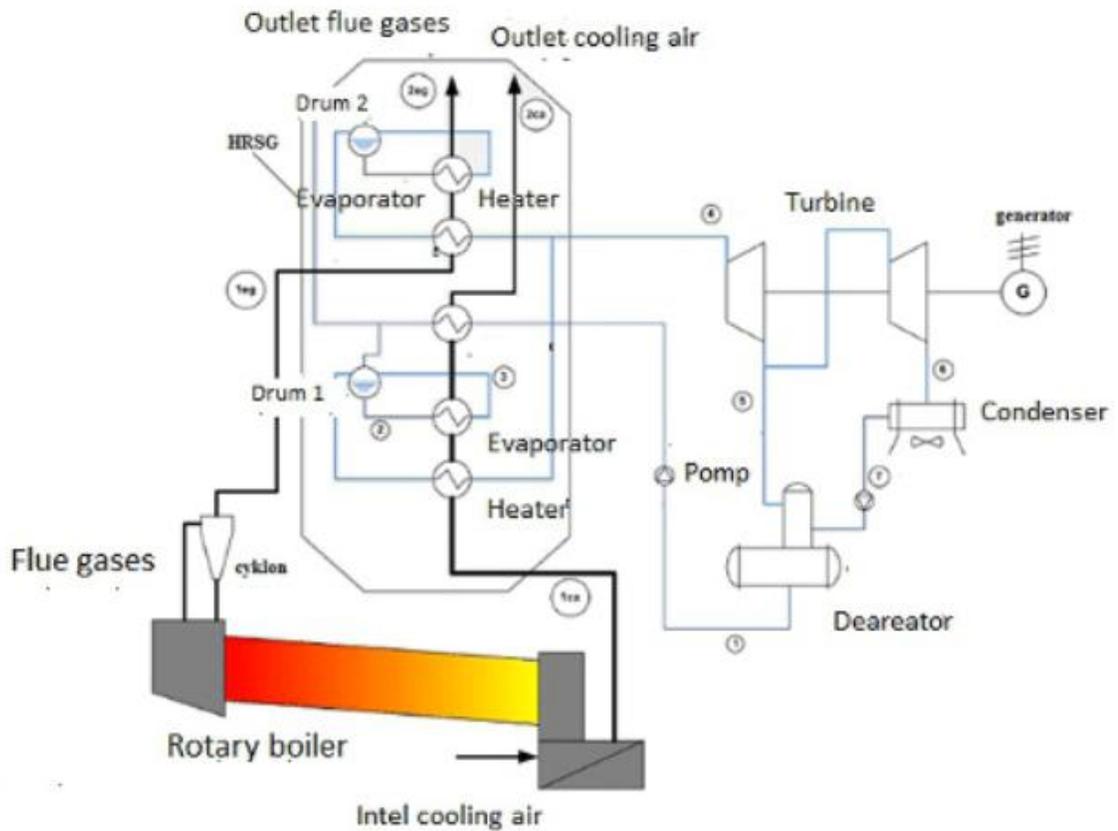
generate the steam and that can be used in turbine to generate the power.

**Background**

All sponge Iron Manufacturing Industries in India are coal based industries and flue gases are generated during the process which have higher temperature i.e.900-1000 Deg C. These industries are operated throughout the year. At present all industries are not utilizing the heat from the flue gases and cooled by FD/GCT system before sending to ESP. Thus power generation using generated flue gases are one of energy conservation opportunities in sponge iron plants by installing waste heat recovery system.

**Energy Conservation Potential**

In 500 TPD coal based sponge iron plants, during the process at least 120000 m<sup>3</sup>/hr flue gases are generated and having the temperature of 900-1000 °C. The total power generated in sponge iron plants are depends on installed capacity of sponge iron plants.



**Process Diagram of WHRB**

**Captive Power plant (AFBC):**

A power plant continuously converts the energy stored in fossil fuels (coal, oil, natural gas) or hot gases into shaft work and ultimately into electricity. The working fluid is water, which is sometime in liquid phase and sometimes in vapour phase, during its cycle of operation. Power Plant as a bulk energy converter from fuel to electricity using water is a working medium.

Coal from the coal handling plant will be transported to the boiler bunkers through conveyors belts. There on, the coal of size <6 mm will be fed to the boiler furnace with the help of heated air driven by primary air (PA) fans. Forced draught (FD) fans will provide additional controllable air to assist desirable combustion. The heat released by the burning coal is absorbed by the demineralized boiler feed water passing through the boiler wall tubing to produce high-pressure steam. The steam will then be discharged onto the turbine blades which will make the turbine to rotate. The generators coupled to the turbines will also rotate and produce electricity. The electricity will pass to the transformer which will increase the voltage to the desired level of the transmission grid system. This combustion will produce ash, out of which the bottom ash will fall to the bottom of the boiler. The fly ash carried in the flue gases will travel through the electrostatic precipitators (ESP) where it will be precipitated on the high voltage electrodes. The relatively clear flue gas will pass through the stacks with the help of induced draught (ID) fans. Bottom ash will be collected in dry form and disposed in ash disposal area.



### 3.0 DESCRIPTION OF THE ENVIRONMENT

#### Air Environment

The ambient air quality monitored at 8 locations selected based on predominant wind direction, indicated the following ranges;

PM <sub>10</sub> :	38.9 to 87.5 µg/m <sup>3</sup> .
PM <sub>2.5</sub> :	23.6 to 48.6 µg/m <sup>3</sup>
SO <sub>2</sub> :	12.8 to 36.5 µg/m <sup>3</sup>
NO <sub>x</sub> :	19.2 to 48.3 µg/m <sup>3</sup>

Industrial Area	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>
Residential, Rural Area (CPCB Norms)	100 µg/m <sup>3</sup>	60 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>	80 µg/m <sup>3</sup>

The concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub> were found within the National Ambient Air Quality Standards (NAAQS).

#### Water Environment

A total 14 samples including six surface & eight ground water samples were collected and analyzed. The water samples were analyzed as per Standard Methods for Analysis of Water and Wastewater, American Public Health Association (APHA) Publication.

It was observed that the characteristics of the surface and ground water samples were found to be within the permissible limits stipulated standard for drinking water (BIS 10500 – 2012) except the total coliforms in surface water samples which may be due to the human activities observed during sampling and requires disinfection before use for drinking purpose.

#### Noise Environment

The Noise levels are in the range of 36.7 – 57.0 dB (A) at all eight stations. Maximum levels of noise have recorded in day hours which are natural as our most of activities have done in day hours.

Noise levels measured at all eight stations (N-1, N-2, N-3, N-4, N-5, N-6, N-7 and N-8) are low and well within limit of either 65.0 dB(A) for Residential Area or 75.0 dB(A) for Industrial Area as given in MoEF&CC Gazette notification for National Ambient Noise Level

Standard.

### **Land Environment**

Samples were collected at three sites during October 2020. Three samples from three different locations of three different depths viz. 0-30, 30-60 and 60-90 cm below the surface and homogenized from each. This method is in line with IS: 2720 & Methods of Soil Analysis, Part-1, 2<sup>nd</sup> edition, 1986 (American Society for Agronomy and Soil Science of America). The characteristics of the soil sample were compared with different depths for respective parameters. The observations of soil characteristics are discussed parameter wise below;

- a) Texture of all soil samples are silty-clay and Murrum in Texture Classification.
- b) Colour of soil samples from waste land is Brown & red color and for agriculture land is red in color.
- c) The bulk density of soil samples are in the range of 1.00 to 2.14 gm/cc.
- d) Soil samples have pH values in the range of 6.70 to 7.55. The pH values are indicating nature of soil samples as neutral to slightly alkaline.
- e) Soil samples have conductivities between 0.039 to 0.133 mmhos/cm.
- f) Soil samples have Organic Matter between 0.15 to 0.71 %. These values represent average fertility of soils.
- g) Soil samples have concentration of Available Nitrogen values ranged between 59.4 to 287.3 kg/ha.
- h) Soil sample have concentration of Available Phosphorous values ranged between 205.92 to 413.83 kg/ha.
- i) Soil sample have concentration of Available Potassium values range between 8.87 to 121.50 kg/ha.

### **Interpretation**

Samples collected from different land use classifications indicating the soil Sample were Brown and Red in colour. All the major nutrients were present, namely, nitrogen's presence is very less to better, phosphorus is good in quantity and potassium is very less to average in quantity. The results also show that the soil needs to be replenished with nutrients like nitrogen and potassium

#### 4.0 Anticipated Impacts & Mitigation Measures

The Cumulative GLC for PM<sub>10</sub> comes out to be 3.7 µg/m<sup>3</sup> at 0.5 km in SW direction and for SO<sub>x</sub> is 5.77 µg/m<sup>3</sup> at 0.5 Km in S direction and for NO<sub>x</sub> is 4.21µg/m<sup>3</sup> in 0.8 Km in S Direction. The predicted ground level concentrations obtained when superimposed on the baseline concentrations are within the prescribed NAAQ Standards.

The emissions due to transportation of vehicles in the study area were determined from fuel-based emission factors and number of vehicles plying on roads in the area. Loading and transportation of raw materials are the significant sources of emissions.

The majority of trucks (95%) plying in the study area are manufactured in India as per the standard norms hence it is assumed that emission from these trucks will be similar, as emission norms are same for the vehicle used in India and is mandatory for the manufactures to follow emission norms under the Motor Vehicle Act.

##### **Impact on Noise Levels and Mitigation Measures**

During operation, the major noise generating sources are crushing mill, auto loading section, electric motors etc. These sources will be located far off from each other. Under any circumstances the noise level from each of these sources will not exceed 85 dB (A).

Noise levels generated in the project site will be confined to the noise generating plant units hence the impact of noise levels on surroundings will be insignificant

##### **Mitigation Measures**

The noise levels will not exceed the standards stipulated by Central Pollution Control Board at any point of time. The equipments will have inbuilt noise control devices. The measured noise level produced by any equipment will not exceed 85 dB(A) at a distance of 1.0-m from its boundary in any direction under any load condition. The noise produced in valves and piping associated with handling compressible and incompressible fluids will be attenuated to 75 dB(A) at a distance of 1.0 m from the source by the use of low noise trims, baffle plate silencers/line silencers, acoustic lagging (insulation), thick-walled pipe work as and where necessary. The general mitigation for the attenuation of the noise are given below:

- ❖ Encasement of noise generating equipment where otherwise noise cannot be controlled

- ❖ Providing noise proof cabins to operators where remote control for operating noise generating equipment is feasible.
- ❖ In all the design/installation precautions are taken as specified by the manufacturers with respect to noise control will be strictly adhered to;
- ❖ High noise generating sources will be insulated adequately by providing suitable enclosures;
- ❖ Use of lagging with attenuation properties on plant components / installation of sound attenuation panels around the equipment
- ❖ Other than the regular maintenance of the various equipment, ear plugs/muffs are recommended for the personnel working close to the noise generating units;
- ❖ All the openings like covers, partitions will be designed properly
- ❖ Inlet and outlet mufflers will be provided which are easy to design and construct.
- ❖ All rotating items will be well lubricated and provided with enclosures as far as possible to reduce noise transmission. Extensive vibration monitoring system will be provided to check and reduce vibrations. Vibration isolators will be provided to reduce vibration and noise wherever possible;
- ❖ The insulation provided for prevention of loss of heat and personnel safety will also act as noise reducers.

### **Impact on Water and mitigation Measures**

Total water requirement for the proposed project will be about 5907 KLD, will be supplied by MIDC. M/s SMW Ispat Pvt. Ltd. is committed to ZERO Discharge of waste water. 665 KLD Industrial waste water will be treated in ETP. 74 KLD of Domestic waste water will be generated and treated in adequately designed proposed STP. The treated water will be recycled and utilized in Green Belt Development.

### **Terrestrial Ecology**

Natural Flora and Fauna are important biotic components for environment. The various terrestrial biological components which can be influenced by proposed activities in the form of emissions. The detailed list of Flora and Fauna is attached as Annexure XII.

No National Park, Sanctuary, Elephant or Tiger Reserve is situated within 10 km radius area

surveyed around the project site. No migratory route of wild animals has been reported to have existed in the study area.

### **Biological Environment**

Biological study is essential to understand the impact of industrialization and urbanization on existing flora and fauna of the study area. Studies on various aspects of ecosystem play an important role in identifying sensitive issues for under taking appropriate action to mitigate the impact, if required. The biological study was under taken as a part of the EIA study report to understand the present status of ecosystem prevailing in the study area, to compare it with past condition with the help of available data, to predict changes in the biological environment as a result of present activities and to suggest measures for maintaining its health. A baseline survey was conducted to study floral and faunal diversity of the terrestrial and aquatic environment of the study area within the 10 km radius of the plant site.

The project site is located in industrial area. There is no forest land within study area industrial area is surrounded by agricultural land. Air Pollution controlling device will be installed in the plant to minimized the impact on local area. There shall not be any loss or reduction of species and habitat due to the project site. Project site is located in existing plant premises No site clearance or vegetation will be removed.

During the EB study No Endemic, Rare, Endangered and Threatened (RET) species of flora and fauna were found in the study area.

There shall not be any impairment of ecological functions such as (i) disruption of food chains, (ii) decline in species population and or (iii) alterations in predator-prey relationships. Plant will be equipped with Air Pollution Control Device, No waste water will be release from production process, and green belt will be developed for noise pollution control and for maintaining balance in flora fauna habitat.

### **Solid Waste Generation**

The solid waste generation in the proposed expansion activities are given in following table.

**Table --: Solid Waste Management in Pellets plant Iron**

<b>Solid Waste</b>	<b>Quantity Ton/ Annum</b>	<b>Utilization</b>
Ash Generation	40,000	Will be Sold to Brick manufacturer
Tar Generation	2600 KL	Will be utilized in pellet plant

**Solid Waste Management in Sponge Iron**

The solid waste generation from the Sponge Iron process is Char & Dolochar and dust from ESP.

**Table : Solid Waste Management in Sponge Iron**

<b>Solid Waste Generation</b>	<b>Quantity (TPA)</b>	<b>Method of Disposal</b>
Char & Dolochar	39600	Will be used in captive power plant & sold to secondary users viz. nearby power plant.
ESP Dust	39600	Will be used for brick manufacturing and land filling
<b>Total</b>	<b>79200</b>	

**Table : Solid Waste Generation and Management in CPP**

<b>Solid Waste generation</b>	<b>Quantity (TPA)</b>	<b>Method of Disposal</b>
Fly Ash	46,200	Land filling / leveling and will be supply to brick manufacturing units/ cement plants

**Impact on Socio-Economic Environment**

M/s SMW Ispat Pvt. Ltd. is providing direct employment 2050 workers. The local persons have been given preference in employment as per the qualification and technical competencies. In order to mitigate the adverse impacts likely to arise in the proposed project activities and also to minimize the apprehensions to the local people, it is necessary to formulate an affective EMP for smooth initiation and functioning of the project. The overall impact on the socio economic environment will be significant.

## **5.0 Environmental Monitoring Programme**

M/s SMW Ispat Pvt Ltd (Formerly known as M/s Mahalaxmi TMT Pvt. Ltd will be carry Environmental Monitoring on regular basis. The methodologies adopted for environmental monitoring are in accordance with the CPCB guidelines.

The environmental monitoring points will be done considering the environmental impacts likely to occur due to the operation of existing and proposed project as the main scope of monitoring program is to track, timely and regularly, the change in environmental conditions and to take timely action and adopt mitigation measures for protection of environment.

### **Ambient Air Quality Monitoring**

Ambient air quality monitoring at 3 locations in and around the plant will be carry by NABL accredited lab on regular basis and reports will be submitted to MPCB regularly.

### **Water Quality Monitoring**

Ground water quality & Waste water quality samples will be collected and analyzed by NABL accredited lab, ground water from different locations on quarterly basis and analyzed by NABL accredited lab. Reports will be submitted to MPCB, CPCB and MoEF.

### **Noise Environment**

Noise levels will be monitored at various locations of the plant premises for day and night time as per the CPCB guidelines.

### **Fugitive emission**

Monitoring of Ground level dust concentration/Fugitive emission along with gaseous pollutants viz SO<sub>2</sub>, NO<sub>x</sub> will be carried out periodically. Necessary control measures are being adopted to keep the secondary fugitive emission within limits.

## **6.0 Additional Studies**

The additional studies as per the ToR issued by MoEF&CC are Public Consultation, Social Impact Assessment, Risk Assessment, & Disaster Management Plan.

## 7.0 Project Benefits

The company has worked to ensure better infrastructure in villages by constructing community assets, Providing good sanitation facility, and street lights, Improve the education facilities,

M/s SMW Ispat Pvt Ltd (Formerly known as M/s Mahalaxmi TMT Pvt. Ltd) infrastructure activities within the villages.

- a) Maintenance of rural roads and arrangement of safe drinking water.
- b) Construction of bore wells.
- c) Provision of sewing machines, clothes, chairs and ceiling fans to the needy people.  
Community enrichment activities such as construction of approach roads and supporting the cultural activities by building stages.

- As per the Notification dated 1.05.2018 issued by MOEF&CC, it is mandatory to prepare Corporate Environment Responsibility Plan (CER) to spend 0.75 % (project cost > 100 Crores, brown field project) of total capital cost of the project on social, economic and peripheral development activities. As per the above mentioned office memorandum CER dated 1.05.2018, 0.75 % of total project cost i.e Rs. 2.75 Crores will be allocated for CER based on public hearing issues (Total cost of project is (366.69 crores).
- As per the Office Memorandum No. 22-65/2017-IA.III dated 20<sup>th</sup> October 2020 based on the issued raised at the time of public hearing the CER will be detailed in the Final EIA Report.
- As per the Office Memorandum No. 22-65/2017-IA.III dated 25<sup>th</sup> February 2021, CER shall be the part of Environment Management Plan.
- CSR fund will be spent as per company law depending on net profit

## 8.0 Environmental Management Plan

### Environmental Management Cell

A separate environmental management cell will be established to implement the management plan. The group will be headed by a Senior Manager (production). The group will ensure the suitability, adequacy and effectiveness of the Environment Management Program. The cell is

responsible for monitoring ambient air quality, stack emission, ambient noise in the plant and vicinity, waste water quality and discharge, quality of water bodies receiving effluent, workplace air quality and maintenance of analytical instruments. Additional responsibilities of the cell include the following:

- Obtaining consent order from State Pollution Control Board.
- To co-ordinate with statutory bodies, functional groups of the plant & head office.
- Interactions with plant official for modification programme if any to improve pollution control devices / systems.
- Conducting annual environmental audit and submit audit report to State pollution Control Board (SPCB);
- Submission of all statutory reports and returns.
- Conduct regular training programs to educate plant personnel on environmental awareness.
- Inform the management regularly about conclusions/results of monitoring and recommend environmental protection measures.
- Environmental Appraisal (Internal) and Environmental Audit.

**The following mitigation measures will be undertaken for the proposed project**

### **AIR POLLUTION**

The major pollutants of air in a proposed plant are the particulate matters from the various stacks and fugitive emissions due to material handling. The automatic process equipments will be employed for the raw material feeding system. Stacks of adequate height along with bag filters for induction furnace, fourth hole extraction system along with bag filter for submerged arc furnace is proposed for proper dispersion of flue gases. Plantation along the internal roads in the plant premises will be strengthen and all the internal roads shall be concreted / asphalted to reduce the fugitive dust due to vehicular movement..

### **WATER POLLUTION**

The Wastewater generated from the industrial process will be treated in the settling tank within the premises and the treated water will be re-used back to the process. The domestic wastewater will be treated in Packaged Type STP of 15KLD capacity and treated water will

be used for greenbelt development. Hence, the zero wastewater discharge is proposed for the proposed project.

### **NOISE POLLUTION**

Regular maintenance of the various equipment, ear plugs/muffs will be provided for the personnel working close to the noise generating units. Further all the openings like covers, partitions will be designed properly to abate noise pollution.

### **SOLID WASTE DISPOSAL AND MANAGEMENT**

The solid waste generation from the proposed Pellet plant will be ash generation will be sell to authorized vendors/brick manufacturing unit. The tar generation from plant will be reutilized pellet plant manufacturing plant. The ash generated from the CPP will also be sell to authorized vendors/brick manufacturing unit. The char/dolochar from sponge iron will be used in captive power plant & sold to secondary users viz. nearby power plant and ESP dust will be sell to authorized vendors for brick manufacturing/landfilling purpose.

### **GREEN BELT DEVELOPMENT**

Adequate green belt is provided all around the plant premises. Locally available types of trees concerned with the forest department will be planted, which are resistant to pollutants are planted. Total 34 % (7.76 ha) (total land of 22.84 Ha) will be developed as green belt. About 3550 trees are planted till date on 2.5 Ha land and 5.26 ha land will be developed under green belt

The Project cost is Rs366.69 Cr .The breakup of Environment Management cost is given in following Table. Total Rs. 635 lakhs including CER amount as a capital investment and 70 lakhs as recurring cost has been earmarked for implementation of Environmental Management Plan for proposed expansion. As per the Office Memorandum No. 22-65/2017-IA.III dated 25<sup>th</sup> February 2021, CER shall be the part of Environment Management Plan.

### Environment Management Plan – Budget (Proposed)

Particulars	Capital Investment (Project phase) (Rs. In lacs)	Recurring cost (Operational phase) (Rs. In lacs/annum)
Air pollution control	220	20
Waste water treatment & recycling	20	8
Package type STP	20	2
Solid waste management	25	15
Monitoring & analysis	5	15
Plantation & greenbelt development	20	6
Rain water harvesting & Piezometer with Telemetry	50	4
CER (Construction of village roads, strengthening Health infrastructure, Renovation of village schools with adequate Sanitation facilities, construction of STP in nearby villages etc.)	275 one time	CSR fund will be spent as per company law depending on net profit
<b>Total</b>	<b>635</b>	<b>70</b>

## 9.0 Conclusion

It can be concluded that there would be negligible impact in the buffer zone due to the proposed expansion. The project shall contribute to the socio-economic development, strengthening of infrastructural facilities like medical, educational etc. The plant shall be operated keeping "Sustainable Development" of the region in mind.

Further, management is committed to contribute towards improving socio-economic status of the surrounding local community.

Environmental monitoring is a successful tool for the management for implementation of adequate & effective environmental measures. It also helps the management to take mid-course correction, if required based on the environmental monitoring results. Considering the above overwhelming positive impact on the community, there shall be overall development of the area.