



Executive Summary for the Proposed Integrated Steel Plant

1.0 INTRODUCTION

M/s **Khetan Sponge & Infrastructure Pvt. Ltd.** is and existing sponge iron plant at Sarora Village, Tilda Tehsil, Raipur District, Chhattisgarh in 64 acres of land. Now it has been proposed to expand the steel plant in the existing 64.0 acres of land which is in possession of management. No forest land and government land is involved in the site. The following are existing products and capacities proposed in the expansion of the Steel Plant.

S.No	Details	Capacity			
		Existing CFE awarded		Proposed Expansion	After Expansion
		Implemented	To be commissioned		
1.	Sponge Iron	30,000 TPA	60,000 TPA	---	90,000 TPA
2.	Iron Ore Beneficiation	---	---	3,00,000 TPA	3,00,000 TPA
3.	Blast Furnace	---	---	1,50,000 TPA (1 x 250 M ³)	1,50,000 TPA
4.	Sinter			2,07,360 TPA (1 x 24 M ²)	2,07,360 TPA
5.	Induction Furnace with CCM/ PCM	---	---	1,50,000 TPA (5 x 10 MT)	1,50,000 TPA
6.	Rolling Mill	---	---	1,50,000 TPA (1 x 500 TPD)	1,50,000 TPA
7.	Ferro Alloys Unit	---	---	30,000 TPA (2 x 9 MVA)	30,000 TPA
8.	POWER	---	---		20.5 MW
	i WHRB – from sponge iron	---	---	3 x 2 MW	6.0 MW
	ii WHRB - from Blast Furnace	---	---	2.5 MW	2.5 MW
	iii FBC Boiler	---	---	12 MW	12 MW
9.	Coal Washery	---	---	1.44 MTPA (200 TPH)	1.44 MTPA

Pioneer Enviro Laboratories & Consultants Private Limited, Hyderabad, have prepared Draft Rapid Environmental Impact Assessment (DREIA) report for the proposed expansion of Steel Plant by incorporating the Terms Of Reference approved by the Ministry of Environment & Forests, New Delhi. The report contains detailed description of the following

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- a. Characterization of status of environment with in an area of 10 Km. radius from the project site for major environmental components including air, water, noise, soil, flora, fauna and socio-economic environment.
- b. Assessment of air emissions, liquid waste and solid waste from the proposed project along with the noise level assessment.
- c. Pollution control measures proposed to be adopted in the proposed Plant.
- d. Environmental Management Plan (EMP) and Post project Environmental monitoring to be adopted.

2.0 PROJECT SITE DESCRIPTION

1. The plant is located at Sarora Village, Tilda Tehsil, Raipur District, Chhattisgarh.
2. Nearest habitation *Sarora is at a distance of about 1.0 Km.* from the site
3. There are no National Parks, Wild life Sanctuaries and Bird Sanctuaries within 10 Km radius. However *Bilari RF is situated at a distance of 0.6 Km* from the site.
4. No forest land is involved in the site acquired.
5. Total land envisaged is 64.0 Acres.
6. The average annual rainfall in the *area is 1300 mm.*
7. The following are the industries situated within 25 km radius of the plant.

S.NO	NAME OF THE INDUSTRY	TYPE
1.	<i>Aarti Sponge & Power Ltd.</i>	<i>Sponge + SMS</i>
2.	<i>Abhishek Infrastructure Limited</i>	<i>ISP</i>
3.	<i>Agrawal Sponge Private Limited</i>	<i>Sponge Iron</i>
4.	<i>API Ispat & Powertech Private Limited</i>	<i>Sponge + Power + SMS</i>
5.	<i>Arsh Iron & Steel Limited</i>	<i>Sponge Iron</i>
6.	<i>Bladev Alloys Private Limited</i>	<i>Sponge Iron</i>
7.	<i>Central Cement</i>	<i>Cement Manufacturing</i>
8.	<i>Century Cement Works</i>	<i>Cement Manufacturing</i>
9.	<i>Devi Iron & Power Private Limited</i>	<i>Sponge Iron</i>
10.	<i>Drolia Electro cast Steel (P) Ltd.</i>	<i>Sponge + SMS</i>
11.	<i>Ghankun Steels Private Limited</i>	<i>Sponge + SMS</i>
12.	<i>Gopal Sponge & Power Private Limited</i>	<i>Sponge Iron</i>
13.	<i>Grasim Cement Works</i>	<i>Cement Manufacturing</i>
14.	<i>Grasim Lime Stone Mines</i>	<i>Lime Stone Mines</i>
15.	<i>Hirmi Cement Works (ULTRATECH)</i>	<i>Cement Manufacturing</i>

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16.	<i>Hi-Tech Power and Steel Limited</i>	<i>Sponge Iron</i>
17.	<i>Ispat Godawari Limited</i>	<i>ISP</i>
18.	<i>Jaiswal NECO Limited</i>	<i>Integrated Steel Plant</i>
19.	<i>Maa Usha Urja Limited</i>	<i>Biomass Based Power</i>
20.	<i>Mahendra Sponge Iron Private Limited</i>	<i>Sponge</i>
21.	<i>Maruti Ferrous Pvt. Ltd.</i>	<i>SMS</i>
22.	<i>Nandan Steels & Power Limited</i>	<i>SMS + Rolling Mill</i>
23.	<i>P.D.Industries Private Limited</i>	<i>Sponge</i>
24.	<i>Rashmi Sponge Iron & Power Industries (P) Ltd.</i>	<i>Sponge + Power + SMS</i>
25.	<i>S.K.Sarwagi & Co. Private Limited</i>	<i>Sponge + SMS</i>
26.	<i>Saini Industries Limited</i>	<i>Rolling Mill</i>
27.	<i>Sarda Energy Limited</i>	<i>ISP</i>
28.	<i>Shree Shyam Sponge & Power Limited</i>	<i>Sponge</i>
29.	<i>Shri Harekrishna Sponge Iron P. Ltd.</i>	<i>Sponge + SMS</i>
30.	<i>Sunil Sponge Private Limited</i>	<i>Sponge + Power</i>
31.	<i>Usha Fuels Private Limited</i>	<i>Coke Oven Plant</i>
32.	<i>Vandana Global Ltd.</i>	<i>Mini Integrated</i>
33.	<i>Vaswani Industries Limited</i>	<i>Mini Integrated Steel</i>

3.0 DETAILS OF PROJECT**3.1 RAW MATERIALS**

The following will be the raw material requirement for the proposed expansion project.

RAW MATERIAL REQUIREMENT

Raw material	Existing	Expansion	Total	Sources of Supply	Dist. from source to the site (Kms.)	Method of Transportation
Sponge Iron						
<i>Pellets</i>	<i>144000</i>	<i>---</i>	<i>144000</i>	<i>In plant generation</i>	<i>---</i>	<i>---</i>
<i>Coal</i>	<i>126000</i>		<i>126000</i>	<i>In plant generation</i>	<i>---</i>	<i>---</i>
<i>Dolomite</i>	<i>4500</i>		<i>4500</i>	<i>Local areas</i>	<i>50</i>	<i>By road</i>
Iron ore beneficiation						
<i>Iron ore fines</i>	<i>---</i>	<i>300000</i>	<i>300000</i>	<i>NMDC/Orissa Sector</i>	<i>500</i>	<i>By rail and road</i>
<i>Coal</i>		<i>12000</i>	<i>12000</i>	<i>In plant generation</i>	<i>---</i>	<i>---</i>

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Bentonite		6000	6000	Local area	---	By road
Blast furnace						
Pellets	---	33090	33090	In plant generation	---	---
BF coke	---	90000	90000	Imported	---	By sea & Rail & road
Quartzite	---	3750	3750	Local area	50	By road
Sinter	---	207360	207360	In plant generation	---	---
Manganese ore	---	2250	2250	CG/MH Region	50	By road
Sinter						
ore fines	---	207360	207360	NMDC/Orissa Sector	500	By rail & road
flux	---	4148	4148	Local areas	50	By road
coke	---	18660	18660	Imported		By sea & Rail & road
flue dust	---	6220	6220	In plant generation	---	Closed conveyor
BF fines	---	20736	20736	In plant generation	---	Closed conveyor
lime	---	2073	2073	Local areas	50	By road
return sinter	---	82944	82944	In plant generation	---	Closed conveyor
SMS plant						
Sponge iron (70%)	---	123900	123900	In plant generation	---	By closed conveyor
Scrap/pig iron (30%)	---	53100	53100	Local area	100	By road
ferro alloys	---	2250	2250	In plant generation	100	By closed conveyor
Rolling Mill						
Billets	---	160500	160500	In plant generation & Local areas	100	By Closed conveyor
Ferro alloys						
Mn Ore	---	69000	69000	CG/MH Region	200	By Road
Quartz	---	60000	60000	CG/MP Region	200	By Road
Reductants	---	45000	45000	in plant generation	---	
Coal washery						
ROM Coal	---		1440000	SECL, Bilaspur	150	By Rail & Road
Power Plant						



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Coal	----	10000	10000	SECL, Bilaspur	--	By Road
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3.2 MANUFACTURING PROCESS

3.2.1 PELLETISATION PLANT

Iron ore fines will be grinded in Ball mills. The concentrate will be fed to thickener and subsequently to filtering unit. The filter cake will be sent to pellet plant comprising of Rotary grate kiln. Green pellets will be produced from this process. The flue gases from grate kiln will be treated in ESP and discharged through a stack of 45m height.

3.2.2 COAL WASHERY

This section comprises of coal crushing and screening and washing of coal to produce clean coal with 25% ash, appropriately sized and a middling fraction by treating the raised coals from the mine.

The process consists of crushing of the ROM coal in a single toothed roll crusher. The crushed coal is then washed in Zig to produce clean coal and middling with the help of water stream and air pressure.

3.2.3 SINTER PLANT

The proposed sinter plant complex will consist of one sinter Machine of 24 m² grate area along with associated services facilities. The sinter plant is rated for a total production of 2,07,360 TPA of BF Sinter.

3.2.4 BLAST FURNACE

The blast furnace shop will comprise of furnace of capacity 250 m³ working volume. The blast furnace is envisaged to operate with sized lump Pellets, coke, fluxes and additives. The hot metal produced will be cast at pig casting machines to produce cold pigs. The liquid slag will be granulated at cast house granulation unit. The BF top gas will be cleaned in dust catcher and gas cleaning system and distributed to the stoves,



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burners for runner drying, boilers for process and process steam supply. The surplus gas will be utilized for power generation.

3.2.5 Steel Melting Shop

Initially scrap & other metallics such as Sponge Iron / Pig Iron will be charged into the Induction furnace. After scrap & other metallics are fully melted, the temperature of the melt reaches above 1600°C, then DRI / Pig Iron will be continuously charged into the furnace. As soon as the charge is melted, bath samples will be taken and temperature will be measured.

There will be 5 nos. of induction furnaces each of 10 MT capacity. Concast will be used to produce Billets.

3.2.6 ROLLING MILL:

In the proposed project there will 1 X 500 TPD reheating furnaces is proposed for the heating of billets. Furnace will be heated with Furnace oil. A bar and round mill will be installed in the plant to produce 500 TPD of TMT bars/ Structural steel.

3.2.7 FERRO ALLOYS PLANT:

In Ferro alloy plant Ferro alloys will be produced by smelting of Manganese ore with coke, coal, quartz and dolomite in submerged arc furnaces. 30,000 TPA of Ferro Alloys will be produced.

3.2.8 POWER GENERATION

3.2.8.1 THROUGH WASTE HEAT RECOVERY BOILER FROM SPONGE IRON UNIT

The hot flue gases from DRI kilns will pass through waste heat recovery Boilers to recover the heat and to generate 6.0 MW electricity. The gases after heat recovery will pass through ESPs and then discharged through chimneys into the atmosphere for effective dispersion of emissions into the atmosphere.

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3.2.8.2 THROUGH BLAST FURNACE

The blast furnace gas coming-out from the furnace will be used as fuel for stoves, Ladle. Any excess gas will be let to Sinter Plant/ Pelletization Plant as fuel. A total of 2.5 MW will be generated through flue gases from blast furnace.

3.2.8.3 THROUGH AFBC BOILER

Coal washery rejects and dolochar will be used in AFBC Boilers to generate 12 MW electricity. The flue-gases will be treated in high efficiency ESP and then discharged through stack into the atmosphere.

3.3 WATER REQUIREMENT

The total water requirement after proposed expansion project is about 4900 cum/day of water. This includes Make-up water for Pellet Plant, DRI, SMS, Rolling Mill, MBF, Sinter Plant, SEAF, Coal Washery, Power plant and Domestic water. The water requirement for the proposed project will be sourced from Shivnath river which is about 4.0 kms. away from the proposed project site. Necessary permission from the water resources department, Govt. of Chhattisgarh is under process. Water will be drawn after obtaining permission only. Hence there will not be any adverse impact on downstream users of Shivnath river.

WATER REQUIREMENT

Sr. No	SOURCE	Quantity		
		Existing	Expansion	Total
1	Make up water for Sponge iron Plant	50	100	150
2	Make-up water for Iron Ore Beneficiation	---	120	120
3	Make-up water for Sinter plant	---	160	160
4	Make-up water for Blast Furnace	---	1000	1000
5	Make-up water for SMS	---	125	125
6	Make-up water for Rolling Mills	---	100	100
7	Make-up water for Ferro alloys	---	50	50
8	Make-up water for Coal Washery	---	1000	1000
9.	POWER PLANT	---		
i	Cooling tower make-up	---	1820	1820
ii	Boiler make up	---	300	300
iii	DM Plant regeneration	---	50	50
10.	Domestic	5	20	25
Total		55	4845	4900

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3.4 Waste Water Generation

The total effluent quantity expected from the proposed expansion of Steel Plant will be 553 cum/day. There will not be any process waste water (or) cooling water blowdown from the Pelletization plant, DRI plant, Rolling Mill, Sinter plant, Induction Furnace, Ferro Alloys plant, and Coal washery as closed circuit cooling system will be adopted. Effluent from Gas cleaning plant of Blast Furnace will be treated in a settling tank and will be recycled after treatment. Boiler blowdown, CT Blowdown & DM Plant regeneration will be the sources of effluent generation from the power plant. The following will be the total wastewater & its break-up.

WASTE WATER GENERATION

SOURCE	GENERATION (Cum/day)
1.GCP effluent from Blast Furnace	150
2.POWER PLANT	
a) Cooling Tower blowdown	275
b) Boiler blowdown	58
c) D.M. plant regeneration water	50
3.Sanitary Wastewater	20
Total	553

3.5 Waste water Characteristics

The following are the Characteristics of the effluents generated from different sources.

CHARACTERISTICS OF EFFLUENT

PARAMETER	CONCENTRATION			
	DM Plant regeneration	Boiler blowdown	Cooling Tower blowdown	Sanitary waste water
pH	4 – 10	9.5 – 10.5	7.0 – 8.0	7.0 – 8.5
TDS (mg/l)	5000 – 6000	1000	800 - 1000	800 - 900
COD (mg/l)	--	--	--	300 – 400
BOD (mg/l)	--	--	--	200 - 250



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CHARACTERISTICS OF GCP BLOWDOWN (Untreated)

PARAMETER	CONCENTRATION
pH	7.5 – 8.0
SS	200-225 mg/L
TDS	600

4.0 DESCRIPTION OF ENVIRONMENT

Base line data has been collected on ambient air quality, water quality, noise levels, flora and fauna and socio economic details of people within 10 km radius of the plant.

4.1 Ambient air quality

Ambient air quality was monitored for RPM, SPM, SO₂ & NO_x at 8 stations including project site for one season as per MOEF guidelines. The following are the concentrations of various parameters at the monitoring stations.

Parameter		Concentration
RPM	:	27.6 to 43.5 µg/m ³
SPM *	:	83.5 to 122.3 µg/m ³
SO ₂	:	5.2 to 9.7 µg/m ³
NO _x	:	6.9 to 11.0 µg/m ³

* PAH in SPM were analysed and their concentrations at all monitoring Stations are below Detectable level.

4.2 Water quality

Ground water samples were collected at 8 stations along with surface water samples and analyzed for various Pysico-Chemical parameters. The water samples are within the permissible limits of IS: 10500 & IS: 2296.

4.3 Noise levels

Noise levels were measured at 8 locations during day time & Night time. The noise levels at the monitoring stations are ranging **41.35 dBA to 46.57 dBA.**

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5.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES
5.1 Prediction of impacts on air quality

The likely emissions from the proposed Plant are SPM, SO₂, NO_x. The predictions of Ground level concentrations have been carried out using Industrial Source Complex model. Meteorological data such as wind direction, wind speed, max. and min. temperatures collected at the site have been used as input data to run the model.

It is observed from the computation results that the maximum predicted incremental rise in 24 hourly ground level concentrations of SPM, SO₂ and NO_x during operation of expansion project in the area will be 0.8 µg/m³, 8.6 µg/m³ and 6.5 µg/m³ respectively at a distance 950 m in the down wind direction.

NET RESULTANT MAXIMUM CONCENTRATIONS DUE TO THE EXPANSION PROJECT

Item	PM₁₀ (µg/m³)	SO₂ (µg/m³)	NO_x (µg/m³)
<i>Maximum baseline conc. in the study area</i>	43.5	9.7	11.0
<i>Maximum predicted incremental rise in concentration due to Khetan Sponge & Infrastructure Pvt. Ltd.</i>	0.8	8.6	6.5
<i>Maximum predicted incremental rise in concentration due to other industries in the area</i>	1.9	7.9	6.0
Net resultant concentrations during operation of the plant	46.2	26.2	23.5
National Ambient Air quality Standards	100	80	80

The predicted results shows that the net resultant concentration (max. baseline conc. + max. incremental rise in conc.) of PM₁₀, SO₂ and NO_x will be well within the National Ambient Air Quality Standards after commissioning of expansion project. Hence there will not be any adverse impact on air environment due to the proposed expansion project.

5.2 Prediction of impacts on noise quality

The major sources of noise generation in the proposed expansion will be STG, boilers, compressors, DG set, etc. The ambient noise levels will be with in the standards



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prescribed by MOE&F vide notification dated 14-02-2000 under the noise pollution (Regulation & Control), rules 2000 i.e. the noise levels will be less than 75 dBA during day time and less than 70 dBA during night time. 22.0 acres of extensive greenbelt (inclusive of existing) is proposed to be developed in the Plant premises to further attenuate the noise levels. Hence there will not be any adverse impact due to noise on the environment in surrounding areas due to the proposed Plant.

5.3 Prediction of impacts on water Environment

There will not be any process waste water (or) cooling blow down generation from the Pellet plant, DRI plant, SMS, Pellet Plant, Ferro Alloy plant, Coal Washery & Rolling mill plants as closed circuit cooling system will be followed.

The effluent generated from power plant activities which includes Boiler blow down, cooling tower blow down, DM plant regeneration and this will be treated in Effluent treatment plant. This treated effluent after ensuring compliance with norms of CECB/CPCB for onland for irrigation, will be used for dust suppression, ash conditioning & for greenbelt development. Zero effluent discharge will be adopted in the proposed expansion project.

Sanitary waste water will be treated in septic tank followed by soak pit. Rain water harvesting will be implemented in consultation with Central Ground Water Board. This will help in improvement of ground water table in the area. Permission from water resources department, Govt. of Chhattisgarh will be obtained to draw water from Shivnath river. Water will be drawn after obtaining permission only. Hence there will not be any adverse impact on water environment in the study area due to the proposed expansion project.

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The effluent will be treated to achieve CECB standards for on land for irrigation. Zero effluent discharge will be adopted. All the required air pollution control systems will be installed and operated to comply with CPCB/CECB norms. All solid wastes will be disposed / utilized as per CPCB/CECB norms. Hence there will not be any adverse impact on land environment due to the proposed expansion project.

5.5 Socio - Economic Environment

There will be lot of opportunities in employment to local people during construction as well as in operation phase. There will be an upliftment in Socio Economic status of the people in the area. Regular medical check ups will be conducted in the village. Hence there will be further development of the area due to the proposed expansion project.

6.0 ENVIRONMENTAL MONITORING PROGRAMME

Post project monitoring will be conducted as per the guidelines of CECB and MoEF are tabulated below.

MONITORING SCHEDULE FOR ENVIRONMENTAL PARAMETERS

S. No.	Particulars	Frequency of Monitoring	Duration of sampling	Parameters required to be monitored
1. Water quality				
	Water quality in the area	Once in a month except for heavy metals which will be monitored on quarterly basis.	Grab sampling	As per IS: 10500
2. Air Quality				
A.	Stack Monitoring	Online monitors (WHRB, FBC boiler stacks)		SPM
	Other stacks	Once in a month		SPM, SO ₂ & NO _x
B.	Ambient Air quality	Twice a week	24 hours continuously	RPM, SPM, SO ₂ , NO _x & CO
C.	Fugitive emissions	Once in a Month	8 hours	PM
3. Meteorological Data				
	Meteorological data to be monitored at the plant.	Daily	Continuous monitoring	Temperature, Relative Humidity, rainfall, wind direction & wind speed.
4. Noise level monitoring				
	Ambient Noise levels	Twice in a year	Continuous for 24 hours with 1 hour interval	Noise levels

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7.0 PROJECT BENEFITS

The local areas will be benefited by way of generation of employment opportunities, increased demand for local products and services. There will be an overall improvement in the income level of the local people. *The project creates employment to about 300 persons once the plant is commissioned and for 1000 persons during construction stage.* Priority will be given to locals for Semi-Skilled and Unskilled workers. With the development of this plant there will be lot of scope for more industrial investments which in turn will benefit the nation.

8.0 ENVIRONMENT MANAGEMENT PLAN

8.1 Air Environment

S. No.	Source	Control Equipment	Guaranteed Outlet Dust Emission
1	Pelletization Plant	ESP	<50 mg / Nm ³
2	Sinter Plant (24 m ²)	ESP	<50 mg / Nm ³
3	Blast Furnace (1 x 250 M ³)	Dust catcher followed by venturi scrubber	< 10 mg/Nm ³
4	Induction furnaces with CCM (5 x 10 MT)	Fume extraction & cleaning system with Bag filters	< 50 mg/Nm ³
5	Submerged Arc furnaces (2 x 9 MVA)	Fume extraction & cleaning system with Bag filters	< 50 mg/Nm ³
6	Rolling Mill	---	<50 mg / Nm ³
7	FBC Power Plant (12 MW)	ESP	<50 mg / Nm ³

The following air pollution control systems/ measures are proposed in the Plant

- All conveyors will be completely covered with G.I. sheets to control fugitive dust.
- All bins will be totally packed and covered so that there will not be any chance for dust leakage.
- All the dust prone points material handling systems will be connected with de-dusting system with bag filters.



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- *All discharge points and feed points, wherever the possibility of dust generation is there a de-dusting suction point will be provided to collect the dust.*
- *The collected dust from the Bag house of Steel Melting will be taken to a dust storage bin through a pneumatic conveying system.*
- *All the required Air pollution control measures will be strictly implemented so that the ambient air quality will be with in the National Ambient Air Quality standards during the operation of the plant.*
- *Extensive greenbelt proposed to be developed will help in further mitigating the air emissions.*

8.2 WATER ENVIRONMENT

- *There will not be any process waste water (or) cooling blow down generation from the Pellet plant, DRI plant, SMS, Pellet Plant, Ferro Alloy plant, Coal Washery & Rolling mill plants as closed circuit cooling system will be followed.*
- *The effluent generated will be in the form of GCP blow down, cooling tower blow down, Boiler blow down, D. M. Plant regeneration water and sanitary water.*
- *Sanitary waste water will be treated in septic tank followed by soak pit.*

Effluent from Gas cleaning plant of Blast Furnace will be treated in a settling tank and after treatment it will be recycled.

Effluent Treatment Plant:

pH of the boiler blowdown will be between 9.5 to 10.5. Hence a neutralization tank will be constructed for neutralizing the boiler blow down. DM plant regeneration water will be neutralized in a neutralization tank. After neutralization these two effluent streams will be mixed with Cooling Tower blowdown in a Central Monitoring Basin (CMB). The treated effluent will be utilized for dust suppression, ash conditioning and for Green belt development. No effluent will be let out of the plant premises. Hence

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Zero discharge concept will be implemented. Sanitary waste water will be treated in Septic tank followed by soak pit.

8.3 Solid Waste Generation & Disposal

S.No	Waste	Quantity (TPD)	Method of disposal
1	Ash from DRI (inclusive of existing kiln)	54	Is being given (for existing) to Cement Plants & Brick manufacturers. The same practice will be continued after expansion.
2	DoloChar (inclusive of existing)	90	Will be used in AFBC boiler as fuel
3	MBF, FES, ESP & Bag filter dust (inclusive of existing)	20	ESP, Bag filter dust will be partly used in sinter plant and the remaining will be given to brick manufacturers in the nearby area.
4	Kiln Accretion Slag (inclusive of existing)	3	Will be used in road construction
5	Granulated slag	150	Will be given to cement manufacturer
6	GCP Sludge	0.2	Will be used in sinter plant
7	SMS Slag	50	Will be used in road construction
8	Ash from Power Plant	107	Will be given to Cement Plants & Brick manufacturers.
9	Mill scales from Rolling Mill	50	Will be used in Induction Furnaces.
10	Slag from Ferro-Alloy making	20	Will be used in road construction/ reused
11	Washery Rejects	1200	Will be used in AFBC boiler as fuel

8.4 Noise environment

The major sources of noise in the proposed expansion will be STG, boilers, compressors, DG set etc. The employees working near the noise generating sources will be provided with earplugs. Acoustic enclosures will be provided to turbines. Noise absorbing materials will be used in the construction of roofs, walls and floors. The extensive greenbelt development proposed within the plant premises will help in attenuating the noise levels further. Noise barriers in the form of trees are recommended to be grown around administrative block and other utility units.

8.5 Land Environment

The waste water generated from the Plant will be treated in the Effluent Treatment plant to comply with the CECB standards and will be used for dust suppression, ash conditioning and for greenbelt development. All the required Air pollution control systems will be installed and operated to comply with CECB norms. Solid wastes will



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be disposed off as per norms. Extensive greenbelt will be developed in the plant premises as per CPCB norms. Desirable beautification and landscaping practices will be followed. Hence there will not be any impact due to the proposed Plant.

8.6 GREENBELT DEVELOPMENT

22.0 acres of greenbelt (inclusive of existing) will be developed in the plant premises. Greenbelt will be developed as per CPCB guidelines. 30 m wide greenbelt will be developed along the periphery of the plant.

8.7 IMPLEMENTATION OF CREP RECOMMENDATIONS

All the CREP recommendations will be strictly followed in the proposed expansion.

8.8 POST PROJECT ENVIRONMENTAL MONITORING

Ambient Air Quality, Stack monitoring & effluent analysis will be carried out regularly as per CPCB norms and the analysis reports shall be submitted to MoEF & CECEB regularly.
