

EXECUTIVE SUMMARY OF DRAFT ENVIRONMENT IMPACT ASSESSMENT REPORT FOR PUBLIC HEARING

For

**EXPANSION OF EXISTING PLANT THROUGH ESTABLISHMENT OF DRI
KILNS (SPONGE IRON 4,29,000 TPA), INDUCTION FURNACE WITH LRF &
CCM (BILLETS / INGOTS) (3,96,000 TPA), WHRB BASED POWER PLANT -
2 X 15 MW, CFBC BASED POWER PLANT - 1 X 10 MW, FLY ASH BRICKS -
346 TPD IN THE EXISTING 7.5 MW BIOMASS BASED POWER PLANT AND
1X9 MVA FERRO ALLOYS PLANT (SILICON MANGANESE - 14,400 TPA OR
FERRO MANGANESE - 25,200 TPA OR FERRO CHROME - 15,000 TPA OR
FERRO SILICON - 7,000 TPA OR PIG IRON - 25,200 TPA)**

At

Village- Khamhardih, Tehsil- Pathariya, District- Mungeli, Chhattisgarh

SUBMITTED BY

**M/s. SEETA ENERGEN PRIVATE LIMITED
13, 1st Floor, Nagar Nigam Colony, Samta Colony, Raipur, Chhattisgarh 492001.**

Applicable Schedule: 3 (a), Category: A



ENVIRONMENTAL CONSULTANT

PARIVESH ENVIRONMENTAL ENGINEERING SERVICES, LUCKNOW

Accredited EIA Consultant Organization by NABET, QCI, New Delhi

QCI - NABET Certificate No. NABET/EIA/2124/IA0092 (Rev. 02); Validity: -up to 11.11.2024.

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CERTIFICATE NO.: NABET/EIA/2124/IA0092 (Rev.02), Validity Upto 11.11.2024

EXECUTIVE SUMMARY

1.0 INTRODUCTION

M/s. Seeta Energen Private Limited is an existing plant located at Village-Khamhardih, Tehsil- Pathariya, District- Mungeli, Chhattisgarh. The existing 7.5 MW Biomass based Power Plant is in the operational stage. MOEF&CC, New Delhi has granted EC on 07.11.2023 for establishment of and 1x9 MVA Ferro Alloys plant (Silicon Manganese – 14,400 TPA or Ferro Manganese – 25,200 TPA or Ferro Chrome – 15,000 TPA or Ferro Silicon – 7,000 TPA or Pig Iron 25,200 TPA). The work has not yet started. Now the company has proposed expansion of existing plant through establishment of DRI Kilns (Sponge Iron 4,29,000 TPA), Induction Furnace with LRF & CCM (Billets / Ingots) (3,96,000 TPA), WHRB based Power Plant – 2 x 15 MW, CFBC based Power Plant – 1 x 10 MW, Fly Ash Bricks -346 TPD within the existing plant. The existing plant is in 10.48 Ha. of land. Proposed expansion will be taken up in partly in the existing land and partly in the 10.489 Ha. of land adjacent to the existing plant. Total land after proposed expansion will be 20.969 Ha.

As per Environmental Impact Assessment Notification dated 14th September 2006 and subsequent amendment thereof, the proposed project falls under S. No. 3 (a) under category “A” and requires Environmental Clearance (EC) to be obtained from MoEF&CC, New Delhi.

The project proponents have submitted prescribed application along with Pre-Feasibility Report to the MOEF&CC, New Delhi on dated 06.05.2024 vide proposal No: -IA/CG/IND1/463251/2024 for seeking terms of references for conducting the EIA Study. Accordingly, standard ToR was granted by MOEF&CC (vide. F. No. IA-J-11011/59/2024-IA-II(Ind-I) on 17.05.2024.

Parivesh Environmental Engineering Services, Lucknow, is QCI-NABET accredited in Category “A” environment consultant organization has been assigned to undertake an Environmental Impact Assessment (EIA) study and preparation of Environment Management Plan (EMP) for various environmental components, which may be affected due to the impacts arising out of the proposed expansion project.

The Environmental Impact Assessment (EIA) report is prepared for obtaining Environmental Clearance (EC) from Ministry of Environment, Forest and Climate Changes (MoEF&CC), New Delhi for the proposed expansion project.

1.1 Plant Configuration and production capacity

Table -1: Existing & Proposed Units, Products & their Production Capacities

S. No	Units (Products)	Existing capacity	EC obtained from MOEF&CC on 07.11.2023 (TPA)(Work yet to commence)	Proposed expansion proposal (TPA)	After Proposed expansion Proposal (TPA)
1	Biomass based Power Plant (MW)	7.5	-	-	7.5
2	Ferro Alloys Plant (1 x 9 mVA)	-	Silicon Manganese (SiMn) – 14400 TPA or Ferro Manganese (Fe Mn) – 25200 TPA or Ferro Chrome (Fe Cr) – 15000 TPA or Ferro Silicon (FeSi) – 7000 TPA or Pig Iron – 25200 TPA	-	Silicon Manganese (SiMn) – 14400 TPA or Ferro Manganese (Fe Mn) – 25200 TPA or Ferro Chrome (Fe Cr) – 15000 TPA or Ferro Silicon (FeSi) – 7000 TPA or Pig Iron – 25200
3	DRI Kilns (Sponge Iron) 2x650 TPD	-	-	4,29,000	4,29,000
4	Induction Furnace with matching capacity of LRF, CCM (Billets/Ingots) 4x30 T	-	-	3.96,000	3.96,000
5	Power Plant (Electricity)	WHRB	-	-	2x15 MW
		CFBC	-	-	1x10.0 MW
6	Fly Ash Bricks			346 TPD	114180

1.2 Location and accessibility

M/s Seeta Energen Private Limited located at Kh. No 4/1,5,6/4(7/4), 8/3, 12, 13/2, 14, 16/2(16/3), 21/1, 21/2, 21/3, 25/2, 25/3, 26/2, 26/3, 30/2, 31/2, 32/1(32/2,32/3), 33, 34, 35, 36, 37/2, 37/3, 38/1, 38/2, 39/2, 42, 43, 16/1, 26/1, 37/1, 28, 4/2, 6/1, 7/1, 8/1, 13/1, 10/1, 10/2, 10/3, 15, 17(18,19), 20, 23, 24, 39/1, 39/3, 8/2 (Part), Village- Khamhardih, Tehsil- Pathariya, District- Mungeli, Chhattisgarh. The Co-ordinates of the project site are given below

Table. 2: Pillar Co-ordinates

Point	Latitude	Longitude
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1	21°56' 42.049" N	81°59' 24.690" E
2	21°56' 41.195" N	81°59' 27.608" E
3	21°56' 35.402" N	81°59' 31.557" E
4	21°56' 35.745" N	81°59' 28.958" E
5	21°56' 34.166" N	81°59' 29.720" E
6	21°56' 32.352" N	81°59' 29.137" E
7	21°56' 32.614" N	81°59' 31.722" E
8	21°56' 20.629" N	81°59' 26.213" E
9	21°56' 21.988" N	81°59' 23.479" E
10	21°56' 26.443" N	81°59' 21.425" E
11	21°56' 25.823" N	81°59' 16.862" E
12	21°56' 23.706" N	81°59' 15.829" E
13	21°56' 20.835" N	81°59' 17.118" E
14	21°56' 23.732" N	81°59' 14.434" E
15	21°56' 25.860" N	81°59' 14.291" E
16	21°56' 28.571" N	81°59' 9.057" E
17	21°56' 31.394" N	81°59' 9.116" E
18	21°56' 32.313" N	81°59' 11.946" E
19	21°56' 32.810" N	81°59' 14.984" E
20	21°56' 35.782" N	81°59' 16.462" E
21	21°56' 35.215" N	81°59' 19.047" E
22	21°56' 38.681" N	81°59' 19.827" E
23	21°56' 38.603" N	81°59' 20.711" E
24	21°56' 41.130" N	81°59' 21.112" E
25	21°56' 34.482" N	81°59' 17.994" E
26	21°56' 32.242" N	81°59' 17.781" E
27	21°56' 31.829" N	81°59' 15.111" E
28	21°56' 34.377" N	81°59' 15.977" E

The following is the environmental setting within the 10 Km. radius of the plant site:

Table 3: Environmental features within 10 Km. radius of the plant site

S. No.	Particulars	Details			
1.	Total Area	Existing land area: 10.48 ha Additional land area: 10.489 ha Total land area: 20.969 ha			
2.	Land use	Industrial Use			
3.	Land acquisition details as per MoEF&CC O.M. dated 7/10/2014	Land acquired			
4.	Toposheet No.	F44P13			
5.	Elevation	MSL of Project Site -243 to 247.5 m above mean sea level			
6.	Nearest Habitation	Atarra-0.65 Km; E			
7.	Nearest Highway	S. No.	Particulars	Distance (Km) (From Project Boundary)	Direction
		1	Rambor Anda Road	0.05	W
		2	NH-130	2.3	ESE
		3	By pass Road	9.3	NE
Source: All distances are taken with respect to Google Earth.					

8.	Nearest Railway Station	Dagori Railway Station 9.0 Kms, ESE			
9.	Nearest Airport	Bilasa Devi Kevat Airport, Bilaspur-13.2 km, NE			
10.	Nearest Tourist Places	None within 10 Km radius			
11.	Defense Installations	None within 10 Km radius.			
12.	Archaeological Sites	None within 10 Km radius.			
13.	Eco-sensitive Zones	None within 10 Km radius.			
14.	Reserved/ Protected Forest	None within 10 Km radius. No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. are reported to be located in the core and buffer zone of the project (Source: All distances are taken with respect to S.O.I. GT Sheet.)			
15.	Nearest Streams/ Rivers/ Water Bodies	S. No.	Particulars	Distance (Km) (From Project Boundary)	Direction
		1	Maniyari River	0.01	E
		2	Agar River	7.75	NW
		3	Shivnath River	7.7	SE
		4	Ghongha Nadi	5.5	N
		5	Tesura Nadi	1.85	S
(Source: All distances are taken with respect to S.O.I. GT Sheet).					
16.	Seismic Zone	II			
17.	Interstate boundary	None within 10 Km radius.			
18.	Educational facility/Hospitals/temples	S. No.	Name	Distance and direction (from project boundary)	
		1	High School Anda	2 Km, NW	
		2	Primary School Tikait Pendri	1.5 Km, N	
		3	Suraj Mal College	8.35 Km, E	
		4	Govt. I.T.I. Bilha	8.4 Km, E	
		5	Govt. Collage Sargaon	3 Km, S	
		6	Primary Health Sub Center Bidbida	5.3 Km; W	
		7	Govt Hospital Muru	7.0 Km; NNW	
		8	Mahamaya Temple	2.3 KM, NW	
9	Dhaurabhatha Temple	4.0 KM; ENE			

2.0 PROJECT DESCRIPTION

As per Environmental Impact Assessment Notification dated 14th September, 2006 and subsequent amendment thereof, the proposed project falls under S. No. 3 (a) under category "A" and requires Environmental Clearance (EC) to be obtained from MoEF&CC, New Delhi.

M/s. Seeta Energen Private Limited is an existing plant located at Village - Khamhardih, Tehsil- Pathariya, District- Mungeli, Chhattisgarh .Now as a part of expansion, company is planning for proposed expansion of Steel Plant – establishment of DRI Kilns (Sponge Iron 4,29,000 TPA), Induction Furnace with LRF & CCM (Billets / Ingots) (3,96,000TPA), WHRB based Power Plant – 2 x 15 MW, CFBC based Power Plant – 1 x 10 MW. Existing plant is located in 10.48 Ha. of land. Proposed expansion will be taken up in partly in the existing land and partly in the

10.489 Ha. of land adjacent to the existing plant. Total land after proposed expansion will be 20.969 Ha. at Village -Khamhardih, Tehsil- Pathariya, District- Mungeli, Chhattisgarh. The total project area is 20.969 Ha. The project cost for proposed expansion project is Rs. 530 Cr.

2.1 Raw Material Requirement

The following will be the raw material requirement for the proposed project:

Table 4: Raw Material Details

S. No.	Raw material	Existing (TPA)	Expansion (TPA)	Total (TPA)	Source	Distance from site (km)	Mode of Transportation
For DRI Kilns (Sponge Iron)-4,29,000 TPA							
1	Iron Ore	-	6,86,400	6,86,400	Barbil, Orissa NMDC, Chhattisgarh	~ 500 Kms	By Road Through Covered Trucks
2	Coal Indian (100%)	-	5,57,700	5,57,700	SECL Chhattisgarh/M CL Odisha	~ 500 Kms	By Road (Through covered trucks)
	OR						
	Coal Imported (100%)	-	3,56,928	3,56,928	Indonesia / South Africa / Australia	~ 600 Kms (from vizag Port)	Through sea route, & by road
3	Dolomite	-	21450	21450	Chhattisgarh	~ 100 Kms	By road (Through covered trucks)
Raw Material for Power Plant (CFBC)							
a	Indian Coal (100 %)		59,400	59,400	SECL Chhattisgarh / MCL Odisha	~ 500 Kms.	By road (Through covered trucks)
OR							
b	Imported Coal (100 %)		38,000	38,000	South Africa / Australia	~ 600 Kms. (from Vizag Port)	By road (Through covered trucks)
OR							
c	Dolochar	-	85,800	85,800	In plant generation	-	through covered conveyors
	Indian Coal	-	23,166	23,166	SECL Chhattisgarh / MCL Odisha	~ 500 Kms	By road (Through covered trucks)
OR							
d	Dolochar		85,800	85,800	In plant generation	-	through covered conveyors

	Imported Coal	-	15100	15100	Indonesia / South Africa / Australia	~ 600 Kms (from vizag Port)	Through sea route, & by road (Through covered trucks)
Raw Material for Steel Melting Shop (Billets / Ingots) - 3,96,000 TPA							
1	Sponge Iron	-	4,03,920	4,03,920	Own generation	-	Through covered conveyers
2	MS Scrap/Pig Iron	-	59,000	59,000	Chhattisgarh	~ 100 Kms	By road (through covered trucks)
3	Ferro Alloys	-	20,000	20,000	Chhattisgarh/Own Generation	~ 100 Kms	By road (through covered trucks)
For Ferro Silicon							
1	Quartz	8450	-	8450	Chhattisgarh/Andhra Pradesh	~ 100 - 300Kms	By road (Through covered trucks)
2	LAM Coke	2800	-	2800	Chhattisgarh / Bihar Imported from Australia, China	~ 100 Kms. ~ 480 Kms. (from Vizag Port)	By Road (Covered trucks) From Vizag Port by Road (Covered Trucks)
3	MS Scrap	175	-	175	Raipur	~ 100 Kms	By Road (Covered trucks)
4	Electrode Paste	420	-	420	Maharashtra / West Bengal	650 - 950 Kms	By Road (Covered trucks)
For Ferro Manganese							
1	Manganese Ore	46260	-	46260	Balaghat (M.P.) Imported from South Africa	~ 500 Kms. ~ 480 Kms. (from Vizag Port)	By Road (Covered Trucks) From Vizag Port by Road (Covered Trucks)
2	LAM coke	26480	-	26480	Chhattisgarh / Bihar Imported from Australia, China	~ 100 Kms. ~ 480 Kms. (from Vizag Port)	By Road (Covered trucks) From Vizag Port by Road (Covered Trucks)
3	MS Scrap	1790	-	1790	Raipur	~ 100 Kms	By Road (Covered trucks)
4	Electrode Paste	5240	-	5240	Maharashtra / West Bengal	650	By Road (Covered trucks)
For Silico Manganese							
1	Manganese Ore	15850	-	15850	Balaghat (M.P.) Imported from South Africa	~ 500 Kms. ~ 480 Kms. (from Vizag Port)	By Road (Covered Trucks) From Vizag Port by Road (Covered Trucks)

						Port)	
2	Mn. Slag	9000	-	9000	In house generation	-	By Road (Covered trucks)
3	Quartz	3900	-	3900	Chhattisgarh / Andhra Pradesh	100 – 300 Kms	By Road (Covered trucks)
4.	LAM coke	1600	-	1600	Chhattisgarh / Bihar Imported from Australia, China	~ 100 Kms. ~ 480 Kms. (from Vizag Port)	By Road (Covered trucks) From Vizag Port by Road (Covered Trucks)
For Ferro Chrome							
1	Chrome ore	40,000	-	40,000	Sukinda (Odisha) Import (Indonesia)	~ 400 Kms. ~ 480 Kms. (from Vizag Port)	By Road (Covered Trucks) From Port by Road (Covered Trucks)
2	LAM coke	15,750	-	15,750	Chhattisgarh / Bihar Imported from Australia, China	~ 100 Kms. ~ 480 Kms. (from Vizag Port)	By Road (Covered trucks) From Vizag Port by Road (Covered Trucks)
Pig Iron							
1	Iron Ore / Sinter	46000	-	46000	Barbil, Odisha NMDC, Chhattisgarh	~ 500 Kms.	By Road (Covered trucks)
2	LAM Coke	21500	-	21500	Chhattisgarh / Bihar Imported from Australia, China	~ 100 Kms. ~ 480 Kms. (from Vizag Port)	By Road (Covered trucks) From Vizag Port by Road (Covered Trucks)
3	Limeston e	3000	-	3000	Chhattisgarh	~ 300 Kms	By Road (Covered trucks)
4	Quartz	1500	-	1500	Chhattisgarh / Andhra Pradesh	100 – 300 Kms.	By Road (Covered trucks)

2.2 Manufacturing Process

A. Manufacturing process of Sponge Iron (DRI)

Refractory lined rotary kilns will be used for reduction of iron ore in solid state. A central Burner located at the discharge end will be used for initial heating of the kiln.

Iron ore will be continuously fed into the kiln along with coal which has dual role of fuel as well as reductant. Dolomite will be added to scavenge the Sulphur from the coal. A number of air tubes will be provided along the length of the kiln. The desired temperature profile will be maintained by controlling the volume of the combustion air through these tubes. The Carbon monoxide generated due to the combustion of

coal, reduces the iron ore and converts it into sponge iron. The rotary kiln is primarily divided into two zones viz. the pre-heating zone and the reduction zone. The preheating zone extends over 30 to 50 % of the length of the kiln and in this the moisture in the charge will be driven off and the volatile matter in the coal will be burnt with the combustion air supplied through the air tubes. Heat from the combustion raises the temperature of the lining and the bed surface. As the kiln rotates, the lining transfers the heat to the charge. Charge material, pre-heated to about 1000°C enters the reduction zone. Temperature of the order of 1050°C will be maintained in the reduction zone, which is the appropriate temperature for solid state reduction of iron oxide to metallic iron.

This hot material will be transferred to Heat exchanger. In Heat exchanger the material will be cooled to 100°C. The cooler discharge material consists of sponge iron lumps, sponge iron fines and char. Magnetic and non-magnetic material will be separated through magnetic separators and stored in separate bins. The hot flue gases will be taken to a Waste Heat Recovery Boilers and after heat recovery they will be treated in high efficiency ESP and discharged into the atmosphere through stack whose height will be in accordance with CPCB norms.

B. Power Generation

Waste Heat Recovery Boiler

The hot flue gases from DRI kilns will pass through waste heat recovery Boilers to recover the heat and to generate 2x15 MW from proposed 2x650 TPD DRI Kilns. 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 through stacks of adequate height.

CFBC Power Plant

Coal (Imported / Indian) along with dolochar will be used as fuel in CFBC Boilers to generate 10 MW (1 x 10 MW) of electricity. The flue-gases will be treated in high efficiency ESP and then discharged through a stack of adequate height into the atmosphere.

C. Steel Melting Shop

In Steel Melting Shop (SMS), Sponge Iron will be melted along with melting scrap and fluxes to make liquid steel which is then refined in Ladle Refining furnace and then poured into CCM to get billets. The SMS will consist of Induction furnace, Ladles,

Cranes & Continuous Casting Machine (CCM). 4 nos. of Induction Furnaces (30 T capacity each) are proposed to install for production of 3,96,000 TPA Billets / Ingots.

2.3 Power Requirement & Supply

Existing power requirement of 11.75 MW is obtained from captive biomass power plant and Chhattisgarh State Power Generation Company Limited (CSPGCL). The power requirement for the proposed project is estimated as 50 MW, out which 40 MW will be obtained from CPP& WHRB and 10 MW from CSPGCL. In addition to this total 2 Nos of 1000 kVA DG sets are proposed for emergency backup.

Table 5: Power Requirement

Sr. No	Units (Products)	Existing (MW)	EC obtained from MOEF&CC on 07.11.2023 (MW)	Proposed expansion proposal (MW)	After Proposed expansion Proposal (MW)
1	Biomass power Plant	0.75	-	-	0.75
2	Ferro Alloy	-	11		11
3	DRI Kilns (Sponge)	-	-	4.0	4.0
4	SMS	-	-	42	42
5	Power Plant -WHRB	-	-	3	3
6	Power plant –CFBC	-	-	1	1
	Total	0.75	11	50	61.75

2.4 Water Requirement & Wastewater generation

Existing Water requirement is 520 KLD, water requirement is obtained from surface water drawl permission to draw 0.182 MCM (551 KLD) of water from Khamhardih anicut of Maniyari River from Water Resource Department, Raipur, Chhattisgarh. The water requirement after proposed expansion project is estimated as 1838 KLD, out of which 1500 KLD of fresh water requirement will be obtained from the surface water and the remaining requirement of 338 KLD will be met from the recycled water. The permission for drawl of Surface/Ground water will be obtained from concerned authority. The details of water requirement for different purposes are presented in **Table 6**.

Table .6: Water Requirement (KLD)

Item	Existing capacity	EC obtained from MOEF&CC on 07.11.2023 (KLD) (Work yet to commence)	Proposed expansion proposal (KLD)	After Proposed expansion Proposal (KLD)	Waste Water generation (KLD)	Remarks	
Domestic	5	5	13	23	18.4	Only wastewater is sanitary wastewater, which is being treated in Septic tank followed by Soak pit. After expansion Sanitary waste water generation will be 18.4KLD and will be treated in STP and treated water will be utilized for greenbelt development	
Ferro Alloys plant	-	25	-	25	-	-	
Biomass Power Plant	485	-	-	485	CT B/D	180	D.M. plant regeneration water, Boiler blowdown and cooling tower (Auxiliary) Blow down, waste water from IF will be treated in ETP (Neutralization pit) Followed by RO. R.O. permeate will be recycle within the plant and R.O reject will be used for Dust suppression and ash conditioning & Greenbelt after ensuring compliance with CECB/CPCB norms.
					Boiler blowdown	30	
					D.M. plant regeneration water	14	
Power Plant	-	-	504	504	CT B/D	61	Air Cooled condensers will be provided in the power plant, which will be reduce the water consumption significantly. Hence wastewater generation will also be minimized
					Boiler blowdown	51	
					D.M. plant regeneration water	80	
SMS	-	-	230	230	23	There will be no wastewater discharge from the DRI Kilns as	
DRI Plant	-	-	530	530	-		

Item	Existing capacity	EC obtained from MOEF&CC on 07.11.2023 (KLD) (Work yet to commence)	Proposed expansion proposal (KLD)	After Proposed expansion Proposal (KLD)	Waste Water generation (KLD)	Remarks
						closed-circuit cooling system will be adopted.
Fly Ash Bricks	-	-	41	41	-	
Total	490	30	1277	1838 (Fresh water 1500 and 338 Recycle)	457.4	

2.5 Project cost

The project cost of the project is estimated as Rs. 530 Crores.

2.6 Land Requirement

Existing land area: 10.48 Ha, Additional land area: 10.489 Ha. Total land area: 20.969 ha. Current Land use is Industrial use. Land is under the possession of company. The land use and breakup details are presented in **Table-7**.

Table.-7: Land Area Breakup

Area	Acres	%
Old Establishment	7.75	14.957
Sponge Iron Plant + WHRB, ESP and Chimney, Raw Material Plant and Yard	10.47	20.20
Power Plant-TG And ACC-40 MW AND AFBC/CFBC-10 MW	2.3	4.438
Steel Melting Shop (SMS), CCM	2.62	5.056
Road And Paved Area	3.5	6.754
Water Reservoir	0.62	1.196
Existing Green Belt Area	9.47	34.16
Proposed Green Belt	8.23	
Open Area & others	6.854	13.23
Total	51.814	100

2.7 Employment Generation (Direct & Indirect) Due to the Project.

A well-structured manpower is essential for uninterrupted operation and proper maintenance of plant facilities. Employment will be generated during implementation of the project. Total manpower required for the project is approx. 150 persons direct

and additional 280 indirect employments. Besides the production staff some more manpower shall be needed for administrative purposes.

2.8 Key pollution concerns

S. No.	Source	Control Equipment	Maximum Particulate Emission at the Outlet
1	DRI kiln with WHRB	Electro Static Precipitators (ESP)(high performance rigid electrodes with transformer)	PM<30 mg/Nm ³
2	Induction furnace with CCM	Fume Extraction system with bag filters	PM <30 mg/Nm ³
3	CPP	Electro Static Precipitator (ESP) (high performance rigid electrodes with transformer); with a Chimney 58 m. Lime Dosing Low NO _x burners with 3-stage combustion, flue gas recirculation and auto combustion control system will be provided.	PM <30 mg/Nm ³ SO ₂ <100 mg/Nm ³ NO _x <100 mg/Nm ³
4	Ferro Alloy Plant	4th hole extraction & cleaning system with Bag filters	PM <30 mg/Nm ³
5	2x 1000 kVA DG set	7 mt stack	-
Note: Apart from the above Fume Extraction System with bag filters, dust suppression system, covered Conveyers, mechanical dust sweepers, Wheel washing at entry and exit gates etc. will also be provided			

3.0 DESCRIPTION OF BASELINE ENVIRONMENT

Baseline data was generated during post monsoon season from 1st October 2023 to 31st December 2023. Baseline environmental studies were conducted at project site along with 10 km radial distance from the project site. Baseline environmental quality data for various environmental component like Air, Noise, Water, Land, Biological Environment and Socio-Economic.

A. Air Quality

Ambient air quality was monitored for PM_{2.5}, PM₁₀, SO₂, NO_x & CO at 8 stations including project site. The following are the concentrations of various parameters at the monitoring stations:

Table -8: Results during study period

Parameter	Concentration
PM ₁₀	35.3 µg/m ³ to 67.3 µg/m ³
PM _{2.5}	20.4 µg/m ³ to 42.6 µg/m ³
SO ₂	8.2 µg/m ³ to 21.6 µg/m ³

NO ₂	11.1 µg/m ³ to 36.6 µg/m ³
CO	520 µg/m ³ to 1270 µg/m ³

B. Surface Quality

Water samples from 5 surface water bodies have been collected and analysed as per IS standards. Based on test result data comparison study, The analysis of samples shows that all the parameters are in accordance with BIS-2296 specifications.

- pH of the surface water samples collected was in the range of 7.3– 8.1
- The total dissolved solids in the samples were in the range of 152-235 mg/l.
- Total Hardness in the samples were in the range of 124-258 mg/l.
- Chlorides concentration was found to be in the range of 71-118 mg/l.
- Total Coliforms Organism MPN/100ml -50-60
- The reported value of range of 4.2-5.6 mg/l
- Biochemical Oxygen Demand (3 days at 27°C) – 1.6 to 2.6 mg/l
- COD ranges from 20 -10 mg/l

Heavy metal concentrations in all the samples were found to be well within the limits

C. Ground Water

8 Nos. of ground water samples from open wells / bore wells were collected from the nearby villages to assess ground water quality impacts and analyzed for various Physico-Chemical parameters. The analysis of samples shows that all the parameters are in accordance with BIS: 10500 specifications.

- pH of the ground water samples collected was in the range of 7.1– 7.7
- Total Dissolved Solids in the samples was in the range of 262-458 mg/l
- Total hardness was found to be in the range of 185-360 mg/l.
- Chlorides concentration was found to vary between 120-225 mg/l.
- The fluoride concentration was found to be in the range of 0.20 – 0.40mg/l.
- Sulphate was found in the range of 102-198 mg/l.
- Heavy metal concentrations in all the samples were found to be well within the limits

D. Noise Quality

Noise levels were measured at 8 locations during day time & Night time. Assessment of day noise levels around the study area are ranging between 46.1 to 62.6 dB (A) during study period. Whereas the night equivalent levels were in the range of 37.2 to 46.9 dB (A).

E. Biological Environment

No schedule I species have been reported from the study area. The species are duly confined in the following Schedules i.e II, III, IV and V of The Indian Wildlife (Protection) Act,1972. Also, there is no presence of endangered flora as per Botanical Survey India records in the study area.

No national park or wildlife sanctuary or biosphere reserve is present in the study area. No endangered species of flora and fauna is found in the study area.

F. Socio Economy

- Total Population of the villages in the Study area (10 Km radius) is 109614
- Sex Ratio (No. of females per 1000 Males) is 997
- The literacy rate in study area is 54.91%; Male literacy rate 60.65%; Female literacy rate 39.34%.
- The percentage of schedule caste in the study area is 23.83% while the 14.66%only population is of Scheduled tribe.

G. Land Use Land Cover Classification

The Land Cover classes and their coverage are summarized below:

S. No.	LU/LC Class	Area (Ha.)	Percentage
1	Built-up Land	839.13	2.51
2	Industry	222.77	0.67
3	Sand	475.83	1.42
4	Water Bodies	508.47	1.52
5	Stone Quarry	335.09	1
6	Open Land	45.1	0.13
7	Open Scrub	181.7	0.54
8	Plantation	42.93	0.13
9	Agricultural Land	30802.59	92.08
	Total Buffer Area	33453.61	100

4.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. Prediction of impacts on air quality

The likely emissions from the proposed project are PM₁₀, PM_{2.5}, SO₂ and NO_x. In the present case, predictions of Ground level concentrations have been carried out using ISCST -3 model.

The incremental GLC values of PM₁₀, PM_{2.5}, SO₂ and NO_x, CO around the project site is presented as isopleths in Chapter-4.

Table -9: Net Resultant Maximum Concentrations

Item	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)	NO ₂ (µg/m ³)	SO ₂ (µg/m ³)	CO (µg/m ³)
Maximum baseline conc. in the study area	67.3	46.2	34.6	21.6	1270
Maximum predicted incremental rise in concentration due to proposed project (Point Sources)	2.35	1.17	2.64	2.95	----
Maximum predicted incremental rise in concentration due to proposed project (Vehicular emissions)	1.37	0.86	3.98	---	1.68
Net resultant concentrations during operation of the proposed project	71.02	48.23	41.22	24.55	1271.68
National Ambient Air Quality Standards	100	60	80	80	2000

B. Prediction of impacts on Noise quality

The major sources of noise generation in the proposed expansion project will be Turbines, Boilers, Compressors, etc. Acoustic enclosures will be provided to the Turbines. All machinery will be manufactured keeping in view of the MOEF&CC/OSHA standards on Noise levels. The ambient noise levels will be within the standards prescribed by MoEF&CC i.e. the noise levels will be less than 75 dBA during day time and less than 70 dBA during night time. After expansion 7.16 ha (17.7 Acres) i.e.34.16 % of land is envisaged for greenbelt out of the total 20.969 ha will be developed for green area. Hence, there will not be any adverse impact due to noise on population in surrounding areas due to the proposed expansion project.

C. Prediction of impacts on Water Environment

The implementation of proposed expansion project may have some impact on the water environment. The impact may be on the source of water in the form of depletion of water resources of the area and in the form of deterioration of quality of natural water resources due to discharge of plant effluent.

100% of waste water will be recycled and Zero discharge condition will be maintained.

Item	Waste Water generation (KLD)	Remarks
Domestic	18.4	Only wastewater is sanitary wastewater, which is being treated in Septic tank followed by Soak pit. After expansion Sanitary wastewater generation will be 18.4KLD

Item	Waste Water generation (KLD)		Remarks
			and will be treated in STP and treated water will be utilized for greenbelt development
Ferro Alloys plant	-		-
Biomass Power Plant	CT B/D	180	D.M. plant regeneration water, Boiler blowdown and cooling tower (Auxiliary) Blow down, wastewater from IF will be treated in ETP (Neutralization pit) Followed by RO. R.O. permeate will be recycle within the plant and R.O reject will be used for Dust suppression and ash conditioning & Greenbelt after ensuring compliance with CECB/CPCB norms. Air Cooled condensers will be provided in the power plant, which will be reduce the water consumption significantly. Hence wastewater generation will also be minimized
	Boiler blowdown	30	
	D.M. plant regeneration water	14	
Power Plant	CT B/D	61	
	Boiler blowdown	51	
	D.M. plant regeneration water	80	
SMS	23		
DRI Plant	-		There will be no wastewater discharge from the DRI Kilns as closed-circuit cooling system will be adopted.
Fly Ash Bricks	-		
Total	457.4		

D. Prediction of impacts Socio - Economic Environment

There will be certain upliftment in Socio Economic status of the people in the area & development of the area due to the proposed project. Due to this the economic conditions, the educational and medical standards of the people living in the study area will certainly move upwards which will result in overall economic development, improvement in general aesthetic environment and increase in business opportunities.

E. Prediction of Impacts on Land Environment

The effluent will be treated to achieve SPCB standards. Zero effluent discharge will be adopted. All the required air pollution control systems will be provided to comply with CPCB / SPCB norms. All solid wastes will be disposed / utilized as per CPCB / SPCB norms. After expansion plantation (7.16 ha) will be developed as per guidelines. Hence, there will not be any adverse impact on land environment due to the proposed project.

F. Biological Environment

There is no ecological sensitive area like national park, sanctuary, biosphere reserve, within 10 km radial distance from the project site. Noland involved in the project activities. Thus, no significant impact envisaged on biological environment. Existing plant is located over an extent of 10.48 Ha. out of this 36.54 % of the area i.e.3.83 Ha. has been developed with greenbelt.8500 nos. plants are present in the existing premises. After expansion 7.16 ha (17.7 Acres) i.e.34.16 % of land is envisaged for greenbelt out of the total 20.969 ha (51.814 Acres) of land. It is proposed to plant another 8775 nos of plants as part of expansion. Thus, the total plantation about 17275 will be planted within two years in coming Monsoon (after receipt of EC) whereas survival rate shall be maintained in subsequent years. Indigenous and broad leaf species for greenbelt development.

5.0 ENVIRONMENTAL MONITORING PROGRAM

Environmental Management Cell (EMC) will be set up to undertake routine environmental monitoring. Monitoring will be done to ensure compliance with the prescribed laws and standards. The Head of EMC will report to the Plant Head. Qualified staff will be recruited in EMC. Environmental monitoring of ambient air, stack emission, fugitive dust emission, noise levels, groundwater quality, surface water quality and soils will be carried out as per norms.

Table-10: Environmental Monitoring Programme

S. No	Particulars	Frequency of monitoring	Duration	Parameters required to be monitored
1	Ambient Air quality	CAAQMS Quarterly Once	Continuously 24 Hourly	PM _{2.5} , PM ₁₀ , SO ₂ , NO _x
2	Stack Monitoring	CEMS (all Stacks) Once in a month	-- --	PM, SO ₂ & NO _x
3	Fugitive emissions	Once in a Month	8 hours	PM
4	Meteorology	daily	Continuously	Temperature, Humidity, rainfall, wind direction & wind speed. Relative
5	Noise	Once in a month (Hourly)	Continuous for 24 hours with 1-hour interval	Equivalent noise level- dB (A)
6	Water quality in the area	Quarterly Once	Grab sampling	As per IS: 10500
7	Effluent at the inlet & outlet of the ETP	Once in a month	Composite sampling (24 hourly)	As per EPA Rules, 1996
8	Sanitary Wastewater (inlet & outlet of STP)	Once in a month	Composite sampling (24)	As per EPA Rules, 1996

			hourly)	
9	Greenbelt	-	-	Number of plantation (Units), Number of Survived plants/trees, Number of poor plants/Trees
10	Environmental Audit	Once in year	-	With Respect to Environment Clearance, Consent conditions and ISO 140001.

6.0 ADDITIONAL STUDIES

Existing land area 10.48 Ha. Additional land area 10.489 ha. Total land area 20.969 ha. No Rehabilitation and Resettlement is not involved in the proposed expansion project. Hence, no R & R study has been carried out.

Risk Assessment:

The assessment of risk in the proposed project has been estimated for fire, explosion and toxicity and corresponding mitigation measures are suggested in the EIA/EMP report.

Hazard analysis involves the identification and quantification of the various hazards (unsafe conditions) that exist in the project site. On the other hand, risk analysis deals with the identification and quantification of risks occurring due to the plant equipment and personnel exposed, due to accident resulting from the hazards in the plant. The occupational and safety hazards and preventive measures, process hazards and their preventive measures, and storage hazards and preventing measures are provided in details in Chapter 7 of the EIA report.

The main objective of the risk assessment study is to determine damage due to major hazards having damage potential to life and property and provide a scientific basis to assess safety level of the facility. The secondary objective is to identify major risk in manufacturing process, operation, occupation and provide control through assessment and also to prepare on-site, off site plans to control hazards.

The assessment of risk in the proposed project has been estimated for material handling, movement of Trucks/Tippers, Dust hazards, Hazards, shock hazards, etc. and corresponding mitigation measures are suggested in the EIA/EMP report.

7.0 PROJECT BENEFITS

During Construction Phase there would be direct job generation for at least 80-140 peoples and many more indirect jobs would be generated automatically. Total manpower required for the project is approx. 150 persons direct and additional 280

indirect employments. Besides the production staff some more manpower shall be needed for administrative purposes. All the labour/manpower will be hired from the local places. CSR activities will be done as per rules of Government of India. The Budgetary provision will be made as per norms.

8.0 ENVIRONMENTAL MANAGEMENT PLAN

A. Air Environment

The following are air emission control systems proposed in the proposed expansion project:

S. No.	Source	Control Equipment	Maximum Particulate Emission at the Outlet
1	DRI kiln with WHRB	Electro Static Precipitators (ESP)(high performance rigid electrodes with transformer)	PM<30 mg/Nm ³
2	Induction furnace with CCM	Fume Extraction system with bag filters	PM <30 mg/Nm ³
3	CFBC Boiler	Electro Static Precipitator (ESP) (high performance rigid electrodes with transformer); with a Chimney of 58 m. Lime Dosing Low NO _x burners with 3-stage combustion, flue gas recirculation and auto combustion control system will be provided.	PM <30 mg/Nm ³ SO ₂ <100 mg/Nm ³ NO _x <100 mg/Nm ³
4	Ferro Alloy Plant	4th hole extraction & cleaning system with Bag filters	PM <30 mg/Nm ³

Note: Apart from the above Fume Extraction System with bag filters, dust suppression system, covered Conveyers, mechanical dust sweepers, Wheel washing at entry and exit gates etc. will also be provided

Dust Suppression System

Water sprinklers will be provided at the unloading areas of the raw materials for dust suppression. Dust suppression system will be provided with plain water - comprising of piping network, valves, pumps, instrumentation & control, water tank etc.

Internal Roads

All internal roads will be asphalted to prevent the fugitive dust emission due to vehicular movement.

Interlocking System

All ESPs will have interlocking system. Whenever the ESP fails, there will be no production in the unit till the ESP is rectified.

Transportation:

- The raw material like sponge iron, pig iron and heavy scrap are readily available in the market as plant located in the proximity of industrial area and transported up to the plant through truck.
- In case of storage of sponge iron/ carbon powder coal in open, it will be covered by tarpaulins to prevent spread of dust from it during transportation.
- There will not be substantial addition in the existing transportation load. Since the area is already having enough industrial infrastructure.
- Transportation of materials will be limited to day hours only

B. Water Environment

Table-11: Waste water Generation (KLD)

Item	Waste Water generation (KLD)		Remarks
Domestic	18.4		Only wastewater is sanitary wastewater, which is being treated in Septic tank followed by Soak pit. After expansion Sanitary wastewater generation will be 18.4KLD and will be treated in STP and treated water will be utilized for greenbelt development
Ferro Alloys plant	-		-
Biomass Power Plant	CT B/D	180	D.M. plant regeneration water, Boiler blowdown and cooling tower (Auxiliary) Blow down, wastewater from IF will be treated in ETP (Neutralization pit) Followed by RO. R.O. permeate will be recycle within the plant and R.O reject will be used for Dust suppression and ash conditioning & Greenbelt after ensuring compliance with CECB/CPCB norms. Air Cooled condensers will be provided in the power plant, which will be reduce the water consumption significantly. Hence wastewater generation will also be minimized
	Boiler blowdown	30	
	D.M. plant regeneration water	14	
Power Plant	CT B/D	61	There will be no wastewater discharge from the DRI Kilns as closed-circuit cooling system will be adopted.
	Boiler blowdown	51	
	D.M. plant regeneration water	80	
SMS	23		
DRI Plant	-		
Total	457.4		

Existing

- Boiler blowdown & DM plant regeneration wastewater is being treated in Neutralization tanks and is being mixed in a Central Monitoring Basin (CMB). The treated effluent from CMB is being utilized for dust suppression, ash conditioning and for greenbelt development.
- Only wastewater is sanitary wastewater, which is being treated in Septic tank followed by Soak pit.
- Zero Discharge is being maintained in the existing plant.

Proposed

- There will be no wastewater discharge from the DRI Kilns as closed-circuit cooling system will be adopted.
- 100% of wastewater will be recycled and Zero discharge condition will be maintained.
- Closed circuit circulation system will be followed.
- Air Cooled condensers will be provided in the power plant, which will be reduce the water consumption significantly. Hence wastewater generation will also be minimized.
- All stockpiles will be on pucca flooring to prevent for any ground water contamination.
- D.M. plant regeneration water, Boiler blowdown and cooling tower (Auxiliary) Blow down, wastewater from IF will be treated in ETP (Neutralization pit) Followed by RO. R.O. permeate will be recycle within the plant and R.O reject will be used for Dust suppression and ash conditioning & Greenbelt after ensuring compliance with CECB/CPCB norms.
- Sanitary wastewater will be treated in STP and treated sewage will be used for greenbelt development.
- Garland drains will be provided around all the raw material stacking areas.
- There will not be any effluent discharge outside the premises. Zero discharge is being /will be followed.

C. Noise Environment

Major noise-generating source will be machinery and equipment. The proposed equipment of the proposed plant would be designed for noise levels not exceeding 75 dB (A). In general, the following methods will be adopted to control the noise pollution.

- The major noise generating sources in the plant will be STG, boiler, feed pumps,

- steam blowing from boiler.
- Acoustic enclosures will be provided to STG
 - Quench water Silencer will be provided to prevent the noise during steam blowing.
 - All machinery will be manufactured as per MoEF&CC/OSHA & other international standards on noise levels.
 - The noise levels will be confined to the working zones of the plant.
 - Ear plugs will be provided to all employees who will enter into the noise prone areas.
 - Community noise levels are not likely to be affected due to the proposed thick green belt and attenuation due to the physical barriers.
 - The ambient noise levels will be in accordance with MoEF&CC norms i.e. ambient noise levels will be < 75 dBA during daytime and < 70 dBA during night time.

D. Land Environment

The wastewater generated from the proposed project will be treated in the Effluent Treatment Plant to comply with the SPCB standards and will be used for dust suppression, ash conditioning and for greenbelt development. All the required Air emission control systems will be installed and operated to comply with SPCB norms. Solid wastes will be disposed off as per norms. Extensive greenbelt will be developed in the plant premises. Desirable beautification and landscaping practices will be followed. Hence there will not be any impact due to the proposed project.

Table -12: Solid waste generation and disposal

S. No	Waste	Process where the waste generated	Existing (TPA)	EC obtained from MOEF&CC on 07.11.2023 (TPA)(Work yet to commence)	Proposed expansion proposal (TPA)	After Proposed expansion Proposal (TPA)	Management
1	Ash from Biomass Power Plant	Biomass CPP	13200	-	-	13200	Ash generated from the existing Biomass Power Plant is being utilized in the existing Brick Manufacturing unit, given to other brick manufacturing units and also is being

S. No	Waste	Process where the waste generated	Existing (TPA)	EC obtained from MOEF&CC on 07.11.2023 (TPA)(Work yet to commence)	Proposed expansion proposal (TPA)	After Proposed expansion Proposal (TPA)	Management
							given to M/s. Laxman Cement Pvt. Ltd
2	Slag from Ferro Manganese Manufacturing Process	Fe-Mn		9000	-	9000	will be reused in manufacture of SiMn as it contains high SiO ₂ and Silicon
3	Slag from Ferro Silicon Manufacturing Process	Fe-Si plant		240	-	240	will be given to Cast iron foundries
4	Slag from Silico Manganese Manufacturing Process	Si-Mn Plant		11400	-	11400	will be given to M/s. Shreeji Infrastructure India Pvt. Ltd. for Road construction / will be given to M/s. Ambuja Cement for slag cement
5	Slag from Ferro Chrome Manufacturing Process	Fe-Cr Plant		12000	-	12000	Will be processed in Zigging plant for Chrome recovery. After Chrome recovery, the left-over slag will be analyzed for Chrome content through TCLP test, if the Chrome content in the slag is within the permissible limits, then it will be utilized for Road laying /brick manufacturing. It will be given to M/s. Steel Trading Corporation.
6	Slag from Pig Iron manufacturing process			15600	-	15600	will be given to M/s. Ambuja Cement for slag cement manufacturing.
7	Dust from Bag filters of SEAF and during tapping		-	15	-	15	It will be used in Briquetting Plant



S. No	Waste	Process where the waste generated	Existing (TPA)	EC obtained from MOEF&CC on 07.11.2023 (TPA)(Work yet to commence)	Proposed expansion proposal (TPA)	After Proposed expansion Proposal (TPA)	Management
8	Ash from DRI	DRI Kiln	-	-	77220	77220	Will be given to Brick Manufacturing Unit
9	Dolochar	DRI Kiln	-	-	85800	85800	Will be used in proposed FBC power plant as fuel.
10	Kiln Accretion Slag	DRI Kiln	-	-	3860	3860	Will be used in road construction & utilized in the proposed brick manufacturers
11	Wet scrapper sludge	Kiln	--	-	19734	19734	Will be used in road construction & utilized by the brick manufacturers nearby the plant.
12	SMS Slag	SMS	-	-	39,600	39,600	Slag from SMS will be crushed and iron will be recovered & then remaining non - magnetic material being inert by nature will be used as sub base material in road construction.
13	CCM Scale	CCM	-	-	1.5	1.5	CCM scales will be sold to Sinter Plants
14	Ash from Power Plant (with Indian Coal + dolochar)	Power Plant	-	-	61209	61209	Will be sent to Brick manufacturing unit nearby the proposed plant/Cement plant

Type of Hazardous Waste	H. W. Category	Quantity	Disposal
Waste Oil/Used Oil	5.1(as per HWM Schedule I)	2.0 KL/Annum	Used oil and waste oil will be generated and will be sold to authorized vendor.
E- waste	-	0.5 TPA	will be given to authorized recyclers.
Used Lead acid batteries	Haz. Waste Management Rule 2016, Sch. IV, Sr No.17	0.5 TPA	Used batteries will be given back to the supplier under buy back agreement with supplier

E. Green Belt Development

Existing plant is located over an extent of 10.48 Ha. out of this 36.54 % of the area i.e.3.83 Ha. has been developed with greenbelt.8500 nos. plants are present in the existing premises. After expansion 7.16 ha (17.7 Acres) i.e.34.16 % of land is envisaged for greenbelt out of the total 20.969 ha (51.814 Acres) of land. It is proposed to plant another 8775 nos of plants as part of expansion.

The following points will be considered for selection of plants species:

- Greenbelt absorbs both gaseous as well as particulate pollutants to a great extent. For absorbance of gases, the duration of the foliage should be longer.
- Characteristics of tree/plants including shapes of crowns considered necessary for effective removal of dust particles.
- Greenbelt/Plant species having good root system will be selected, so that soil erosion rates can be controlled significantly.

Proposed green belt area will comprise of rows of varying height of trees of native species with thick foliage, along the periphery of the unit. Approx. 8775 Nos. of trees and varieties of local shrubs (@2500 species/Ha) will be planted within next three years.

F. Cost for Environment Protection

S. No	Particulars	Capital Cost (Rs. in Crores)	Recurring Cost / Annum (Rs. in Crores)
1.	Air Emission Management		
	Electro Static Precipitators	12.0	3.0
	Fume /Dust extraction systems with Bag filters	6.0	1.5
	Dry fog system	1.0	0.5
	Stacks	2.5	0.30
	Water Sprinklers	0.40	0.20
	Mechanical dust sweepers	0.80	0.10
2.	Wastewater Management		
	ETP	0.70	0.30
	STP	0.35	0.20
	Garland drains	0.40	0.03
	Settling ponds	0.20	0.10
3.	Solid waste Management		
	Fly Ash Handling & disposal	0.90	0.4
	Slag Handling & Disposal	0.20	0.05
	Hazardous waste storage & disposal	0.10	0.05
	Municipal solid waste storage & disposal	0.04	0.02
4.	Greenbelt development	0.55	0.05
5.	Noise Management	0.20	0.1
6.	RWH & Drain in Plant	0.60	0.02
7.	Fire Safety Systems	1.0	0.40

S. No	Particulars	Capital Cost (Rs. in Crores)	Recurring Cost / Annum (Rs. in Crores)
8.	Environmental Monitoring		
	CEMS	0.50	0.04
	CAAQMS	1.20	0.08
	Environment Monitoring	0.0	0.20
	Performance monitoring of APCS	0.0	0.01
9.	Occupational Health & Safety		
	Occupational Health centre	0.60	0.15
	Personal Protective Equipment's (PPEs)	0.26	0.20
10.	CER	7.95	-
	Total	38.45	8.0

9.0 Conclusion

The operation of plant has significant positive impact on the socio-economic environment of the area which helps for development of this area including further development of physical infrastructure facilities. In the interest of improve the social conditions of the local habitants this project should be allowed after considering all the environment aspects.

The technology involved in the project is well proven and reliable. Many plants are operating all over the country in this pattern are successful. All equipment purchased shall be brand new & latest in model and will be purchased from reputed suppliers. For O&M of the plant, experienced Engineers/Technicians are available in the region. The region shall also be benefited from the project as there will be direct employment of people in the Steel plant. Preference will be given to the people of the state possessing requisite skill and qualification criteria. Also, there will be lot of scope for indirect employment of the people of the state in and around the project site like in transportation sector.

In view of the above the proposed Project of **M/s. SEETA ENERGEN PRIVATE LIMITED**, is technically feasible and financially viable.
