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1 EXECUTIVE SUMMARY

ASR Multimetals Private Limited located at Survey numbers: 394/2, 398, 399 & 400, village: Chhadwada, Taluka: Bhachau, District: Kutch, had obtained Environmental Clearance vide letter no. F. No. J- 11011/ 251/2007- IA II (I) dated 31st March 2008 for Expansion of Integrated Steel Plant [Sponge Iron (200 TPD), Pig Iron (180 TPD) and Captive Power Plant (20 MW)]. Now company is applying for further expansion in existing manufacturing capacity. Proposed expansion project will be set up on survey number: 394/1(P), 395, 397.

There is no national park or sanctuary in surrounding 10 Km radius. The project doesn't fall under CRZ boundaries.

The project fall under category A, section 3 (a) and 1 (d) of EIA notification September 2006 and amendment thereof vide notification no. S.O 3067 (E) dated 1st December 2009.

Stack with Induction furnace, AFBC boilers, Rotary Kiln and DG set shall be installed for the proposed project. The water consumption for the proposed project for industrial use is 1000 m^3/day and the major waste water generation will be from cooling tower, boiler blow down and domestic waste water which will be 120 m^3/day approximately. Domestic wastewater will be treated in packaged type STP. No wastewater generation from manufacturing process or any auxiliaries of the sponge iron plant. Wastewater generated from the power plant shall be sent to neutralization Pit; from where it shall be completely reused for green belt development and dust suppression activities. The project is zero discharge plant.

Employment shall be generated for local people in surrounding villages. The company is also involved in social activities in the surrounding villages.

The details related to the proposed project are discussed in the upcoming sections

2 INTRODUCTION OF THE PROJECT/ BACKGROUND INFORMATION

2.1 Project Proponent

ASR Multimetals Private Limited is a state-of-the-art Manufacturing unit of high strength deformed steel Re-bars and Structural Steel Sections. ASR is fully equipped to ensure quality at every stage of production, so as to deliver perfect product. Modern and

appropriate machinery, testing and quality checks along with qualified operators make the task easy for the company to deliver the best every time.

The Group has a very strong presence in the various market of the country domestically and a number of destinations abroad including Asia, Middle East, Europe and Africa. The domestic market is also well aware of the brand "ASR" which will give a further pushup to the marketing concern.

In order to meet the market demands, the company now propose to install a new integrated steel plant and power plant at Survey no. 394/2, 398, 399 & 400, 394/1(P), 395, 397 Village: Chhadawada, Bhachau, District: Kutch (Gujarat).

2.2 Identification of Project

2.2.1 Existing Project

The plant is operative from 2005. Initially company had installed rolling mill products. The details of rolling mill products for existing plant are as mentioned in **Table 1**

Table 1: Existing Product Profile Scenario for Rolling Mill

Product	Quantity	Remarks
MS Rods	5000 MT/month	**EC was not applicable to these products.** CCA was renewed vide order no. AWH 55787 dated 25/07/2013 and valid up to 13.05.18
MS Wires	2500 MT/month	
MS Flats	2500 MT/month	
Re rolled steel products of MS i.e. channels, angles, bars, rounds, sections and profiles etc.	2000 MT/month	
Steel billets/ ingots	12,333 MT/month	

Company later applied for expansion project for sponge iron, pig iron and captive power plant. The products were covered under EIA notification 2006 and accordingly EC was applied to MoEF. EC was obtained for the same vide letter no. F. No. J- 11011/ 251/2007-IA II (I) dated 31st March 2008 with validity of five years.

Table 2: Products considered for EC

Product	Granted capacity	Installed capacity	Remark
Sponge iron	6000 MT/month	5500 MT/month	Company has obtained consent to operate for sponge iron plant and captive power plant vide order no. AWH 55787 dated 25/07/2013 and the plant has commissioned.
Captive power plant • Coal/ lignite based CPP • WHRB	20 MW • 16 MW • 4 MW	8 MW • 4 MW • 4 MW	
Pig iron	5400 MT/month	---	**Pig iron plant was not installed and accordingly Consent to operate was not obtained.**

The copy of existing consent to operate and environment clearance is attached as annexure 1.

2.2.2 Proposed Project

Now the company proposes for expansion in their existing manufacturing capacity. Company has procured additional land for the same. The detail of additional survey nos. is as mentioned in Table 4. The Extended product profile is as mentioned in Table 3.

Table 3: Product Profile for proposed Expansion

Name of Products /By Products & Intermediate Products	Existing quantity	Proposed quantity MT/month	Total quantity MT/month
MS (MILD STEEL) Rods	5000 MT/Month	24000 MT/Month	36000 MT/Month
MS (MILD STEEL) Wires	2500 MT/Month		
MS (MILD STEEL) Flats	2500 MT/Month		
Re-Rolled Steel Products of	2000 MT/Month		

MS (i.e. Channels, Angles Bars, Rounds, Sections & Profiles etc.)			
Steel Billets / Ingots (Semi Finished Products)	12333 MT/Month	24000 MT/Month (Along with Preheater & LRF)	36333 MT/Month
Sponge Iron	5500 MT/Month	15000 MT/Month	20500 MT/Month
Power from AFBC Boiler (Coal Base)	4 MW	17 MW	21 MW
Power from WHRB (Waste Heat Gases from Rotary Kiln)	4 MW	8 MW	12 MW

2.3 Brief description of nature of project

The project fall under category A, section 3 (a) and 1 (d) of EIA notification September 2006 and amendment thereof vide notification no. S.O 3067 (E) dated 1st December 2009.

2.4 Need of project and its importance to the country and or region

In order to meet the increasing demand of steel product in domestic as well as international market the company proposes for an integrated steel plant.

2.5 Employment Generation (Direct and Indirect) due to the project Employment

Approx **400** direct and **800** indirect employment will be generated.

3 PROJECT DESCRIPTION

3.1 Interdependent project

There is no interlinked or interdependent project with the proposed project.

3.2 Location (map showing general location, specific location, and project boundary & project site layout) with coordinates

The location of site with type of land and boundary coordinates is as indicated in Figure 1. Site description is shown in below **Table 4**

Table 4: Site Description

Feature	**Description**
Survey No.	Existing Survey no. 394/2, 398, 399 & 400, **Additional Survey no.: 394/1(P), 395, 397** Village: Chhadawada, Taluka: Bhachau, District: Kutch (Gujarat)
Latitude and Longitudes of the project site	Lat - 23°18'22.74"N Long - 70°28'10.69"E
Type of Land	Industrial Use
Nearest Village	Samkhiyali (~ 3.6 Km)
Nearest Town	Bhachau (~ 13.5 Km)
Nearest railway station	Samkhiyali (~ 3.6 Km)
National Highway	NH 8A (~ 0.63 Km)
Nearest port	Kandla (~ 43 km)

Figure 1: Satellite image showing project location with surrounding features

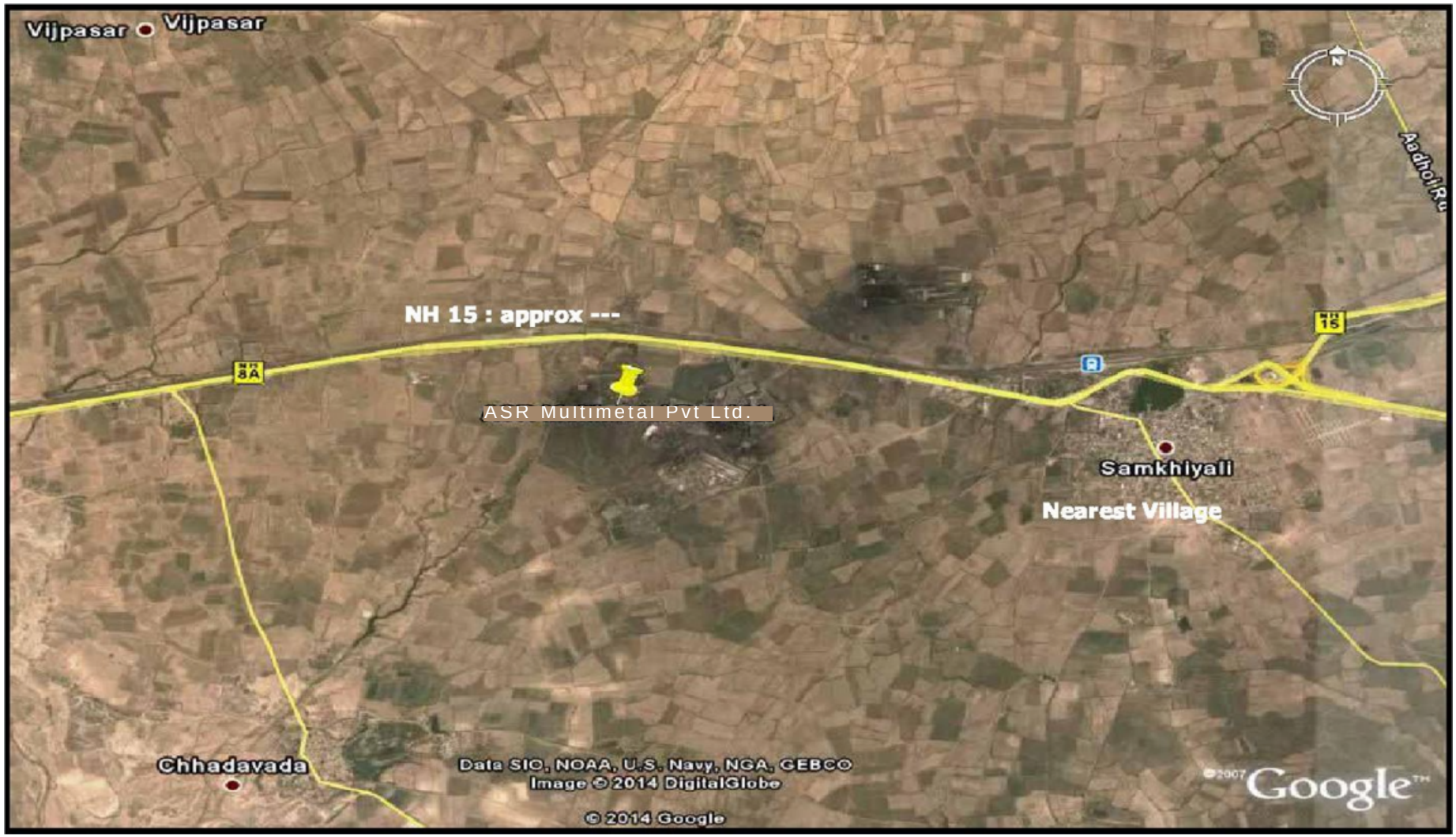
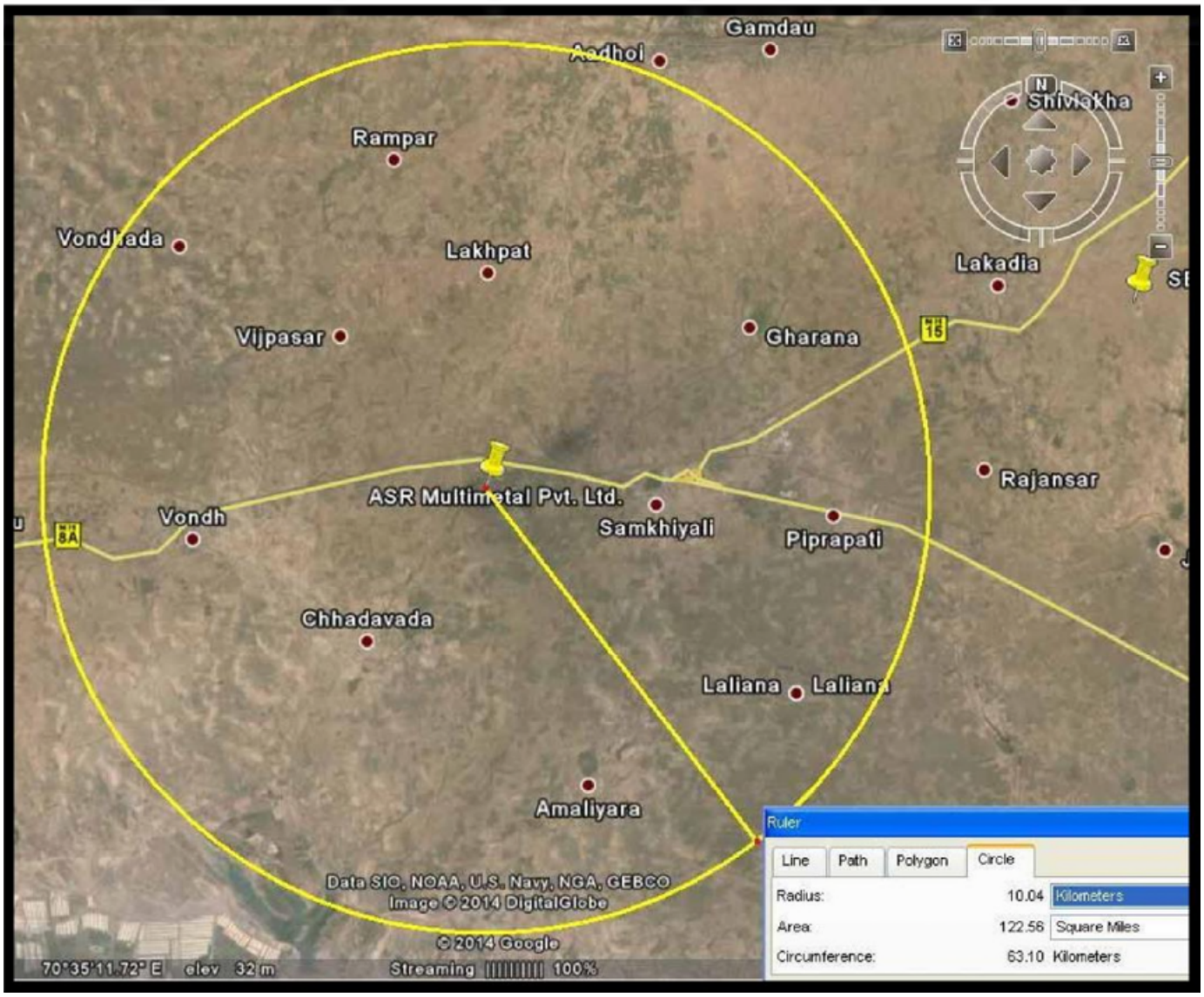


Figure 2: Site map of 10 Km radius



3.3 Details of alternate sites considered and the basis of selecting the proposed site, particularly the environment considerations gone into should be highlighted

This is an expansion project in adjacent survey nos. The major driving force behind the selection of the proposed site is that the plant will be adjacent to existing Manufacturing units which has already been scrutinized by MoEF for setting up and subsequent expansions. Apart from the above requirements, other considerations such as water availability, availability of land, good transportation facilities for receipt of fuel and other environmental considerations have also been looked into for proposed project.

3.4 Raw material details

Raw materials requirement for Existing plant and additional raw material requirement after expansion is as mentioned in Table 5.

Table 5: Net consumption in Raw material consumption

Name of raw material	Existing quantity MT/month	Proposed Quantity, MT/month	Source	Mode of transport (road, rail, sea)
Sponge Iron/ Hot Briquetted iron (HBI)	7500 MT/Month	15000 MT/Month	Inhouse Production/Purchased (Domestic/Imported)	Road / Sea
Scrap	8500 MT/Month	17000 MT/Month	Purchase (Domestic/Imported)	Road / Sea
Steel Billets / Ingots	13000 MT/Month	26000 MT/Month	Inhouse	Conveyor
Iron Ore/ pellets	8800 MT/Month	24000 MT/Month	Purchase (Domestic/Imported)	Road / Sea
Coal for Sponge	6600 MT/Month	18000 MT/Month	Purchase (Domestic/Imported)	Road / Sea
Lime Stone	220 MT/Month	600 MT/Month	Purchase (Domestic/Imported)	Road / Sea

Raw material consumption for power plant due to proposed amendment is as mentioned in Table 6

Table 6: Raw Material Details for power plant

Name of raw material	Existing Quantity MT/month	Proposed Quantity, MT/month	Source	Mode of transport (road, rail, sea etc.)
Coal for CPP	4500 MT/Month	19200 MT/ Month	Purchase (Domestic/ Imported)	Road / Sea

Equipment details

The list of equipment to be installed as a part of expansion project with the existing list is as mentioned in Table 7.

Table 7: Equipment details

Product	Equipment	Existing equipment	Proposed equipment	Total
Sponge Iron	Rotary kiln	2x100 MT	2x250MT	20500 MT/ Month
Steel Billets	Induction furnace	I To III	2x 30MT	36333 MT/ Month
TMT	Rolling Mill	12000 MT/Month	24000 MT/Month	36000 MT/ Month
Power Plant	AFBC Boiler	4 MW	17 MW	21 MW
Power plant	WHRB	4 MW	8 MW	12 MW

3.5 Project description with process

Sponge Iron Plant

The production process of sponge iron using S/L process involves four steps namely;

i. Raw material preparation plant: The raw material preparation plant consists of crushers and screens through which the seized material required for process is prepared. Normally, jaw crushers are used for iron ore crushing and roll or

impact crushers for coal. The feeding for the crushers are done through the conveyors and vibrating feeders.

ii. Stock house: The stock house consists of the raw material storage bins; which store material up to 24 hours plant requirement. There are four bins one each for iron ore, feed coal, limestone and injection coal. The raw materials are fed into a rotary kiln through the volumetric/weigh feeders at a predetermined rate.

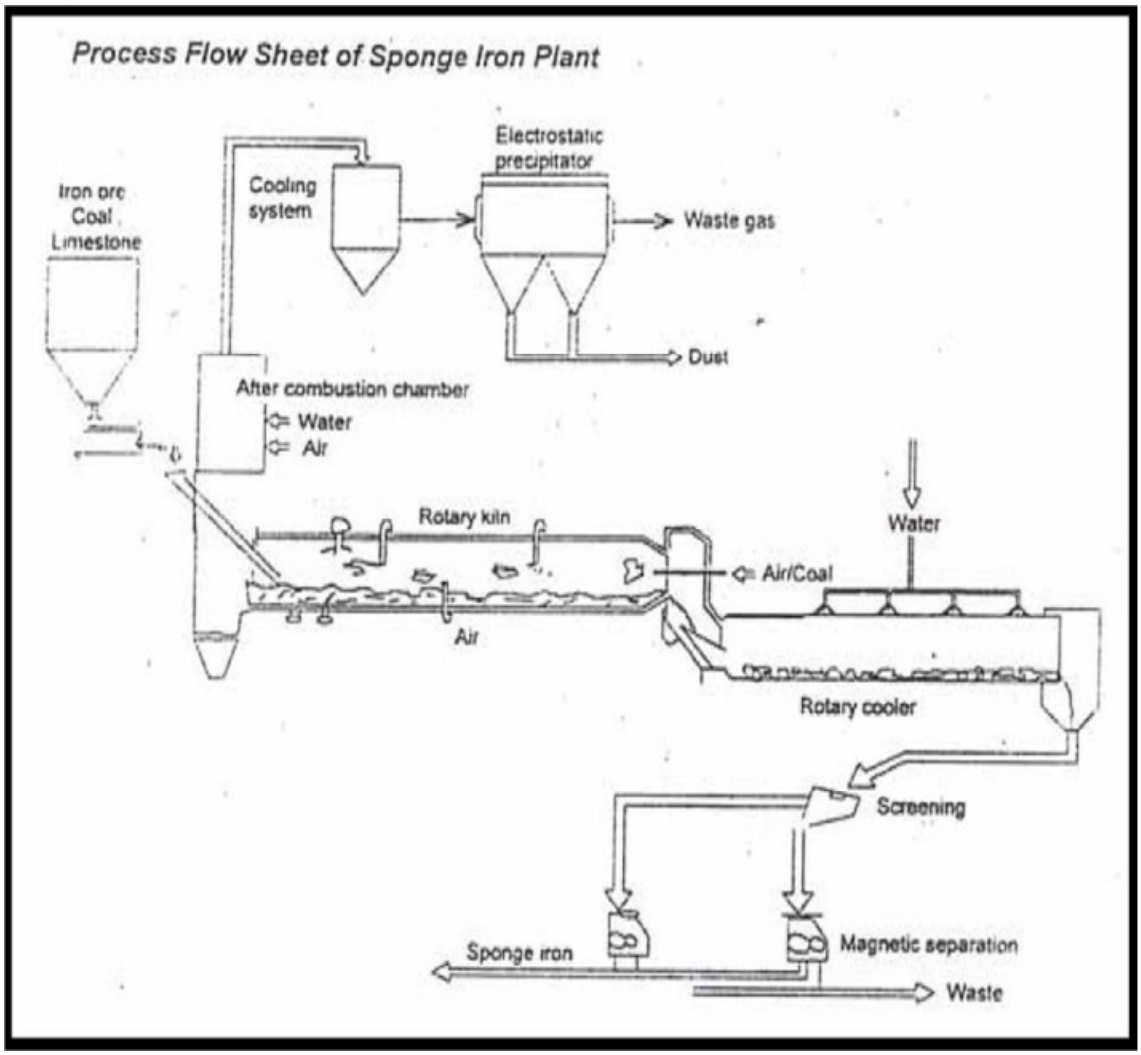
iii. Reduction kiln: The processing of the materials consists mainly of kiln and cooler system. The iron ore is pre-heated and reduced in a rotary kiln and passes to the rotary cooler; where it gets cooled. The cooled material is then passes to the belt conveyor; where the cooler discharge is fed to the product house conveyor. The material is then led to the product separation circuit. An intermediate bin is provided to take care of any eventualities occurring due to breakdown of the product separation circuit.

iv. Product separation plant: in the product separation section, the sponge iron and the coal-char (un-burnt coal) are separated. The cooler discharge material is screened to different sizes, and fed into magnetic separator. The sponge iron is magnetic and hence, it gets attracted to the magnet present in the magnetic separator and is discharged to separate bins the dust in hot gases settles and gets cleaned.

Operation of Rotary Kiln and Cooler:

Rotary Kiln: Rotary kiln is 3.0 m in diameter and 42 m long; and it is positioned inclined at an angle of 1.432^{o} approximately. It is rotated by AC variable speed motor at a stem less variable speed ranging from 0.2 to 1.0 RPM. Due to the inclination and the rotary motion in kiln; the material moves from the feed end of the kiln to the discharge end in approximately 4.5 hours. The fine coal is blown from the discharge end to maintain the required temperature profile. The material and the hot gases move in the counter current direction. As a result, the iron ore gets preheated and gradually reduces by the time it reaches discharge end. The reduced material is then transferred to the rotary cooler via transfer chute.

Figure 3: Sponge Iron Manufacturing Flow Diagram



Rotary Cooler: The rotary cooler is 2.0 m in diameter and 30 m in length. It is also inclined at 1.432^{o} approximately. It rotates at 1.2 RPM. It is driven by AC motor. The water is sprayed on top of shell; which cools the material inside the cooler indirectly. The material reaches 80 ^{o}C temperature approximately; and discharged by the double pendulum valve to the conveyor. The double pendulum valve actually acts as a seal for

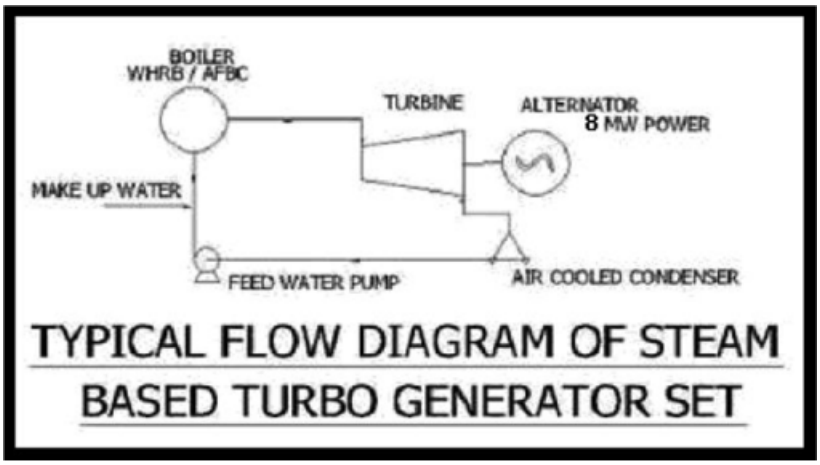
prevention of atmospheric air entering the rotary cooler. The material discharged on conveyor is then sent for product separation system. Here, the material is segregated in different sizes and also magnetic sponge iron is separated from non-magnetic char.

AFBC Power Plant

Steam Turbine Generator (STG) is the main assembly in the Power Plant. Coal char and imported coal shall be used as main fuel in the STG. The steam generator shall be Atmospheric Fluidized Bed Combustion (AFBC) type.

The boiler shall receive the water from specialized Water Treatment System; which shall convert raw water to soft water suitable for the boiler application. The steam generated at Boiler will be passed through the Turbine attached to it. In turbine Generator, the steam will be used to rotate the coil in magnetic field to produce electricity. The simplified process flow diagram of the proposed power plant is attached herewith as Figure 4.

Figure 4: Flow Diagram of Steal based Turbo Generator Set



Part of the steam shall be used to regenerate the feed water temperature and thereby improve the thermodynamic cycle efficiency. The steam after doing work in STG shall pass through an Air Cooled condenser. This condensate so formed shall be pumped back vide pumps to the generator and then to the boiler.

The coal/coal-char combustion will emit exhaust gases, which shall be passed through an Electrostatic Precipitator, which will reduce the emission levels before passing out through the chimney. The ash generated from the boiler shall be sent through a high-pressure pneumatic system to transfer ash to a silo.

There will be other auxiliary systems which shall be used to like Compressed air system, air-conditioning system, etc; detailed description of the same is given in subsequent sections.

Billets

The Induction Furnace will be installed for the production of Billets. The major raw material will be scrap and sponge iron.

Alloy Steel Product

Induction Furnace

The induction furnace is the principle furnace type for the production of the Alloy Steels.

The primary application of the furnace is for the re-melting of the steel scrap or sponge iron.

Furnace Operations:

The induction furnace operates as a batch melting process producing batches of molten steel known "heats". The furnace operating cycle is called the tap-to-tap cycle and is made up of the following operations:

- Furnace charging
- Melting
- Refining
- De-slagging
- Tapping
- Furnace turn-around

Charging:

The charging material consisting of steel scrap & additives is loaded into the furnace in such a way that large and high melting pieces stand parallel close to crucible while low melting Components in the middle of the crucible.

Melting:

At the beginning of melting the furnace works for 5 to 10 minutes on low power until the surge of current fed from the generator disappear. The furnace power is then brought up to a maximum. The charge melts with the crucible held closed. When the charge approaches the fluid stages than the solid pieces are pressed back with a crow bar. The furnace is then loaded to its capacity by adding small size of scrap as soon as

the charge melted. The slag is formed to protect the metal from oxidation and to avoid reduce the melting loss. Excess slag is skimmed off periodically. At the last, Ferro Manganese, Silicon Manganese & Ferro Silicon is added to deoxidize the metal.

Ladle Refining Furnace:

Ladle refining furnace (LRFs) are used to desulfurize steels, remove other impurities and hold the molten steel for casting operations. Without LRFs, higher tap temperatures are normally required from steel making furnaces due to heat losses during refining during conventional ladles. Costs of extended furnace time, refractory wear and power or fuel consumption can all be reduced using LRFs to perform holding and refining. The ladle refining furnace also acts as a buffer between the steel making furnace and continuous caster, reducing casting costs and allowing greater flexibility in steel making operations.

Ladle Refining Process:

Large ladles are used in most metal melting operations to transfer molten metal from melting furnaces to refining or pouring stations. Ladle refining furnaces are basically ladles with a heating source and lid. LRFs are used to reheat or maintain steel tapped from a steel making furnace to a precise temperature and or refine it to exact chemical specifications. Refining is performed by adding chemicals to remove impurities, adding ingredients which enhance strength, and homogenizing the molten steel to achieve uniform characteristics. LRFs provide an ideal reining station with precise temperature control, stirring action for homogeneity, and ports for alloy addition and slag removal. Reheating steel in a ladle refining furnace is typically accomplished by electric arc heating.

A.O.D Process

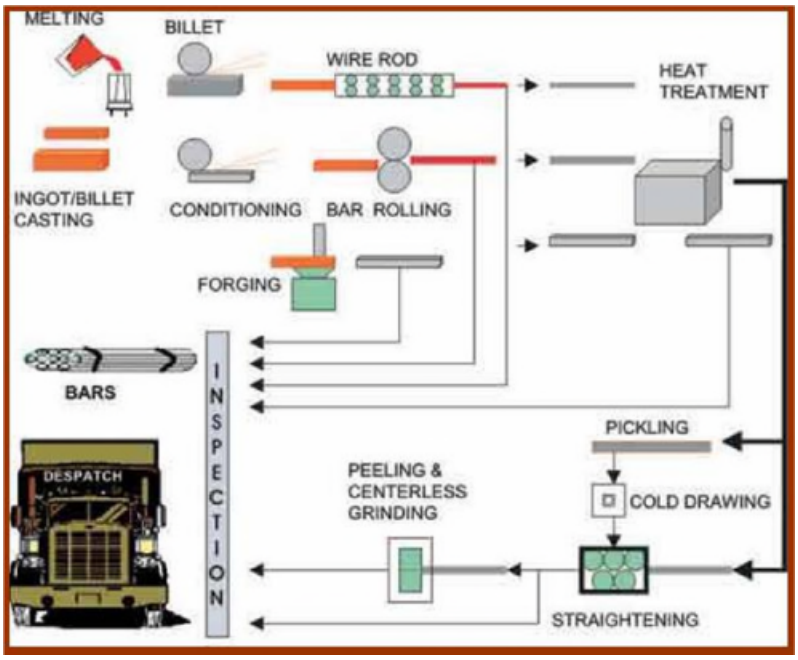
Charge materials (scrap and ferroalloys) are melted in the primary induction melting furnace. The charge is melted with chromium, nickel and manganese contents near mid-range of specification. The carbon content at meltdown can vary from 1.0% to 3.0% depending on the least cost materials used in the charge. Once the charge is melted, the metal is tapped, the slag is removed and the ladle is weighed prior to transferring to the A.O.D vessel. In refining of stainless grades oxygen and inert gas are injected into the bath in a stepwise manner. The ratio of oxygen to inert injected is decreased as the carbon level decreases. Once the aim carbon level is attained a

reduction mixture (lime, silicon, and aluminum) is added. A.O.D refining of carbon and low alloy steels utilizes a two step practice: carbon removal step followed by a reduction/heating step. The lower alloy content of these steels eliminates the need for injecting lower than a 75% mixture of oxygen in inert gas. Once the aim carbon level and temperature are obtained, processing carbon steel is similar to stainless steel. By monitoring and recording the oxygen consumption during the below, very close control of end –point carbon is achieved. Since the oxygen and inert gases are introduced below the bath level and at very high velocity, there is excellent bath mixing and intimate slag metal contact. As a result, the reaction kinetics of all chemical processes that takes place within the vessel is greatly improved.

TMT Bars

Hot Billet received from Steel Melt Shop are inspected and cut to length as per the size of TMT to be rolled. These hot billets are directly send to rolling mill via hot charging conveyor without any preheating.

Figure 5: Process flow of TMT Bars



The hot Billets are passed through 3 nos. of roughing stands and then goes to Continuous Stands which are 12 in number. These stands are with A.C. motor for Variable speeds.

After C12 the bar passes through TMT Box where it goes under Thermo Mechanical Treatment to improve upon Corrosion Resistance and Mechanical properties like Yield Stress, Elongation, Bending, Tensile strength, etc.

After passing through TMT box, the bar is cut into lengths to accommodate on cooling bed. After the bar is cooled it is cut into fix lengths as per requirement of market through Shearing Machine.

At an interval of 1 hour a sample is drawn for checking weight per meter and mechanical properties.

3.6 Water requirement and Wastewater generation

3.6.1 Source of water and its availability

Required water for domestic and industrial purposes shall be obtained from the Gujarat Water Infrastructure Limited (GWIL). Existing Water supply is 540 KLD. Ground water or any other surface water will not be utilized for any construction or industrial purposes. Water will be mainly used for cooling purpose in steel plant.

Proposed water requirement is 1000 KLD. The water consumption for the project activities is as mentioned in Table 8. Request letter for water allocation is attached as Annexure 3.

Table 8: Water Consumption

Purpose	**Quantity (m^3/day)**	
	Existing plant	**Proposed plant**
Cooling	58	90
Boiler	124	300
Drinking	50	50
Process	240	400
Gardening and dust suppression	28	60
Other (specify the purpose)	70	100
TOTAL	**570**	**1000**

3.6.2 Waste Water generation & Management plan

The industrial wastewater is in the form of blow-downs from Cooling tower, boiler and domestic wastewater. The waste water generation for existing project and expansion project is as mentioned in Table 9.

Table 9: Wastewater generation

Purpose	Quantity (m^3/day)	
	Existing plant	Proposed
Cooling blow down	10	20
Boiler blow down	47	80
Domestic	20	20
TOTAL	**77**	**120**

The wastewater generated from domestic purposes (i.e. sewage) will be treated in packaged type STP.

No wastewater generation from manufacturing process or any auxiliaries of the sponge iron plant. Wastewater generated from the power plant shall be sent to neutralization Pit; from where the water shall be completely reused for green belt development and dust suppression activities. The project is zero discharge plant.

3.7 Source of electricity and its availability

Major part of Electricity requirement shall be obtained from captive power generation. Remaining additional power requirement shall be procured from SEB. The total power requirement for the plant for proposed project is given in Table 10.

Table 10: Electricity allocation

Source of Power	Quantum Existing	Quantum for Proposed project
SEB /Grid	7.5 MW	6.0 MW
Captive Power Plant	8 MW	25 MW

DG Sets	500 KVA each	1250 KVA (3 nos.)

3.8 Quantity of Solid and hazardous wastes to be generated and scheme for their management/ disposal

3.8.1 Solid waste generation & Management plan

Solid waste generated as per environment clearance includes ash, char and slag. The solid waste generation from the existing and proposed project activities is as mentioned in Table 11.

Table 11: Solid waste generation

Type of Waste	Existing solid waste generation	Proposed Solid waste generation	Total Solid waste generation	Management plan
Fly Ash	147 MT/Day	294 MT/Day	441 MT/Day	Will be sold to brick manufacturing unit or used as binding material for land filling
Coal Char	60 MT / Day	160 MT/Day	220 MT/Day	Will be reused as raw material within the plant for power generation through AFBC boiler / sold to registered dealers
Slag	70 MT/ Day	140 MT/Day	210 MT/Day	Will be sold for road construction activity or usedas binding material for land filling

3.8.2 Hazardous Waste Generation & Management Plan

Hazardous waste generated from the proposed unit is as mentioned in

Table 12

Table 12: Hazardous Waste generation

Waste Generated	Existing Quantity	Existing Quantity	Disposal Plan
Used Lube oil	36.365 MT/annum	75 MT/annum	Will be reused within plant premises as lubrication oil/ sent to TSDF site.

3.8.3 Stack details and Air Pollution Control Measures

For abatement of air pollution, Air pollution control equipment has been installed at point source in the existing plant. The list of existing stack at the project site is as mentioned in Table 13.

Table 13: Existing Stack details

Stack attached to	Stack Height from GL, meters	APC
AFBC Boiler	50 Meter	Electro Static Precipitator
Rotary Kiln - I & II	42.5 Meter	Electro Static Precipitator (Each)
Induction Furnace I to III	30 Meter	Multicyclone & Ventury Scrubber
D.G. Set-1 (Stand By) Cap. : 500 KVA	18 Meter	N/A

Now the company proposes for the expansion in existing production capacity. The details of proposed stack for expansion project is as mentioned in Table 14.

Table 14: Stack details for proposed amendment

Stack attached to	Stack Height from GL, meters	APC
AFBC Boiler	60.00	ESP
Rotary Kiln-I & II	45.00	ESP
Induction Furnace I to II	30.00	ESP
DG Set (1250 KVA) (Standby)	21 m	NA

4 SITE ANALYSIS

4.1 Connectivity

The project site is well connected to NH 8 A. The site is well connected by road and rail to rest of country. The details of highway and rail network are as mentioned below:

Table 15: Site Connectivity

Description	Distance
Transportation	Road: NH 8 A (~0.65 Km)
	Rail : Samkhiyali (~ 3.2 Km)
Nearest Town/City	Town: Bhachau (~ 13 Km) City: Gandhidham (~ 42.85 km)
Nearest Village	Samkhiyali (~ 3.7 Km) Chhadavada (~ 4.4 Km)

4.2 Land Form, Land use and Land ownership

Facilities for production of sponge iron, rolling mill and power plant have been already established on survey no. 394/2, 398, 399 & 400. The proposed expansion project will established on new survey nos. 392/1 (P), 395, 397 nearby project site. NA document for new survey number land is attached as annexure 2

4.3 Topography (along with map)

The topography map of the land of new survey numbers will be submitted at the time of presentation.

4.4 Existing land use pattern (agriculture, non agriculture, forest, water bodies – including CRZ), shortest distances from the periphery of the project to periphery of the forests, national park, wild life, sanctuary, eco sensitive areas, water bodies (distance from HFL of the river), CRZ. In case of notified industrial area, a copy of Gazette notification should be given.

There is no forest, national park, wild life sanctuary, eco sensitive areas in surrounding 10 Km of the plant boundary. CRZ is not applicable to the project.

4.5 Existing infrastructure

Land for Proposed expansion is clear.

4.6 Climatic data from secondary sources

The climatic data for the to December 2014 to January 2015 in the study are as below

Table 16: **Meteorology data**

Average Wind speed	3 to 17 m/s.
Temperature	$10^{o}C$ to $33^{o}C$
Average Relative humidity	7 % to 73 %.

4.7 Social Infrastructure available

The project site is located approximately 3.7 km from the human settlement. Basic amenities of life are easily available in the area. Primary health centre, school, drinking water, electricity, communication, road network, transportation facility is available in the vicinity.

The existing infrastructure is sufficient to cater the additional load due to the proposed expansion project.

5 PLANNING BRIEF

5.1 Planning Concept (type of industries, facilities, transportation etc) Town and country planning/ Development authority classification

The industrial area and the related facilities are already developed hence no planning is envisaged. The nearby towns have the modern facilities.

5.2 Population Projection

There would not be any significant increase in the population of surrounding area as the almost workers for the proposed project will come from the local residents in the surrounding villages. There won't be any influx of people in the area due to proposed project

5.3 Land use planning (break up along with green belt etc)

The total land acquired by the company is 314683.5 sq m. among which 94433 sq m area is envisages for proposed expansion project.

Land use breakup for proposed expansion is as under:

Particular	**Area (Sq m)**
Total plot Area	94433.00
Industrial Plot Area	50433.00
Green Belt	31000.00
Common facilities	13000.00

5.4 Amenities/ Facilities

Major basic facilities are available for the proposed project. Road, electricity, water, transportation facility etc are well developed in the surrounding area.

All the amenities related to project on the site will be installed

6 PROPOSED INFRASTRUCTURE

6.1 Industrial area (Processing area)

For proposed expansion project, company would allocate around 50433 sq m area as processing area.

6.2 Residential area (Non processing area)

In existing plant, around 8000 sq m area has been allocated as Labour colony. Additionally 6000 Sq m is envisaged to allocate in the proposed project

6.3 Green belt

The Company has developed around 7500 Sq m area as a green periphery in and around its plant in a substantial portion. Different variety of plants and trees have been planted which requires less water. This helps in cooling the nearby atmosphere and also provides fresh air. Further the company has provision to develop around 31000 sq m area as a green belt.

The existing green belt area within the premises consists of the following plant species.

- *Jatropha curcas*
- *Peltophorumpterocarpum*
- *Albizialebbeck*
- *Ficusbenghalensis*
- *Salvadorapersica*
- *Salvadora oleoides*

6.4 Social infrastructure

Basic amenities of life are easily available in the area. Primary health centre, school, drinking water, electricity, communication, road network, transportation facility is available in the vicinity.

6.5 The existing infrastructure is sufficient to cater the additional load due to the proposed expansion project. Connectivity (Traffic and transportation, Road/ Rail/ Metro/ Water ways etc.)

The connectivity to the project site is discussed in Table 15

6.6 Drinking water Management (Source & Supply of water)

GWIL water will be used for all the activities including drinking purpose

6.7 Sewerage system

Packaged type STP will be provided for domestic waste water management

6.8 Industrial waste management

The industrial waste management details are given in Section 3.6.2, 3.8.1, 3.8.2

7 REHABILITATION AND RESETTLEMENT (R & R) PLAN

Policy to be adopted (Central/ state) in respect of the project affected persons including home oustees, land oustees and landless laborers

Not applicable.

8 PROJECT SCHEDULE & COST ESTIMATES

8.1 Likely date of start of construction and likely date of completion

Likely date of start of construction: With in month after obtaining EC

Likely date of completion of construction: June 2020

8.2 Estimated project cost along with analysis in terms of economic viability of the project

Total project cost: Rs.250 Crores

9 Analysis of proposal (Final Recommendations)

9.1 Financial and social benefits with special emphasis on the benefit to the local people including tribal population, if any, in the area

The following activities will be done for social welfare -

- Plantation on Road side.
- Contribution in construction of toilet block for 100 poor family under "*Pradhanmantri's Swacchata Abhiyaan"*
- Contribution in towards health awareness Programmes.

(Contribution in providing better medical infrastructure in nearby area of Kutch district.)

9.2 Budgetary allocation for social welfare in the area

(Presently company is spending Rs.70 lakhs for social welfare activity

(Rs. 30 lakhs is proposed to spend on Social Welfare Activity.

9.3 Expenditure on Environmental Matters: estimated

Environmental Issues	Capital Cost (Rs.)
Air Pollution Control	250 Lacs
Water Pollution Control	50 Lacs
Noise Pollution Control	15 Lacs
Environmental Monitoring And Management	7 Lacs per year
Occupational Health	5 Lacs per year
Green Belt	12 Lacs per year

10 SCHEMATIC REPRESENTATION OF THE FEASIBILITY DRAWING WHICH GIVE INFORMATION OF EIA PURPOSE

The proposed project of steel plant and captive power plant falls under category A, section 3 (a) & 1 (d) of EIA notification September 2006 and amendment there of vide notification no. S.O 3067 (E) dated 1st December 2009, which require prior Environmental Clearance before starting construction, production or any other allied activities related to the project. For getting the Environmental Clearance; it is required to carry out the Environmental Impact Assessment (EIA) study report.

Definition of EIA

Environmental Impact Assessment (EIA) is a formal process used to predict how industrial development or construction project will affect natural resources such as water, air, land, socioeconomic and bio ecological environment.

An EIA usually involves a sequence of steps:

(1) Screening to decide if a project requires assessment and to what level of detail.

(2) Preliminary assessment to identify key impacts, their magnitude, significance, and importance.

(3) Scoping to ensure the EIA focuses on key issues and to determine, where more detailed information is needed.

(4) Implementing the main EIA study, which involves detailed investigations to predict impacts, assess their consequences, or both.

Methodology

Environmental Impact Assessment (EIA) studies include identification, assessment, quantitative evaluation and prediction of possible impacts. To minimize the impact of the project on various environmental attributes, mitigation measures are suggested for implementation along with the project.

The methodology of this study can be schematized as detailed below:

> To gather information on present environmental conditions and relevant national environmental guidelines and EIA procedures.

> Scoping of impacts.

> Assessment of significant impacts.

> Description of residual impacts.

> Development of monitoring plans.

> To inform all relevant and involved authorities regarding the impact of the project on the environment and the proposed mitigation measures.