EIA Study for Proposed Expansion of MS Billets/ TMT Bars/Ingots plant of 200 to 1200 MTD Plot no: F-21, F-22, F: 22 part I and F-22 Part II, Addl. MIDC area Phase II, Jalna, Maharashtra

Submitted By
M/s. Geetai Steels Pvt. Ltd
Plot no: F-21, F-22, F: 22 part I and
F-22 Part II, Addl. MIDC area Phase II,
Jalna, Maharashtra

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M/s. Geetai Steels Private Limited

EXECUTIVE SUMMARY

1.0 Introduction

This is a project proposal for the expansion of M S billets/ ingots/TMT Bars manufacturing unit in their existing factory at Jalna Maharashtra Industrial Development Corporation (MIDC) area near Jalna by **Geetai Steels Pvt. Ltd**. The Notification No. S. O. 1533 promulgated on 14th September 2006 have covered this type of activity under 3 (a). The category is "B-1" as the proposed expansion is in the same category of products and the location is at existing factory within a notified industrial area. Expansion of existing capacity from 200 MTD to 1200 MTD.

1.1 Project Highlights

- **Name of the project:** Geetai Steels Private Limited
- **Location:** Plot no: F-21, F-22, F: 22 part I and F-22 Part II, Addl. MIDC area Phase II, Jalna, Maharashtra
- **Products**: MS Ingots and MS Billets
- **Proposed Capacity:**1200 MT/D
- **Area requirement:**39021.0Sq.m
- **Land availability:** No required of additional land for expansion
- **Total Investment:** Rs. 65.60crores
- **Toposheet No. of GSI for the proposed site:**E43D13
- **Latitude:**19°50'49.77" N
- **Longitude:**75°50'15.51" E

- **Boards of Directors and Promoters:**
  Shri. Ashish Agrwaljee
  Shri. Anilkumar Agrawal

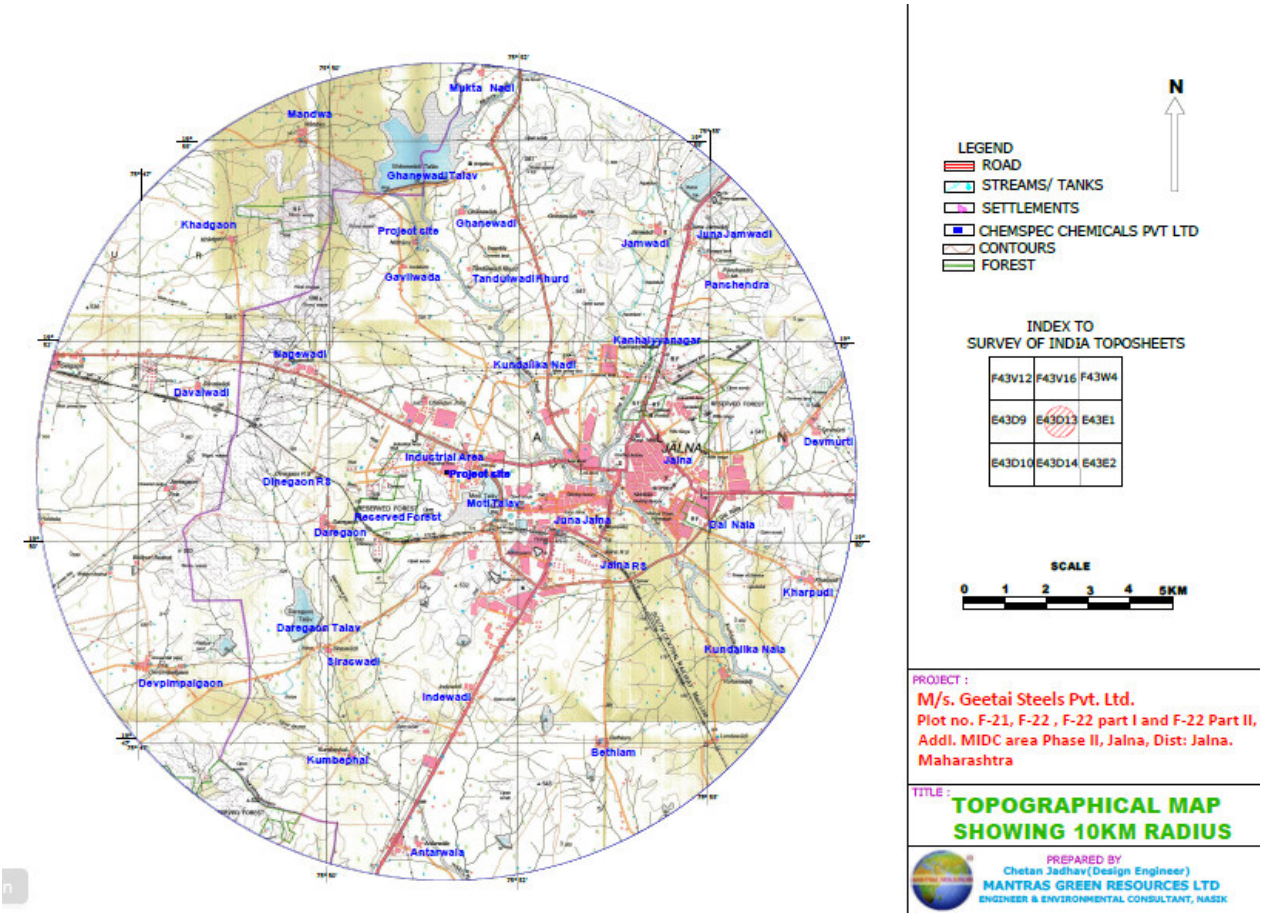


Fig. 1: Location Map of the Proposed Expansion Project Site

1.2 Present Practice and Justification

- GSPL manufactures billets at plot , F-21, F-22, F: 22 part I and F-22 Part II, Addl. MIDC area Phase II, Jalna,
- Air cooled cooling towers will be installed to reduce cooling tower losses.
- Water use will be minimum.
- Zero discharge of effluent.
- Availability of high capacity water from MIDC and reservoir and elaborate facilities for rain water harvesting system.
- Fresh water requirement from other resources would not arise.
- A state of art dust extraction and collection system has been proposed to reduce air pollution and maintain stack emission norms and to maintain ambient air quality within prescribed norms.
- Existing practice is cumbersome and involves additional expenditure which can be avoided

1.3 Justification for Selected site

- No Rehabilitation/Resettlement required.
- No National Park, Biosphere Reserve and Wildlife Sanctuary including Notified
- Eco Sensitive Areas within 10 km radius.
- No archaeological monument, Interstate Boundary and Defense Installations.
- No notified critically polluted area.
- No nallah/water body, public roads, forests within the project site.
- Availability of Raw Material.
- Availability of Water from MIDC itself.
- Assured Power Supply from MSEB and has erected a special service protocol for MIDC government Industrial area.
- For the manufacturing of Billets MS Scrap and Sponge Iron is the raw material.
- Availability of man power, locally without any difficulty.
- Availability of Industrial Infrastructure because project site is in MIDC area.

1.4 Proposed Additional Facilities

- Three Induction Furnaces each of capacity 40, 30 & 15 MT/Heat.
- Fully automatic PLC operated Continuous Casting Machine of 2 stands 6mx11m radius.
- Billets of three sections of size 100mm X 100 mm, 110 mm x 110 mm and 160 mm x 160 mm are produced.
- Speed of casting varies as per size of billet and is generally 1.4 minutes to 3 minutes.
- Construction of Scrap yard with separate areas for storage of scrap/ sponge iron specific contents in order to store, segregate and process the scrap
- Augmentation of the existing utilities and services to support the induction furnace and associated utilities.

1.5 Project Cost and Investment

- The project cost including buildings, plant and machinery, operation and maintenance, electricity, furniture and fixtures and environmental monitoring is given below:

Table 1: Project Cost

Sr. No.	Account Head	Amount (Rs.)
1.	Existing Project	20.60 crore
2.	Estimated cost for expansion	45.00 crore
	Total cost	**65.60 crore**

1.6 Magnitude of Operation

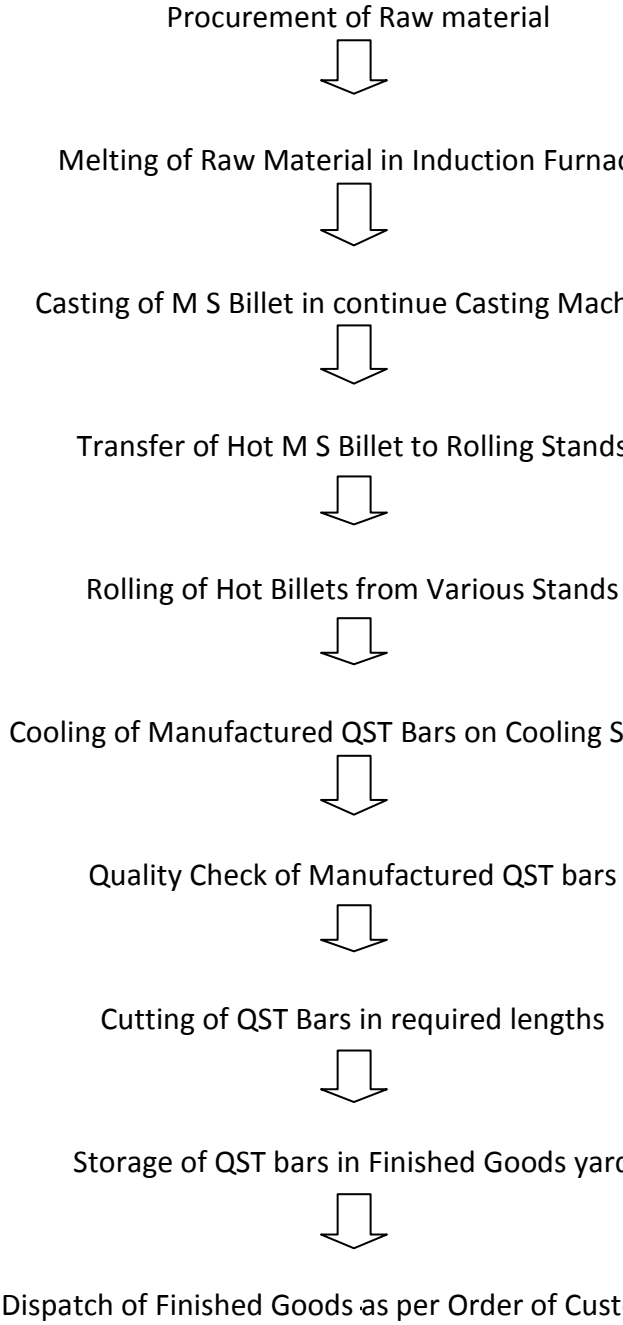
Table 2: Magnitude of Operation

Sr. No.	Facet of operation	Magnitude	Unit
A.	Proposed capacity (M.S Billet/TMT Bars)	1200	TPD
B.	Induction furnace capacity	40, 30 & 15	MT / Heat
C.	Total area of plot	39021	M^2
D.	Reserved area for project	9270	M^2
E.	Proposed investment	40.00	Cr.
F.	Existing manpower	270	Nos.
G.	Proposed increase in manpower	205	Nos.
H.	Present power consumption	10.01	MW
I.	Proposed increase in power consumption	10.00	MW
J.	Water requirement	70	CMD
K.	Raw material requirement: scrape sponge iron	1250	MTD

1.7 Process of Manufacturing and Flow Sheet

- The raw material (Sponge Iron, M S scrap) is charged into the furnace at temperature of about 1650°C.
- The molten steel is then transferred to continuous casting line.
- From there it is transferred to Roller Table High Speed Conveying.
- Then it is transferred to Rolling line.
- Molten metal from the induction furnace will be poured directly to produce TMT bars.
- The finished product (TMT bars) is then subjected to final inspection and then the TMT Bars are dispatched.

Fig 2: Process Flow Chart



1.8 EIA Consultant for EIA Report and EMP

M/S Mantras Green Resources Limited, Nasik, Maharashtra (MGRL), NABET accredited consultant with **Accreditation No. NABET/EIA/1619/RA0060** and was assigned the project of preparing environment impact assessment report and EMP for the proposed project.

1.9 Description of the Environment (Baseline Status)

Environmental impact assessment studies were conducted in an area covering 10 km radial distance from the center of project area identified as likely impact zone. The EIA study was carried out for each individual environmental component during winter season (Oct to Dec 2017).

1.9.1 Location and Site Details

- The project site is located at Plot no: F-21, F-22, F: 22 part I and F-22 Part II, Addl. MIDC area Phase II, Jalna, Maharashtra.
- The site is located at rural surroundings and is about 05 km from Jalna; the Industries located in MIDC.
- The factory building will be sufficiently away from Highway, Railway respectively.
- Nearest Air Port is Aurangabad Airport at 51Km.
- The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna River and its tributaries. District slopes towards south and average elevation above sea level is 534 meters.
- There are no Sanctuaries and National park within 10 km radius.
- There is no reserved forest within the 10 km radius.
- The site and study area falls in the survey of India Toposheet No. E43D13.
- A meteorological station was set up near the proposed plant premises.
- Meteorological data were generated during the winter season monitoring periods Overall (Seasonal), the predominant wind direction is from North-West followed by South-East. Calm conditions prevailed for 41.5% of the time.

1.9.2 Air Environment

- The baseline environmental quality for the October, November and December – 2017 was assessed in an area of 10 km radius around the proposed project site.
- During the study period, the wind speed measured at the site varied from 1.0 to 11.1kmph. The predominant wind directions are from E and ENE.
- The ambient air quality monitored at 8 locations selected on the basis predominant wind direction. The range of monitored constituents are:

- PM_{10} :30.24 to 26.04µg/m^3
- $PM_{2.5}$:20.15 to 14.47µg/m^3
- SO_2 :18.89 to 11.18µg/m^3
- NO_x :36.27 to 30.25µg/m^3

The concentrations of PM_{10}, $PM_{2.5}$, SO_2 and NO_x were found within the National Ambient Air Quality Standards (NAAQ).

1.9.3 Water Environment

- A total 8 samples including four surface and four ground water samples were collected.
- Analyzed using standard methods for analysis of water and waste water, American Public Health Association (APHA) Publication.
- The data indicates that the ground water as well as the surface water quality is below the stipulated standard for drinking water (IS 10500 – 1993 except high concentration of total B. Coli in surface water, which may be due to the human activities.

1.9.4 Noise Environment

- Recorded Noise Levels in the core zone of proposed project site at all eight monitoring stations. Maximum levels of noise have recorded in day hours which are natural as most of activities are during day hours.

Sr. No.	Location	Day Time (dB)		Night Time (dB)	
		Max.	Min.	Max.	Min.
1.	Project Site	52.6	40.1	39.9	31
2.	Chandan Zira	52.7	40.3	39.7	31
3.	Jamwadi	54.4	40.1	39.8	30.1
4.	Rajewadi	52.7	40.7	39.8	30.1
5.	Shirsawadi	52.8	40.1	39.9	31
6.	Daregaon	54.6	40.1	40.2	30.1
7.	Devmurti	52.9	40.1	40.2	30.1
8.	Haldula	52.8	40.2	39.8	31

- Noise levels measured at all eight stations are very low and well within limit of 55 dB (A) and 75 dB (A) respectively for Residential Area and Industrial Area as per MOEF Gazette notification for National Ambient Noise Level Standard.

1.9.5 Soil Quality

Eight representative soil samples were collected from Chandan Zira, Jamwadi, Rajewadi, Shirsawadi, Project Site, Dawalwadi, Ghanewadi and Bethlamwere collected and analyzed for physical and chemical characteristics in order to assess the existing soil conditions around proposed project site.

The soil characteristics are as given below:-

- Texture of all soil samples are Silty-clay-loam
- pH Soil of all location is in the range of :-

Locations	pH	Organic Matter	Nitrogen	Phosphate
Project Site	7.4 to 7.6	0.81 to 1.2	42.42 to 447.3	8.2 to 9.1
Chandan Zira	7.5 to 7.8	0.81 to 1.2	42.68 to 447.2	8.6 to 9
Jamwadi	7.9to 8.31	0.81 to 1.48	19.8 to 22.4	8.0 to 8.8
Rajewadi	7.9 to 8.2	0.93 to 1.38	20 to 24	8.1 to 8.3
Shirsawadi	7.1 to 8.3	0.94 to 1.22	15 to 20	8.0 to 8.1
Dawalwadi	7.9 to 8.3	0.94 to 1.23	12 to 21	8.0 to 8.2
Ghanewadi	7.3 to 8.7	0.81 to 1.41	19.8 to 22.4	8.2 to 8.5
Bethlam	7.9 to 8.2	0.94 to 1.38	22 to 24	8.1 to 8.3

- The pH values are indicating nature of soil samples as between slightly neutral to slightly alkaline while Organic Matter represents average fertility of soils moderately suitable for cultivation of climatic crops and have good fertility.

1.9.6 Ecology and Biodiversity

- Within 10 km distance of the project site, no plant or animal species were found to be on the endangered list.
- No ecologically sensitive area like biosphere reserve, tiger reserve, and elephant reserve, migratory corridors of wild elephant, wetland, national park and wildlife sanctuary are present within 10 km distance of the project site.

1.9.7 Flora and Fauna

- Natural Flora and Fauna are important biotic components for environment.
- Flora and Fauna was studied using literature and available list from secondary sources like forest department and research publication of local university and also site survey to observe prominent spices of trees, shrubs and herbs.
- Plant species observed in the study area are Mango, Babul, Jamun, Chichwa etc. common animals like Common Langur, Field Rat, Cobra, Dhaman were observed during the survey.

- Enquires and interaction with villagers residing in study area and nearby villages revealed that there has never been any incidence of damage to crops or human life by any wild animals.

1.10 Impact Assessment

1.10.1 Land Use

The study area comprises of:

- 6.65% of settlement area
- 1.35% of water body
- 34.38% of agricultural land cultivated
- 19.55% agricultural land non cultivated
- 38.11% of area of waste land

1.10.2 Noise Environment

- Noise levels generated in the project site will be confined to the noise generating units within the plant premises.
- Noise levels will be attenuated by providing encasement of noise generating equipment, noise proof cabins to operators, noise generating sources will be insulated by providing suitable enclosures, Inlet and outlet mufflers will be provided which are easy to design and construct and all the rotating items will be well lubricated. Hence the impact of noise on surroundings will be insignificant.

1.10.3 Water Environment

- The total water requirement for the proposed activities is 70m^3/day.
- There will not be any impact on the water quality as no wastewater will be generated/discharged from the project operation.
- Process water will be treated and reused for cooling, gardening / plantation/spray for prevention of dust from the process.
- The sewage generated from the toilets and bathroom of the proposed facility will be 05 KLD which will be disposed through a sewage treatment plant.

1.10.4 Flora and Fauna

- The reserved forest in the study area is in patches.
- There is no designated ecological park or Bio Reserve/Wild life sanctuary in the 10 km radius of the proposed plant site.
- The impact on terrestrial ecology will be negligible and shall be insignificant.

1.10.5 Solid Waste and Mitigation Measures

Impacts due to solid waste would not arise because very small quantity wastes generated. Moreover, the wastes would be sold to local bricks manufacturing units or authorized re-processer.

Table 3: Solid Waste and Mitigation Measures

Waste	Quantity	Mitigation Measures
Steel Slag &Process Dust	50MTD& 50 Kg/Month	Non-Hazardous, non-toxic .It will be used for disposed to brick manufacturing/ sold to authorized re-processer

1.10.6 Socio-Economic Environment

- The impact on socio-economic environment will be positive due to the increase in employment, opportunities to the local people.
- During operation phase technical and non technical persons will be employed.
- There will be improvement in transport, communication, health and educational facilities.
- M/s GSPL is equally conscious for the all round socio-economic development and is committed to raise the quality of life and social well being of communities where it operates.
- Its CSR initiatives will be prioritized on local needs, which focus on Health, Education, Sustainable Livelihood, Social Mobilization, Infrastructure Development and Environment Conservation.

1.11 Environmental Monitoring Plan and Responsibilities of EMD

- A separate environment management department will be created to function under the direct control of Chief Executive of the plant.
- A small Environmental laboratory will be setup and will have instruments for monitoring air, water and noise.
- A team of qualified and experienced Engineers and chemist will be employed in the EMD.
- EMD wound be responsible for preparation and submission various reports as per applicable notifications, permission and consents given by CPCB/ Maharashtra State Pollution Control Board.
- Regular monitoring of stack emissions, fugitive emissions work environment and report any abnormalities for immediate corrective measures.
- Regular monitoring of ambient air quality at plant boundary and outside the plant in up wind and downwind direction.

- Regular monitoring of re-circulating water quality, ground water quality and surface water quality.
- Regular noise monitoring of the work zone, equipments and outside the plant.
- Green belt plantation, maintenance, development of other forms of greenery like lawns, nursery, gardens, etc. in the plant premises.
- Regular monitoring of quantity and quality of solid waste and their reuse options.
- Development of schemes for water conservation, rain water harvesting.
- To satisfy public regarding any complaints and to interact for maintaining a cohesive environment using periodical training and conferences.

1.12 Risk and Mitigation Measures

- Necessary risk mitigation measures, including firefighting measures will be implemented.
- Hazards due to mechanical injury will be reduced by use of EIA/EMP of GSPL for its proposed project all necessary safety measures will be provided.
- Disaster Management Plan will be implemented in consultation with the District Administration to take care of health and safety during any untoward incident.

1.13 Project Benefits and Community Development Spending Benefits

- This project of GSPL will have positive social and economic benefits.
- Some of these would be direct benefits of long term nature.
- The project will overcome the demand and supply gap of steel product in the country.
- The project will also generate additional revenue for the State Government.
- The additional steel availability will boost the infrastructure of the area and the overall economic scenario of the country.
- The project will create additional direct/indirect employment for people.
- Local people will be preferred for employment during the construction and operation stage.
- M/s GSPL shall spend approx. Rs.15.00 Lakh for various socio-economic and community development activities in surrounding villages. The activities cover education, health, infrastructure, culture and sports, skill development and training and women empowerment.

1.14 Environmental Management Plan

Environment Management Department (EMD) will implement the EMP of this project. All recommendations given in the EIA report including that of occupational health, risk mitigation and safety will be complied. The capital cost required for implementation of the pollution control systems and EMP is Rs.137.00Lakhs. The annual recurring expenses will be approxRs.15.2 Lakhs. EMD will ensure that all air pollution control devices, effluent treatment

plant and water recirculating systems function effectively. Schemes for resource conservation (raw materials and water etc), rainwater harvesting and social forestry development will be taken up by EMD. Greenbelt and greenery development inside and outside the plant premises will be intensified by the EMD. Guidelines issued by the Central Pollution Control Board (CPCB) on greenbelt development will be followed and District Forest department will be consulted for selection of trees. Environmental awareness programs for the employees will be conducted. EMD will also ensure cleanliness inside the plant. All records shall be timely submitted to the regulatory authorities, displayed at relevant places like company gate and website and maintained by the EMD. The sampling and analysis of environmental attributes including monitoring locations will be as per the guidelines of the Central Pollution Control Board/ State Pollution Control Board. Environmental monitoring will be conducted on regular basis by EMD and would essentially include:

To assess the pollution level in the proposed plant as well in the surrounding area.

- To follow the trend of parameters which have been identified as critical;
- To check or assess the efficiency of the controlling measures;
- To ensure that new parameters, other than those identified in the impact assessment study, do not become critical due to the commissioning of proposed facilities;
- To check assumptions made with regard to the development and to detect deviations in order to initiate necessary measures;
- To establish a database for future Impact Assessment Studies for new projects.
- The attributes, which needs regular monitoring, Air quality, Water and wastewater quality, Noise levels, Soil quality, Ecological preservation and afforestation and Socio Economic aspects and community development.

1.15 Occupational Safety & Health Management

- Project proponent will provide all necessary provisions under Factory Act.
- In addition a Safety committee will be formed and manned by equal participants from Management and Workers.
- All personal protection equipments like Safety shoes, helmet & uniform will be issued to each employee based on the nature of job involved.
- In case a person inhales CO, he should be removed to fresh air and given mediated oxygen through a mask for 30 minutes and if required cardiopulmonary resuscitation should be performed.

1.16 Additional Studies

Table 4: Risk Analysis and Possible Hazards Details

Sr. No.	Operation process Equipment /areas	Possible Hazardous	Precautionary measures	Measures to be taken if any hazard occurs
1.	Control Rooms	Electrical Shock Possible due to short- circuit.	• Earth leakage circuit breaker is installed.	• In an event of electric leakage main supply should be immediately
2.	Welding Gas Oxygen LPG and /Acetylene cylinders	Fire hazards caused by flames and leakage.	• Emergency kit is kept readily available in store and working place. • Fire fighting equipments powder / Foam type extinguishers on vehicle and mounting on walls are kept readily available. • Hydrant system provided at conspicuous place. • Fire fighting trained man is employed • Cylinders are handled carefully without dropping or rolling. Precaution to ensure that cylinders are not allowed to dash with each other. • Sand bed cushion available for the purpose of unloading cylinders. • Periodic inspection done to avoid accident of any kind.	• Installation of inert gas Nitrogen, Carbon dioxide. Equipments to take care of fire hazards in the factory are being installed. • Hydrant point will be for gas cylinders stores and point where welding operation is done.
3.	Electrical transformer	Electrical power	• Shock proof insulated PCC Platform.	• Immediate Cut off the power supply, treat the injured for electrical shock
		Fire 1	• Firefighting equipment (i) Sand buckets. (ii) Fire extinguisher.	• Immediately fight fire with available resources, summon outside help if necessary.
4.	Diesel Oil/ Transformer Oil etc. storage.	Fire hazard may be possible if directly Comes in contact.	• Fire proof system is available and fighting equipment like Foam, extinguishers and hydrant system, etc., are kept.	• Proper care is to be taken while storing and keeping the oil drums.

5.	Lab Chemicals	In case of bottle breakage, causes burns and damage to respirator systems due to inhalation.	• Proper care should be Taken while handling the chemicals. • First Aid Box should be available at Site with all necessary and required medicines. • Firefighting equipment like Extinguishers, sand buckets should be available always.	• Instruction Boards to be displaced for knowledge of other workers to take care of the situation in the event of occurrence.

1.17 Disaster Management Plan

- The word 'Disaster' is synonymous with 'emergency' as defined by the Ministry of Environment, Forests (MoEF).
- An emergency occurring in proposed project of GSPL is one that may affect several sections within it and/or may cause serious injuries, loss of lives, extensive damage to environment or property or serious disruption outside the plant.
- It will require the best use of internal resources and the use of outside resources to handle it effectively.
- The DMP will consist of “On site Emergency Plan” and “Off-site Emergency Plan” and will be prepared in consonance with the guidelines laid by the MOEF.

1.18 Conclusion

- The potential environmental, social and economic impacts have been assessed.
- The proposed project activities will have only marginal impacts on the local environment.
- With effective implementation of proposed environment management plan and mitigation measures, these impacts will be insignificant.
- Implementation of the project has beneficial impact in terms of providing direct and indirect employment opportunities, increase facility for education, health and business opportunities and overall growth of the area.
- This will lead to a positive socio-economic development in the region. Therefore project is recommended for approval.