EXECUTIVE SUMMARY

FOR

Expansion in existing unit by Upgradation and installation of Induction Furnaces, Rolling Mill and Concast seeking Fresh EC

M/S G.O. STEEL (P) LIMITED

Badinpur Road, Village Kahanpura, Mandi Gobindgarh, Tehsil-Amloh, District- Fatehgarh Sahib, Punjab

Prepared by

Chandigarh Pollution Testing Laboratory- EIA Division

(QCI/ NABET Certificate No: NABET/EIA/2225/RA 0250)

Address: E- 126, Phase- VII, Industrial Area, Mohali, Punjab- 160055.

Contacts: 0172-4669295, 5090312

E-mail: eia@cptl.co.in / cptleia@gmail.com

MARCH, 2024

EXECUTIVE SUMMARY

1.0 Project Name and location

The proposed expansion project of M/s G.O. Steel (P) Limited. is located at Badinpur Road Village Kahanpura, Mandi Gobindgarh, Tehsil- Amloh, District-Fatehgarh Sahib, Punjab.

2.0 Products and capacities

The unit has already granted Consent to Operate for manufacturing of Steel Ingots/Billets @ 84 TPD or 29,400 TPA and Rounds, Bars, Flats @ 18 TPH with 01 no. Induction Furnace of capacity 7 TPH & 01 no. of Rolling Mill followed with continuous casting.

Now the project proponent proposes to increase the capacity of unit by replacing existing Induction Furnaces of capacity 7 TPH with two no. of Induction furnace having capacity 20 &30 TPH and also addition of 01 no. of rolling Mill and 01 no. of Concast. Total capacity of the project after expansion will be 2,80,000 TPA of Steel Ingots/ Billets, and Angle, channels, Flats, TMT bars, Rounds will be having capacity 2,66,000 TPA**.**

After expansion the production details will be as under:

Product Name	**Existing (TPA)**	**Proposed (TPA)**	**Total (TPA)**
Steel Ingots/Billets	29,400	2,50,600	2,80,000
Angles, Channels, Flats, TMT Bars, Rounds	18 TPH or 1,26,000 TPA	20 TPH or 1,40,000 TPA	38 TPH or 2,66,000 TPA

3.1 Land Area

The industry has CLU of 5.14 acres' land which is used for industrial purposes and addition of land area of 2.0 acre, having no CLU, will only be developed as green belt. The green belt requirement is 9535.20 sqm i.e. 33% of total area.

3.2 Raw Material Requirement

The raw materials and finished goods will be transported through trucks. There is well developed road structure on, Mandi Gobindgarh as well as within premises also. No additional road infrastructure will be required for transportation. The raw material details are given as under:

Raw Material	**Existing (TPA)**	**Proposed (TPA)**	**Total (TPA)**
Ingot/Billets, MS Scrap, Ferro Alloys	39, 200	2,65,300	3,04,500
Source & Transport	**Local & International Markets & transport through covered Trucks.**		

3.3 Water Requirement

Water consumption in the unit shall be for twin purpose namely domestic and make up water for cooling tower (CT). Water requirement will be met through existing tube well. The detail of water requirement and water balance is given below: -

Water Balance for Summer Season

DESCRIPTION	EXISTING REQUIREMENT	PROPOSED REQUIREMENT	TOTAL REQUIREMENT
Domestic	5 KLD	7 KLD	12 KLD
Cooling (makeup water)	14 KLD	131 KLD	145 KLD
Total	**19 KLD**	**138 KLD**	**157 KLD**

Water Balance for Winter and Rainy Season

DESCRIPTION	EXISTING REQUIREMENT	PROPOSED REQUIREMENT	TOTAL REQUIREMENT
Domestic	5 KLD	7 KLD	12 KLD
Cooling (makeup water)	14 KLD	86 KLD	100 KLD
Total	**19 KLD**	**93 KLD**	**112 KLD**

3.4 Power Requirement

The Power Requirement will be met by sourcing the power from Punjab State Power Corporation limited from nearby Sub-station. The detail of power requirement existing & after expansion is given below: -

Power Requirement

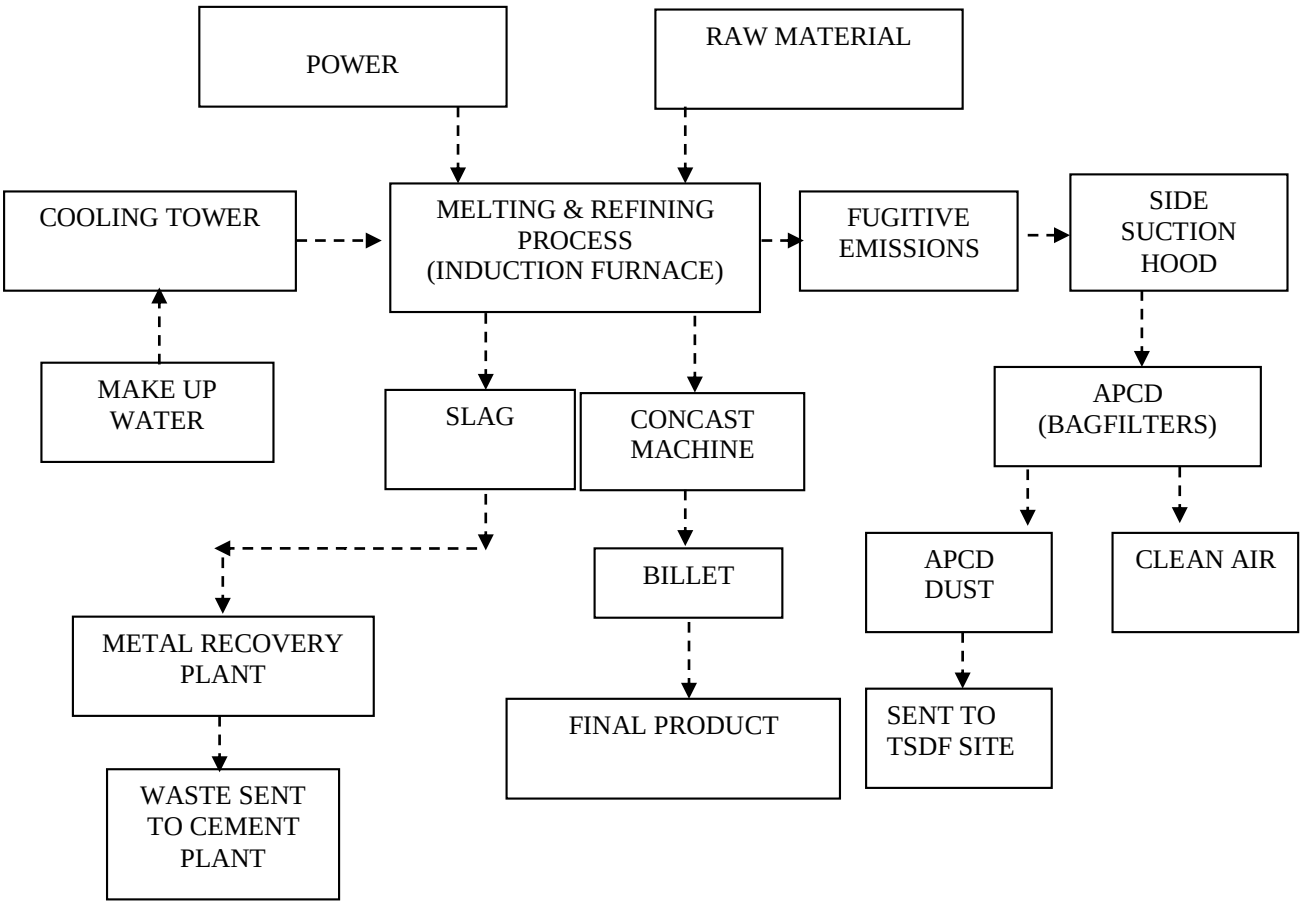
DESCRIPTION	EXISTING (KW)	PROPOSED (KW)	TOTAL (KW)
Power	6,200	10,000	16,200
Source	Punjab State Power Corporation Limited, Punjab		

3.5 Manpower Requirement

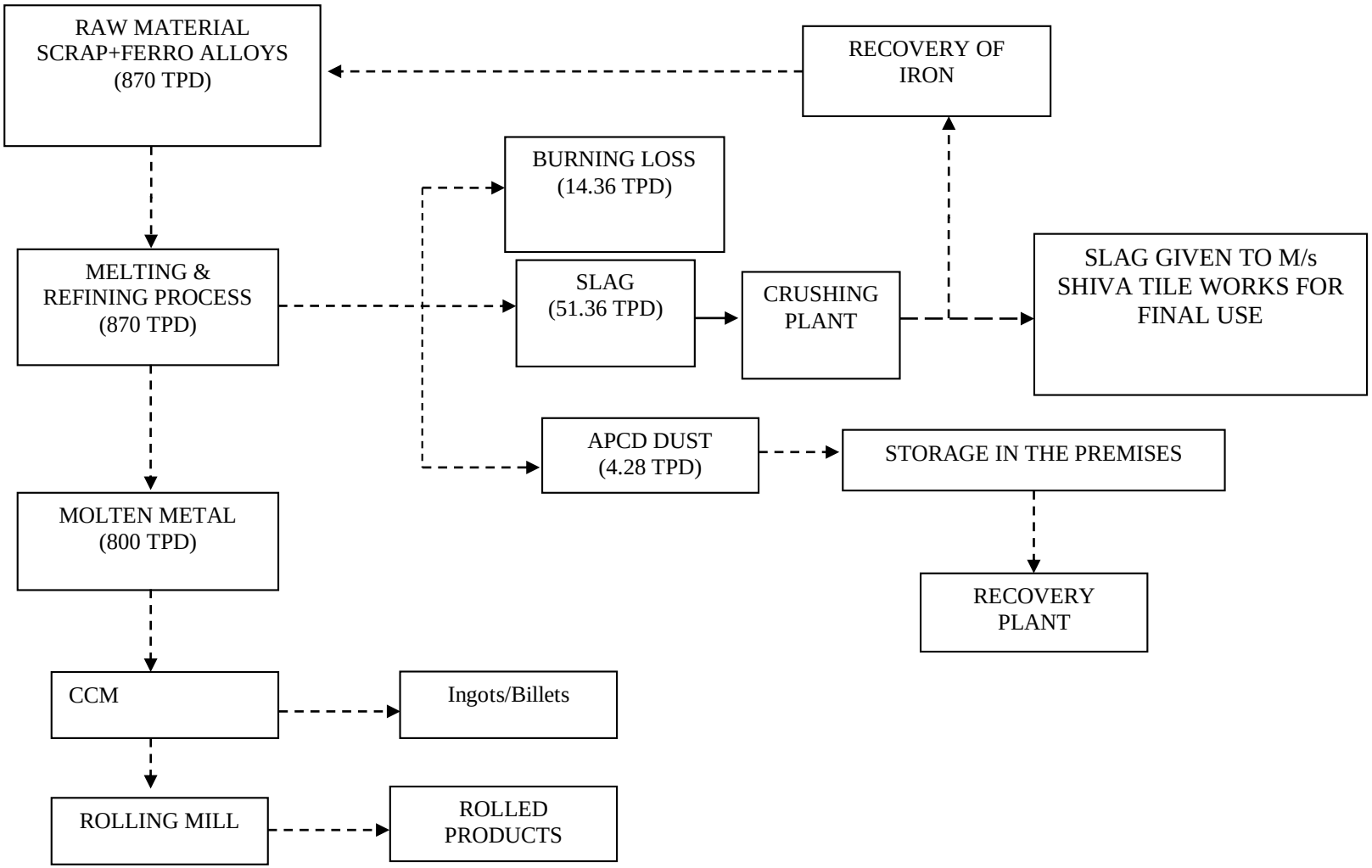
There are about 100 persons working in the unit. After expansion about 250 persons will be working in the unit.

4.0 Process Description

Flow Chart of Manufacturing Process



MATERIAL BALANCE



5.0 Description of Mitigation Measures

5. disposal

The purpose of mitigation measures is to avoid, reduce or minimize adverse impacts on the environment. To minimize & control the emission from I.F, the exhaust after suction through side suction hood is passed through spark arrestor, air cooling and finally bag filters before its discharge to atmosphere. DG set is fitted with a canopy and adequate stack to take care of noise and particulate & gaseous emission.

- Total quantity of slag generated after expansion will be 51.36 TPD which will be fed to crusher and after recovery of Iron, the left quantity of slag will be sent to M/s Shiva Tile Works for final disposal.
- APCD dust will be sent to M/s Jogindera Castings Private Limited for recovery of metal.
- Used oil will be used as lubricant in the industry.

6. Capital Cost of the project and Estimated time of Completion

- The total cost of the project after expansion will be ₹71.60 Crores including ₹25.00 Crores as cost of expansion.
- The proposed expansion will be done within one year after granting of Environment Clearance.

7. Site Details

The proposed brown field project site is located at Badinpur Road Village-Kahanpura, Mandi Gobindgarh, Tehsil- Amloh, District Fatehgarh Sahib, Punjab is having its global coordinates as Latitude 30°40'12.24"N, 30°40'10.75"N, 30°40'6.82"N, 30°40'6.92"N and Longitude 76°14'16.06"E, 76°14'21.15"E, 76°14'22.50"E, 76°14'16.01"E. Mandi Gobindgarh is the nearest city approx. 5.8 km, E from the project site. Mandi Gobindgarh is the nearest railway station (about 5.8 km). Nearest Airport is Shaheed Bhagat Singh International Airport; Chandigarh is approx. 52.44 Km in East direction from the project site. No National Parks/ Wildlife Sanctuaries/ Biosphere Reserves/ Reserved Forests exist within 10 km radius of project site. Bir Bhadson is about 16 km towards S from project site.

8.0 Baseline Environmental Data and their impacts

Various Environmental factors as existing in the study area which are liable to be affected by the activities have been assessed both quantitatively and qualitatively. Baseline environmental data generation of study area was carried out during the period October-December, 2023.

(i) Ambient Air Quality

The $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO levels were monitored at eight locations in the study area for three months (October-December,2023). The P98 levels of criteria pollutants are as follows: $PM_{2.5}$ is 47.88 μg/m^3, PM_{10} is 87.09 μg/m^3, SO_2 is 8.32 μg/m3, NO_2 is 16.32 μg/m^3 and CO is 0.52 mg/ m^3. The baseline air quality level is within the National Ambient Air Quality Standards prescribed for industrial, residential, rural & other area and also satisfies the air quality index (AQI) w.r.t. health bracket for all the monitoring. **(Standards are 60, 100, 80, 80μg/m^3 and 4.0mg/m^3 for $PM_{2.5}$, PM_{10}, SO_2, NO_x and CO respectively).** Due to better pollution abatement facilities, proposed expansion will have insignificant impact on existing air quality.

(ii) Water Quality

Eight groundwater samples and one surface water sample were collected from the study area for chemical and bacteriological analysis. The groundwater quality of the study is satisfactory. No chemical or bacterial contamination was found in the water quality. But bacterial contamination is found in surface water. Since, no waste water will be discharged on land, water quality is not likely to be impacted.

(iii) Noise Environment

For the period of October-December, 2023:

Ambient noise levels were monitored at 8 locations in the study area. Noise levels at the Project site was found to be 64.6 dB (A) in day time and 41.8 dB (A) at night. The highest levels were observed at Project Site. The baseline noise levels are well within the National Standards. Proposed expansion will have less impact than existing one due to better pollution control facility.

(iv) Soil Quality

Eight soil samples were collected from the study area and analyzed. The texture of soil is sandy loam. The organic matter, nitrogen, potassium and phosphorus content of the soil are moderate. The pH of all the soil samples is within the acceptable range. No impact on soil will be there for proposed plant as no waste will be discharged on land.

(v) Socioeconomic Condition:

Socioeconomic status has been studied through secondary sources and by site visits. The social requirements identified such as Drinking water requirement, Promotion of Educational institutions and medical facilities to the villagers (especially Senior Citizens and infants or

pregnant ladies). Community centers, recreation facilities etc. will also be developed as part of social responsibility.

(vi) Ecological Environment

Ecological data has been collected through secondary sources and by site visits. The tree species kikar, Jamun, Peepal and Mango etc are the dominant plant species of the study area. Mongoose, porcupine, jungle cat, cobra, krait, snakes, hare, pigeon and variety of birds are the common animals of the study area. No endangered species of plants and animals are found in the study area, so no impact on ecological environment.

9.0 Possible Hazards & Risks from Secondary Metallurgical Industries

The various process operations, which are having potentially high risk to human exposure and which have high levels of attention area identified in **Table.**

Table: Possible Risk

S.No.	Plant Area	Possible Deviation	Likely Causes	Consequences
1	Furnace	Re-circulating and cooling water coming in contact with the molten iron or slag.	Leakage of water from the walls Spurting of metal/ slag.	Explosion under extreme cases.
		Presence of Oil & Grease and other	Fire	Sudden catches fire & flames
2	High Power Transformer	Oil temperature being very high.	Varying room Temperatures.	Sudden flashing of fire or bursting.
3	High Tension Electrical Installation	Heavy sparking at the pot heads and the joints.	Loose joints, cable cut, burning of fuses, short circuits etc.	Sparks in the beginning, devastating fire if neglected.

10.0 Emergency Plan

Emergency planning is primary for the protection of plant personnel and people in nearby areas and the environment that could be affected by unplanned hazardous events. Furnaces are associated with fire and electrical hazard due to sudden generation of pressure or temperature that leads to damage, injury and death. Temperature and pressure are closely related, and when flammable or combustible mixture is present in process equipment that leads to worst

consequences. Thus, an engineering evaluation will be done for worst-case scenario.

11.0 EMP Budget

S. No	Title	Capital Cost Rs. Lakh	Recurring Cost Rs. Lakh/Cost annum
1.	Pollution Control during construction phase	5.0	2.0
2.	Air Pollution Control (Installation of APCD)	250.0	30.0
3.	Water pollution Control (installation of STP)	3.0	1.0
4.	Green Belt development	13.29	13.29 (maintenance cost for three years.)
5.	Noise Pollution Control	2.0	1.0
6.	Solid/ Hazardous Waste Management	5.0	2.0
7.	Occupational Health, Safety and Risk Management	5.0	1.0
8.	Energy Conservation	3.0	1.0
9.	RWH	10.0	1.0
10.	Miscellaneous	2.0	-
	TOTAL	**298.29 Lakh**	**52.29 Lakhs**
	ADDITIONAL ENVIRONMENT ACTIVITIES		
S.No.	**Additional Environment Activities**	**Budget Allocation**	**Timeline**
1.	Deposit in account of Green Punjab Companion	Rs 40 Lakh	January, 2025.
2.	Village Pond Rejuvenation	Rs 30 Lakhs	January, 2025.

TOTAL		Rs. 70 Lakhs

12.0 Environment Monitoring Plan

Regular monitoring of all significant environmental parameters is essential to check the compliance status vis-à-vis the environmental laws and regulation. The frequency of the monitoring will be as follows:

- The ambient Air quality shall be monitored at project site and two upward and downstream locations once every quarter for $PM_{2.5}$, PM_{10}, NO_x & SO_2, and CO levels during the Construction Phase and Operational Phase.

- The Ambient Noise Levels, Water Quality, Effluent etc. shall also be monitored once every six months or as per EC conditions.