EXECUTIVE SUMMARY

FOR

EXPANSION OF STEEL MANUFACTURING UNIT BY REPLACING EXISTING INDUCTION FURNACE

M/S. PRIME STEEL PROCESSORS

VILLAGE BUDHEWAL TEHSIL KUMKALAN, DISTRICT LUDHIANA, PUNJAB

Prepared by

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EXECUTIVE SUMMARY

1.0 Project Name and location

M/s Prime Steel Processors is a renowned steel manufacturing company, located at Village Budhewal Tehsil Kumkalan, District Ludhiana, Punjab. The project falls within 5km radius of Ludhiana MC boundary, which is a Critically Polluted Area (CPA).

2.0 Products and capacities

The project is for substantial expansion replacing existing 3 no. furnaces of capacities 2x10 TPH and 1x4.5 TPH with two no Induction furnaces of capacity 25TPH and one no with12 TPH Induction Furnace, Concast, LRF 30 TPH and also enhance the capacity of rolling mill 8TPH to 40TPH. The capacity of the unit after expansion will be 3,50,000 TPA steel Billets/Ingots & 3,40,000 TPA Rounds, TMT Bars, wire rode, Flats and structural steel.

After expansion the production details will be as under:

Product Name	Existing (TPA)	Proposed (TPA)	Total (TPA)
Steel Billets	1,12,000	2,38,000	3,50,000
Rounds, TMT Bars, wire rode, Flats and structural steel	45,000	2,95,000	3,40,000

3.1 Land Area

The industry is already having 11.0 acre or 46268.44 m^2 of land. To carry out expansion 1.6 acres or 6475 m^2 of additional land is needed. Thus, after expansion total land requirement will be 12.6 Acres or 49,544.74 m^2.

3.2 Raw Material Requirement

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

Raw Materials	Existing	Proposed	After Expansion
MS Scrap (TPA)	1,20,960	2,56,340	3,77,300
Ferro-alloys (TPA)	1200	2300	3500
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 Requirement

DESCRIPTION	EXISTING REQUIREMENT	PROPOSED REQUIREMENT	TOTAL REQUIREMENT
Domestic	12 KLD	8.28 KLD	20.28 KLD
Cooling (makeup water)	13 KLD	40 KLD	53 KLD
Total	**25.0 KLD**	**48.28 KLD**	**73.28 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

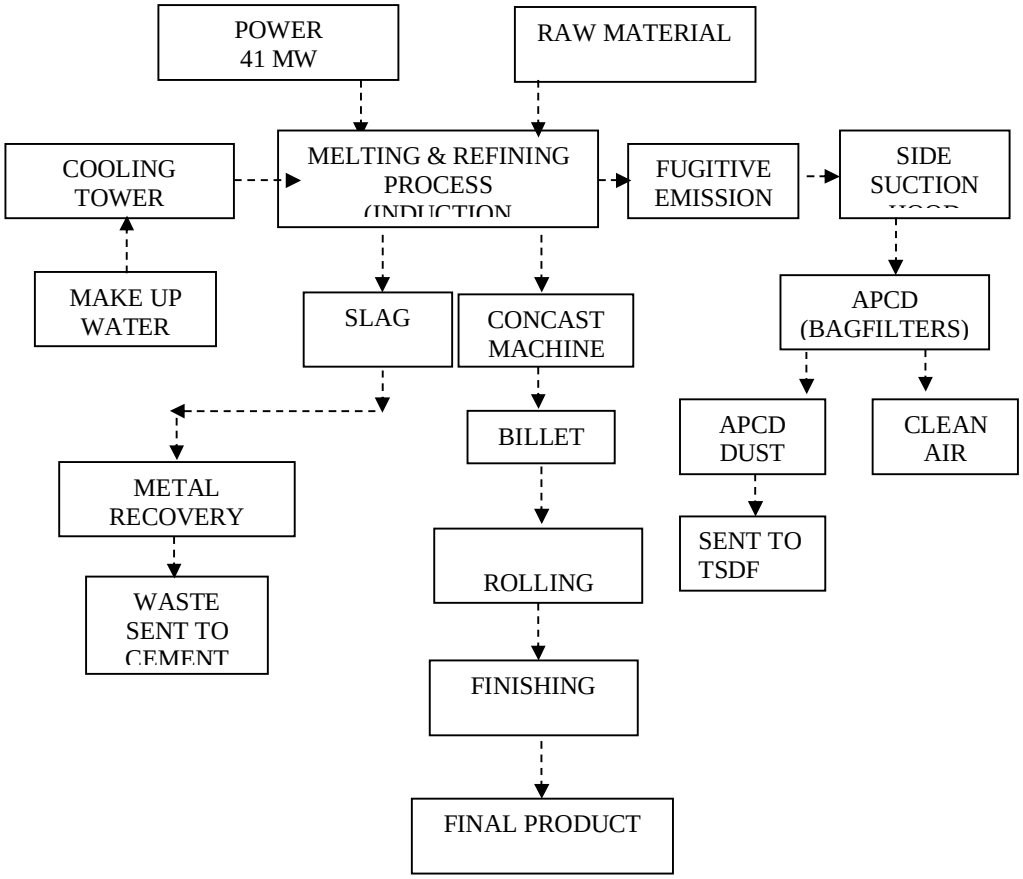
DESCRIPTION	EXISTING	PROPOSED	TOTAL
Power Requirement (KW)	13000	28000	41000
Source	Punjab State Power Corporation Limited, Punjab		

3.5 Manpower Requirement

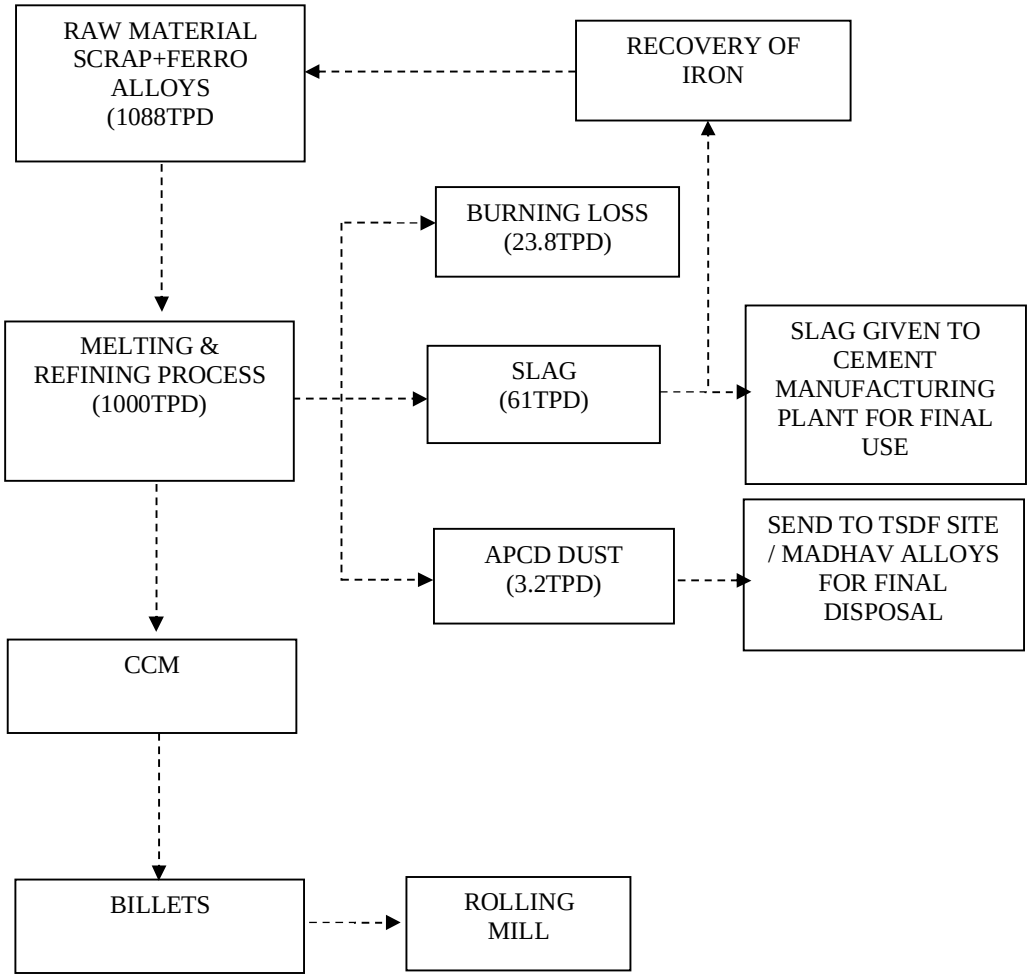
For expansion, total 184 persons will be required. Total manpower after expansion will be 450.

4.0 Process Description

FLOW DIAGRAM OF PROCESS



Material Balance



5.0 Description of Mitigation Measures

The purpose of mitigation measures is to avoid, reduce or minimize unwanted impacts on the environment. The generic detail with regard to mitigation measures to be taken is delineated as under:

Air pollution control

- To minimize & control the emission from Induction Furnace and ladle refining furnace, the process emission will be collected and sucked by installing well designed side hood. The emissions so collected will be passed through spark arrestor, air cooling and finally bag filters before its discharge to atmosphere. The APCD will be installed based on latest technology to contain the concentration of particulate matter in the process of within the standards laid down by the MoEFCC/PPCB.
- DG set is attached with a stack of adequate height for dispersion of pollutants of exhaust gases into the atmosphere at the required height.

Solid and hazardous waste control

- About 61 TPD of slag will be generated and the same after recovering of iron contents will be supplied to manufacturers of cement concrete blocks, pavers & tiles under proper agreement.
- APCD dust of about 3.2 TPD will be sent to TSDF Site/M/s. Madhav Alloys for final disposal.

Water pollution control

No wastewater will be generated from process, only domestic wastewater will be generated which will be treated in STP. The treated wastewater will be used for irrigation of plantation area developed within the industrial premises.

Noise pollution control

- Loading and unloading of raw material and product will be carried out especially during day time by taking necessary mitigation measures at the sources to rule of the possibility of increase in the ambient noise levels due to these activities.
- DG set is fitted with a canopy to contain the sound pressure level within the prescribed limits. Further the machinery, which is lively to cause increase in the ambient noise level, will be kept in good condition at all the times to rule out the possibility of contribution of noise level in the atmosphere.
- Green belt will be provided in the open areas to attenuate the noise levels to be generated from various activities/sources as mentioned above. In addition, this green belt will help to attenuate the fugitive emissions to be generated from the premises of

the unit.

- Ear muff/plug will be provided to all workers working at noisy area.

6.0 Cost Details and estimated time of Completion

Total project cost after expansion will be Rs 135.0 Cr. including Rs 90.00 Cr as cost of Expansion.

The proposed expansion will be done within one year after granting of Environment Clearance.

7.0 Site Details

The proposed project of **Prime Steel Processors (PSP)** is located at Village-Budhewal, Tehsil-Kum Kalan, District-Ludhiana, Punjab is having its global coordinates as Latitude 30°52'58.67"N, 30°53'00.47"N, 30°52'59.68"N, 30°52'56.58"N, 30°52'54.72"N, 30°52'54.61"N, 30°52'56.52"N & Longitude 75°'59'34.91"E, 75°59'47.78"E, 75°59'51.97"E, 75°59'51.31"E, 75°59'46.61"E, 75°59'39.40"E, and 75°59'34.65"E. Ludhiana is the nearest city (about 14 Km) approx. and Kohara is the nearest village (about 1.8 km, SE). Nearest airport is Ludhiana and Chandigarh which is at 4.8 and 80 km respectively from site. No National Parks/ Wildlife Sanctuaries/ Biosphere Reserves/ Reserved Forests exist within 5 km radius of 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 January, 2020 to March, 2020 and 15 September-15 October, 2021.

8.1 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 and one month additional (January, 2020 to March, 2020 and 15 September-15 October, 2021). The P98 levels for January-March, 2020 of criteria pollutants are as follows: $PM_{2.5}$ is 51.2 μg/m^3, PM_{10} is 92.9 μg/m^3, SO_2 is 12.4 μg/m3, NO2 is 31.8 μg/m3 and CO is 0.58 mg/ m^3. The P98 levels for 15 September-15 October, 2021 of criteria pollutants are as follows: $PM_{2.5}$ is 56.7 μg/m^3, PM_{10} is 90.3 μg/m^3, SO_2 is 13.8 μg/m3, NO2 is 36.5 μg/m3 and CO is 0.58 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.

8.2 Water Quality:

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

8.3 Noise Environment

Ambient noise levels were monitored at 8 locations in the study area. Noise levels on the Project site during January-March,2020 was found to be 72.1 dB (A) during day time and 65.8 dB (A) at night. During Mid September-Mid October,2021 was found to be 71.4 dB (A) during day time and 68.6 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.

8.4 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.

8.5 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.

Within the study area, no plant or animal species were found to be on the endangered list. No ecologically sensitive area like biosphere reserve, tiger reserve, and migratory corridors of wild elephant, wetland, national park and wildlife sanctuary are present in the study area. Agriculture and industrial workers dominate the occupational structure of the study area. Several induction furnaces, rolling mills, ferroalloy plants, brick kilns, and other small units are present in the study area.

8.7 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.

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 from normal operation	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 Impurities in raw materials.	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 CER Activities (Corporate Environmental Responsibility)

In lieu of Corporate Environmental Responsibility, the OM dated 30 th Sept., 2020 issued by MOEF&CC superseding OM dated 1 st May, 2018 shall be followed and commitments made by project proponent to address the concerns raised during public hearing will be part of EMP.

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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.