EXECUTIVE SUMMARY

FOR

EXPANSION OF STEEL MANUFACTURING UNIT

M/s Natural Castings

Village-Mullanpur Kalan, Mandigobindgarh,
District-Fatehgarh Sahib, Punjab.

Prepared by

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1.0 Project Name and location

The proposed project i.e. M/s Natural Casting is a secondary metallurgical process-based industry. The plant is located at Village-Mullanpur Kalan, Mandigobindgarh, District Fatehgarh Sahib, Punjab.

2.0 Products and capacities

The existing capacity of Induction Furnace is 1X7 TPH. The project proponent proposes to increase the capacity of unit by replacing existing Induction Furnaces of 1x7 TPH and introducing one new Induction furnace, thus, after expansion capacity of Induction furnace will be 1x10 TPH and 1x15 TPH, Rolling Mill (1x20TPH), LRF (1x20 TPH), VD, AOD, Concast. Total capacity of the project after expansion will be 1,31,250 TPA of Steel Ingots/Billets, Angels, Channels Round, Square, TMT Bars, flats and Patra.

After expansion the production details will be as under:

Products	**Existing (TPA)**	**Additional (TPA)**	**Total (TPA)**
Steel Ingots/billets, Angles, Channels, Rounds, Square, TMT Bars, Flats, Patra	28,700 (Steel ingots)	1,02,550	1,31,250

3.1 Land Area

The existing land area of the project is 1.25 Acre. About 2 Acre additional land will be required for expansion. The total land area after expansion will be 3.25 acres or 12834.44 sqm.

3.2 Raw Material Requirement

The raw materials and finished goods will be transported through trucks. There is well developed road structure on, Mullanpur road, 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)
MS Scrap, CI, Sponge Iron, Ferro Alloys	31,150	1,11,300	1,42,450
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	2.25 KLD	2.25 KLD	4.5 KLD
Cooling (makeup water)	20 KLD	36 KLD	56 KLD
Total	**22.25 KLD**	**38.25 KLD**	**60.50 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

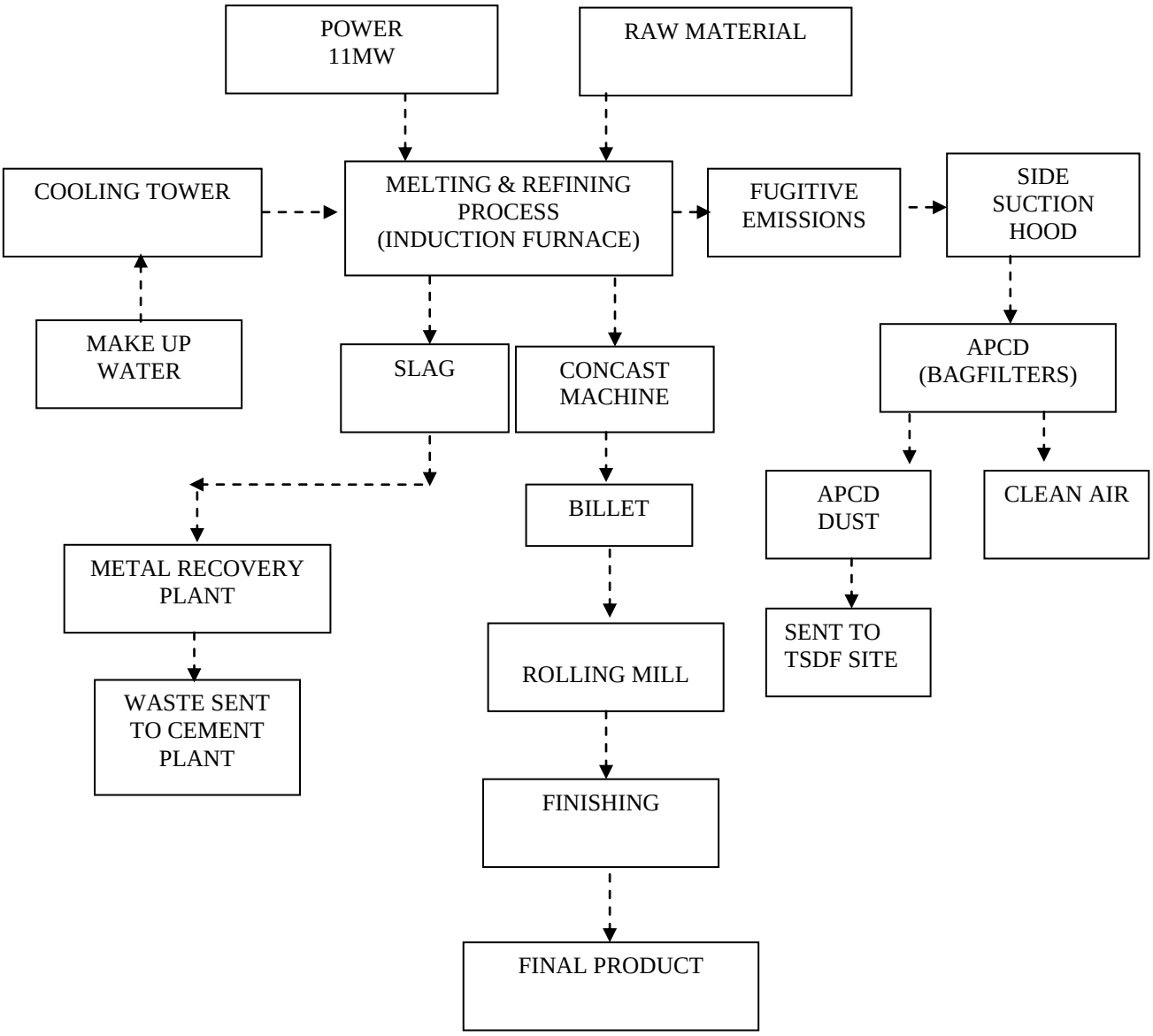
DESCRIPTION	EXISTING (MW)	PROPOSED (MW)	TOTAL (MW)
Power	8	3	11
Source	Punjab State Power Corporation Limited, Punjab		

3.5 Manpower Requirement

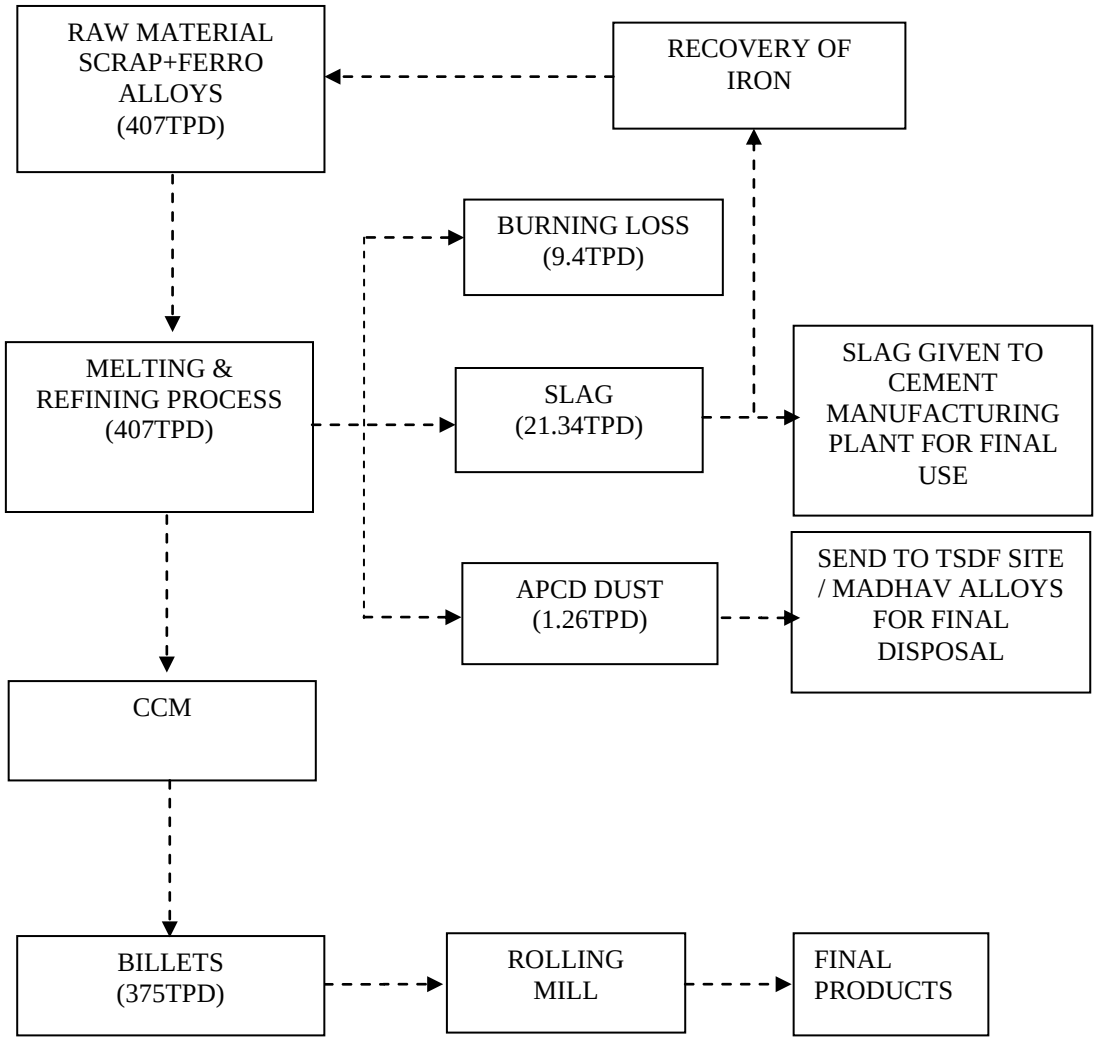
There are about 50 persons working in the unit. The proposed expansion will generate employment for 50 people more. Thus, after expansion about 100 persons will be working in the unit.

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. 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. About 21.34 TPD of slag which is not a H.W will be generated and the same after recovering of iron will be supplied M/s Deep Enterprises under proper agreement. Treated waste water from septic tank will be used for plantation within the industrial premises. The industry is regularly operating and maintaining its APCD and ensuring that the emissions are adequately collected and concentration of air pollutants in its emissions conforms to the emission standards laid down by the board.

6.0 Cost Details

The total cost of the project after expansion will be Rs 15.79 Cr including Rs 12.0 Crore 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 site is located at Village- Mullanpur Kalan, Mandigobindgarh, District Fatehgarh Sahib, Punjab. is having its global coordinates as Latitude 30°37'30.66"N, 30°37'31.23"N, 30°37'28.52"N, 30°37'26.88"N, and 30°37'25.69"N & Longitude 76°19'02.30"E, 76°19'03.89"E, 76°19'09.34"E, 76°19'10.20"E and 76°19'05.15"E. Mandigobindgarh is the nearest city and also the nearest railway station (about 5.0 km). Nearest Airport is Chandigarh which is at 45 km 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 are 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, 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 (October-December,2021). The P98 levels of criteria pollutants are as follows: $PM_{2.5}$ is 46.7 $\mu g/m^3$, PM_{10} is 85.9 $\mu g/m^3$, SO_2 is 16.4 μg/m3, NO_2 is 37.1 μg/m3 and CO is 0.65 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. 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.

8.3 Noise Environment

Ambient noise levels were monitored at 8 locations in the study area. Noise levels at the Project site was found to be 74.6 dB (A) in day time and 56.5 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	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)

The corporate environment responsibility & Enterprise Social Commitment based on issued raised during the public hearing and those prescribed by the competent authority shall be executed as part of EMP, the detail of which shall be provided in final EIA report.

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.