EXECUTIVE SUMMARY

FOR

PROPOSED EXPANSION OF STEEL MANUFACTURING UNIT BY REPLACING THE EXISITNG FURNACE WITH ADDITION OF TWO NO'S INDUCTION FURNACES

IN THE EXISTING STEEL MANUFACTURING UNIT OF

M/S GIAN CASTINGS PVT. LTD.

Village- Nasrali, Opp. 66K.V. Sub-Station, Grain Market, Mandi Gobindgarh, District Fatehgarh Sahib, Punjab.,
Pin-147001

Prepared by

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1.0 Project Name and location

The Proposed Project i.e. M/s Gian Castings Pvt. Ltd. is a Secondary Metallurgical Process based industry. The plant is located at Village- Nasrali, Opp. 66K.V. Sub- Station, Grain Market, Mandi Gobindgarh, District- Fatehgarh Sahib, Punjab.

2.0 Products and capacities

Existing plant is having 1 no. of Induction furnace of 6 TPH capacity It is proposed to increase the capacity of plant by replacing existing furnace with 2 no's of Induction Furnace having capacity 1X10 TPH & 1X15 TPH and a Rolling Mill. After expansion the production details will be as under:

Product Name	Existing (TPA)	Proposed (TPA)	Total (TPA)
Steel Ingot/billets	27,300	77,700	1,05,000
Rounds, Square, TMT/MS Bars, Angles, Channel, Flats etc	Nil	80,000	80,000

3.1 Land Area

The projects have already 3.2 acres land. No additional land is required for expansion

3.2 Raw Material Requirement

Raw Material	Existing (TPA)	Additional (TPA)	Total (TPA)
M.S Scrap	29,880	85,238	1,15,118
Ferro Alloys	250	1,278	1,528
Source & Mode of transport	From Domestic & as well as International Markets through covered trucks		

3.3 Water Requirement

Water consumption for the unit will be making up water for cooling and for domestic purpose. Water requirement will be met through existing tube well. The detail of water requirement is given below:-

DESCRIPTION	EXISTING	PROPOSED	TOTAL
Domestic	3.0 KLD	3.0 KLD	6.0 KLD
Cooling (makeup water)	4.0 KLD	25.0 KLD	29.0 KLD
Total	7.0KLD	29.0 KLD	35.0 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:-

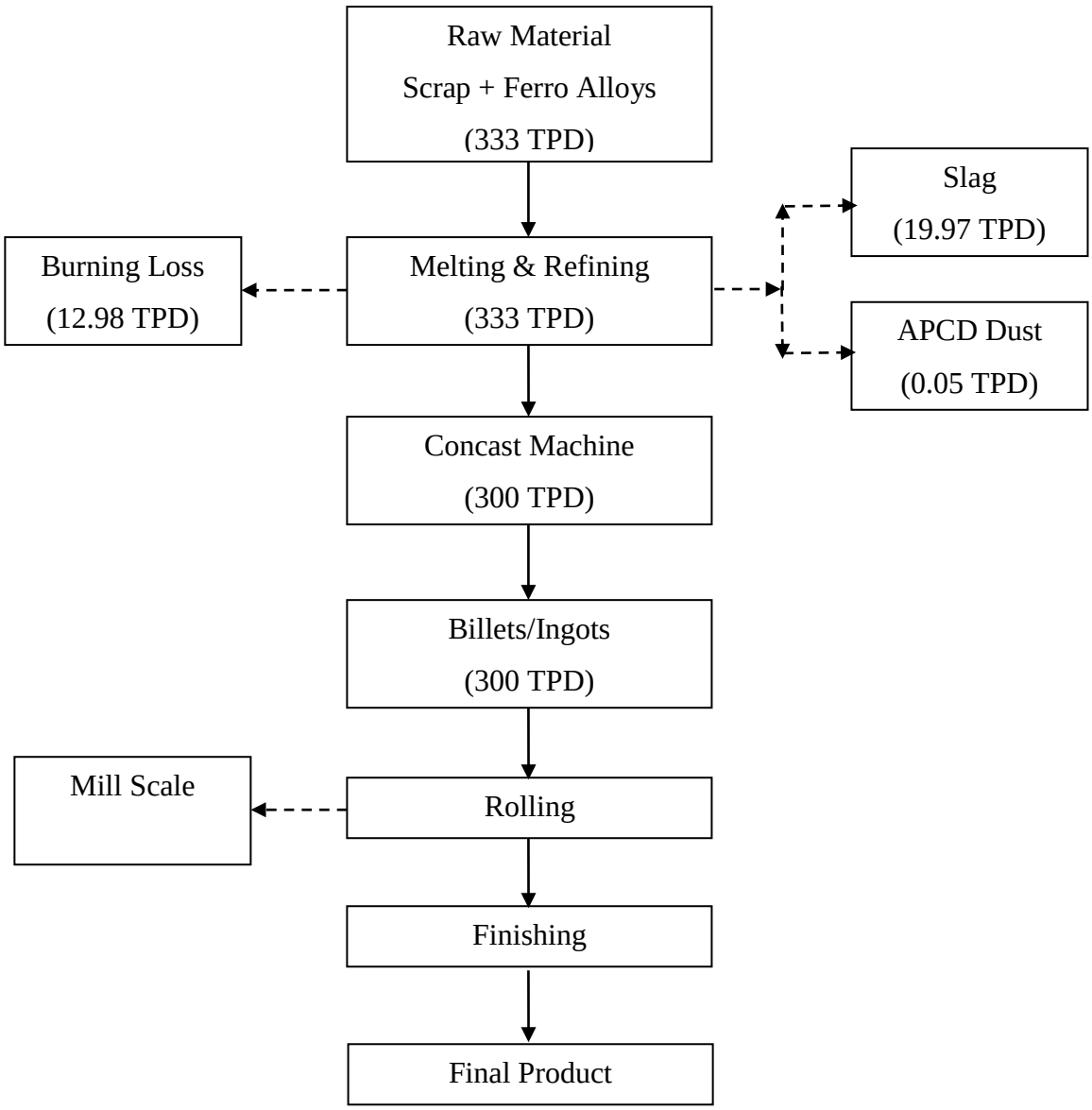
DESCRIPTION	EXISTING	PROPOSED	TOTAL
Power Requirement	3900 KW	6100 KW	10000 KW
Source	Punjab State Power Corporation Limited, Punjab		

3.5 Manpower Requirement

There are about 60 persons working in the unit. After expansion a total of 125 persons will be working in the unit.

4.0 Process Description/Material Balance

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 Flue Gas emission from the stack attached to furnace & DG Set, M/s Gian Castings Pvt. Ltd. has already installed separate bag filter with I.F & canopy with DG set. The quantity of slag after expansion will be 19.97 TPD which will be used to fill low lying area. Solids from APCD are disposed off at designated TSDF site/ M/s Madhav Alloys Pvt. Ltd. Used oil is being re-used as lubricants within the industry. STP will be provided for treatment of domestic effluent. Treated effluent is used for plantation in the 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

Capital cost of the project is Rs. 18.0 crore and total cost for EMP is Rs. 70 Lakhs and recurring cost is Rs. 10.0 Lakhs.

7.0 Site Details

M/s Gian Castings Pvt. Ltd. is situated at Village – Nasrali, Opp. 66 K.V. Sub- Station, Grain Market, Mandi Gobindgarh, District- Fatehgarh Sahib, Punjab having its global coordinates as Latitude 30°40'44.44"N, 30°40'41.42"N, 30°40'40.19"N, 30°40'43.35"N & Longitude 76°17'41.65"E, 76°17'38.17"E, 76°17'31.79"E, 76°17’43.88"E. Mandi Gobindgarh is the nearest city and also the nearest railway station. Nearest airport is in Chandigarh which is at 50 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 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, November & December, 2018.

8.1 Ambient Air Quality

The PM2.5, PM10, SO2, NO2, CO levels were monitored at eight locations in the study area for three months (October to December, 2018). The P98 levels of criteria pollutants are as

follows: PM2.5 is 52.3µg/m3, PM10 is 92.5µg/m3, SO2 is 16.7µg/m3, NO2 is 47.3µg/m3 and CO is 0.64mg/ m3 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/m3 and 4.0mg/m3 for PM2.5, PM10, SO2, NO2 and CO respectively). Proposed expansion will have less impact than existing one.

8.2 Water Quality:

Eight groundwater samples and one surface water sample were collected from the study area for chemical and biological analysis. The groundwater quality of the study is satisfactory. No metallic or bacterial contamination was found in the water quality. But bacterial contamination is found in surface water.

8.3 Noise Environment

Ambient noise levels were monitored at 8 locations in the study area. Noise levels in the study vary from 45.8 dB (A) to 73.3 dB (A) in day time and 33.2 dB (A) to 64.5 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.

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.

8.6 Sensitive Ecosystem:

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 11.1.**

Table 11.1: 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)

The company has earmarked Rs. 10.0 lakhs towards the Corporate Environmental Responsibility for undertaking the environmental activities as defined in CER circular issued by MoEF & CC and the public hearing issues which will be detailed 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.

13.0 Environment Management Cell (EMC)

A duly constituted EMC comprises the following:

1. Project Promoter
2. Process Incharge
3. Environment Consultant