EXECUTIVE SUMMARY

FOR

"PROPOSED EXPANSION OF STEEL MANUFACTURING UNIT BY ADDITION OF TWO INDUCTION FURNACES, UPGRADATION OF ROLLING MILL

IN THE EXISTING STEEL MANUFACTURING UNIT OF

M/S AARTI STEELS LIMITED
(MACHHIWARA PLANT)

VILLAGE- HARIAN, P.O. UPPAL, MACHHIWARA ROAD, TEHSIL- KOOM KALAN, DISTRICT- LUDHIANA, PUNJAB

Prepared by

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1.0 Project Name and location

The proposed project i.e. M/s Aarti Steels Limited. is a Secondary Metallurgical Process based industry. The plant is located at Village- Harian, P.O. Uppal, Machhiwara road, Tehsil- Koom Kalan, District- Ludhiana, Punjab.

2.0 Products and capacities

It is proposed to enhance the capacity of their unit by addition of two Induction furnaces of capacity from 1x8TPH with 2X 25 TPH each, LRF, Concast Machine, VD and Upgradation of existing rolling mill. . The capacity of the Steel Ingots/Billets unit after expansion will be 2, 90,500 TPA and 2,90,500 TPA of Rolled / Flats Products**.**

After expansion the production details will be as under:

Product Name	Existing (TPA)	Additional (TPA)	Total (TPA)
Steel Billets/ Ingots	28,000	2,62,500	2,90,500
Rolled / Flats Products	1,40,000	1,50,500	2,90,500

3.1 Land Area

The industry is having 23.22 acres or 93,970 Sqm. of land. No additional land will be required for expansion.

3.2 Raw Material Requirement

Raw Material	Existing (TPA)	Additional (TPA)	Total (TPA)
MS Scrap, CI, Sponge Iron, Ferro Alloys	30,800	2,88,750	3,19,550
Source & Mode of transport	From domestic & as well as International Markets transported through covered trucks		

3.3 Water Requirement

Water consumption for the unit will be make 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 (KLD)**	**PROPOSED (KLD)**	**TOTAL (KLD)**
Domestic	15	18	33
Cooling (makeup water)	90	527	617
Total	**105**	**545**	**650**

3.4 Power Requirement

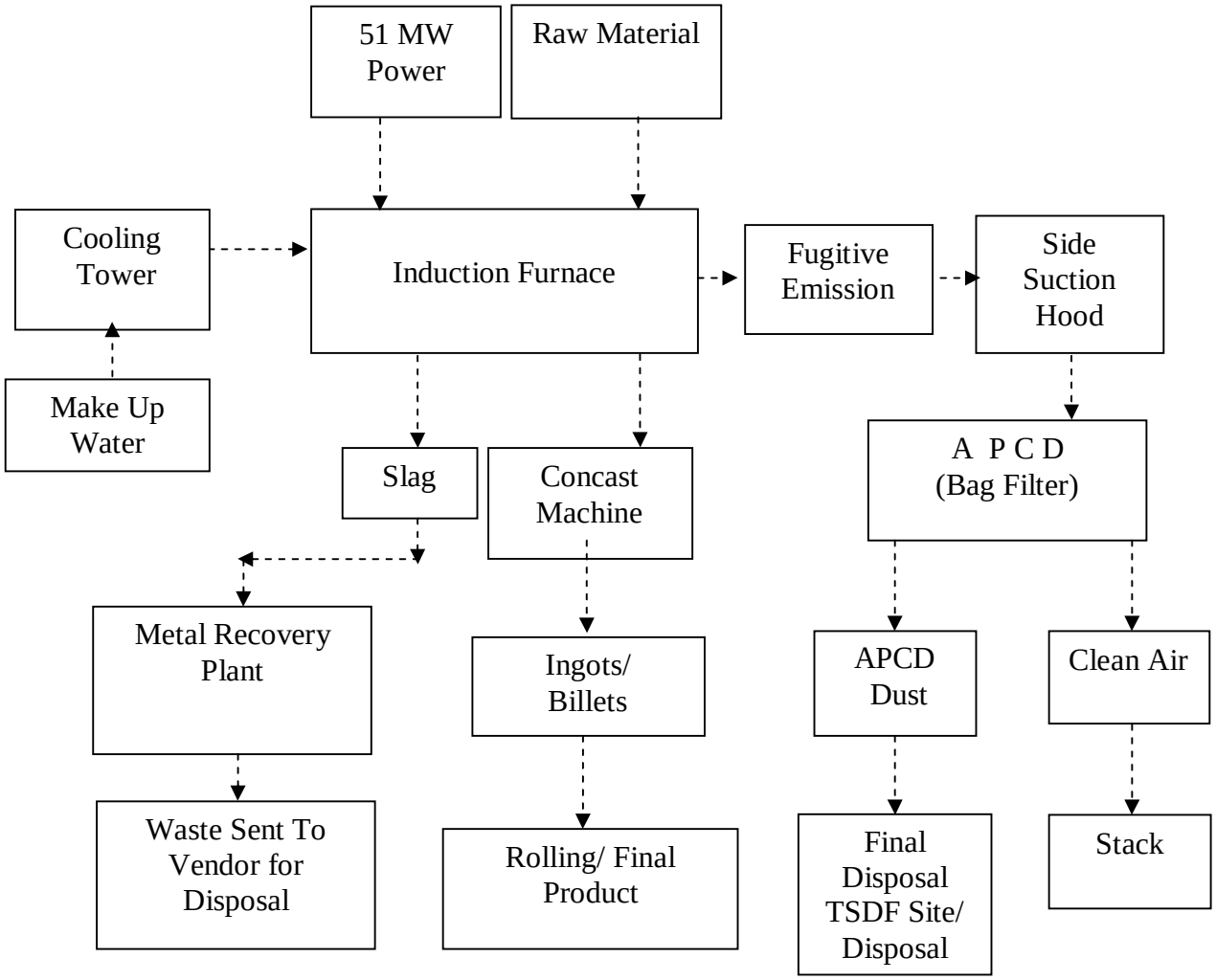
The Power Requirement will be met by sourcing the power from Punjab State Power Corporation limited from nearby Sub-station. The detail of power requirement existing & after expansion is given below:-

DESCRIPTION	**EXISTING**	**PROPOSED**	**TOTAL**
Power Requirement	12MW	39MW	51MW
Source	Punjab State Power Corporation Limited (P.S.P.C.L.)		

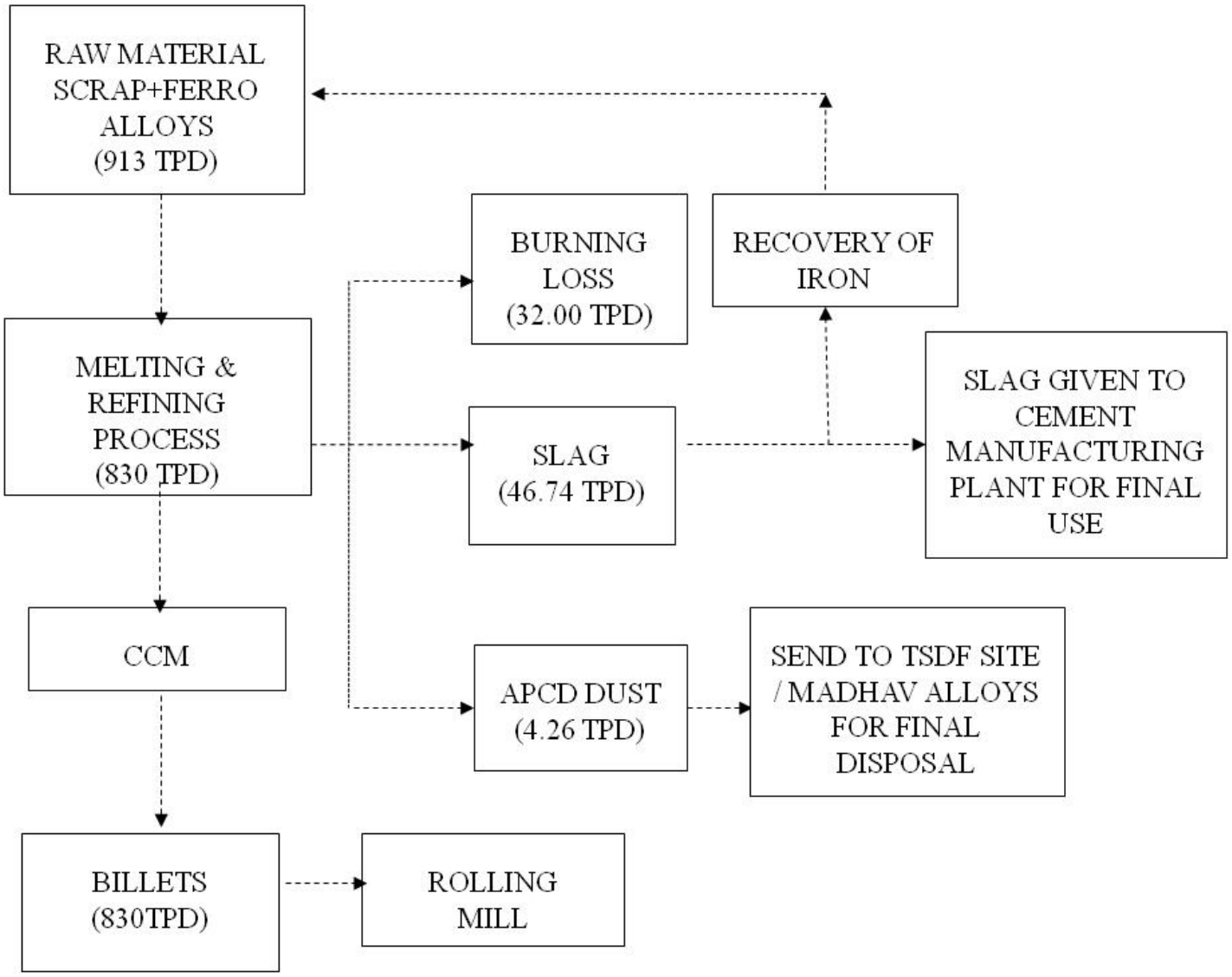
3.5 Manpower Requirement

Direct Employment; for expansion additional 361 persons will be required. Total number of manpower after expansion will be 661 no’s.

4.0 Flow Chart of Manufacturing 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 Flue Gas emission from the stack attached to furnace & DG Set, M/s Aarti Steels Limited (Machhiwara road) has already installed separate water scrubber with I.F & canopy with DG set. About 46.74 TPD of slag which is not a H.W will be generated and the same after recovering of iron will be supplied to manufacturers of cement concrete blocks, pavers & tiles under proper agreement. STP is 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

Existing cost of the project is Rs. 73 Cr. and total cost for the expansion has been estimated Rs. 130.79 Cr. The total cost of the project has been estimated as Rs. 204.04 Cr. The proposed expansion will be done within one year after granting of Environment Clearance.

7.0 Site Details

M/s Aarti Steels Limited (Machhiwara Plant), Village-Harian, P.O. Uppal, Machhiwara road, Tehsil- Koom Kalan, District- Ludhiana, Punjab is having its global coordinates as Latitude 30°54'27.07"N, 30°54'24.15"N, 30°54'19.62"N, 30°54'12.25"N and 30°54'12.39"N & Longitude 76°07'48.90"E, 76°07'56.29"E, 76°08'00.67", 76°08'00.86"E and 76°07'49.99"E. Sahnewal is the nearest city (about 16 Km). Nearest airport is Chandigarh which is at 68 km and Ludhiana is at 17.6 km from site. No National Parks/ Wildlife Sanctuaries/ Biosphere Reserves/ Reserved Forests exist within 5 km radius of project site. There are no water bodies near project site

8.0 Environmental Baseline Study

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 (February-April,2021). The P98 levels of criteria pollutants are as follows: $PM_{2.5}$ is 48.4μg/m^3, PM_{10} is 88.1μg/m^3, SO_2 is 14.7μg/m^3, NO_2 is 38.4μg/m^3 and CO is 0.68mg/ 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 two surface water sample from Satluj river at 9km and Ropar Neelon canal at located 4.2 km from project site were collected from the study area for chemical, metallic and biological analysis. The groundwater qualities of the study area are satisfactory as no metallic or bacterial contamination was found in the water samples. But bacterial contamination was 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 in the study vary from 48.3 dB (A) to 70.2 dB (A) in day time and 37.5 dB (A) to 61.5 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 Ashoka, 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 5 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 5 km distance of the project site. No reserved/protected forests present within the study area. Agriculture and industrial workers dominate the occupation structure of the study area. Several other industries large and 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, Promotion of Educational institutions and Medical facilities to the villagers (especially Senior Citizens and infants or pregnant ladies). Community centers, recreation facilities etc will 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 below:

Table 1.1: 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.	Negligence in material inspection	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 material is present in process equipment it 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 30th Sept., 2020 issued by MOEF&CC superseding OM dated 1st May, 2018 shall be followed and commitments made by project proponent to address the concerns raised during public hearing will be part of EMP.

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 be monitored once every six months or as per EC conditions.

13.0 Environment Monitoring Cell (EMC)

A duly constituted EMC comprises the following:

1. Owner
2. Project Incharge
3. Environment Consultant