EXECUTIVE SUMMARY

FOR

PROPOSED EXPANSION OF STEEL MANUFACTURING UNIT

IN THE EXISTING STEEL MANUFACTURING UNIT OF

M/S FORTUNE METALS LIMITED

TALWARA ROAD, ADJOINING PSEB GRID, MANDI GOBINDGARH, TEHSIL- AMLOH, DISTRICT- FATEHGARH SAHIB, PUNJAB

Prepared by

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EXECUTIVE SUMMARY

1.0 Project Name and location

The proposed project i.e. **M/S Fortune Metals Limited**. is a secondary metallurgical process-based industry. The plant is located at Talwara Road, Adjoining PSEB Grid, Mandi Gobindgarh, Tehsil- Amloh, District-Fatehgarh Sahib, Punjab.

2.0 Products and capacities

The Industry has already got CTO for manufacturing TMT bars/Wire Rods @ 280TPD in 2005 using steel ingots as raw material. The industry obtained Environmental Clearance, from MOEF&CC New Delhi for production of 360TPD of MS Billets by installing 3 nos. of 15TPH capacity Induction Furnaces in the premises of existing rolling mill and concast having production of TMT bars capacity 280TPD, vide letter no.- J-11011-58/2015-IA II (I) dated 10.06.2016. The project proponent obtained Amendment in Environmental Clearance, for installing 01 no. of Induction Furnace of 30TPH instead of 3X15TPH Induction Furnaces without any change in the production capacity, vide letter no.- SEIAA/2018/975 dated 16.07.2018. Now, project proponent intends to increase the production capacity of MS billets from 360 to 1000TPD or 3,60,000TPAand TMT bars/wire rods from 360TPD to 974 TPD by addition of one Induction Furnace of 30TPH with the existing 30TPH Induction Furnace and one more rolling mill with the existing rolling mill of same capacity.

After expansion the production details will be as under

Products	Existing (TPA)	Proposed (TPA)	Total (TPA)
MS Billets (TPA)	1,18,000	2,42,000	3,60,000
TMT Rebars/Wire Rods (TPA)	1,16,000	2,35,000	3,51,000

3.1 Land Area

The existing plot area is 4.65 acres. Additional land of 4.93 acres has been acquired for proposed expansion. The total plot area after expansion will be 9.58 acres. The green belt requirement is 8193.98 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 Ambey Majra Road, Mandi Gobindgarh as well as within premises also. No additional road infrastructure will be required for transportation. The number of trucks per day for raw material and finished product transportation will be approx. 24 trucks. The raw material source will be standard manufacturer or supplier. The raw material details are given as under:

Raw Material	**Existing (TPA)**	**Proposed (TPA)**	**Total (TPA)**
Billets, MS Scrap & Ferro Alloys	1,29,800	2,66,450	3,96,250
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 for Summer

Water Supply Source	**Existing Tube well**		
Quantity of Water Required	**Existing**	**Proposed**	**Total**
Domestic	19.5 KLD	16.5 KLD	36.0 KLD
Cooling (makeup water)	95.0 KLD	74.0 KLD	169.0 KLD
Total (KLD)	**114.5 KLD**	**90.5 KLD**	**205.0 KLD**

Water Requirement for Winter & Rainy

Water Supply Source	**Existing Tube well**		
Quantity of Water Required	**Existing**	**Proposed**	**Total**
Domestic	19.5 KLD	16.5 KLD	36.0 KLD
Cooling (makeup water)	95.0 KLD	9.0 KLD	104.0 KLD
Total (KLD)	**114.5 KLD**	**25.5 KLD**	**140.0 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:-

Power Requirement

Description	Existing Requirement	Additional	After Expansion
Power Requirement (MW)	18 MW	18 MW	36 MW
Source	Punjab State Power Corporation Limited, Punjab		

DG Set –The industry has two DG set of capacity 2x500 KVA. Further, for expansion there is a proposal to install one more DG set of capacity 2x500 KVA. DG set will be only be operated during power cut/failure. To control the emissions from DG sets, canopy of adequate height will be provided. The details of DG Sets are as follow: -

Description	Existing Requirement	Additional	After Expansion
DG Sets	2 nos. x 500 KVA each	2 nos. x 500 KVA each	4 Nos. x 500 KVA each
APCD	Canopy of adequate height is/will be provided		

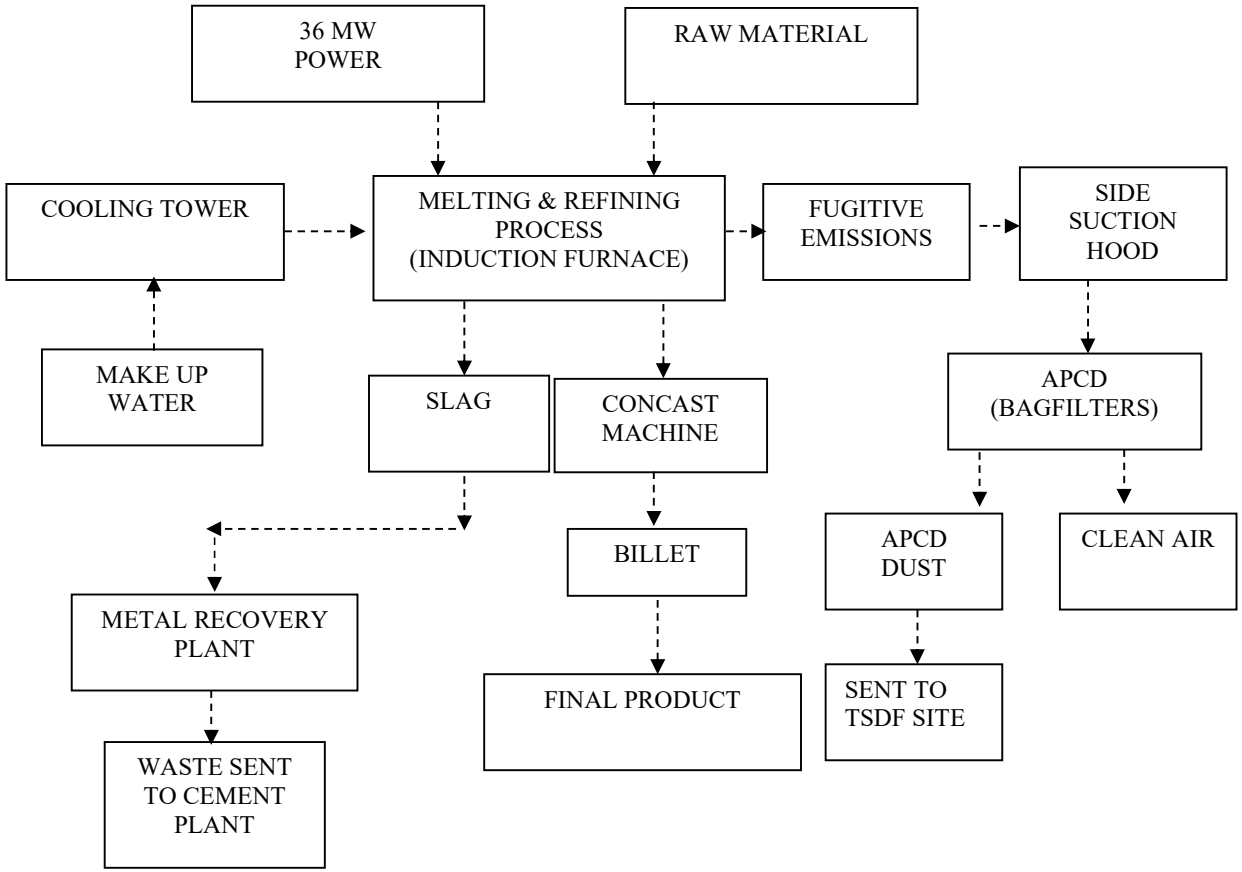
3.5 Manpower Requirement

There are about 430 persons working in the unit. The proposed expansion will generate employment for 370 people more. Thus, after expansion about 800 persons will be working in the unit.

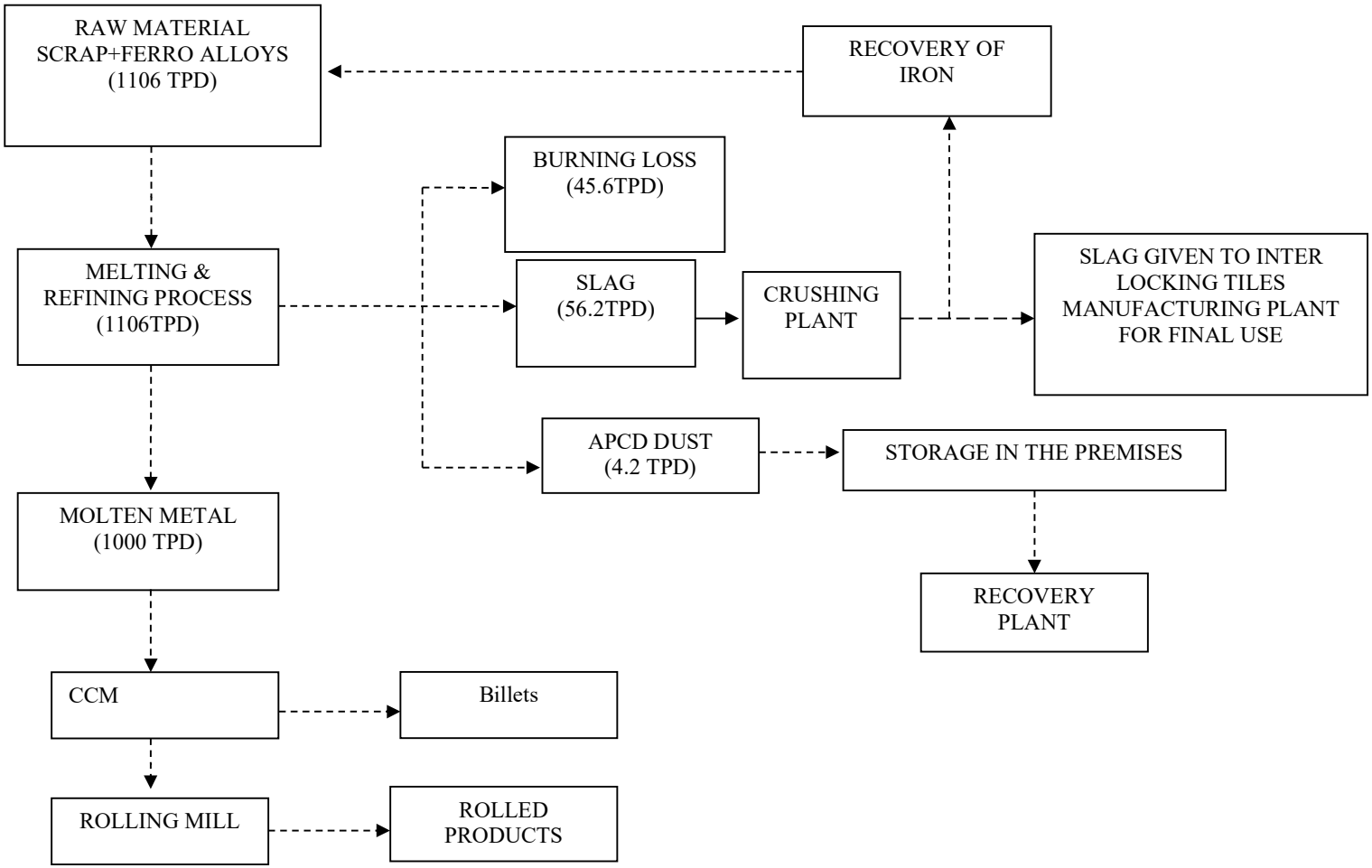
S.No.	PARTICULARS	EXISTING	PROPOSED	TOTAL
1.	Manpower (Nos.)	430	370	800

4.0 Process Description

PROCESS FLOW CHART



MATERIAL BALANCE



5.0 Description of Mitigation Measures

The purpose of mitigation measures is to avoid, reduce or minimize unwanted impacts on the environment and to maximize beneficial impacts. 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 56.2 TPD of slag which is not a H.W will be generated and the same after recovering of iron will be supplied to M/s Shiva Tile Works for final disposal. Treated waste water from STP will be used for plantation within the industrial premises. About 4.2 TPD APCD dust which is covered under hazardous waste will be sent to M/s Jogindra Castings Pvt Ltd for final disposal.

6.0 Cost Details

The total cost of the project after expansion will be Rs 156.47Crores including Rs 70.0 Crores as cost of expansion.

Particulars	Existing	Proposed	Total
Project Cost (Cr)	Rs 86.47	Rs 70.0	Rs 156.47

7.0 Site Details

M/S Fortune Metals Limited is situated at Talwara Road, Adjoining PSEB Grid, Mandi Gobindgarh, Tehsil- Amloh, District Fatehgarh Sahib, Punjab is having its global coordinates as Latitude 30°39'5.90"N, 30°39'6.19"N, 30°39'0.03"N, 30°38'58.92"N, 30°38'59.53"N, 30°39'3.53"N and Longitude 76°19'28.33"E, 76°19'35.32"E, 76°19'35.89"E, 76°19'26.37"E, 76°19'26.05"E, 30°39'3.53"N. Mandi Gobindgarh is the nearest city and also the nearest railway station (about 3 km). Nearest Airport is Chandigarh which is at 43 km from site. No National Parks/ Wildlife Sanctuaries/ Biosphere Reserves/ Reserved Forests exist within 10 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, 2022 and May, 2023.

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, 2022)& May 2023. The P98 levels of criteria pollutants are as follows: $PM_{2.5}$ is 47.1 µg/m^3, PM_{10} is 85.8 µg/m^3, SO_2 is 8.1 µg/m3, NO_2 is 17.2 µg/m^3 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.

For the period of May, 2023.

The $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO levels were monitored at eight locations in the study area for four months (October-December,2022)& May 2023. The P98 levels of criteria pollutants are as follows: **$PM_{2.5}$** is 49.4µg/m^3, **PM_{10}** is 88.9µg/m^3, **SO_2** is 9.9µg/m^3, **NO2**is 16.1µg/m^3 and CO is 0.78 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 project 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 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. Since, no waste water will be discharged on land; water quality is not likely to be impacted.

8.3 Noise Environment

For the period of October-December, 2022:

Ambient noise levels were monitored at 8 locations in the study area. Noise levels at the Project site was found to be 72.3 dB (A) in day time and 53.8 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.

For the period of May, 2023:

Ambient noise levels were monitored at 8 locations in the study area. Noise levels at the Project site was found to be 73.2 dB (A) in day time and 64.2dB (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.

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, 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 as listed in the respective schedule-I of Wild Life Act 1972.

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.

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 for worst-case scenario has been done under the Factory Act.

11.0 EMP Budget

S. No	Title	Capital Cost Rs. Lakh	Recurring Cost Rs. Lakh/Cost annum
1.	Pollution Control during construction stage	5.0	2.0
2.	Air Pollution Control (Installation of APCD)	200.0	10.0
3.	Water pollution Control (installation of STP @ 35 KLD)	40.0	10.0
4.	Green Belt development	12.30	12.30
5.	Noise Pollution Control	5.0	1.0

6.	Solid/ Hazardous Waste Management	5.0	2.0
7.	Occupational Health, Safety and Risk Management	10.0	5.0
8.	Energy Conservation	3.0	1.0
9.	RWH	10.0	2.0
	TOTAL	**290.3 Lakh**	**45.3 Lakhs**

12.0 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.

13.0 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.