EXECUTIVE SUMMARY

FOR

PROPOSED EXPANSION OF STEEL MANUFACTURING UNIT BY REPLACING EXISTING INDUCTION FURNACE

IN THE EXISTING STEEL MANUFACTURING UNIT OF

M/S PUNJAB STEEL FORGING & AGRO INDUSTRIES

G.T. ROAD, KHANNA SIDE, MANDI GOBINDGARH, DISTRICT-FATEHGARH SAHIB, PUNJAB.

Prepared by

Chandigarh Pollution Testing Laboratory- EIA Division

(QCI/ NABET Certificate No: NABET/EIA/1619/SA 057)

Address: E- 126, Phase- VII, Industrial Area, Mohali, Punjab- 160055.

Contacts: 0172-4669295, 5090312

E-mail: eia@cptl.co.in / cptleia@gmail.com

Website: www.cptl.co.in

EXECUTIVE SUMMARY

1.0 Project Name and location

The Proposed Project i.e. M/s Punjab Steel Forging & Agro Industries is a Non- Toxic Secondary Metallurgical Process based industry. The plant is located at G.T. Road, Khanna Side, Mandi Gobindgarh, District- Fatehgarh Sahib, Punjab.

2.0 Products and capacities

M/s Punjab Steel Forging & Agro Industries is an existing industrial plant which plans to expand the production capacity up-to **1, 89,000 MT/Annum (540 MT/day)** of molten metal's and **1, 75,000 MTA (500 MT/day)** of rolled sections after expansion. After expansion the production details will be as under:

PRODUCTS			
Product Name	**Existing (TPA)**	**Additional (TPA)**	**Total (TPA)**
Steel Ingots/ Billets	50,400	1,38,600	1,89,000
Round, Square, TMT/MS bars, Angle, Channel, Flats etc	40,800	1,34,200	1,75,000

3.1 Land Area

The industry is having 7.75 acres of land. No additional land will be required for expansion.

3.2 Raw Material Requirement

RAW MATERIAL			
Capacity	**Existing**	**Additional**	**Total**
MS Scrap (TPA)	55,234	1,50,770	2,06,004
Ferro Alloys (TPA)	210	3076	3,286
Source & Transportation	Local & international markets and 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 Supply Source	**Existing Tube well**		
Quantity of Water Required	Domestic	Cooling	Total
Existing (KLD)	6.0	15.0	21.0
Proposed (KLD)	5.0	45.0	50.0
Total (KLD)	11.0	60.0	71.0

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:-

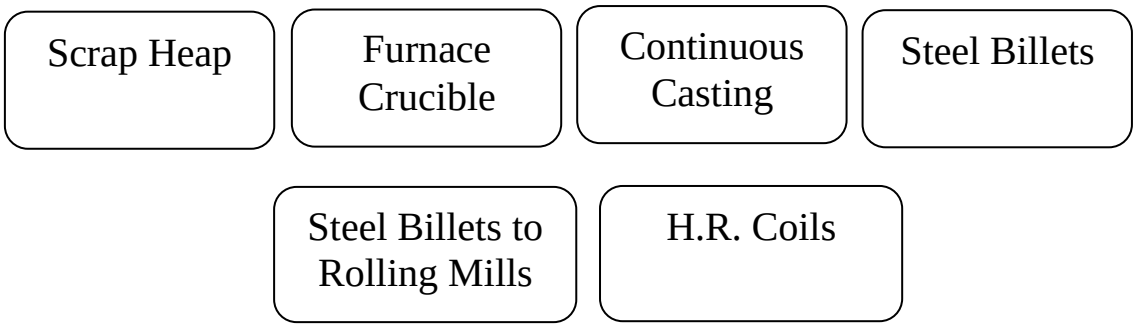
Source of Electricity	**Punjab State Power Corporation Limited (P.S.P.C.L.)**		
Total Load (KW)	Existing	Additional	Total
	8901	6099	15000

3.5 Manpower Requirement

For expansion, additional 100 persons will be required. Total manpower after expansion will be 229.

4.0 Process Description

PROCESS FLOW CHART



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 Punjab Steel Forging & Agro Industries has already installed separate water scrubber with I.F. The existing quantity of slag is 7.0 TPD and is being used for filling of low lying area. Total quantity of slag after expansion will be 30 TPD and will be used in filling of Low lying area and in Road Making after recovery of metal. Hazardous waste generated (0.020 kl/annum) from DG sets in the form of used oil is being re-used as lubricants within the industry and flue gas cleaning residue (3 ton/annum) recovered by bag filter is also covered under hazardous waste & sent to TSDF site for final disposal.

6.0 Cost Details

The total project cost of the unit after expansion will be Rs 22.44 Crores. EMP cost id Rs. 80.0 Lakhs.

7.0 Site Details

M/s Punjab Steel Forging & Agro Industries located at G.T. Road, Khanna Side, Mandi Gobindgarh, District- Fatehgarh Sahib, Punjab having its global coordinates as Latitude 30°40'29.48"N & Longitude 76°16'19.14"E. Mandi Gobindgarh is the nearest city and also the nearest railway station. Nearest airport is Chandigarh which is at 49 km from site. No National Parks/ Wildlife Sanctuaries/ Biosphere Reserves/ Reserved Forests exist within 10 km radius of project site. The nearest water bodies are Bhakhra Canal which is about 7.2 km.

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 $PM_{2.5}$, PM_{10}, SO_2, NO_2, CO, O_3, Pb, NH_3, C_6H_6, BaP, As and Ni levels were monitored at eight locations in the study area for three months (October-December, 2018). The P98 levels of criteria pollutants are as follows: $PM_{2.5}$ is 52.3µg/m^3, PM_{10} is 92.5µg/m^3, SO_2 is 16.7µg/m^3, NO2 is 47.3µg/m^3 and CO is 0.64 mg/ m^3. The baseline air quality level is within the National Ambient Air Quality Standards prescribed for Industrial, Residential & Rural Areas

(Standards are 60, 100, 80 and 80µg/m^3 for $PM_{2.5}$, PM_{10}, SO_2 and NO_2 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 chemical and biological analysis. The groundwater quality of the study is satisfactory. No metallic 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 in the study vary from 44.4 dB (A) to 70.2 dB (A) in day time and 34.2 dB (A) to 66.1 dB (A) during night. The highest levels were observed at Project Site. Proposed expansion will have negligible 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 due to proposed plant as no waste water 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.

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 occupation 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/	Explosion under extreme cases.
		Presence of Oil & Grease and other Impurities in raw	Fire	Sudden catches fire & flames
2	High Power Transformer	Oil temperature being very high.	Varying room Temperatur	Sudden flashing of fire or
3	High Tension Electrical	Heavy sparking at the pot heads and the joints.	Loose joints, cable cut, burning of fuses, short circuits	Sparks in the beginning, devastating fire if

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. 14.0 lakhs towards the Corporate Environment Responsibility for undertaking the environmental activities as defined in CER circular issued by MoEF & CC and the public hearing issues 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