Existing Steel Manufacturing Unit
Client: M/s Garg Furnace Ltd.
Location: VPO Jugiana, Kanganwal Road, G.T. Road, Ludhiana, Punjab

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EXECUTIVE SUMMARY

1.0   PROJECT DESCRIPTION

M/s Garg Furnace Ltd. is an existing Steel Manufacturing Unit located at VPO Jugiana, Kanganwal Road, G.T. Road, Ludhiana, Punjab. The total area of the project is 7.368 acres.

Presently, the unit is involved in production of Ingots @ 60 TPD and Rolled products (Wire Rod/Flat/Square/Round) @ 115 TPD with one Induction Furnace of capacity 6 TPH and 2 No. Rolling Mills. The industrial unit is located in the Industrial Zone as per the Master Plan of Ludhiana.

Now, the industry wants to increase their production capacity by replacing the existing Induction Furnace of capacity 6 TPH with new Induction Furnace of capacity 15 TPH along with installation of one more Induction Furnace of capacity 15 TPH. However, existing Rolling Mills will remain same.

Thus, after expansion, the total production capacity of the unit will be 1,26,000 TPA of Steel Ingots/Billets, Angles, Channels, Rounds, Hexa, Square, TMT Bars, Flats, Patra, Wire Rod with two Induction Furnaces of capacity 15 TPH each based on electricity as a fuel along with 2 Rolling Mills.

As per EIA Notification, 2006 and its amendments, it is a Secondary Metallurgical processing industry falling under Schedule 3(a); Category B1 project, but treated as **Category 'A'** because attracts general conditions. As, project is located in boundary of Critically Polluted Area, Ludhiana (Cluster IV) notified by the Central Pollution Control Board. Thus, the said project will be granted Environmental Clearance by Central Government (EAC), MoEF&CC, New Delhi.

The salient features of the project will be as under:

- **Existing production capacity:** Ingots @ 60 TPD and overall rolled products (Wire Rod/Flat/Square/Round) @ 115 TPD with one Induction Furnace of capacity 6 TPH and 2 No. Rolling Mills.

- **Total production capacity after expansion**: 1,26,000 TPA of Steel Ingots/billets, Angles, Channels, Rounds, Hexa, Square, TMT Bars, Flats, Patra, wire rod with two Induction Furnaces of capacity 15 TPH each based on electricity as a fuel along with 2 Rolling Mills.

- **Total Area after expansion:** 29,820 sq.m (7.368 acres).

- **Project cost after expansion:** Existing cost of project is Rs. 14.80 Crores and proposed cost of expansion is estimated to be Rs. 20 Crores. Thus, total cost of the project after expansion becomes Rs. 34.80 Crores.

- **Interlinked projects:** None

- **Envisaged Changes:** Replacement of existing Induction Furnaces.

2.0 LOCATION & CONNECTIVITY

Project is located at VPO Jugiana, Kanganwal Road, G.T. Road, Ludhiana, Punjab. The existing unit lies on internal road which in-turn is connected to NH-44 is approx. at a distance of 0.45 km from the project location. Industrial unit falls within Industrial zone as per Master plan of Ludhiana. Project boundary coordinates of all corners are given below:

Corner	Latitude	Longitude
A	30°53'14.21"N	75°53'50.77"E
B	30°53'14.21"N	75°54'1.98"E
C	30°53'5.54"N	75°53'55.97"E
D	30°53'9.89"N	75°53'50.83"E

The project location and its study area of 10 km falls in the Survey of India, Toposheet No. **H43K1** & **H43J13.**

3.0 BRIEF FEATURES OF PROJECT

Table 1: Size/magnitude of project

S. No.	Parameters	Description
1.	**Identification of the project**	Expansion of the existing steel manufacturing unit namely "M/s Garg Furnace Ltd." for increasing production capacity to 1,26,000 TPA which falls under Schedule 3(a) as per EIA Notification dated 14th September, 2006 and its subsequent amendments.
2.	**Project Proponent**	**Mr. Devinder Garg** (Director) E-mail: gargfurnace@yahoo.com
3.	**Brief description of nature of the project**	Existing production capacity of the unit is Ingots @ 60 TPD and Rolled products (Wire Rod/Flat/Square/Round) @ 115 TPD with one Induction Furnace of capacity 6 TPH and 2 No. Rolling Mills After expansion, the production capacity of the industrial unit will become 1,26,000 TPA

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		of Steel Ingots/Billets/ billets, Angles, Channels, Rounds, Hexa, Square, TMT Bars, Flats, Patra, wire rod with two Induction Furnaces of capacity 15 TPH each along with 2 Rolling Mills.
4.	**Salient Features of the Project Proposed**	
4.1	**Overall plant capacity**	1,26,000 TPA
4.2	**Area Details**	29,820 sq.m (7.368 acre)
4.3	**Location**	VPO Jugiana, Kanganwal Road, G.T. Road, Ludhiana, Punjab.
4.4	**Water requirement**	Total water requirement for the project on full production capacity is estimated to be 253 KLD which will be met from ground water for which permission will be obtained from PWRDA.
4.5	**Wastewater**	After expansion, the quantity of domestic effluent is estimated to be 6.5 KLD which will be treated in proposed STP of capacity 10 KLD and it will be reused onto green area for horticulture purpose. No industrial effluent is being generated from the unit.
4.6	**Man Power**	For expansion additional 50 persons will be required. Thus, total workers after expansion will be 150 (including both technical & non-technical).
4.7	**Power requirement**	Existing: 9,498.40 KW Proposed: 3,000 KW Total after expansion: 12,498.40 KW DG sets of capacity 250 KVA has been provided for power backup. DG sets will remain same for power backup after expansion. **Source:** Punjab State Power Corporation Limited (PSPCL).
4.8	**Alternative site**	No alternative site is being considered as the expansion is proposed within the existing land only.
4.9	**Land form, Land use**	Total land area of the unit is 29,820 sq.m (7.368 acres).

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	and Land ownership	Land documents (registry) submitted with the report.

4.0   METEOROLOGY

Meteorological data was obtained for a yearlong data from March to May, 2024 to cover the seasonality (seasonal pattern) and its impact on environment. The wind rose diagram shows the predominant winds are mainly flowing from North West. Calm conditions are observed for 2.3 % of the total time.

5.0   AIR QUALITY

The baseline data of ambient air quality monitoring considered for March to May, 2024 at study area of 10 km of project location. $PM_{2.5}$, PM_{10}, SO_2 and NO_2 levels (Criteria Pollutants) as well as NH_3 and O_3 were monitored at 8 locations including project. Monitoring stations were keeping in view of the dominant wind direction.

PM_{10} concentration observed in the study area ranges between 77 µg/m^3 to 191 µg/m^3. Average value at the project location is 133 µg/m^3. Whereas, $PM_{2.5}$ concentration ranges between 43 µg/m^3 to 115 µg/m^3 in the study area and average value at project location is 79 µg/m^3. This indicates air quality levels in study area as well as project location against 24 hours' average is more than the permissible limits of PM_{10} and $PM_{2.5}$ which is due to presence of industries and National Highway in vicinity, and biomass burning activities as predominant in the region.

However, mass levels of Gaseous pollutants (SO_2, NO_2, CO, Ozone & NH_3) were found to be much below the prescribed limits of CPCB (24 hours' average NAAQ standards) at study area as well as project location. This indicates air quality in the study area is good, safe and comfortable to human health and environment.

Mass levels of particulate elements as Lead (Pb), Arsenic (As) and Nickel (Ni) and hydrocarbons as Benzene, Benzo(a)pyrene (BaP) were also reported as below detection levels which indicates safe environment with no health hazards.

6.0   NOISE QUALITY

Noise levels varies from 47.6 dB(A) to 67.3 dB(A) during day time and 38.1 dB(A) to 58 dB(A) during night time. The obtained noise level is well within prescribed limits for industrial area whereas marginally higher to prescribed limits for residential areas indicating annoying environment for population and sensitive receptors. Noisy environmental

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conditions are mainly associated to industrial activities in vicinity through industrial hubs, heavy traffic movement on road network and other agro and domestic activities in the region.

7.0 WATER QUALITY

The ground water test results indicate that water is good in quality and safe for drinking purpose and fit for cooling water requirement. In the study area, samples have been collected from different sites at isolated places, the level of concentration and different elements vary quite considerably which may be due to small aquifers. However, the levels of the various components are within acceptable/ permissible norms for drinking water.

Surface water quality results show that the analyzed area falls in class 'B' and can be used for Outdoor bathing (Organized).

As no effluent is being generated from the industry and even after expansion, no industrial effluent will be generated from the unit. Hence, surface water quality will not be affected due to the proposed expansion of the industry.

8.0 SOIL QUALITY

The observations show that in the study area soil are generally basic to alkaline in nature and sandy loam texture whereas at the project location sandy loam texture with medium class of fertility.

9.0 ECOLOGY

No plant or animal species were found as per the endangered list within 10 km radius of the project location. No ecologically sensitive area like biosphere reserve, tiger reserve, elephant reserve, migratory corridors of wild elephant, wetland, national park and wildlife sanctuary are present within 10 km distance of the project location.

10.0 ANTICIPATED ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

10.1 AIR QUALITY

The major pollutants from the project will be particulate matter (PM) emissions and will be controlled using Side Suction Hood followed by Pulse Jet Bag Filter as per the design approved by Punjab State Council for Science & Technology, Chandigarh. The efficient Air Pollution Control Devices will enhance environment cleanness. Therefore, impact on the surrounding environment will be minimal.

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10.2   NOISE QUALITY

The raw material handling yard, Induction Furnaces, etc. are the major sources of noise during operation phase of the project. All the workers engaged at and around high noise generating sources are being provided with ear protection devices like ear mufflers/ plugs. They will be regularly subjected to medical check-up for detecting any adverse impact on the ears. The green belt will also help to prevent noise generated within the plant from spreading beyond the plant boundary.

10.3   WATER QUALITY

Domestic wastewater will be treated in the proposed STP of capacity 10 KLD to be installed within project premises. No wastewater will be discharged outside the plant premises (under normal operating conditions).

Storm water drains are kept separate from wastewater drains. No Industrial effluent is being generated from the industrial unit. Similarly, after expansion, no industrial effluent will be generated. Hence, surface water quality will not be affected due to proposed expansion.

10.4   SOLID WASTE

10.4.1 DOMESTIC WASTE

After expansion, approx. 30 kg/day of domestic solid waste will be generated, which will be properly collected and segregated into biodegradable and non-biodegradable waste. Solid waste is being disposed off as per Solid Waste Management Rules, 2016.

10.4.2 INDUSTRIAL WASTE

After expansion, the quantity of slag is estimated to be 19.8 TPD, out of which 20% will be reused for metal recovery within the project premises & remaining 80% will be given to Concrete Blocks/ RCC tiles etc. manufacturing units for co-processing.

10.4.3 HAZARDOUS WASTE

After expansion, hazardous waste produced from the industrial unit is estimated to be 0.01 KL/annum of Used oil under Category 5.1 and 2 TPD of APCD dust under Category 35.1 of Schedule I. Authorization of hazardous waste obtained from PPCB. Agreement has been done with authorized vendor.

11.0   GREENERY DEVELOPMENT

Since, the project is an existing industrial unit 11,929.429 sq.m of green area has been

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proposed within the unit which comes out to be 40% as per the green area requirement of CPA. Locally available types of trees which are resistant to pollutants will be planted. Tree plantation around the plant helps to arrest the effects of particulate matter and gaseous pollutants in the area besides playing a major role in environmental conservation efforts. The green belt would be:

- Mitigate gaseous emissions;
- Have sufficient capability to arrest accidental release;
- Effective in wastewater reuse;
- Maintain the ecological balance;
- Control noise pollution to a considerable extent;
- Prevent soil erosion;
- Improve the Aesthetics;

All the species suggested are pollution tolerant, besides having an aesthetic appeal.

12.0   ENVIRONMENTAL MONITORING PLAN

The environment monitoring plan enables environmental management system with early sign of need for additional action and modification of ongoing actions for environment management, improvement and conservation. The environmental monitoring points will be decided considering the environmental impacts likely to occur due to the operation of proposed expansion as the main scope of monitoring program is to track, timely and regularly, the change in environmental conditions and to take timely action for protection of environment. Monitoring of environmental samples will be done as per the guidelines provided by MoEF&CC/CPCB. Along with other budgets, Budget for environmental monitoring will be prepared and revised regularly as per requirement. The estimated yearly budget for Environmental Monitoring has been kept as Rs. 5 lakhs which include monitoring of efficiency of pollution control equipment.

13.0   RISK MITIGATION MEASURES

Even with all precautions, disasters may take place. As such, an Emergency Plan will be formulated to take care of any disaster in the plant and surrounding areas. In order to prevent occurrence of any disaster, the plant will be provided with various safety and disaster control facilities. In addition to these, numerous material handling systems, heavy road transport, high-tension electric lines, overhead cranes and various other handling and transport systems

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always have chances of accidents.

14.0 PROJECT BENEFITS

The project will overcome the demand and supply gap of steel product in the country. The expansion of the project will also generate additional revenue for the State Government. The steel availability will boost the infrastructure sector and overall economic scenario of the country. The project expansion will create additional direct/indirect employment for people. Local people will be preferred for employment during operation stage, after expansion.

15.0 CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

Mr. Devinder Garg (Director) will be responsible for implementation of the CER activities. The issues raised during public hearing will be undertaken as CER activities and details of the same shall be incorporated in final EIA report.

16.0 ENVIRONMENTAL MANAGEMENT PLAN

Environment Management Department will implement the EMP of the project. All recommendations given in the EIA report including that of occupational health, risk mitigation and safety will be complied. Capital cost for the pollution control equipment for project is estimated to be Rs. 172 lakhs and recurring cost per year will be Rs. 23 lakhs. EMD will ensure that all air pollution control devices and water re-circulating systems function effectively. Schemes for resource conservation (raw materials, water etc.) and rainwater harvesting will be taken up by EMD. Greenbelt and greenery development inside and outside the plant premises will be intensified by the EMD. Guidelines issued by the Central Pollution Control Board (CPCB) on greenbelt development will be followed. Environmental awareness programs for the employees will be conducted. EMD will also ensure cleanliness inside the plant.

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