Executive Summary

For

Existing Steel Manufacturing Unit

Located at

Village Ambey Majra, Near 220 K.V. Power House, Mandi Gobindgarh, District Fatehgarh Sahib, Punjab

by

"M/s Jagat Metals Pvt. Ltd."

Project schedule 3(a): Metallurgical Industries (ferrous & non-ferrous)

Category: B1

Production Capacity

Existing: Steel Ingots @ 170 TPD or Rolled Products (Heavy/ Round/ Flats/ Structural etc.) @ 161 TPD

After Expansion: @ 532 TPD (1,86,200 TPA) of Steel Ingots/ Billets or Rolled Products (Heavy/ Round/ Flats/ Structural etc.)

(ToR Identification No. – TO24B1010PB5533042A dated 3rd July, 2024)

(Baseline Monitoring Period – October to December, 2021)

(Addition One Month Monitoring at Project Location – November, 2023)

Submitted by

M/s. Eco Paryavaran Laboratories & Consultants Pvt. Ltd.

Eco Bhawan, E-207, 204 & 205, Industrial Area, Phase VIII-B (Sector-74)

Mohali (Punjab) - 160071.

www.ecoparyavaran.org

(QCI NABET Accreditation No. - **NABET/EIA/23-26/RA 0324** dated **17.04.2024**)

(In-house Lab, NABL Accreditation No. – **TC-7477** dated **28.04.2022)**

UID No. EL/2022/08/09/D/Rev. 01 **September, 2024**

EXECUTIVE SUMMARY

1.0 PROJECT DESCRIPTION

M/s Jagat Metals Pvt. Ltd. is an existing Steel Manufacturing Unit located at Village Ambey Majra, Near 220 K.V. Power House, Mandi Gobindgarh, District Fatehgarh Sahib, Punjab. The project has already obtained Environmental Clearance from SEIAA, Punjab vide Letter No. SEIAA/2019/754 dated 22.08.2019 for production capacity 170 TPD of Steel Ingots/Billets with two Induction Furnaces of capacity 6 TPH & 8 TPH for land area of 15,437.17 sq.m (3.81 acres); copy of the Environmental Clearance letter is enclosed as Annexure 1.

Presently, the industrial unit deals with the manufacturing of Steel Ingots @ 170 TPD or Rolled Products (Heavy/ Round/ Flats/ Structural etc.) @ 161 TPD with two Induction Furnaces of capacity 6 TPH & 8 TPH along with Rolling mill, for which Consent to Operate has been obtained from PPCB.

Now, the industry wants to increase their production capacity by replacing both of existing Induction Furnaces of capacity 6 TPH & 8 TPH with new Induction Furnaces of capacity 15 TPH & 20 TPH along with the addition of one new rolling mill.

Thus, after expansion, the total production capacity of the unit will be 532 TPD (1,86,200 TPA) of Steel Ingots/ Billets or Rolled Products (Heavy/ Round/ Flats/ Structural etc.) with two Induction Furnaces of capacity 15 TPH & 20 TPH along and Rolling mills (2 No.).

The application is filed under Category 'B1' project and falls in 3(a) Schedule as per the Amendment in item 3(a) of EIA Notification, 2006 dated 07.06.2024; as production capacity of the unit is >1,20,000 TPA using electricity as a fuel under Processes involving melting of non-toxic metals.

The salient features of the project will be as under:

- **Existing production capacity:** Steel Ingots/Billets @ 170 TPD or Rolled Products (Heavy/ Round/ Flats/ Structural etc.) @ 161 TPD with two Induction Furnace of capacity 6 TPH & 8 TPH along with Rolling Mill.
- **Total production capacity after expansion**: @ 532 TPD of Steel Ingots/Billets or Rolled Products Rolled Products (Heavy/ Round/ Flats/ Structural etc.) with two Induction Furnaces of capacity 15 TPH and 20 TPH and Rolling Mills (2 No.).
- **Total Area after expansion:** 18,396.74 sq.m. (4.54 acres).

- **Project cost after expansion:** Existing cost of project is Rs. 16.483 Crores and proposed cost of expansion is estimated to be Rs. 9.30 Crores. Thus, overall cost of the project after expansion will be 25.783 Crores.
- **Interlinked projects:** None
- **Envisaged Changes:** By replacing the existing Induction Furnace from 6 TPH & 8 TPH to 15 TPH and 20 TPH along with addition of one new Rolling Mill.

2.0 LOCATION & CONNECTIVITY

Project is located at Village Ambey Majra, Near 220 K.V. Power House, Mandi Gobindgarh, District Fatehgarh Sahib, Punjab. Project lies on the internal village road, which in turn connected to G.T Road (NH-44) at a distance of 1.4 km in the 'NE' direction. Nearest Railway station is Mandi Gobindgarh Railway Station, located at a distance of approx. 4.5 km in 'NW' direction. Ludhiana Airport, Sahnewal is located at a distance of approx. 42.5 km in 'NW' direction. Project boundary coordinates of all corners are as follows:

CORNER	LATITUDE	LONGITUTE
A	30°38'0.81"N	76°19'3.87"E
B	30°38'0.87"N	76°19'5.64"E
C	30°37'58.03"N	76°19'5.63"E
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K	30°37'56.89"N	76°19'0.63"E
L	30°37'56.91"N	76°19'3.73"E

The project location and its study area of 10 km falls in the Survey of India, Toposheet No. **H43K2 & H43K6.**

3.0 BRIEF FEATURES OF PROJECT

Table 1: Size/magnitude of project

S. No.	Parameters	Description
1.	**Identification of the project**	Expansion in EC of the existing steel manufacturing unit namely "**M/s Jagat Metals Pvt. Ltd.**" for increasing production capacity from 170 TPD to 532 TPD (1,86,200 TPA) which falls under Schedule 3(a) as per EIA Notification dated 14th September, 2006 and its subsequent amendments.
2.	**Project Proponent**	**Mr. Raghav Singla** (Director) E-mail: jagatmpl@yahoo.com
3.	**Brief description of nature of the project**	Existing production capacity of the unit is Steel Ingots @ 170 TPD or Rolled Products (Heavy/ Round/ Flats/ Structural etc.) @ 161 TPD with two Induction Furnaces of capacity 6 TPH & 8 TPH along with Rolling mill. After expansion, the production capacity of the industrial unit will become 532 TPD (1,86,200 TPA) of Steel Ingots/ Billets or Rolled Products (Heavy/ Round/ Flats/ Structural etc.) with two Induction Furnaces of capacity 15 TPH & 20 TPH along and Rolling mills (2 No.).
4.	**Salient Features of the Project Proposed**	
4.1	**Overall plant capacity**	532 TPD (1,86,200 TPA).
4.2	**Area Details**	18,396.74 sq.m. (4.54 acres)
4.3	**Location**	Village Ambey Majra, Near 220 K.V. Power House, Mandi Gobindgarh, District Fatehgarh Sahib, Punjab
4.4	**Water requirement**	Total water requirement for the project on full production capacity after expansion is estimated to be 68 KLD; out of which, fresh water demand will be 61 KLD which will be met from ground water.
4.5	**Wastewater**	After expansion, approx. 7.2 KLD of domestic wastewater will be generated which will be treated in proposed STP of capacity 10 KLD. Treated water of 7 KLD will be reused for cooling purpose

		within the project premises
4.6	**Man Power**	Existing: 80 workers (including both technical & non-technical). No worker residing within the project premises. Proposed manpower: 120 additional workers will be hired. After expansion manpower: 200 workers (including both technical & non-technical) and no residing facility will be provided to workers within project.
4.7	**Power requirement**	Existing: 6,200 KW (7,750 KVA) Total after expansion: 14,000 KVA DG set of capacity 82.5 KVA has been provided for power backup. **Source:** Punjab State Power Corporation Limited (PSPCL).
4.8	**Alternative site**	No alternative site is being considered.
4.9	**Land form, Land use and Land ownership**	Total land area of the unit is 18,396.74 sq.m. (4.54 acres) Land documents (registry) and Change of landuse submitted with the report.

4.0 METEOROLOGY

Meteorological data was obtained for a yearlong data from January to December, 2022 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 October to December, 2021 of M/s Devbhoomi Castings Pvt. Ltd. and additional one-month study conducted at project location during November, 2023. $PM_{2.5}$, PM_{10}, SO_2 and NO_2 levels (Criteria Pollutants) as well as NH_3 and O_3 were monitored at 9 locations including project and its 10 km study area. Monitoring stations were keeping in view of the dominant wind direction.

PM_{10} concentration observed in the study area ranges between 72 $\mu g/m^3$ to 152 $\mu g/m^3$. Average value at project location is found to be 149 $\mu g/m^3$. Whereas, $PM_{2.5}$ concentration ranges between 37 $\mu g/m^3$ to 81 $\mu g/m^3$ in the study area and average value found to be 91 $\mu g/m^3$ in project area. 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 in Mandi Gobindgarh and Khanna and other agro 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

Ambient noise levels were measured at 5 locations within the project premises ((M/s Jagat Metals Pvt. Ltd). Noise levels varied from 63.8 dB(A) and 72.9 dB(A) during the day time and were 52.1 dB(A) and 60.2 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 conditions are mainly associated to industrial activities in Khanna and Mandi Gobindgarh 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.

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 Dog house followed by pulse jet bag filter with offline cleaning technology will be provided to contain and control the primary and secondary emissions from induction furnaces. The efficient Air Pollution Control Devices will enhance environment cleanness. Therefore, impact on the surrounding environment will be minimal.

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. Workplace ambient level is not expected to be beyond 72.9 dB(A) during day time and 60.2 dB(A) during night time which is much below the limit specified for 8 hours of exposure.

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

Approximately, 15 kg/day of domestic solid waste is being generated from the existing project & after expansion, approx. 40 kg/day of domestic 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

6 TPD of slag is being generated from existing industrial unit which is disposed of in low lying area. After expansion, the quantity of slag is estimated to be 16.5 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

Hazardous waste generated from the existing industrial unit is 0.3 TPD exhaust air or gas cleaning residue (APCD dust) under Category 35.1 and 0.02 KLA of used oil under Category 5.1 of Schedule I. After expansion, hazardous waste generated from the project is estimated to be 1.4 TPD of exhaust air or gas cleaning residue under category 35.1 and used oil generation will remain same under Category 5.1 of Schedule I. Authorization of hazardous waste obtained from PPCB. Agreement has been done with M/s R.P Multimetals Pvt. Ltd. (Unit-II) for disposal of APCD dust. Used oil will be given to authorized vendor.

11.0 GREENERY DEVELOPMENT

36.17% (6,654.27 sq.m) of green area has been proposed out of which 20.72% (3,810.41 sq.m) within project premises and 15.45% (2,843.96 sq.m.) outside the project premises. 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;

- 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. Separate records for water, wastewater, solid wastes, air emission, soil and manure/ compost will be prepared and preserved regularly. 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 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 ENVIRONMENTAL RESPONSIBILITY

Mr. Raghav Singla (Director) will be responsible for implementation of the Corporate Environmental Responsibility (CER). Issues raised during public hearing will be undertaken as CER.

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. 232 lakhs and recurring cost per year will be Rs. 16 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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EXECUTIVE SUMMARY

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Thus, after expansion, the total production capacity of the unit will be 532 TPD (1,86,200 TPA) of Steel Ingots/ Billets or Rolled Products (Heavy/ Round/ Flats/ Structural etc.) with two Induction Furnaces of capacity 15 TPH & 20 TPH along and Rolling mills (2 No.).

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The salient features of the project will be as under:

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2.0 LOCATION & CONNECTIVITY

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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.

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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

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10.4 SOLID WASTE

10.4.1 DOMESTIC WASTE

Approximately, 15 kg/day of domestic solid waste is being generated from the existing project & after expansion, approx. 40 kg/day of domestic 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

6 TPD of slag is being generated from existing industrial unit which is disposed of in low lying area. After expansion, the quantity of slag is estimated to be 16.5 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

Hazardous waste generated from the existing industrial unit is 0.3 TPD exhaust air or gas cleaning residue (APCD dust) under Category 35.1 and 0.02 KLA of used oil under Category 5.1 of Schedule I. After expansion, hazardous waste generated from the project is estimated to be 1.4 TPD of exhaust air or gas cleaning residue under category 35.1 and used oil generation will remain same under Category 5.1 of Schedule I. Authorization of hazardous waste obtained from PPCB. Agreement has been done with M/s R.P Multimetals Pvt. Ltd. (Unit-II) for disposal of APCD dust. Used oil will be given to authorized vendor.

11.0 GREENERY DEVELOPMENT

36.17% (6,654.27 sq.m) of green area has been proposed out of which 20.72% (3,810.41 sq.m) within project premises and 15.45% (2,843.96 sq.m.) outside the project premises. 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;

- 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. Separate records for water, wastewater, solid wastes, air emission, soil and manure/ compost will be prepared and preserved regularly. 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 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 ENVIRONMENTAL RESPONSIBILITY

Mr. Raghav Singla (Director) will be responsible for implementation of the Corporate Environmental Responsibility (CER). Issues raised during public hearing will be undertaken as CER.

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. 232 lakhs and recurring cost per year will be Rs. 16 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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