

EXECUTIVE SUMMARY

For

Steel manufacturing unit for increasing the production capacity to 2,40,000 TPA
for the project namely “JMK Industries”

Located at

Village Wazirabad, Sirhind Side, Mandi Gobindgarh, Distt. Fatehgarh Sahib,
Punjab

By

“M/s JMK Industries”

Project schedule 3(a): Metallurgical Industries (ferrous & nonferrous)

Category: B1

Existing production capacity: Billets/Ingots @ 29,400 TPA

**After expansion production capacity: 2,40,000 TPA of Ingots/Billets,
Patra and Pipes**

(TOR Letter No. – SEIAA/MS/2021/4337 dated 25th June, 2021)
(Baseline Monitoring Period: October - December, 2018 & May, 2021)

Submitted by



M/s Eco 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/1720/SA095 dated 01.10.2019)

(In-house Lab., NABL Accreditation No. – TC-7477 dated 22.06.2018)

July, 2021

EXECUTIVE SUMMARY

1.0 PROJECT DESCRIPTION

M/s JMK Industries is an existing Steel Manufacturing Unit located at Village Wazirabad, Sirhind Side, Mandi Gobindgarh, Distt. Fatehgarh Sahib, Punjab. The existing industrial unit deals with the manufacturing of Billets/Ingots. The existing production capacity of the industrial unit is 84 TPD with one Induction Furnace of capacity 7 TPH.

Now, the industry wants to increase their production capacity by installing two additional Induction Furnaces of capacity 20 TPH each, rolling mill & pipe plant. However, the existing Induction Furnace of capacity 7 TPH remains same.

Thus, after expansion the production capacity of the industrial unit will become 2,40,000 TPA for manufacturing of Ingots/Billets, Patra & Pipe with 3 Induction Furnaces (1 × 7 TPH & 2 × 20 TPH), rolling mill & pipe plant. The existing area of the project has been acquired on lease basis measuring on area of 15,406.12 sq.m (3.8 acres). For expansion, additional land has been purchase measuring an area of 4,023.02 sq.m (0.99 acre). Thus, after expansion, total area of the project become 19,429.15 sq.m (4.80 acres).

As per EIA Notification, it is a Secondary Metallurgical processing industry under Schedule 3(a); Category B project which requires Environmental Clearance.

The salient features of the project will be as under:

- **Existing production capacity:** Billets/Ingots @ 29,400 TPA with 1 IF of capacity 7 TPH.
- **After expansion production capacity:** 2,40,000 TPA of Ingots/Billets, Patra and Pipes with 3 IF's (1 × 7 TPH & 2 × 20 TPH), Rolling mill and Pipe plant.
- **Total Area:** 19,429.15 sq.m (4.80 acres)
- **Overall Project cost:** Rs. 43.56 Crores (Existing project cost is Rs. 7.50 Crores and proposed cost for expansion Rs. 36.05 Crores)
- **Interlinked projects:** None.
- **Envisaged changes due to expansion:** Addition of two new IF's along with existing IF. Also, installation of one rolling mill and pipe plant.

2.0 LOCATION & CONNECTIVITY

The project is located at Village Wazirabad, Sirhind Side, Mandi Gobindgarh, Distt. Fatehgarh Sahib, Punjab on internal village road which in-turn connected to National Highway NH-1

located at a distance of 2.5 km in 'N' direction. Project boundary coordinates are given below:

A: 30°37'11.48"N & 76°19'23.87"E

B: 30°37'17.41"N & 76°19'24.01"E

C: 30°37'17.50"N & 76°19'22.52"E

D: 30°37'19.57"N & 76°19'22.50"E

E: 30°37'19.60"N & 76°19'20.06"E

F: 30°37'17.47"N & 76°19'19.97"E

G: 30°37'17.51"N & 76°19'18.98"E

H: 30°37'15.61"N & 76°19'18.93"E

I: 30°37'15.66"N & 76°19'21.03"E

J: 30°37'16.27"N & 76°19'20.99"E

K: 30°37'16.21"N & 76°19'21.52"E

L: 30°37'11.51"N & 76°19'21.44"E

Project and its study area falls in the Survey of India, Toposheet No. **H43K2 & H43K6**.

Toposheet marked location of the project is attached along as **Drawing 2**.

3.0 BRIEF FEATURES OF PROJECT

Table 1: Size/magnitude of the project

S. No.	Parameters	Description
1.	Identification of the project	Steel manufacturing unit for increasing the production capacity to 2,40,000 TPA for the project namely "JMK Industries" falls under Schedule 3(a) as per EIA Notification dated 14 th September, 2006 and its subsequent amendments.
2.	Project Proponent	Mr. Rakesh Kumar Bansal (Partner) JMK Industries E-mail: jmkindustries631@gmail.com
3.	Brief description of nature of the project	M/s JMK Industries is an existing steel manufacturing unit involve in the production capacity of Billets/Ingots @ 29,400 TPA with one induction furnace of 7 TPH.

		After expansion, the production capacity of the industrial unit will be 2,40,000 TPA for manufacturing of Ingots/Billets, Patra and Pipes with 3 IF's (1 × 7 TPH & 2 × 20 TPH), rolling mill and pipe plant.
4.	Salient Features of the Project After expansion	
4.1	Overall plant capacity	After expansion, the production capacity of the industrial unit will be 2,40,000 TPA.
4.2	Area Details	After expansion, the overall area of the project becomes 19,429.15 sq.m (4.80 acres).
4.3	Location	<p>Project boundary coordinates of all corners are as follow:</p> <p>A: 30°37'11.48"N & 76°19'23.87"E B: 30°37'17.41"N & 76°19'24.01"E C: 30°37'17.50"N & 76°19'22.52"E D: 30°37'19.57"N & 76°19'22.50"E E: 30°37'19.60"N & 76°19'20.06"E F: 30°37'17.47"N & 76°19'19.97"E G: 30°37'17.51"N & 76°19'18.98"E H: 30°37'15.61"N & 76°19'18.93"E I: 30°37'15.66"N & 76°19'21.03"E J: 30°37'16.27"N & 76°19'20.99"E K: 30°37'16.21"N & 76°19'21.52"E L: 30°37'11.51"N & 76°19'21.44"E</p> <p>Google Earth Image showing project location & its surroundings within 500 m are attached along as Drawing 3. Project and its study area falls in the Survey of India, Toposheet No. H43K2 & H43K6. Toposheet showing project location is attached along as Drawing 2.</p>

<p>4.4</p>	<p>Water requirement</p>	<p>Source: Ground water.</p> <p>The total water requirement of the project after expansion is estimated to be 96 KLD; out of which fresh water demand will be 90 KLD. The breakup of the water demand is given below:</p> <table border="1"> <thead> <tr> <th>Purpose</th> <th>Existing water demand (KLD)</th> <th>Total water demand after expansion (KLD)</th> </tr> </thead> <tbody> <tr> <td>Make-up water demand for cooling purpose</td> <td>35</td> <td>47</td> </tr> <tr> <td>Domestic water demand</td> <td>3.5</td> <td>8</td> </tr> <tr> <td>Green area demand</td> <td></td> <td></td> </tr> <tr> <td> • Summer</td> <td>-</td> <td>35</td> </tr> <tr> <td> • Winter</td> <td>-</td> <td>11.5</td> </tr> <tr> <td> • Monsoon</td> <td>-</td> <td>3</td> </tr> </tbody> </table> <p>Application will be filed to Punjab Water Regulation & Development Authority (PWRDA) for seeking permission regarding abstraction of ground water.</p>	Purpose	Existing water demand (KLD)	Total water demand after expansion (KLD)	Make-up water demand for cooling purpose	35	47	Domestic water demand	3.5	8	Green area demand			• Summer	-	35	• Winter	-	11.5	• Monsoon	-	3
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<p>4.5</p>	<p>Wastewater</p>	<p>Presently, 2.8 KLD of waste water is being generated from the existing unit which is treated in the septic tank installed within project premises.</p> <p>After expansion, approx. 6.4 KLD of domestic wastewater will be generated which will be treated in proposed STP of capacity 10 KLD and treated water will be reused for cooling purpose.</p> <p>No industrial effluent is being generated from the existing unit and even after expansion, no industrial effluent will be generated.</p>																					

4.6	Man Power	Existing industrial unit having 35 workers; out of which, 20 workers are residing within project premises. For proposed expansion, 90 workers will be hired. Thus, after expansion, the total manpower become 125 persons (including technical & non-technical); out of which 25 workers will be residing within project premises.
4.7	Power requirement	Existing power load: 3,995 KVA. Proposed power load for expansion: 13,005 KVA After expansion, total power requirement will be 17,000 KVA (17 MVA) Source: Punjab State Power Corporation Limited (PSPCL). For power backup 1 DG of capacity 320 KVA has been installed. For proposed expansion, 1 additional DG of capacity 250 KVA will be installed. Thus, after expansion 2 DG sets will be used as a source of power backup.
4.8	Alternative site	No alternative site is considered, as the expansion is proposed within the existing ongoing industrial unit. However, adjacent land is being acquired for expansion.
4.9	Land form, Land use and Land ownership	The project falls within Industrial Zone as per Master Plan of Mandi Gobindgarh, 2010-2031.

4.0 METEOROLOGY

Meteorological data was obtained for a yearlong data from January to December 2020 to cover the seasonality (seasonal pattern) and its impact on environment. The predominant winds are mainly flowing from West North West.

5.0 AIR QUALITY

The baseline air quality was established by monitoring of major air pollutants like Suspended Particulate Matter ($\leq PM_{10} \mu m$), Fine Particulate Matter ($\leq PM_{2.5} \mu m$), Sulfur dioxide, Nitrogen

dioxide and Carbon monoxide at various locations in the study area. Respirable dust samplers and fine particulate matter samplers were used for ambient air sampling. Samples were collected continuously from all the stations for 24 hours. Samples thus collected were analyzed for various pollutants. Baseline data for ambient air quality were collected within the study area of nearby project i.e. M/s Punjab Steel Forging & Agro Industries Ltd. during October to December 2018 and at project location in May, 2021.

PM₁₀ concentration ranges from 71.1 – 95.1 µg/m³ (avg. 82.1 µg/m³) during October to December, 2018 in the study area and 79 - 94 µg/m³ (avg. 87 µg/m³) during May 2021 at project site of JMK Industries. This indicates the quality of ambient air in the study area is well within the 24 hours average permissible limits of 100 µg/m³ (CPCB, 2009), hence the air quality of the area is good and safe for human health and environment.

PM_{2.5} concentration ranges from 26.1 – 56.5 µg/m³ (avg. 36.8 µg/m³) during October to December, 2018 in the study area and 39 - 56 µg/m³ (avg. 48 µg/m³) during May 2021 at project location of JMK Industries. This indicates the quality of ambient air in the study area is well within the 24 hours average permissible limits of 60 µg/m³ (CPCB, 2009), hence the air quality of the area is good and safe for human health and environment.

Mass levels of particulate dust (PM₁₀ & PM_{2.5}), Gaseous pollutants (SO₂, NO₂, CO, Ozone & NH₃) were within the prescribed limits of CPCB (24 hours' average NAAQ standards). 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

The baseline noise quality data were collected by establishing monitoring network at various locations in the study area of M/s Punjab Steel Forging & Agro Industries Ltd. during October to December 2018 and at project location of JMK Industries in May, 2021. A total of 8 locations within the study area of nearby Punjab Steel Forging & Agro Industries Ltd. and corner and center points of JMK Industries were selected for measurement of ambient noise levels.

Noise levels varying from 44.4 dB(A) to 49.2 dB(A) during the day time and 34.2dB(A) to 38.3 dB(A) during night time in the residential areas were within the prescribed limits of 55

dB(A) for day time and 45 dB(A) for night time respectively. The obtained noise levels at project location of JMK Industries as 67.9 dB(A) in day time and 56.7 dB(A) in night time were within the prescribed limits for industrial area as 75 dB(A) in day time and 70 dB(A) in night time respectively. The noise levels within prescribed limits indicate that the noise quality in the study area is safe and comfortable to human health and environment.

7.0 WATER QUALITY

The ground water 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.

Analysis results of ground water reveal the following:

- pH value ranges from 7.32-7.82 at all locations
- Total dissolved solids (TDS) ranges from 350 to 466 mg/l against the BIS standard as acceptable limit 500 mg/l and permissible limit in absence of alternate source 2000 mg/l.
- Total alkalinity ranges from 240 mg/l to 270 mg/l against the BIS standard as acceptable limit 200 mg/l and permissible limit in absence of alternate source 600 mg/l.
- Total hardness ranges from 205 mg/l to 255 mg/l against the BIS standard as acceptable limit 200 mg/l and permissible limit in absence of alternate source 600 mg/l.
- Rest of other chemical parameters tested are well within prescribed limit of BIS.

All the above parameters at the various locations in the study area are within permissible and tolerable limits. In the study area, since the 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. The ground water test results indicate that water is good in quality and safe for drinking purpose after suitable treatment of hardness and alkalinity and fit for cooling water requirement.

As no effluent will be generated from the industry after the commissioning of the industry. Hence, surface water quality will not be affected due to the industry.

8.0 SOIL QUALITY

The baseline monitoring of soil quality was done by establishing monitoring network at various locations in the study area of. M/s Punjab Steel Forging & Agro Industries Ltd. during October to December 2018 and at project location of JMK Industries in May, 2021. For studying the

soil profile of the region, soil samples were collected from 8 locations in the study area of our nearby project M/s Punjab Steel Forging & Agro Industries Ltd. as well as from project location of JMK industries to assess the existing soil conditions within the study area representing various land uses. The observations show that in the study area soil are generally alkaline in nature and 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 site. 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 controlled using Side Suction Hood, Compartmentalized Pulse Jet Bag Filter with duct & ID fan will be restricted within 150 mg/Nm³. The efficient Air Pollution Control Devices will enhance environment cleanness. Therefore, impact on the surrounding environment will be minimal.

10.2 NOISE QUALITY

The noise levels near the sources such as raw material handling yard, Induction Furnace etc. will be higher during the operation phase. The noise levels at source like Induction Furnace are anticipated to go upto 85 dB(A). However, the noise levels will attenuate to the background values beyond the plant boundary and the levels are not expected to rise beyond 55 dB(A) in the study area. The damage risk criteria as enforced by OSHA and CPCB to reduce hearing loss, stipulates the noise levels up to 85 dB(A) as acceptable limits for 8 hour working shift per day. In case of the operation of heavy machinery/ cranes for scrap handling and storage, noise levels may exceed the prescribed limits in certain work places like scrap yard, material loading/unloading and feeding to furnace.

10.3 WATER QUALITY

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

wastewater drains. As no Industrial effluent is generated from the project hence the quality of the surface water will not be affected.

10.4 SOLID WASTE

10.4.1 DOMESTIC WASTE

Approximately, 11 kg/day of domestic solid waste is being generated from the existing project & after expansion, approx. 30 kg/day of domestic waste will be generated, which will be properly collected and segregated into biodegradable and non-biodegradable waste. The solid waste will be disposed off as per Solid Waste Management Rules, 2016.

10.4.2 INDUSTRIAL WASTE

3 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 23 TPD. Out of this, 20% will be used for metal recovery and remaining 80% will be sold to tiles/block manufacturing unit for co-processing.

10.4.3 HAZARDOUS WASTE

Hazardous waste produced from the existing industrial unit is 0.020 KL/annum of Spent oil under Category 5.1 and 0.3 TPD of Exhaust air or Gas cleaning residue (APCD dust) under Category 35.1 of Schedule I is being generated. Authorization of hazardous waste has been obtained from PPCB; copy of the same is enclosed as **Annexure 5**. Agreement has been done with M/s Madhav KRG Ltd. (formerly known as M/s Madhav Alloys Pvt. Ltd.) for disposal of APCD dust. Copy of the same is enclosed as **Annexure 6**.

After expansion, hazardous waste produced from the industrial unit is estimated to be 0.5 KL/annum of Spent oil under Category 5.1 and 1.8 TPD of Exhaust air or Gas cleaning residue (APCD dust) under Category 35.1 of Schedule I will be generated.

11.0 GREENERY DEVELOPMENT

Adequate green area of 33% has been proposed inside the plant 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, once in four months.

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 PUBLIC CONSULTATION

Public hearing for Establishment of the unit will be conducted by Punjab Pollution Control Board (PPCB). The proceedings of the same will be incorporated in the final EIA report.

15.0 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 will create additional direct/indirect employment for people. Local people will be preferred for employment.

16.0 CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

Apart from the various environmental protection measures, the project proponent is conscious of its social responsibility and as any good corporate citizen. Thus, the issues raised during public hearing will be undertaken as CER activities.

17.0 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. 125 lakhs and recurring cost per year will be Rs. 15 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.
