SUMMARY OF ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR PUBLIC HEARING

Expansion & Modernization in existing Steel Plant with facilities of I/O Beneficiation of 1.90 MTPA (Installed), Coal Washery 0.35 MTPA (Installed), Pellet Plant of 1.324 MTPA with PGP of 400 Nm3/hr, Captive Power Plant of 43 MW (WHRB#36 MW & Coal with Dolochar based CFBC #7 MW) with Change in the technology for Sponge Iron production of 0.429 MTPA from RHF to DRI Kiln of 2 x 650 TPD along with addition of faciliies of Induction Furnace of 2 x 50 tonne with CCM for production of M.S Billets/Ingots of 0.30 MTPA, Rolling Mill (0.265 MTPA) and 5 MTPA Coal Washery and removing the facilities of SAF (0.243 MTPA) and DIP Spun pipe Plant (0.3 MTPA)

Located At

Village-Paraghat, Tehsil-Masturi, District-Bilaspur Chhattisgarh

M/s Rashi Steel and Power imited

Village-Paraghat, Postoffice-Jairamnagar, Tehsil-Masturi, Kotmi Sonar Road, District-Bilaspur, Chhattisgarh-495550

FEBRUARY-2025

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1.0 PROJECT DESCRIPTION

M/s Rashi Steel and Power Limited had proposed expansion in the earlier proposed steel plant located at Village-Paraghat, Tehsil-Masturi, District-Bilaspur Chhattisgarh with facilities of Iron Ore Beneficiation of 1.90 MTPA (Installed), Coal Washery 0.35 MTPA (Installed), Pellet Plant of 1.324 MTPA with PGP of 400 Nm3/hr, Captive Power Plant of 43 MW (WHRB#36 MW & Coal with Dolochar based CFBC#7 MW) with Change in the technology for Sponge Iron production of 0.429 MTPA from RHF to DRI Kiln of 2x650 TPD along with additional facility of 5 MTPA Coal Washery, Induction Furnace of 2 x 50 tonne with CCM for production of M.S Billets/Ingots of 0.30 MTPA and Rolling Mill (0.265 MTPA) and removing the facilities of SAF (0.243 MTPA) and DIP Spun pipe Plant (0.3 MTPA).

The project site is located at Village-Paraghat, Tehsil-Masturi, District-Bilaspur Chhattisgarh. Jairam Akaltara Road is at 0.7 km in west direction, Masturi Sepat road is at 1.7 km in west direction and NH-49 is at distance about 2.2 km from Project Site towards S direction,. The nearest Railway Station is Jairamnagar Railway Station, which is located about 2.7 km distance from the project site towards W direction. Nearest airport is Bilasa Devi Kevat Airport, Bilaspur, which is almost 21.6 km away from the site towards west. Nearest habitation is Paraghat village at 0.6 km in SW direction. Jairamnagar town is at 2 km in west direction. River Lilagar is flowing at a distance of 0.12 km from the Project site towards E direction and Arpa River is at 9.4 km towards E direction. The climate in the area is dry with extreme temperature variation. No National Park/sanctuary falls within 5 km of the plant area. However, there is a crocodile park at 2.7 km in east direction.

The proposed project is categorized as Category “A” of Schedule 3 (a) Metallurgical industries (ferrous & non-ferrous) as per EIA Notification 2006 and its amendment till date which mandates obtaining prior Environmental Clearance from MoEF&CC, New Delhi. Hence, application was submitted to MOEF&CC, New Delhi for obtaining Terms of References (TOR) for conducting the EIA studies along with Pre-Feasibility Report vide application no. IA/CG/IND1/492697/2024 dated 13.08.2024. Accordingly ToR was granted on 20.01.2025 Vide File No. J-11011-466-2010-IA-II(I).

Project Promoters:

M/s Rashi Steel & Power Ltd. is a Private Limited Company incorporated under the Companies Act 2013 duly allotted C.I.N U27205CT2009PLC007869 dated 28.08.2009 is promoted by Smt Jyoti Agarwal. The company is managed by following directors :-

- **Shri Prakash Behera** aged about 39 Years by qualification a Commerce graduate having experience of more than 12 Years in iron and steel industries.
- **Shri Prem Chandra Jha** aged about 43 Years by qualification a Software Engineer having experience of more than 20 Years in iron and steel industries.

Project Cost and Manpower

The project cost of existing unit is INR 56.08 Cr. Additional amount of INR 1305.92 Cr is required for the proposed expansion making the total project cost INR 1362 Cr.

A total of 1790 no. of people gets direct employment during operation of project after expansion.

Land Water and Power Requirement

The total land involved in the project is 67 ha. As per earlier granted EC, the project land falls within 2 villages (Paraghat – 56.89 ha and Beltukri – 10.11 ha). Now PP has removed 10.11 ha land from Beltukri village and replaced it with land from Paraghat village measuring same area due to which project boundary has changed. However, total project area remains same. The total land is in possession of proponent.

The water requirement for the project is 2880 KLD which will be sourced from Lilagar river.

Total power requirement for the project will be 67 MW out of which 43 MW will be sourced from in-house power plant and the rest will be taken from state grid.

Existing greenbelt covers 7.22 ha which will be increased to 22.12 ha after expansion. Currently, 17800 trees are present at the site. 38,000 more trees will be planted after the proposed expansion making the total no. of trees 55,800 to meet the requirement of >2500 trees/ ha.

2.0 DESCRIPTION OF BASELINE ENVIRONMENT

Baseline environmental study has been carried for the period 1st March, 2024 to 31st May, 2024 (Pre Monsoon Season). Baseline data has been collected out, by M/s. GRC India Training & Analytical Laboratory, Noida. Accredited by NABL also Recognized by MoEF&CC, New Delhi

Summary of Ambient Air Quality

- During the study PM_{10} at the project site was found in the range of 68.2 to 87.6 µg/m^3 whereas in the 10 km study area was observed in the range of 57.3 to 87.6 µg/m^3. Maximum concentration of PM_{10} was found at project site, it is well within the Factories Act.
- $PM_{2.5}$ at the project site was found in the range of 37.6 to 50.3 µg/m^3 whereas in the 10 km study area, it was observed in the range of 27.9 to 50.3 µg/m^3. Maximum concentration of $PM_{2.5}$ was found at project site.
- SO_2 at the project site was found in the range of 8.7 to 11.3 µg/m^3 whereas in the 10 km study area, it was observed in the range of 4.3 to 11.3 µg/m^3. Maximum concentration of SO_2 was found at project site.
- NO_2 at the project site was found in the range of 24.9 to 30.6 µg/m^3 whereas in the 10 km study area, it was observed in the range of 10.6 to 30.6 µg/m^3. Maximum concentration of NO_2 was found at project site, though it is well within the Factories Act.
- CO at the project site was found in the range of 330 to 600 µg/m^3 whereas in the 10 km study area, it was observed in the range of 180 to 600 µg/m^3. Maximum concentration of CO was found at project site, though it is well within the Factories Act.

Summary of Noise Levels

Assessment of day noise levels around the study area are ranging between 47.8 to 63.4 dB (A) during study period. Whereas the night equivalents were in the range of 38.5 to 52.4 dB (A).

Summary of Ground Water Quality

- pH was observed in the range of 7.26-7.53 which meets with desirable norms.
- Total dissolved solid were recorded in the range of 180 to 440 mg/L with minimum at borewell water in Piparsatti village and maximum at borewell in Khuddubhata village.
- Total hardness was in the range of 168-293 mg/L with minimum at borewell water in Piparsatti village & maximum at borewell water in Khuddubhata village.
- Total Alkalinity was found in the range of 96 -257 mg/L with minimum at borewell water near Piparsatti village & maximum at borewell water in Rasera Village.

- Iron was found in the range of 0.21-0.59 mg/L with minimum at borewell water near project site and maximum at borewell water in Khuddubhata village.
- As microbiological parameters MPN analysis was also carried out and it was found Nil.

Summary of Surface Water Quality

The following description is based on the analysis of the samples:

- During the analysis pH of the samples was found in the range of 7.44-8.23.
- TDS analysis was also carried out for surface water sample and it was found in the range of 345-1010 mg/L.
- DO measured during analysis was found in the range of 2.8-6 mg/L.
- COD measured during analysis was found in the range of 10 - 80 mg/L.
- BOD measured during analysis was found in the range of 3.1-26.4 mg/L.
- Total alkalinity during analysis was found in the range of 145-350 mg/L.
- MPN test was also carried out for this surface water sample and it was found positive. It indicates towards the fecal contamination in surface water body.

Summary of Soil Quality

Soil is the medium for supplying the nutrients for plant growth. Nutrients are available to plants at certain pH and pH of soils can reflect by addition of pollutants in it either by air, or by water or by solid waste or by all of these. In order to establish the baseline status of soil characteristics, soil samples were collected from 05 sampling locations. The analysis results show that soil is basic in nature as pH value ranges from 7.78 to 8.31, Organic Carbon ranges from 0.58 to 0.89%, Total Nitrogen of 187.65 to 259.35 kg/ha, Total Phosphorus ranges from 17.05 to 20.62 kg/ha, Available Potassium ranges from 318.64 to 399.23 kg/ha. The concentration of Phosphorus and Potassium has been found to be in good amount in the soil samples. Soil texture is Sandy Loam at project site.

Socio Economic Environment

There are 36 identified settlements in the study area of which 35 are villages and one town.

According to survey conducted the total population the study area is 4,21,016 out of which 51 percent are male and the remaining 49 percent are female. The literacy rate of the study area is 55.98 percent.

Major tree species present in the study area are Mango (*Magniferra indica*), Amra (*Spondias pinnata*), Bel (*Aegle marmelos*), Gular (*Ficus racemosa*), Pakur (*Ficus infectoria*), Sirish (*Albizia lebbeck*), Kathal (*Artocarpus sps*), Neem (*Azadirachta indica*) etc.

Major climber species involve Alkushi (*Mucuna prurita*), Dhundhul (*Luffa cylindrica*), Harkara (*Allamanda cathartica*), Money plant (*Scindapsus aureus) etc.*

Grasses like Dhane (*Eragrostis tenella*), Karail (*Dendrocalamus sps*), Oloo Grass (*Imperata cylindrica)* etc. were also recorded in the study area.

Major mammals present in the study area are Small Fox (*Vulpes bengalensis*), Monkey (*Macaca mulatta*), Common mongoose (*Herpestes edwardsii*) etc.

Birds of the study area involve Black winged kite (*Elanus caeruleus*), Common swift (*Apus apus*), Rock pigeon (*Columba livia*), Crane (*Antigone antigone*) etc.

Reptiles like Dhanda (*Xenochrophispiscator*), Common Cobra *(Naja naja)*, Garden lizard (*Calotes versicolar*) etc. and amphibians like Common frog (*Euphlyctis hexadactyla*), Indian bull frog (*Rana tigrina*) etc. were also recorded in study area during the study of ecology and biodiversity.

Out of all the faunas observed, Black winged Kite (Elanus caeruleus), White Stork (Ciconia Ciconia), Crane (Antigone antigone), Common rat smake (Ptyas mucosus), Common Indian Krait (Bungarus caeruleus), Indian cobra (Naja naja), Russell's Viper (Vipera russelli) and Bengal Fox (Vulpes bengalensis) are protected under schedule-I as per wildlife protection act 1972 amended in 2022. Conservation plan for them has been prepared and submitted to PCCF, West Bengal.

3.0 ANTICIPATED ENVIRONMENTAL IMPACT & MITIGATION MEASURES

- Water sprinklers will be used to reduce dust generation during coal handling.
- Wet dust suppression system will be installed to reduce the dust generation.
- All belt conveyors will be covered. Internal roads shall be concreted.
- Industrial vacuum cleaners will be used in workshops and other work areas.
- Mechanical road sweeping machines will be deployed for daily cleaning of all internal roads.
- There will be no industrial wastewater discharge as the plant will be designed on zero effluent discharge principle.

- Effluent from power plant will be treated in ETP and then reused for slag quenching, ash conditioning and dust suppression.
- Domestic waste water will be treated in STP and treated water will be used for irrigation purpose.
- Zero effluent discharge will be practiced.
- 100% of waste water will be recycled and Zero discharge condition will be maintained.
- Low noise emitting plant and machinery will be selected. 33% land area will be developed as greenbelt. The noise level at plant boundary will be maintained below 70 dBA.
- The existing truck movement pattern will not undergo any significant change. Appropriate traffic management plan will be implemented in consultation with the transport authorities.

4.0 ENVIRONMENTAL MONITORING PROGRAM

Environmental Management Cell (EMC) has been made to undertake routine environmental monitoring. Monitoring will be done to ensure compliance with the prescribed laws and standards. The Head of EMC reports to the Plant Head. Qualified staff will be recruited in EMC. Environmental monitoring of ambient air, stack emission, fugitive dust emission, noise levels, groundwater quality, surface water quality and soils are carried out as per norms. EMC is responsible for the following functions:-

Regular monitoring of:-

- Measuring fugitive emissions, measuring $PM_{2.5}$ and PM_{10} in work environment and report any abnormalities for initiating corrective and preventive actions.
- Measuring the ambient air quality at upwind and downwind direction of crusher, at plant boundary.
- Checking the wastewater quality (inlet and outlet).
- Checking the ground water quality near the project area, and surrounding villages.
- Water quality of water body present in study area at upstream and downstream of site.
- Noise monitoring at plant boundary, nearest habitation, near highway, and work areas.
- Development and maintenance of greenbelt and greenery within the plant boundary.

5.0 ADDITIONAL STUDIES

Adequate fire mitigation measures will be ensured for handling fire in project area in care of emergency. Disaster Management Plan has been prepared to take care of public health and safety during any accident.

CER will be done as per CER norms. Generally, the CER amount use to spent for making classrooms in local schools, providing teaching aids, making community centres, develop drinking water facility in nearby villages, making rainwater harvesting structures like anicuts and check dams in the area, developing infrastructure facilities and equipment in primary health centres.

As per MoEF&CC Office Memorandum vide F.No.22-65/2017-IA.III dated. 30th September 2020, Rs. 7.00 Cr allocated for CER budget.

6.0 PROJECT BENEFITS

The proposed project is expected to yield a positive impact on the socio-economic environment within the study area. It helps to sustain the development of this area including further development of physical infrastructural facilities.

About 200-300 people on daily wages basis will get employment during the construction stage. 1790 persons will be required during the operation phase. The preference will be given to local population for employment in the semi-skilled and unskilled category; this will increase the employment opportunity in the surrounding area. More revenue will be generated by the way of GST to the State & Central exchequers.

7.0 ENVIRONMENTAL MANAGEMENT PLAN

Environmental Management Plan for effective management of environmental impacts and ensuring overall protection of the environment through appropriate management procedures has been developed. In order to implement the recommended mitigation measures and institutionalize the EMP, budgetary provision of Rs. 25.60 Cr capital expenditure has been made and Recurring annual expenditure will be Rs 1.00 Cr.

Environment Management Cell (EMC) will ensure that all air pollution control device, effluent treatment plants and water re-circulating systems function effectively. EMC will also supervise disposal of spent oil and lubricants and used batteries to the authorized vendors. Plantation will be started during the construction phase by following the guidelines issued by the Central Pollution Control Board. Schemes for resource conservation (raw materials, water, etc),

rainwater harvesting and social forestry development will be taken up by EMC. Regular environmental awareness programs for the employees will be conducted.

Workers will be periodically subjected to health check-up. EMC will ensure cleanliness and industrial hygiene in the plant. EMC in association with the safety department will undertake full review of the potential hazard scenarios during plant commissioning. The review will ensure enforcement of the proposed safeguards for pollution abatement, resource conservation, accident prevention and waste minimization. The implementation of EMP would ensure that all elements of project comply with relevant environmental legislation throughout its life cycle.

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