SUMMARY

OF

DRAFT

ENVIRONMENT IMPACT ASSESSMENT/ ENVIRONMENT MANAGEMENT PLAN

(As Per EIA Notification No. S.O. 1533(E) dated 14th September 2006

FOR

Expansion in Production of

IRON ORE & BENEFICIATION PLANT

Located near Village: Chhote Dongar, Tehsil: Narayanpur,
District: Narayanpur, State: Chhattisgarh
Mining lease area: 192.25 Ha (Forest Land),
Expansion in Iron Ore Production from 2.95 MTPA to 6.00 MTPA
& Expansion of Beneficiation Plant from 1 MTPA to 2 MTPA
(Project Category 'B') (Brownfield Project)
Baseline Data Collection & Analysis
by M/s Nilawar Laboratories, Nagpur
(NABL Accredited)
Period of Monitoring: Oct 2024 to Dec 2024

Submission for

Public Hearing

to

Chhattisgarh Environment Conservation Board

PROJECT PROPONENT

JAYASWAL NECO INDUSTRIES LIMITED (JNIL)

Siltara Growth Center Siltara Raipur Chhattisgarh

Pin 493111

EIA Consultant

SRUSHTI SEVA PRIVATE LIMITED

NABET Accredited

EIA Consultant Organization

Certificate No. NABET/EIA/21-24/SA 0229

MARCH 2025

1.0 INTRODUCTION:

Jayaswal Neco Industries Limited (JNIL) belongs to the well-known Industrial Group of Central India known as "NECO GROUP". The NECO GROUP is primarily engaged in Iron & Steel Industry since 1976 and is recognized as a "MASTER CASTER" in Indian Ferrous Industries. It consists of several well-established Companies in various diversified fields like Alloy Steel making through Integrated Steel Plant, Ferro-Alloys, Mining, Highway Construction on BOT Basis, Iron & Steel Casting etc. The Group manufactures and exports a wide spectrum of core sector products to fulfil the need of Automotive Industries, Petrochemical Industries, Construction Industries, Iron & Steel Industries, Railways etc. The Company is engaged in mining activities since long and has two Iron Ore Mines in the state of Chhattisgarh and one iron Ore mine in the state of Maharashtra and a Limestone Mines in the State of Chhattisgarh.

The State Government of Chhattisgarh granted Mining Lease of Iron Ore over 192.25 Ha near Village Chhotedongar, Tehsil and District Narayanpur, to M/s Jayaswals Neco Limited (now M/s Jayaswal Neco Industries Ltd.) vide Letter No. F-.3-52/98/12/2 dated 05-05-2005 for a period of 30 years. The Mining Lease Agreement was executed between JNIL and the State Government of Chhattisgarh on 21-06-2005 for 30 years with effect from 21-06-2005 to 20-06-2035. The Supplementary Lease Agreement has been executed on 08-08-2017 extending validity of this iron ore Mining Lease over up to 20-06-2055.

Environmental Clearance was granted for 0.05 MTPA Iron ore production for the mining lease near Chhotedongar Iron Ore mine (192.25 Ha) by MoEF, New Delhi on 5.02.2007. The mine had commenced operations during Year 2015-16. Further, Environmental Clearance was granted for enhancement in the production capacity of the mine from 0.05 MTPA to 2.95 MTPA & setting up of 1 MTPA Iron ore beneficiation plant in 192.25 Ha lease area by MoEF & CC vide letter dated 22.03.2021. Considering the fact that the entire mining lease area of 192.25 Ha was forest land, the mining area was restricted to 35.74 Ha because Stage-II forest clearance, on the date, was available for only 35.74 Ha. This is environmental clearance letter also advised JNIL to approach the MOEFCC for mining in the balance lease area, only when the stage-II forest clearance is available.

Stage II forest clearance was accorded by MoEFCC for area of 35.74 ha (27.65 ha for mining and 8.09 ha for approach road & infrastructure) vide letter no. 8-31/99-FC dated 18.01.2007. Mining operations started on 11.02.2016. Vide letter no. 8-31/1999-FC dated 01.02.2022, MOEFCC granted Stage II forest clearance for an additional 55.26 ha. Thus, the Forest Clearance is granted for 91.0 ha area out of the total Mining Lease area of 192.25 ha.

Public hearing for the expansion project (50000 tons to 2950000 tons per annum per annum for this ML area of 192.25 ha was conducted on 09.10.2020.

After obtaining stage II forest clearance for additional 55.26 Ha, JNIL approached the Chhattisgarh State EIA Authority (SEIAA-CG) for allowing mining to be done on an area of 35.74 ha + 55.26 Ha = 91.0 Ha. Ha (no increase in production of iron ore and beneficiation). This application was submitted on 01/07/2022 to SEAC/SEIAA, Chhattisgarh for appraisal in line with MoEF&CC Notification No. S.O. 1886(E) dated 20th April 2022 wherein the categorization of projects had been amended. Modification of Mining plan with progressive Mining closer plan over an area of 91.0 Ha mining area for production of 2.95 MTPA iron ore with 1 MTPA Beneficiation plant was approved by IBM on 27.05.2022.

SEIAA issued the EC for carrying out mining in an area of 91.00 Ha vide letter 1605/SEIAA/CG/MIN/Nava Raipur Atal Nagar dated 09.10.2023. The EC dated 09.10.2023 stipulated a condition that JNIL shall submit EIA/EMP Report considering the impacts of 91.00 Ha area within a period of four months, which was done by JNIL within the stipulated period.

Subsequently In principle Forest clearance over remaining 101.25 ha forest area was also granted for this project on 29.12.2023. The Iron ore mines near chhote dongar is allotted to meet the requirement of the existing and proposed steel plant. In order to meet the additional requirement of the Integrated Steel Plant, it is proposed to enhance the iron ore production from 2.95 MTPA to 6.0 MTPA and Iron Ore Beneficiation from 1.0 MTPA to 2.0 MTPA in the total ML area of 192.25 Ha. JNIL also proposes to sell iron ore (lump and fines) in the open market as vide amendment of MMDR Amendment Act 2015 (As amended on 28th March 2021) specific clause has been inserted allowing the captive mine owner to sell 50% of the production after meeting the captive requirement.

Chhotedongar Iron Ore Mine had commenced operations during Year 2015-16. The Mine was supposed to made operational after construction of Approach Road. However, the Mine Development Activities could not continue due to Law & Order related issues in the area.

Now the Project Proponent has proposed enhancement in the production capacity and accordingly, the Review Mining Plan for Chhotedongar Mine envisaging mining of Iron Ore @ 6.00 MTPA alongwith enhancement in Beneficiation Plant Capacity from 1 MTPA to 2 MTPA during the period from 2025-26 to 2029-30 has been prepared and approved by IBM, Raipur vide letter no. RPR/NARAYANPUR/IRON ORE/1457/RMP/2024-25 dated 23-01-2025.

In accordance with the provisions of EIA Notification 2006, Chhotedongar Iron Ore Mining Project is required to obtain Prior Environment Clearance from MoEF & CC. As per EIA Notification 2006 the present Project falls under 1(a) (i) of the Schedule of EIA-2006 Notification. Further, as per MoEF&CC Notification No. S. O. 3067(E) dated 1st Dec. 2009 all the Non Coal Mining Projects with lease area more than 100 Ha have been classified as Category “A” Projects. However, subsequently, MoEF&CC vide its Notification No. S.O. 1886(E) dated 20th April 2022 amended the categorization.

As per the recent amendment, now the Non Coal Mining Project with lease area of more than 250 Ha has been classified as Category “A” Projects. Considering all the above, the Chhotedongar Iron Ore Mine project in an area of 192.25 ha, of M/s JNIL is being considered as Category “B” Project from Environment Angle. The Project shall be appraised by SEAC/SEIAA, Chhattisgarh of Ministry of Environment, Forest & Climate Change at State level for grant of Environment Clearance.

JNIL entrusted the services of assessment of the environmental impacts arising due to the proposed Project to NABET Accredited EIA Consultant viz. M/s Srushti Seva Pvt. Limited (SrSPL), Nagpur to facilitate grant of Prior Environment Clearance for the Project.

Accordingly, an application was submitted in Parivesh portal of MoEF&CC to SEIAA Chhattisgarh, Raipur on 02-03-2024 for obtaining Environment Clearance for the Project. The State Expert Appraisal Committee of Chhattisgarh considered the Project for grant of Terms of Reference in its 535th Meeting held on 12-06-2024 and forwarded the proposal to SEIAA, Chhattisgarh. Based on the information and clarifications given by the Project Proponent, the SEIAA appraised the proposal after due deliberations in their meeting held on 03-10-2024 accorded TOR as per provisions of EIA Notification 2006 and amendments thereof for the Project along with specific and general conditions. The SEIAA issued the TOR vide TOR Identification No. TO24B0000CG5938554N dated 25/10/2024.

The Base Line Environmental Data at the Project Site which was collected from October 2024 to December 2024 pertaining to various environmental components including air, noise, water, land and biological components along with parameters of human interest which may be affected due to proposed Project.

This Draft EIA/EMP Report has been prepared in accordance with the TOR issued by SEIAA, Chhattisgarh and the views or comments obtained during public hearing shall be properly addressed in the Final report along with the action plan and budget to address the issues. This report is submitted Chhattisgarh Environment Conservation Board, Raipur for conduct of Public Hearing as per the provisions of EIA Notification 2006 and amendments thereof.

2.0 PROJECT DETAILS:

Chhotedongar Iron Ore Mine is located near Village Chhotedongar of the Tehsil and District Narayanpur in Chhattisgarh. It is bounded by Latitude 19^0 25' 40.356" N to 19^0 27' 09.423" N and Longitude 81^0 15' 37.175" E to 81^0 17' 34.507" E and is included in Survey of India Toposheet No. 65 E/7.

The village Chhotedongar is situated at a distance of about 43 kms from Narayanpur on SH 5 which is connected to Barsur via Dhaudai. From Dhaudai there is diversion of road leading to Chhotedongar located at a distance of about 7 kms. Narayanpur is connected to Kondagaon located at a distance of about 47 kms. Kondagaon is situated at a distance of about 210 kms from Raipur on NH 43. The nearest railhead for the area is Debpal located at a distance of about 59.77 Km. The proposed Bhanupratappur-Bailadila Railway line would pass through Narayapur located at about 50 Km from this mine deposit.

Chhotedongar Iron Ore Mine had commenced operations during Year 2015-16. The Mine was supposed to made operational after construction of Approach Road. However, the Mine Development Activities could not continue due to Law & Order related issues in the area. Collection of only Float Ore could be done during the period of three years. The relevant Statutory Clearances including Environment Clearance for the capacity of 2.95 MTPA in 91.00 Ha mining area out of 192.25 ML area, are available with the Project Proponent.

The Chhotedongar Iron Ore Mining Project envisages peak Iron Ore production of 6.00 MTPA in Project Area of 192.25 Ha by fully Mechanized Opencast Mining Technology by deploying HEMM & Allied Machinery like excavator, rock breaker, wagon drill of 100 mm diameter for blast hole drilling, air compressor, ripper dozer, hyva dumper, pay loader, truck mounted water sprinkler, weigh bridge, storage system of fuel oil with dispensing unit, Crushing & Screening Units with total capacity of 1000 TPH, Beneficiation Plant with capacity of 2x1 MTPA, hired trucks for transporting mineral, ambulance, DG sets, water pump etc

The Project envisages extraction of 23.55 Million Tonnes in the five years of the Proposal Period which spans from 2025-26 to 2029-30 with corresponding OB/Waste generation of 0.136 Million Cubic meter.

The total Resource of entire 192.25 Ha Mining Lease has been estimated at about 74.02 Million Tonnes. The mineable mineral reserves of Ore Body are 67.99 Million Tonnes. Considering ROM production @ 6.00 MTPA during current Plan Period and onwards, the anticipated life of the mine will be about 12 years.

The estimated Project Capital Cost is Rs. 134.00 Crores including expansion.

The Project shall provide 531 employment opportunities in mines and 117 persons in beneficiation plant besides creating many indirect employment opportunities. The local persons shall be given preference in employment for mine as per their eligibility.

Necessary training shall be given to train the unemployed youths of the nearby villages. The indirect employment opportunities shall automatically be created with the expansion of the Project in the region.

The Water Requirement of the Project is estimated to be 1284 KL/Day. Out of this, 173.5KL/Day of the water is required for Mines for Dust Suppression, Plantation & other activities and the 1110.5 KL/Day for Beneficiation Plant.

Out of 1284 KL/Day water requirement, water shall be sourced from Madin River through pipeline located at 3 Km away from the Mining Lease Area. 0.27 MCM (water has been allocated from Madin river by WRD, Govt. of Chhattisgarh. Balance quantity of required water shall be fulfilled by Madin River/ground water. The necessary approval will be obtain by statuary body in due course of time.

The 10 KL/ Day domestic water requirement is sourced from the Bore Well sunk near foot hill region of the Mine Site. Potable water will be pumped though bore well and shall be supplied to the Mine Site through separate Water Tanker. CGWA had approved drawl of 10.0 KLD ground water.

The Mine is utilizing diesel operated mining equipment including excavators, dumpers, dozers, etc. Electricity is required for illumination in the mine and for workshop and office purposes. Around 5.0 MW power will be required to run the Beneficiation plant, which will be taken by State Electricity Board. Two DG sets of 2500 KVA each will also be installed for smooth running of the plant.

The Project shall be requiring about 8240 Liters/day diesel for meeting the fuel requirement of the Heavy Earth Moving Machineries envisaged for removal of Overburden and mining of iron ore.

The Project envisages use of about 24.7 Tonnes of explosives per month for removal of Overburden and ore.

There is no important river or stream passing through the Mining Lease Area. However, the area is drained by a system of seasonal nallas originating from the northern and southern slopes of the hill in a radial pattern.

The mined Iron Ore Lumps and beneficiated Iron Ore Fines suitable for use in the ISP shall be loaded into the trucks and shall be sent to the designated Weighbridge for weighing and for onward dispatch to the Integrated Steel Plant of the Company located at a distance of about 260 Kms from the Mine in Siltara Growth Centre near Raipur.

3.0 BASE LINE ENVIRONMENTAL STATUS

As mentioned above, the Base Line Environmental quality data for various components of environment viz. Air, Noise, Water, Land and Socio-Economic were generated during October – December 2024 in the Study Area covering 10 Kms around Chhotedongar Iron Ore Mine. Other environmental data on Flora and Fauna, Land Use Pattern, Forest etc were also generated through field surveys and also collected from different State Government Departments. Since the data is less than 3 years old and is collected by a NABL accredited laboratory, the same will be used for conducting Environmental Impact Assessment studies for the proposed expansion project.

Air Quality Monitoring was carried out at 12 Stations consisting 2 Sampling Station within the Core Zone (Project Area) and 10 Sampling Stations in the Buffer Zone (10 Kms around Core Zone). Parameters of twelve air pollutants viz. PM_{10}, $PM_{2.5}$, Sulphur Dioxide (SO_2), Oxides of Nitrogen (NO_X), Ozone (O_3), Carbon Monoxide (CO) and Heavy Metals were monitored.
These parameters were included for representing baseline status of ambient air quality within the Study Area. The Noise Level was measured at twelve stations with 15 minutes interval for 24 hrs duration at each station between 15th November to 25th November 2024. The Water Quality was assessed through twelve water samples, ground water (five) and surface water (seven) samples which were selected in 10 km buffer zone of Mine Lease area.

Results & Discussion: On the basis of observations, the parameter wise result of monitored parameters is discussed below compared with National Ambient Air Quality Standards.

Particulate Matter (PM_{10}): The maximum PM_{10} concentration covering all the air quality monitoring stations i.e. A-1 to A-12 were observed in the range of 38.30 - 55.10 µg/m^3. Almost all the stations have PM_{10} concentrations less than the permissible limit i.e. 100 µg/m^3 as prescribed by MoEF &CC for industrial, residential, rural and other area.

Particulate Matter ($PM_{2.5}$): The maximum $PM_{2.5}$ concentration covering all the air quality monitoring stations A-1 to A-12 were observed in the range of 17.9 - 32.20 µg/m^3 and within the NAAQ Standards of MoEF & CC prescribed limit of 60 µg/m^3 for industrial, residential, rural and other areas.

Sulphur Dioxide (SO_2): The maximum SO_2 concentrations covering all sampling stations A-1 to A-12 were in the range of 6.80 - 14.30 µg/m^3. All monitored stations have SO_2 concentrations well within the stipulated limit of 80 µg/m^3 as prescribed for industrial, residential, rural and other areas under revised NAAQ Standards of MoEF & CC.

Oxides of Nitrogen (N_{OX}): The maximum NO_x concentrations covering all sampling stations A-1 to A-12 were observed in the range of 7.20 - 22.50 µg/m^3. All monitored stations have NO_X concentrations well within the stipulated limit of 80 µg/m^3 as prescribed for industrial, residential, rural and other areas under NAAQ Standards of MoEF&CC.

Heavy Metals: Representative samples from all sampling stations were collected and analyzed for heavy metals i.e. Lead, Arsenic & Nickel. The concentrations of heavy metals were observed below detectable limit at all the stations.

In summary, the ambient air quality of Chhotedongar Iron Ore Mine area and its buffer zone shows that the concentrations of all monitored parameters were within the stipulated standards of MoEF&CC.

Noise Quality: The noise Levels in the Chhotedongar Iron Ore Mine lease buffer zone was observed in the range of 40.8 to 55.3 dB (A) during daytime and 38.5 to 48.9 dB(A) during night time, which are below the prescribed regulatory limits.

Water Quality: In summary, overall quality of water samples indicated that the water quality of all the sources was found to be satisfactory of the study area ..

Hydrogeology: Chhotedongar Iron Ore Mine falls under safe zone of Central Ground Water Authority (CGWA). The hydrogeological study concludes that there is no intersection of ground water during mining down to the ultimate depth of 170 m. The maximum RL of mine bottom will be 760 m amsl whereas water table will be below 600 m amsl. Hence, there will not be any abstractions of ground water in this mine. Further, impact of surface and ground water due to iron ore mining will infer either natural or positive phenomena.

Soil Quality: A total of eight Samples were collected from 8 different locations representing waste land, agriculture land. All soil samples indicated presence of sufficient nutrients.

Flora & Fauna: The Flora & Fauna study was undertaken to assess the nature and distribution of vegetation in and around the project site within 10 km. radius as well as to assess the animal life spectra (within a 10 km radius) keeping with this view the present assignment has been undertaken to carry out a field survey of the flora and fauna as an internal input for an EMP. Representative Field sampling through the transect/quadrat sampling to cover the major ecological systems of the surrounding area. Floral and faunal presence in this area from various primary and secondary sources verified based on actual field studies. The floral and faunal assemblage in the study area is also provided in the report.

Socio-Economics: Primary Socio economic survey on selected villages has been carried out in 2024 and the details are provided in EIA/EMP. As per Census 2011 demographic characteristics of the study area are represented by a number of criteria, namely population composition, sex ratio, family structure, and age distribution pattern. Attempt has been made to compare the demographic features between the census data whenever corresponding data are available. The area selected for the study constituted 40 inhabited villages.

National Park, Wildlife sanctuary, defense installation or sensitive area are not located within 15 km radius of the mine.

4.0 ANTICIPATED IMPACT

Impact on Climate: The proposed Project is not expected to have any major irreversible impact on the climatological features like temperature, rainfall, wind speed, humidity etc.

Impact on Topography: The mining operations will change the topography and the landscape of mineral bearing area and its immediate vicinity in the core zone only. During Proposal Period of 2025-26 to 2029-30, mechanized open cast mining methodology shall be adopted for undertaking mining over 44.73 Ha area. The mine working shall be carried out from Surface RL of 931.6m to 758m comprising of 29 Numbers of benches each with maximum 6m height along the slope of the hill. There will not be any pit formation during mining plan period.

During the conceptual plan period, the hill slope will be sliced till 776 MRL. Thereafter, a pit will be formed with pit bottom at 716mRL. Thus, at conceptual stage, the mine pit will have a depth of 60m from surface level.

Impact on Drainage: Due to mining activities proposed on the hill top, high land, where rainwater is not being logged now will be prone to water logging. The run off rate will also reduce due to formation of mine pit at the top. This will change the hydrological condition of the area especially the surf ace water flow following the natural drainage lines along the slopes.

Impact on Land Use: The proposed opencast iron ore mine as well as the Mineral Beneficiation Plant will result in change of the land use pattern of the Mining Lease Area. The land degradation is expected during mining activities of excavation, overburden dumps, crushing & screening, mineral beneficiation, tailings disposal etc.

Impact on Soil: Soil erosion may also get accelerated on areas where the overburden will be dumped. As there is neither a toxic effluent nor any chemical solid waste from the mines, quality of soil is not expected to be adversely affected. Impact on soil will be localized i.e. around the mine site. Likelihood of any adverse impact from soil erosion and disturbance in quality is not anticipated.

Impact on Air Quality due to Mining: In order to estimate the ground level concentrations due to the emission from the proposed increase in production, EPA approved Industrial Source Complex AERMOD View Model has been employed.

Predicted 24 hourly Ground Level Incremental Concentrations of PM_{10} & $PM_{2.5}$ are estimated to be 4.7 $\mu g/m^3$ and 2.29 $\mu g/m^3$ respectively. This prediction is based on various mining operations and site specific meteorological data in worst scenario.

Impact on Air Quality due to Transportation: The maximum ground level concentration due to proposed transport is estimated to be increased by 17.2 $\mu g/m^3$. The proposed road for the transport of iron from the mine face to end user passes through forest land and specific permission for the transport of iron ore from

the forest land has been obtained. There is no village located enroute and there is no significant habitation or agriculture land is located.

Impact on Noise Quality: From the Noise Modelling results, it is observed that the maximum resultant noise levels near the mine lease boundary will be about 60 dB(A). The noise levels will be further reduced and the predicted resultant noise levels at the nearest village habitation i.e. Madamnar village will be below 54 dB(A).

Impact due to Ground Vibrations & Fly Rocks: The proposed maximum charge per blast of 2200 kg will result in ground vibrations well below the minimum Peak Particle Velocity limit of 5 mm/s for domestic houses located in Madamnar village. Since, the mine lease area is located on top of a hill, blasting near the boundary of mine lease area may cause breakage of parting left in the form of safety zone. This may result in rolling of loose boulders along the hill slope causing damage to trees and animals down the hill. So, protective measures need to be adopted while blasting on the top benches near boundary of the mine lease area. Apart from this, additional control measures needs to be adopted to avoid the impacts due to ground vibrations and fly rocks due to blasting.

Impact on Water Regime: It is expected that surface water runoff will decrease and ground water runoff (base flow) will increase in Madin Nadi Sub-Basin in which Chhotedongar Mine is located. The mine operation will be above water table as such there is no shallow aquifer exists in the core zone. Accordingly there will not be any adverse impact on ground water. It is expected that suspended particle in surface water during rainy season may increase. The suspended solids generated during the mining operations pose major problem for contamination of surface water.

Impact on Flora & Fauna: Due to mining and associated activities, fugitive dust in the atmosphere may deposit on different parts of the plants in the surrounding area leading to the destruction of flora. During operation phase, various vehicle/ machinery movement and blasting activities would create excessive noise that may force the movement of animals from nearby forest patches. There is no Wildlife Sanctuary or National Park in 15 Km radius of the Chhotedongar Iron Ore Mining Project. There is no reported migratory path of wildlife or bird species of threatened or protected species. However due to the recorded presence of 7 Schedule 1 species in the study area , a Wildlife Conservation Plan has been prepared and has been approved by Competant Authority. JNIL has deposited the amount of Rs 1.05 Crores to the Competant Authority for implementation of the WLCP. The transport route of the mineral also lies away from these areas.

Impact on Socio-Economic Aspects: The project is likely to create positive impacts due to creation of employment opportunities both direct and indirect. Generation of employment opportunities is important as the project region is devoid of any industrial activities and agriculture is the only main source of income.

5.0 REHABILITATION & RESETTLEMENT

Since the entire 192.25 Ha leasehold area of the Chhotedongar Deposit is forest land, the question of R & R does not arise in this Project.

6.0 CORPORATE SOCIAL RESPONSIBILITY (CSR)

JNIL proposes to undertake a number of activities under the Corporate Social Responsibility Initiative during the operation of Chhotedongar Iron Ore Mining Project. The capital CSR Budget has been worked out as per the expressed felt needs of villagers during Rapid Rural Appraisal. The proposed total capital budget is to the extent **Rs. 48.42 Lakhs** (Rupees forty eight lakhs and forty two Thousand Only) and will be spent in core and buffer villages of study area during the first five years.

7.0 CORPORATE ENVIRONMENT RESPONSIBILITY (CER)

In addition to the CSR, JNIL proposes to undertake a number of activities as one time measure under the Corporate Environment Responsibility Initiative during the operation of Chhotedongar Iron Ore Mining Project. The total capital cost of this expansion project has been estimated to be 134 Crores (Rs 85.59 Crores existing + Rs 48.42 Crores for expansion).A budgetary provision of Rs. 36.31 Lakhs @0.75% of Rs 48.42 Crores is proposed to be made for implementing the CER Activities for this expansion project. This will be inaddition to the earliear provision of Rs 85.60 Lakhs In line with the MoEF&CC OM dated 30th September 2020 and 20th October 2020 as regards to implementation of CER, JNIL proposes to utilize the funds allocated under CER for complying with the issues raised during public hearing for the project.

8.0 ENVIRONMENTAL MITIGATION MEASURES

Mitigation Measures at the source level and an overall Management Plan at the Study Area Level are elicited so as to improve the supportive capacity of the Study Area and also to preserve the assimilative capacity of the receiving bodies. The Report provides detailed Action Plan for each pollutant viz. Air, Water, Noise, Socio-Economic, Land Use and Plantation Activities.

The proposed Mitigative Measures to be adopted during operation of the Chhotedongar Iron Ore Mining Project are briefly described below under various head.

8.1 Air Pollution Management:

- All construction equipment will be maintained properly.
- Provision of regular water sprinkling at excavation & levelling sites and temporary soil disposal sites to minimize dust generation.
- Development of green belt around the Beneficiation plant boundary, in advance of the plant construction activities.
- All the vehicles carrying construction material will be covered with tarpaulin.
- Covered storage and/or periodic water sprinkling, as applicable, on fine material used for construction.
- Only “Pollution under Control (PUC)” certified vehicles will be deployed at site.
- Strengthening of approach roads to the plant site and regular water sprinkling on it to minimize dust emissions during material transport.
- Use of sharp teeth shovels;
- Wet drilling;
- Water sprinkling on haul roads within ML area;
- Water sprinkling on transport road by truck mounted mist spray;
- Controlled blasting;
- Optimize charge per hole and charge per round;
- Afforestation of completely mined out area, with minimum gap between excavation and afforestation;
- Enclosures with ventilation and exhaust system at crushing plant;
- Regular maintenance of vehicles and machinery;
- Cabins for shovel and dumpers and dust masks to workmen;
- Good housekeeping.
- Prohibition on overloading and over-speeding.
- Thick plantation along both the sides of transport road connecting village road.
- Periodic maintenance of village road used for mineral transport
- Transportation of processed ore and tailings through trucks covered with tarpaulin.

8.2 Water Pollution Management:

- Water channels/drains carrying the rain water from the mine will be provided with baffles and settling pits to arrest the suspended solids;
- Worked out slopes will be stabilized by planting appropriate shrub/grass species on the slopes. This will help in preventing wash-off of dump from these slopes;
- The mine water will be regularly tested and appropriate measures will be taken in case any element is found exceeding the limits prescribed by CPCB; and
- Seepage water and rain water collected in the open pits will be pumped out and discharged into natural drainage system after de-silting in settling ponds.
- The probable cause of surface water pollution in the proposed mining area will be soil erosion and wash off from the waste dumps and mineral stock yards in monsoon season. The run-off water during monsoon season flows through natural water courses into nallas. The surface water entering into the mine during rainy season will be diverted through suitable drains to reduce the wash off of soil. The general drainage direction in the working area will be towards the mine sump, for collection of water. The water will be utilized for greenbelt development, mining operation, which will reduce the fresh water requirement.
- Adequate measures to protect the mine during rains will be taken by providing garland drains around the mine excavations and also providing suitable drainage gradients for mine benches. Sumps of adequate capacity will be provided on the quarry floor.

8.3 Noise & Vibration Management:

- Secondary blasting will be minimized to the extent possible;
- Systematic blasting with proper spacing, burden and stemming will be carried out;
- Minimum quantity of detonating fuse will be consumed by using non-electrical initiation system;
- Blasting will be carried out during favorable atmospheric conditions and also when human activities are at their minimum;
- Prime movers/diesel engines will be properly maintained;
- A buffer barrier of tree belt will be provided in phased manner along the periphery of the mine to attenuate noise;
- Personal Protective Equipment (PPE) like ear muffs/ear plugs will be provided to the operators of HEMM and persons working near HEMM;(HEMM) producing high levels of noise will be made; and
- Exposure time of workers to the higher noise levels would be minimized.
- At transfer points free fall material will be minimized and suitable lining material will be provided
- Isolation/enclosure of noisy machines/equipment, wherever possible.
- Reducing idling time of machines/equipment's.
- Provision of enclosures, silencers, etc to the possible extent to control noise propagation.
- Use of adequate silencers and practicing speed limit for material transport vehicles

8.4 Solid Waste Management:

- Stabilization of overburden dumps;
- Construction of retaining boulder walls;
- Construction of garland drains for drainage;
- Provision of jute mesh to facilitate grass or vegetative growth on slopes;
- Provision of good soil mixed with manure and subsequent watering for growth of grass for anchorage on slopes. Plantation mixed with indigenous and fast growing plant species;
- Degraded area will be reclaimed and rehabilitated in a phased manner with local plant species;
- Transport roads will be planted with trees on either side; and
- The beneficiation plant tailings will be temporarily dumped in the designated place towards east of the working quarry from where it shall be sold out to cement/ bricks /tiles industry as per requirement.

However, there is an option in Chhattisgarh State to dispose off generated tailings waste for filling of old pits, abandoned quarry and for landscaping outside the lease area or to be given to the villagers with prior permission from State Govt. after paying royalty as prescribed. It is proposed to utilize these tailings, for brick manufacture, at a later stage of the project.

8.5 Top Soil Management:

During the life of the proposed mining project , the anticipated quantity of top soil is very meagre and whenever it is encountered it shall be stacked separately . This will subsequently used for spreading in proposed plantation area.

8.6 Plantation:

M/s JNIL proposes to develop about 128.50Ha (including safety & reclaimed area and OB dump) of land with 257000 saplings under plantation and greenbelt development programme in progressive manner during the life of the mine.

9.0 IMPLEMENTATION OF EMP & ITS MONITORING

In order to mitigate the anticipated impacts of the Iron Ore Mining & Allied Activities, implementation and monitoring of the suggested EMP is an important aspect of the Environmental Impact Assessment / Environment Management Plan Document.

JNIL proposes a full-fledged Environment Department consisting of two separate Cells viz. EMP Implementation Cell and Environment Monitoring Cell to review, implement, supervise and monitor the environmental related issues. As regards to air quality monitoring Three continuous ambient air monitoring stations will be installed Two in the core zone and one in the buffer zone. The water quality, noise level, vibration monitoring, ground water level (using 01 piezometers) will be carried out and the records will be submitted to the competent authorities besides uploading the same on JNIL website.

The Mitigation Measures suggested in the Report shall be implemented so as to reduce the impact on environment due to operations of the proposed mining activities.

In order to facilitate easy implementation, mitigation measures are phased as per the priority implementation. A separate budgetary allocation of the funds shall be made for the Environmental Protection Measures. The monitoring of the pollution to know the effectiveness of the applied control measures shall be carried out at regular interval.

JNIL consider protection of workers' health and well- being as their prime concern and responsibility. The company accordingly proposes to adopt certain measures for providing proper occupational health services which will ensure optimal physical and mental health of employees & workers.

The Capital Budget for Environmental Protection Measure provided for this expansion is Rs. 156.25 Lakhs in addition to the earlier provision of Rs. 570.00 Lakhs and the Recurring Budget is estimated to be Rs, 45.00 Lakhs.

10.0 PROJECT BENEFITS

The primary benefits to the Government (State as well as Central) from any mining project are generation of additional revenues in terms of receipt of royalties and other statutory levies against the mineral mined. The secondary benefits to the Government are socio-political benefits in terms of enhanced economic activities and employment opportunities in the Project Area resulting into overall development of the area.

The tentatively economic benefits that would accrue to the Government from the Chhotedongar Iron Ore Mining Project during the entire mine life of 11.4 years are expected to be around Rs. 3736996.56 Lakhs.

The Project shall have positive impacts in the Project Area and surrounding villages in terms of development of infrastructure facilities like roads and communication, transport, schools as well as basic amenities viz. drinking water, sanitation, hospitals, health care, and overall socio economic development.

The Company shall initiate necessary steps to create above facilities which will ultimately help in uplifting the living standards of local communities.

The direct requirement of manpower for the Project has been assessed at 648. Considering the number of persons per family as four, this employment potential of 648 persons translates to direct benefit of the Project to about 1464 individuals.

The Project shall offer creation of Secondary & Tertiary Business Opportunities for the local people in the form of Service Industry resulting in development of ancillary & allied services like Security, Canteen & Mess, Transport, Civil Repair & Maintenance, HEMM Repair and Maintenance etc.

JNIL is operating its Integrated Steel Plant (ISP) in the State of Chhattisgarh. This ISP needs Iron Ore. The Chhotedongar Project shall be meeting about 6.00 MTPA Iron Ore requirement of the ISP. The Project shall be providing consistent supply of iron ore of improved quality at lower price to the ISP of JNIL.

AN EPILOGUE

In compliance with the environmental procedure the environmental clearance application is made. Necessary scientific studies have been undertaken as per the guidelines set by the Ministry of Environment Forests & Climate Change (MoEF&CC). The suggestions/ recommendations of all the experts, competent authorities, and government officials are being sought for the impacts of the proposed project. Views and guidance of the local residents, community based organizations, social organizations are extremely important in order to devise a full proof Environment Management Plan for the proposed mining project and also mitigate the damages caused due to the project. Allocation of necessary funds, manpower and machinery will be made to for the protection and conservation of all the components of environment. It is ensured that all mandatory clearances will be sought from respective competent authorities before operating the proposed Expansion in Production of Iron Ore & Beneficiation Plant located near village Chhote Dongar, (192.25 ha). M/s. Jayaswal Neco Industries Limited is committed to implement the suggestions for the improvement of the environment and assure that every attempt will be made for the conservation and protection of the natural resources to the maximum extent. It is requested to recommend this proposal for the grant of Environmental Clearance.