

PROCEEDINGS OF PUBLIC CONSULTATION (HEARING) OF ADAGHAT IRON ORE MINES OF M/S NATIONAL ENTERPRISES HELD ON DTD.21-12-2021 (11.00 AM) AT OPEN GROUND NEAR HANUMAN TEMPLE IN ADAGHAT VILLAGE OF MALDA GRAM PANCHYAT UNDER KOIRA BLOCK OF SUNDARGARH DIST. (ODISHA)

The public hearing meeting for Adaghat Iron Ore Mines of M/s National Enterprises (over an area of 15.074 Ha.) was conducted on dtd. 21.12.2021 at 11.00 A.M for production of iron ore from 0.3Million TPA to 0.7Million TPA and installation of 2X150TPA capacity of mobile crushing and 2X250TPH capacity of mobile screening plant at open Ground near Hanuman Temple in Adaghat Village of Malda Gram Panchayat Under Koira Block in the District of Sundargarh. Sri Riswajit Mohapatra, Additional District Magistrate of Sundargarh had presided over the meeting. At the outset, Dr. Binod Bihari Dash, Regional Officer, State Pollution Control Board, Odisha, Rourkela delivered welcome address, organised and conducted the public hearing meeting in associating with District Administration.

The Public hearing in respect of the above mining was held as per the scheduled and at the venue in accordance with EIA Notification S.O.1533(E) dtd.14.09.2006 and subsequent amendment therein. The Public Hearing meeting with regards to date, place and time was announced in public address system apart from its publication in local dailies. The process followed for the public hearing was adequate. The attendance sheet of the public present in the sheet of the public present in the meeting is annexed herewith in **ANNEXURE-I**. Around 100 nos. of persons attended the public hearing meeting. 73 Nos. of persons have signed in attendance sheet. Fifty two (52) nos. of persons had delivered their views whose list and their signature is given on **ANNEXURE-II**. Fifty Four (54) no. of written representation was received is given on **ANNEXURE-III**.

Sri Biswajit Mohapatra, Additional District Magistrate, Sundargarh had welcomed the Public & explained about the importance of such hearing and also invited views , comments, objections & opinions of the public which are necessary while considering the environmental clearance of the project and also those who wants may give their written statement about the proposed projects. He had also reminded / request the public to follow the COVID-19 guidelines on wearing the mask and on maintaining the social distance that has been issued by the Govt. during Public hearing.

After that Additional District Magistrate, Sundargarh had invited the representative of project proponent of Adaghat Iron ore mines of M/s National

Enterprises and Sri Sachikanta Behera, Assistant General Manager (Mines), had briefed about the proposed mining activities for production of iron ore mines, salient features of the proposed project and Environmental Management Plan, Pollution Control Measures to be adopted during mining operation, Blasting procedure, Plantation Programme and various other peripheral development activities etc. to be carried out during the course of mining.

DETAILS OF THE PROJECT PROFILE:-

The brief outline of the EIA (Environment Impact Assessment) and Environment Management Plan (EMP) has been carried out for Adaghat Iron Ore Mine for Mining of Iron Ore with Production Capacity of 0.7 MTPA (ROM) with Two numbers of 150 TPH mobile Crushing Unit and two numbers of 200 TPH of Mobile Screen Unit by NATIONAL ENTERPRISES over an Area of 15.074 Ha. at Village – Adaghat of District Sundargarh, Odisha.

To obtain Environmental Clearance of Adaghat Iron Ore Mine CEMC Pvt. Ltd., a NABET & NABL Accredited Environmental Consultancy, Bhubaneswar was engaged for preparation of EIA/EMP of the project.

Accordingly CEMC Pvt. Ltd., Bhubaneswar has prepared the EIA/EMP report with following baseline data.

DETAIL SALIENT FEATURE OF THE PROPOSED MINING PROJECT (AS PER REPORT SUBMITTED IN EXECUTIVE SUMMARY)

1. **Name of the Mines-** Adaghat Iron Ore Mine of National Enterprises
2. **Name of the Product-** Mining of Iron Ore with Production Capacity of 0.7 MTPA (ROM) with Two numbers of 150 TPH mobile Crushing Unit and two numbers of 200 TPH of Mobile Screen Unit
3. **Location/Name of the Village is present-** Adaghat of District Sundargarh,
4. **Tehsil-** Koirā of Sundargarh district.
5. **Total proposed lease hold-**15.074 ha. DLC forest land in Bonai Forest Division, District Sundargarh)
6. **Nearest Town-** Koirā at a distance of approx. 8.0 km
7. **Nearest Road-** NH-215 is about 8.0 km in the Western direction
8. **Nearest River-** Seasonal stream & Pond, Suna Nadi (300 m E), Teherai Nala (3.0 km Southern Direction)
9. **Nearest Railway Station-** Barbil Railway Station is about 28 km in the NE direction.
10. **Production Quantity-** Enhancement in Production of Iron Ore from 3, 00,300 (0.3 million) TPA to 7, 00,005 (0.7 million) TPA ROM with total excavation of 1.024 million TPA (ROM of 0.7 million TPA + 0.324 million TPA waste), Setting up two mobile

Crushers of 150 TPH capacity each and two mobile Screening Plants of 250 TPH capacity each

PROJECT OUTLINE:-

Adaghat Iron Ore Mines located at Village – Adaghat of District Sundargarh, Odisha (Mining Lease Area: 15.074 Ha.) belong to NATIONAL ENTERPRISES.

The Salient features of Environmental Clearance of Adaghat Iron Ore Mines for Mining of Iron Ore with - Enhancement in Production of Iron Ore from 3,00,300 (0.3 million) TPA to 7,00,005 (0.7 million) TPA ROM with total excavation of 1.024 million TPA (ROM of 0.7 million TPA + 0.324 million TPA waste), Setting up two mobile Crushers of 150 TPH capacity each and two mobile Screening Plants of 250 TPH capacity each as follows: - (As per the Executive Summary Report stated by CEMC Pvt. Ltd., Bhubaneswar.)

- a) This project falls under 'Category B' of Project Type 1(a) - Mining of Minerals which requires Environmental Clearance (EC) from SEAC, Odisha before the commencement of any activity.
- b) The existing area comprises 15,074 Ha DLC lands.
- c) Method of mining will be Fully Mechanized Open Cast Mining with crushing and screening
- d) The annual production is targeted at Production of Iron Ore from 7,00,005 (0.7 million) TPA ROM with total excavation of 1.024 million TPA (ROM of 0.7 million TPA + 0.324 million TPA waste), Setting up two mobile Crushers of 150 TPH capacity each and two mobile Screening Plants of 250 TPH capacity each. The lump ore (10-40 mm) and fines (-10mm) will be segregated in the Crushing / Screening Plant.
- e) The mineable reserve of iron ore in the lease area is 71,886,002 MT or 71.89 million tons. In the ensuing plan period about 3.949 million ton will be exploited. Keeping in view the production of iron ore 0.7 million ton per annum, life of the mine will be 08 years as per the current plan period. However, the life of mine is likely to increase with further exploration of lease to G1 level of exploration.
- f) The Soil to be extracted will be stacked in the earmarked area, which will be used for plantation purpose around hillock/ patch and adjacent to the haul roads.
- g) It is a part of Survey of India Topo sheet No. 73G/5 on 1:50,000 scale and is bounded by the Latitudes from 21° 55' 25.22002" to 21° 55' 43.04502" N and Longitude 85° 19' 07.43920" to 85° 19' 48." E. as per DGPS surveyed Geo-Referenced Map authenticated by officials of the Revenue, Forest and Mining Department as well as Odisha Space Application Centre (ORSAC), Department of Science & Technology, Govt. of Odisha.
- h) The major drainage of the area is contributed by Suna Nadi. There is no seasonal nala flowing within the lease area.

- i) Average water requirement at mine for mine use are to the tune of 30m³/day. The mine has obtained permission for use of Surface water for DOWR Govt. of Odisha for 30m³/day from Suna Nala.
- j) The mining operation including maintenance will be done in General shift only.
- k) Power requirement is 18 KW. Permission for the same was obtained from Odisha State Electricity Board (OSEB) in the year 2019. 01 No DG sets of 5 KVA will be used for emergency backup.
- l) The proposed area does not contain any features any archeological / historical and cultural importance.

PRESENT CLIMATIC CONDITION AND ENVIRONMENT FEATURES OF THE PROPOSED MINING AREA:-

Following are the base line study reports of **CEMC Pvt. Ltd.**, Bhubaneswar w.r.t. present Environment Scenario.

Climate and Metrology-

The regional climate of the study area is sub-tropical in nature characterized by hot summer, followed by heavy rain during monsoon and cold winter. The climate is comparatively pleasant after the monsoon sets in and mild winter sets in early November. In this region winter prevails in the months of January when mercury drops below minimum of 50C and in the month of May the day temperature rises to maximum of 42°C. The summer starts from middle of March and lasts till the middle of June. The region boasts of a high average annual rainfall of 1534.5mm because of the south western monsoon. The meteorological data were collected from nearest IMD station at Keonjhar & field observation.

A. Ambient Air Quality-

To quantify the impact of the Adaghat Iron Ore Mining Project on the ambient air quality (AAQ), it is necessary to evaluate the existing ambient air quality. The existing ambient air quality, in terms of Particulate Matter- PM10 (size less than 10µm), Particulate Matter- PM2.5 (size less than 2.5 µm), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO_x), etc have been measured through a planned field monitoring and analysed. The sources of air pollution in the area other than mining units are like vehicular traffic, dust arising from unpaved village roads and domestic fuel burning.

B. Noise Quality-Noise levels were measured using integrated sound level meter manufactured by Quest Technologies, USA which is an integrating/ logging type with Octave filter attachment (model OB-100) and has frequency range from 31.5 to 16000 Hz. At 8 each noise monitoring station, noise level as Leq was recorded on an hourly basis for 24 hours continuously. Minimum and maximum noise levels recorded during the month of Dec-19 the day time were from 36.6 dB(A) Leq in Mine Lease Boundary and 67.8 dB(A) Leq in Adaghat respectively and minimum and maximum level of noise during night time were 35.0 dB(A) Leq in Mine Lease Boundary and 61.7 Leq dB in Alaghat respectively. In the month of Jan-20 Minimum and maximum noise levels recorded in day time as 32.4 dB(A) Leq in Mine Lease Area and 61.8 dB(A) Leq in Adaghat and minimum & maximum level noise levels in night time is 31.0 dB(A) Leq in

Mine Lease Area and 58.1 dB (A) Leq in Alaghat for the month of Feb-20 Minimum and maximum noise levels recorded during day time as 33.7 dB(A) Leq in Mine Lease Area and 61.3 dB(A) Leq in Alaghat and minimum and maximum level noise levels in night time as 30.6 dB(A) Leq in Mine Lease Area and 52.8 dB(A)Leq in Adaghat.

Water Quality-

Facilities for monitoring both surface run-off water and ground infiltration will be provided periodically. Ground water and surface water bodies will be monitored and will be fully analyzed for the parameters specified by State Pollution Control Board, Odisha. The monitoring schedule for water quality analysis is given below. Ground water monitoring around the mines will be conducted in every three months for any change in ground water quality due to any impact of the mine's operation on outside environment.

Monitoring Schedule for Water Quality

Monitoring season Pre-Monsoon (during the month of May)

Monsoon (during the month of August)

Post-Monsoon (during the month of November)

Winter (during the month of February)

Monitoring locations

Core zone

Office Building

Buffer zone

Water Bodies

1. Suna nala near Adaghat (surface water)
2. Teherei Nala near village Teherei (surface water)
3. Adaghat village (Ground water)
4. Girhei village (Ground water)

Monitoring frequency once in a season

Monitoring parameter As per SPCB Guideline

Soil Quality Soil Sampling is based on agriculture field available in the study area. Composite sampling is done following BIS method of 8 locations. Mostly the soils collected from different location in the study area is low in productivity with the organic carbon content low or average sufficient in most locations except in the Near Karo River and more than sufficient in potassium content. Available Nitrogen in location Near Karo River is sufficient and in Gopisahi it is better but in rest of the locations it is good; the phosphorous content is less and very less in locations and Mines Lease Area respectively and in the rest of the locations it is medium. It is concluded from the analysis that in general the soil is not suitable for plantation and agricultural crops. However, through extensive application of nitrogenous and phosphate fertilizers as well as compost, the same can be made suitable for plantation and agricultural crops.

Biological Environment-

The leasehold of Adaghat iron ore mines is completely on DLC forest land. The study area has mostly dry deciduous forest towards eastern, northern & western part. Most of the forest blocks are mainly dry tropical deciduous type with good growth of Sal forest. The principal associates of Sal in this type of forests are Asan (*Terminalia alata*), Bahada (*Terminalia bellirica*), Siddha (*Lagerstroemia parviflora*), Dhaura (*Anogeissus latifolia*), Jamu (*Syzygium cumini*), Amba (*Magniferra indica*), Kusum (*Schleichera oleosa*), etc. During the survey of the core & buffer zone, no endangered or rare plant species were observed. As such from floristic stand point, the study area cannot be considered as unique site. As per the IUCN red list for threatened species, no species in the study area are coming under rare, endangered

or threatened category. Both direct and indirect observation methods were used to survey the fauna in the study area. Animal life is mostly represented by Jackal, Monkey, Rabbit, Mongoose, etc whereas birds are represented by Crow, Cuckoo, Dove, Jungle Fowl, etc. There is no national park, biosphere reserve, sanctuary, habitat for migratory birds, archeological site, defense installation, airports within 10 km of the periphery of the lease. However, due to presence of Sloth Bear, Elephant (some Schedule- I species), a Site Specific Conservation Plan has been prepared with a budgetary provision of Rs 290.40 lakhs; which has been approved by the PCCF (Wildlife) vide Memo no. 4763/1WL(C)SSP-348/2012, dt 12th May, 2014.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

A. Land environment and Land use:

Impact:

Due to open cast mining and mining with dumping of waste, the land of the area usually degraded. Mining activity has a profound impact on land environment due to formation of quarries and dumps.

- The mining activity will not have any significant impact on the agriculture within the lease area.
- The topsoil in the active mining area will be adversely affected. However during the mining operation the top soil will scrap out and separately kept for plantation purpose.
- The mine runoff in this mine is not contaminated except carrying high suspended particle.
- The mine runoff will only contain silt and soil and will be settled before discharge outside to the lease area.
- There is also positive impact of mining on agriculture, as sufficient water is being discharged from the mine, which can be utilized for irrigation purpose, increasing the productivity.

Mitigation Measures

Adopting suitable, site-specific mitigation measures can reduce the degree of impact of mining on land environment. The proposed mitigation measures are as follows:

- A nursery will be developed in the lease area or outside depending upon the availability of fertile land suitable for growth of seedlings. Otherwise, saplings will be purchased from the forest department. Final mine closure plan will be implemented properly to develop the aesthetics of the M.L area.
- Runoff from the mine and waste dumps should be regulated by constructing retaining wall and garland drains around the dump.
- Mine drainage water will settled in the settling tank and stored in the abandoned quarries
- Garland drains and retaining wall will be provided to prevent run off affecting the surrounding agricultural land.

B. Air Quality:

Blasting & Transportation of Vehicles

Control Measures:

- Overburden/ waste will be dumped. R.O.M iron ore will be transported to the crushing & screening site for sizing. Average distance / lead between the quarry and disposal/unloading sites are assumed to be 1 km. saleable ore obtained from the crusher/screen will be dispatched to the destination through trucks contractually. All the transportation trucks will be covered by tarpaulin.
- Dust suppression by water spraying
- Green belt development along the safety zone.
- No blasting shall be done when the sky is cloudy.
- Control blasting methods will be adopted for blasting to reduce vibration, noise as well as fly rocks.
- Blasting will be avoided during high wind periods where the fine dust is carried away easily affecting the ambient air quality.
- Delay Detonators and controlled blasting techniques will be used to keep the dust, noise as well as vibration level within the prescribed limits.
- Maximum use of rock breakers to avoid drilling and blasting.
- Regular water sprinkling engaging pressurized water sprinkler on the feeder roads, haul roads, working face & areas prone to air pollution such as loading & unloading points for dust suppressions. Pressurized water sprinkler will be deployed.
- Periodical maintenance of HEMM / vehicles for controlling Vehicular emissions and conducting emissions tests using diesel smoke meter equipment.
- Transport vehicles will be covered with tarpaulin during transportation to avoid spillage and generation of dust.
- Speed of moving dumpers and other vehicles running in the mine will be limited to moderate speed (25km/hour) to prevent undue noise as per DGMS circulars.
- Providing Water sprinkling arrangement in Loading & unloading points.
- Installation of water sprayer arrangement at screening & crushing unit as well as loading & unloading point for dust suppression.
- The products shall be discharged through chutes and the bottom of the chute will be maximum 3 m from the ground level.
- Fixed auto sprinklers shall be provided in the stockyard of products.

Noise Quality

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Agency: Blasting & Transportation of Vehicles

Control Measures:

- 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;
- Development of thick green belt along the mine lease boundary 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 producing high levels of noise will be made; and
- Exposure time of workers to the higher noise levels would be minimized.
- 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
- Periodic maintenance of village road used for mineral transport
- Plantation along mineral transport roads
- Periodic monitoring of work zone noise levels and ambient noise levels in the mine lease area and in nearby villages to assess the efficacy of noise control measures and adoption of additional noise control measures, if required.

Ground vibration & fly rock control measures:

- Blasting will be performed strictly as per the guidelines specified under blasting technology;
- Proper design of blast based on the site conditions to control fly rocks
- Adoption of muffled blasting technology on top benches near mine lease boundary, if required.
- Overcharging will be avoided;
- Charge per delay will be minimized and preferably more number of delays will be used per blast;
- Blasting operations will be carried out only during day time as per mine safety guidelines;
- A safe distance of about 100 m will be maintained from blasting site.
- During blasting, other activities in the immediate vicinity will be temporarily stopped;