BY REGD POST

OFFICE OF THE

STATE POLLUTION CONTROL BOARD, ODISHA

Parivesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII,
Bhubaneswar - 751 012

No. 17653 / **Ind-II-NOC-5135** Date 28-09-17

OFFICE MEMORANDUM

In consideration of the application for obtaining Consent to Establish for **Hirakhand Bundia U/G Mine of M/s. Mahanadi Coalfields Ltd.,** the State Pollution Control Board has been pleased to convey its Consent to Establish under section 25 of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1981 **for enhancement of production capacity of Coal from 0.18 MTPA to 0.95 MTPA (over mine lease hold area of 422.35 ha.) At - Bundia, Ainapali and Kudopal, Brajraj Nagar**, in the district of **Jharsuguda** with the following conditions.

GENERAL CONDITIONS:

1. **This Consent to establish is valid for the product, method of mining and capacity mentioned in the application form. This order is valid for five years, which means the proponent shall commence mining activities for the proposal within a period of five years from the date of issue of this consent to establish order. If the proponent fails to commence mining activities for the proposal within five years then a renewal of this consent to establish shall be sought by the proponent.**
2. Adequate effluent treatment facilities are to be provided so that the quality of sewage and trade effluent satisfies the standards as prescribed under Environment Protection Rule, 1986 or as prescribed by the Central Pollution Control Board and/or State Pollution Control Board or otherwise stipulated in the special conditions.
3. All emission from the mining activities as well as the ambient air quality and noise shall conform to the standards as laid down under Environment (Protection) Act. 1986 or as prescribed by Central Pollution Control Board/State Pollution Control Board or otherwise stipulated in the special conditions.
4. Appropriate method of disposal of solid waste is to be adopted to avoid environmental pollution.
5. The mine shall comply to the provisions of Environment Protection Act, 1986 and the rules made there under with their amendments from time to time such as the Hazardous Waste (Management, Handling & Transboundary Movement) Rules 2008, Hazardous Chemical Rules /Manufacture, Storage and Import of Hazardous

Chemical Rules, 1989 etc. and amendments there under. The mine shall also comply to the provisions of Public Liability Insurance Act, 1991, if applicable.

6. The mine shall apply for grant of Consent to operate under section 25/26 of Water(Prevention & Control of Poliution)Act, 1974 & Air (Prevention & Control of Poliution)Act, 1981 at least 3 (three) months before the commencement of production and obtain Consent to Operate from this Board.

7. **This consent to establish is subject to statutory and other clearances from Govt. of Odisha and/or Govt. of India, as and when applicable.**

SPECIAL CONDITIONS:

1. **The proponent shall comply to the conditions imposed in environmental clearance issued by MoEF. Govt. of India vide letter no. J-11015/65112007-I(A).II(M) dt. 26.2.2013.**
2. **A bank guarantee commensurate with the production level will be taken by the Board for continuous satisfactory environmental compliance of the mining during the period for which consent to operate is granted as and when required.**
3. **The proponent shall obtain forest clearance for the forest land involved in the mine lease area. This consent to establish is subject to forest clearance by Govt. of India.**
4. The mine should not store for more than seven days of coal production to avoid coal fire in stock yard as well as coal seam and an action plan regarding this shall be submitted at the time of consent to operate application.
5. The mine shall use surface miner instead of sovel dumper for mining activity.
6. No change in mining technology and scope of working shall be made without prior approval of the Board.
7. Top soil should be stacked separately with proper slope at earmarked site(s) with adequate measures and shall be used for reclamation and rehabilitation of mined out areas.
8. **Back filling of abandoned pit shall be carried out either as per approved mining plan or by fly ash generation from nearby thermal power plant and shall submit an action plan in this regard along with consent to operate application.**
9. **Concurrent back-filling should be started from the fourth year of operation. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status in this regard shall be submitted to the Ministry of Environment & Forests with a copy to the Board on yearly basis.**
10. **The mine shall prepare a detailed mine closure plan and carry out the reclamation plan accordingly.**
11. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the peak sudden rain fall and maximum

discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.

12. Dimension of the retaining wall at the toe of dumps within the mine to check run-off and siltation shall be based on the rainfall data. The detail specification shall be worked out and submitted to the Board along with the consent to operate application.

13. Catch drains of appropriate size should be constructed to divert the run off from the OB dump to the siltation pond of appropriate size to arrest silt and sediment flows from soil, OB and mineral dumps. Similar arrangement shall be done around the coal stack pile area. The drains should be regularly desilted and maintained properly. Surface run-off from OB dump area, coal pile area, top soil storage area shall be routed through adequate settling pond (designed maximum hourly rain fall basis) to meet prescribed standard of SS-50 mgtl and Oil & Grease-5 mg/I before discharge into natural stream/water courses during monsoon.

14. Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), monsoon (August), Post - monsoon (November) and winter (January) seasons. Data thus collected should be submitted to the Board quarterly.

15. Sewage Treatment Plant should be installed for the treatment of domestic effluent generated from the colony and mines so as to meet the prescribed standard such as pH=6.5-8.0, SS=50mg/I, BOD=30mg/1 & 0&G=5mg/1 and shall be reused for green belt development.

16 Wastewater (workshop) shall be properly collected, treated in **ETP** consists of primary settling tank, O&G trap, flash mixer with chemical dosing and secondary settling tank so as to conform the prescribed standard pH = 5.5-8.0, SS = 50mg/I, O&G = 5mg/1 or as amended from time to time and reused for washing with make-up water.

17 If in case due to some genuine problems like periodic cleaning of the system, heavy rainfall etc, it become necessary to discharge the effluent to sewer or land or stream then the effluent shall confirm to the following standards at the final outlet of the coal washery, prescribed by the Board i.e. pH =5.5 to 9.0, total SS = 100mg/I, O&G = 10mg/I, BOD=30, COD=250 and Phenolic=1.0mg/1.

18. Mine drainage water, shall be treated properly in adequate size of settling tanks with coagulation and chemical dosing facilities. The mine shall explore to reuse it for dust suppression, green belt and vehicle washing. Balance treated mine drainage water shall be discharged to sewer or land or stream then the effluent shall confirm to standard prescribed by the Board i.e. pH =5.5 to 8.0, total SS = 50mg/I, O&G = 5mgll. and other parameters conforming to standards for discharge to inland surface water as prescribed under **EP** Act, 1986.

19 Rain water harvesting practice shall be followed by utilizing the rain water collected from the roof of the buildings for recharging of ground water within the premises and other large structures as per the concept and practices prescribed by CPCB, New Delhi and details of which is available in the web site.

20. All efforts shall be taken to protect the existing water bodies in the surrounding. A definite plan in this regard shall be submitted to the Board within 06 months from the date of issue of this order.
21. The haul roads and arterial roads shall be made black topped / concrete and shall have adequate water sprinkling facilities.
22. Spillage shall be prevented by avoiding overloading.
23. Provision of movable chutes shall be made during loading at CHP to avoid free fall of coal.
24. Drill should be wet operated or with dust extractors and controlled blasting should be practiced.
25. Water sprinkling shall be carried out on unplanted surface of OB dump to control fugitive emission.
26. Storage bunkers, hoppers, rubber decks in chutes and centrifugal chutes shall be provided with proper rubber linings.
27. The mine shall provide water or water mixed chemicals for dust suppression at all strategic points such as coal stack yards, loading and unloading points, all transfer points, conveyors etc. to suppress dust fine atomizer nozzles arrangement shall be provided on the coal heaps and on land around the crusher / pulverizes. As far as possible conveyors and transfer points etc. shall be provided with enclosures.
28. Water sprinkling by using fine atomizer nozzles arrangement shall be provided on the coal heaps and on around the crushers/ pulverisers.
29. Industry shall provide internal drains inside the plant for collection of accumulated water which shall be recirculated and reused.
30. Adequate measures shall be taken for control of noise levels below 85 dB (A) in the work environment.
31. Mine shall cover the primary impact zone by rubber sheet of 70 mm thickness, secondary impact zone by 40 mm thickness and polymer sheet of 25 mm thickness at sides of the chutes in all transfer points to control noise pollution.
32. The ambient air quality standards in respect of noise as notified under Environment (Protection) Rules, 1986 shall be followed at the boundary line of the coal washery.
33. A boundary wall of appropriate height shall be constructed along the periphery of the coal storage area to prevent the dust particles from being carried away with surface run off to nearby water bodies.
34. The height of materials within coal storage areas must be kept below the height of the boundary wall at all times to prevent the material getting air borne.\
35. Two ambient air quality monitoring stations for 24 hours operation should be established in the core zone as well as in the buffer zone for PM_{10}, PM_{25}, SO_2, NO_x, and ,CO monitoring. Location of the stations should be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.

36. The different in the value of SPM, measured between 25 and 30 meters from the enclosure of coal crushing plant in the downwards and leeward wind direction shall not exceed 150 µg/m^3 when measured by high volume sampler with flow rate not less than 1.1 m3 / minute using upwind downwind method of measurement.

37. Data on ambient air quality (PM_{10}, PM25, S02, NO_x and CO) shall be regularly submitted to the State Pollution Control Board once in six months.

38. The mine has to comply the following standard at the loading or unloading, haul road, coal transportation road, coal handling plant(CHP), railway siding, blasting, drilling, overburden dumps or any other dust generating external sources as per the Rule2(1) of the Environmental Amendment Rules, 2000 notified vide notification G.S.R. 742(E), dated 25.09.2000.

Pollutant	Time weighted average	Concentration in Ambient Air	Method of Measurement
1	2	3	4
8PM	Annual Average* 24 hours**	360µg/m^3 500µg/m^3	High volume sampling (Average flow rate not less than 1.1m3/min)
RPM(size less than 10 µm)	Annual Average* 24 hours**	180µg/m^3 250µg/m^3	Respirable Particulate matter sampling and analysis
$8O_2$	Annual Average* 24 hours**	80µg/m^3 120µg/m^3	Improved west and Gaeke method Ultraviolet fluOrescene
NO_2	Annual Average* 24 hours**	80µg/m^3 120µg/m^3	Jacob & Hochheiser Modified (Na-Arsenic) Method Gas phase Chemiluminescence

(*Annual Arithmetic mean for the measurements taken in a year, following the guidelines for frequency of sampling laid down in clause2.

**24 hourlyl 8 hourly values shall be met 92% of the time in a year. However, 80% of the time may exceed but not on two consecutive days.)

39. The mine shall inform the archeological monument in the study area and suggest appropriate precautionary measures to avoid risk to the monuments during mining activities

40. A green belt of adequate width and density preferably with local species along the periphery of the mine shall be raised so as to provide protection against particulates and noise. It must be ensured that at least 33% of the total land area shall be under permanent green cover. The proponent shall ensure the maintenance of green belt throughout the year and for all time to come. It is advised that they may engage professionals in this field for creation and maintenance of the green belt. An action plan for this purpose shall be prepared and shall be submitted accordingly.

41. Consent to operate shall be obtained from this Board before commencing the mining activities of proposed expansion project.

42. Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.

43. A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the organization.

44. The industry shall conform to all the commitments made in the environment management plan incorporated in project report submitted along with NOC application.

45. The Board may impose further condition or modify the conditions stipulated in this order during installation, and / or at the time of obtaining consent to operate and may revoke this clearance in case the stipulated conditions are not implemented and / or any information suppressed in the application form.

46. The above conditions will be enforced, inter-allia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 the Air (Prevention & Control of Pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

MEMBER SECRETARY

To,

Sri B.N. Panda, Manager,
Hirakhand Bundia U/G Mine of
M/s. Mahanadi Coalfields Ltd.,
P.O- R. Kudapali, Brajaraj Nagar,
Dist- Jharsuguda,
Odisha.

Memo No._____/Dt._____/

Copy forwarded to:

1. The Secretary Steels & Mines, Govt. of Odisha, Bhubaneswar
2. The District Magistrate & Collector, **Jharsuguda**.
3. The Manager, District Industries Centre, **Jharsuguda**
4. The Director, Directorate of Mines, Govt. of Odisha, Bhubaneswar
5. The Director, Factories & Boiler, Bhubaneswar.
6. The Regional Officer, SPC Board, **Sambalpur**.
7. The DFO, **Jharsuguda**.
8. Copy to HSM Cell, SPC Board, Bhubaneswar
9. Consent to operate section(Mines), SPC Board, Bhubaneswar.
10. Copy to Guard file

SR.ENV. ENGINEER (N)