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STATE POLLUTION CONTROL BOARD, ODISHA

(Department of Forest & Environment, Govt. of Odisha)
Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII
Bhubaneswar – 751012

By Speed Post/ Through online

No. 3471 / **IND-II-CTE-6907** **Date** 10.03.2023 /

CONSENT TO ESTABLISH ORDER

In consideration of the Online Application No.- **4538682** for obtaining Consent to Establish for **Garjanbahal OCP, Basundhara Area of M/s Mahanadi Coalfields Ltd**., the State Pollution Control Board is 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 in production capacity of coal from 15.6 MTPA to 18.2 MTPA over mining lease area of 653.83 Ha.** At-Garjanbahal, Karlikachar, Bangurkela, Balinga, Bankibahal and Tumulia villages under Hemgir Tahsil in the district of **Sundargarh** 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. The mine shall apply for grant of Consent to Operate under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1981 at least 3 (three) months before the commencement of production and obtain Consent to Operate from this Board.
3. 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:

A. GENERAL CONDITIONS:

1. The proponent shall carry out mining activity as per Environmental Clearance issued vide letter No. J-11015/159/2015-IA-II(M), dated - 09.03.2023, by MoEF&CC, Govt. of India and shall comply with all the stipulation made under Environmental Clearance.
2. The proponent shall mix the fly ash generated by nearby thermal power plant with OB for back filling of the mine void as per fly ash notification of MoEF&CC, Govt. of India and shall comply with the fly ash notification as amended from time to time for Coal Mines.

3. The mine shall not store for more than seven days of coal production to avoid coal fire in stock yard as well as coal seam. The mine shall take adequate preventive measures for spontaneous fire in the coal seam as well as stock yard and an action plan regarding this shall be submitted at the time of consent to operate application.

4. The method of mining shall be open cast mining by shovel-dumper in overburden and surface mine with interlocking water sprinkling system, loader and tipper in coal. No change in mining technology and scope of working shall be made without prior approval of the Board.

5. A green belt of adequate width and density preferably with local species along the periphery of the mine. Inactive dumps, backfilled area, vacant area, colony and any other vacant area shall be raised so as to provide protection against particulates and noise to ameliorate the environment. A detailed plantation programme in this regard shall be prepared and submitted at the time of making application for consent to operate for assessment.

6. Adequate measures shall be taken for control of noise levels to meet the standards as per the Rule 2(1) of the Environmental (Protection)Amendment Rules, 2000 notified vide notification G.S.R. 742 (E), dated 25.09.2000

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

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

9. 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.

10. The project shall use fly ash bricks and other building materials made out of fly ash for construction of township.

11. The proponent shall install solar powered lighting and heating system whenever possible in township

12. The proponent shall comply to the provisions of E-Waste (Management) Rules, 2016 and amendment thereafter and shall handover e-waste to authorized collection centers/ register dismantlers/ recyclers for proper disposal of e-waste.

13. The plastic waste if any generated from the industry as well as colony shall be sent to nearby cement kiln for co-processing.

14. The mine shall take up adequate measure for routine health checkup of its employees / workers and the people residing in the neighborhood of the plant free of cost.

15. The mine shall maintain the haul road as per the circular of DGMS circular vide Cir.36/1972.

16. The conditions as stipulated in this consent to establish order shall be enforced, inter-alia, 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.

B. WATER POLLUTION:

17. The proponent shall ensure installation of dedicated ETP for treatment of Waste Water generated from the vehicle wash both for Departmental and contractual workshops within the mine lease area.

18. The mine shall construct settling tanks in series to settle the suspended solids in the surface run-off water.

19. Garland drains (size, gradient and length) and sump capacity shall be designed keeping 50% safety margin over and above the hourly peak rain fall and maximum discharge in the area adjoining the mine site. Sump capacity shall have adequate retention period to allow proper settling of silt material.

20. The mine shall take steps to desilt the length of the Nallah covered under the leasehold area before monsoon to remove the coal dust deposited along the bank of the nallah.

21. Dimension of the retaining wall at the toe of dumps and OB benches 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.

22. Catch drains of appropriate size shall 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 cola stack pile area. The drains shall be regularly de-silted 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-100 mg/l and Oil & Grease-10 mg/l before discharge into natural stream/water courses during monsoon.

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

24. The domestic wastewater generated from the township will be treated in sewage treatment plant. The treated water shall be reused for gardening and plantation and the surplus water if any shall be discharged to outside after meeting the following prescribed standards as notified by the MoEF&CC, Govt. of India vide G.S.R. 1265 (E), dated 13.10.2017.

Sl. No.	Parameters	Standards
1.	pH	6.5-9.0
2.	BOD(mg/l)	30
3.	TSS(mg/l)	<100
4.	Fecal Coliform (MPN/100ml)	< 1000

25. Oil and grease trap shall be installed before discharge of effluent from workshop. Wastewater from the mine pit, check dams or any other discharge leaving lease boundary of the mine shall be properly collected, treated so as to conform the following standard i.e. pH = 5.5-9.0, SS = 100 mg/l, COD = 250 mg/l & Oil & Grease = 10 mg/l.

26. 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. The management of mine drainage water shall be efficiently done as per the directive of the Central Ground Water Board, New Delhi.

27. The Mine shall provide mechanized wheel washing system along with effluent treatment and recycling facilities at all the exit point of the mine. Wheel wash facilities shall be provided to minimize transfer of mud from unpaved approach roads to main paved and/or public roads.

C. AIR POLLUTION:

28. Transportation road shall be black topped / concreted and sustainable coal transport measures shall be adopted to minimize air pollution.

29. Pipe conveyor shall be provided for transportation of coal to railway siding as proposed. The proponent shall provide adequate air pollution control measures at transfer points of pipe conveyors.

30. No village road shall be used for transportation of coal and no road transport route shall be adopted, which is passing through any sensitive location such as schools. hospitals etc.

31. The mine shall deploy higher capacity trucks/dumper to reduce fleet size till Rapid loading system and conveyor belt system is commenced as per Environment Clearance.

32. High efficiency bag filters shall be installed at crushers of the Coal Handling Plants if any. Water sprinkling systems shall be provided to check fugitive emissions from crushing operations, conveyor system, haulage roads, transfer points etc. Provision of movable chutes shall be made during loading at CHP to avoid free fall of coal.

33. Adequate nos. of high pressurized rain gun shall be provided at Coal stockyard to suppress fugitive emission during loading and unloading operation.

34. Dedicated truck parking area with all required facilities shall be provided. The mine shall develop adequate system for in pit conveyor and truck silo loading system to avoid fugitive emission during loading, unloading and transportation of coal.

35. The mine shall expedite the installation of HD IP camera at all the dust prone areas.

36. The mine shall engage dedicated road-sweeping machines for cleaning the deposition of coal dust along the length of concreted permanent coal transportation road in order to avoid fugitive dust emission during the plying of vehicles or shall install fixed rain gun type water sprinkler.

37. The mine shall provide dust extractor in drill machines, Fixed sprinkler at CHP, railway siding etc., Mobile water tanker for quarry, haul road, transport road, CHP, etc.

38. Coal stockpile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust side cladding all along the conveyor gantry shall be made to avoid air borne dust.

39. Drills shall be wet operated or fitted with dust extractors. The mine shall develop wind barrier wall of 10 meters height all around the coal stack yard with installation of adequate nos. of fixed type sprinkler to control fugitive coal dust emission.

40. The mine shall provide adequate number of trolley mounted and mobile Fog Cannons for dust suppression.

41. Water sprinkling shall be carried out on unplanted surface of OB dump to control fugitive emission.

42. Drilling shall be avoided to the maximum possible extent for coal excavation. However, drill shall be wet operated or with dust extractors and controlled blasting shall be practiced.

43. 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.

44. Adequate ambient air quality monitoring stations for 24 hours operation shall be established in the core zone as well as in the buffer zone for PM_{10}, $PM_{2.5}$, SO_2 and NOx monitoring. Location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Data on ambient air quality (PM10, $PM_{2.5}$, SO_2 and NOx) shall be frequently submitted to the State Pollution Control Board once in six months.

45. Continuous ambient air quality monitoring stations (CAAQMS) with data transfer facility shall be established in the core zone as well as in the buffer zone for PM_{10}, $PM_{2.5}$, SO_2 and NOx monitoring. Location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board.

46. The mine shall 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 Rule 2(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
SPM	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

Pollutant	Time weighted average	Concentration in Ambient Air	Method of Measurement
1	2	3	4
SO_2	Annual Average* 24 hours**	80µg/m^3 120µg/m^3	Improved west and Gaeke method Ultraviolet fluorescence
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 clause-2.

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

47. The haul roads and arterial roads shall be maintained properly with avenue plantation.

48. Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.

D. SOLID AND HAZARDOUS WASTE:

49. The management practices for Over Burden shall be carried out as per the approved Mining Plan and subsequent amendments. The Mine shall submit compliances in this regard for any change in Mine Plan.

50. Hazardous waste and ETP sludge shall be stored under cover shed on concrete platform.

51. Intermediate storage area for Municipal Solid Waste (MSW) shall be developed inside the premises of proposed township, if any, before handing over the MSW to the concerned ULBs for final disposal.

52. The proponent shall segregate organic waste from the MSW of township and segregated organic waste shall be converted to manure through organic waste converter. The proponent shall store the organic waste in closed shed inside the proposed township, if any, before use of the same in organic waste converter.

53. All required sanitary and hygienic measures shall be in place before starting construction activities of township and to be maintained throughout the construction phase.

54. All the top soil excavated during construction activities of township shall be stored for use in horticulture / landscape development within the project site.

55. The proponent shall comply the provisions of Construction & Demolition Waste Management Rules, 2016.

56. Construction spoils of township, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they shall not leach into the ground water.

57. The Project proponent shall obtain authorization and dispose-off hazardous waste materials such as tarry products, used oil, waste containing oil, discarded containers, oily sludge,

during construction and operational phase as per Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 as amended from time to time.

58. The mine shall develop dedicated Hazardous Waste storage area for contractual workshop with all facilities as per Hazardous & Other Waste (Management and Transboundary Movement) Rules, 2016 & shall obtain Authorization under this Rule.
59. Municipal solid waste generated from the township shall be disposed-off as per Solid Waste Management Rules, 2016.
60. Top soil of mining area shall 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.
61. Back filling of abandoned pit and reclamation shall be carried out as per approved mining plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status in this regard shall be submitted to the Board on yearly basis.

MEMBER SECRETARY

To

The Project Officer,
Garjanbahal Open Cast Project,
M/s MCL Basundhara Area,
Tahasil-Hemgir, Dist-Sundargarh

Memo No. 3472 **/Dt.** 10.03.2023 /

Copy forwarded to:

1. The Director, Directorate of Steel & Mines, Govt. of Odisha, Bhubaneswar
2. The Collector & District Magistrate, **Sundargarh**.
3. The DFO, **Sundargarh**.
4. Consent to Operate Cell, (Mines) SPC Board, BBSR
5. Hazardous Waste Management Cell, SPC Board, BBSR
6. The Regional Officer, SPC Board, **Jharsuguda**.
7. Copy to Guard file

for **ADDL.CHIEF ENV. ENGINEER** 10/03/2023

o/c