

MINUTES OF 1st MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 17th OCTOBER 2023 THROUGH VIDEO CONFERENCE.

Opening Remarks of the Chairman: At the outset, the Chairman welcomed the Expert members of newly constituted Expert Appraisal Committee (EAC) alongwith other participants and requested Member Secretary (coal) to give a detailed presentation and brief the members about mandate of Committee and challenges in the coal sector. Accordingly, Member Secretary gave a detailed presentation by outlining the regulatory provision in schedule of EIA, Notification, 2006 with Ministry's Office Memorandum separately issued for coal sector and process of EC being adopted at State and Central level as per the applicable rules. Member Secretary also briefed the list of permissions & other areas to be seen by Committee while examining the proposal. Finally, Member Secretary explained major challenges, normally being faced during appraisal process with regard to compliances of environment protection measures. Member Secretary also emphasized for taking considered view on those projects already set for target from energy security angle with the environment safety measures to be adopted/being adopted by them. Later, the Chairman asked EAC to start the proceeding as per the agenda adopted for this meeting.

Consideration of Proposals: The 1st meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 17th October 2023 through physical mode. The EAC considered proposals as per agenda adopted for the meeting incorporated for discussion with chair. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

Agenda No. 1.1

Gondkhari Underground Coal Mine of production capacity 2 MTPA/3.0 MTPA (Normative/Peak) in the mine lease area of 862.00 Ha of M/s Adani Power Maharashtra Limited (APML) located at Village Gondkhari, Tehsil Kalmeshwar, District Nagpur (Maharashtra) - For Environmental Clearance reg.

[Online proposal number IA/MH/CMIN/444481/2023; File no. J-11015/46/2022-IA. II. (M)]

1.1.1 The proposal is for Environmental Clearance for Gondkhari Underground Coal Mine of production capacity 2 MTPA/3.0 MTPA (Normative/Peak) in the mine lease area of 862.00 Ha of M/s Adani Power Maharashtra Limited (APML) located at Village Gondkhari, Tehsil Kalmeshwar, District Nagpur (Maharashtra).

1.1.2 Details of the proposal, as ascertained from the proposal documents submitted by PP and as revealed from the discussions held during the meeting, are given as under:

I. LOCATION OF PROJECT

- i. The project area is covered under Survey of India Topo Sheet No 55K/16 (New-F44M16) and

is bounded by the geographical coordinates ranging from 21° 07' 57" N to 21° 10' 56" N and longitudes 78° 54' 45" E to 78° 56' 26" E.

- ii. Coal linkage of the project is Proposed for commercial coal mining auction process for use of various sale of coal.
- iii. Joint venture cartel has been formed- Not Applicable
- iv. Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of Environment Clearance.
- v. Employment generation, Direct and Indirect employment to 863 Persons will be provided from the project.
- vi. The project is reported to be beneficial in terms of energy security for the development of country.
- vii. Terms of Reference granted on 13th February 2023 vide file no. IA-J-11015/46/2022-IA. II(M) by Ministry.
- viii. Total mining lease area as per block allotment is 862.00 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved Ministry of Coal, Government of India on 22.12.2022.

II. Land use details:

- ix. The Land usage pattern of the project is as follows:

Pre-mining land use details (Area in 862 Ha)

S. No.	Ownership	Type of land (Within Mine lease)	Area (ha)
1.	Tenancy Land	Agricultural	687.347
2.		Barren	
3.		Water bodies	
4.		Road	
5.		Community	
A.	Sub-Total	687.347	
1.	Govt Non-Forest Land	Agricultural	87.301
2.		Barren (Road)	
3.		Other	
B.		Sub total	87.301
1.	Forest Land	Revenue Forest land	87.351
C.	Sub total	87.351	
	Grand Total (A+B+C)	862.00	

Post Mining

Post Mining Land Use (ha)			

Mining Activity	Proposed Land Use Area (ha)	Land Use (End of Life) Area	Agriculture Land	Plantation	Water Body	Public Use	Forest land (Returned)	Undisturbed	Total
Settling pond	0.08	0.08	0.08	-	-	-	-	-	0.08
Road & Infrastructure area	13.845	13.845	13.845	-	-	-	-	-	13.845
Embankment	0.075	0.075	0.075	-	-	-	-	-	0.075
Green Belt	2	2	2	-	-	-	-	-	2
UG entry	2	2	2	-	-	-	-	-	2
Total (excluding rights for UG mine) (1)	18	18	18	-	-	-	-	-	18
Undisturbed/ UG mining right (2)	844	-	-	-	-	-	-	-	844
Grand Total (1+2)	862								862.00

- x. Total geological reserve reported in the mine lease area is 98.717 MT, geological reserve 98.503 MT, with 52.596 MT mineable reserve. Out of total mineable reserve of 52.596 MT, 42.946 MT are available for extraction. Percent of extraction is 43.5990%.
- xi. 4 seams with thickness ranging from 0.93 m to 5 m are workable. Grade of coal is G8 while gradient is 90 to 220.
- xii. Method of mining operations envisages by Underground Mining: Longwall retreating method with caving by deploying DERDS and Road Headers for tunneling.
- xiii. Life of mine is 30 years. (Including construction)

III. TRANSPORTATION OF COAL

- xiv. Transportation of coal has been proposed by series of conveyors in mine pit head, from surface to siding by Conveyer/Trucks and at sidings by Haulage trucks.
- xv. 87.351 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 87.351 ha of forest land for non-forestry purposes has been submitted dated 06.01.2023.
- xvi. Please mention any National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project - Not applicable
- xvii. Wildlife conservation plan for schedule – I species has been submitted –Not Applicable
- xviii. The ground water level has been reported to be varying between 4.5 mbgl to 9.5 mbgl during

pre-monsoon and between 1.5 to 5.2 mbgl during post-monsoon.

- xix. Total water requirement for the project is 492 KLD (452 KLD from mine seepage and 40 KLD from borewell).
- xx. NOC for the approval of the Central Ground Water Authority for 492 KLD has been granted on 01/09/2023 vide letter no. CGWA/NOC/MIN/ORIG/2023/19155.

IV. DETAILS OF PUBLIC HEARING & RELATED ISSUES

- xxi. Public hearing for project of 2 MTPA/3.0 MTPA (Normative/Peak) capacity in an area of 862 ha was conducted on 13/07/2023 at Kh. No. 9/5, Near Karli Lake, Tal-Kalmeshwar, Dist.-Nagpur, Maharashtra under the Chairmanship of Subhash Choudhary (Additional District Magistrate). Major issues raised in the public hearing include appropriate action to address the issues raised in the Public hearing is attached as appendix A.
- xxii. Commitment made by the project proponent to address the Public Hearing concerns in lieu of Corporate Environment Responsibility (CER) to be mentioned in the following table:

	Particulars	Location (Name of School/Village/Area)	Year-1 (In Lakhs)	Year-2 (In Lakhs)	Total (In Lakhs)
1	Infrastructure creation for Drinking Water supply	Location: Village - Gondkhari, Surabardi, Kalambi, Ketapar, Sahuli, Drugdhamna and Alesur. Physical Work: Installation Community R.O. Water Units with Solar net-metering, deepening of village ponds for improving water storage and availability, Construction/ repair of hand pumps/ dug wells in nearby villages, drinking water supply through tankers for nearby villages during summer season, Solar Drinking water structure (Bore well with Motor fitting) including Soak Pit for Water Recharging in villages/schools.	33	20	13
2	Sanitation	-	-	-	-
3	Education	Location: Village - at Z.p Primary School (old) gond Gondkhari and Surabardi Village. Physical Work: Donation of computers, books, furniture to village schools, Construction of E-Class Room at Govt. School and Waiting Shed for Z.P. Primary School, Construction of 10 Toilets (4 Nos. for boys & 6 Nos. for Girls).	46	33	20
4	Skill Development	Location: Village- Gondkhairi, Surabardi, Kalambi, Ketapar, Sahuli, Drugdhamna and Alesur. Physical Work: Contribute to Direct Implementation in partnership with ITI and	20	13	13

		MSME, Involvement of women's in Mason training and breaking stereotypes, 7 Self Help Groups in eight villages and 155 women engage in the SHGs.			
5	Roads	Location: Gondkhairi, Surabardi, Kalambi, Ketapar, Sahuli, Drugdhamna and Alesur. Physical Work: Strengthening/ maintenance of village roads, Rain Water Harvesting at Community Area, Provision of Plantation and streetlights in Community Area, Provision Training for recycle SWM and Sale of recyclable waste to scrap merchants.	65	52	24
6	Cross drains	-	-	-	-
7	Electrification including solar power	-	-	-	-
8	Solid waste management facilities	Already covered under above point no. 5	-	-	-
9	Scientific support and awareness to local farmers to increase yield of crop and fodder	Location: villages Gondkhari and Kalambi. Physical Work: Donation of seeds, fertilizers, manure to needy farmers, Financial assistance for Irrigation facilities, Construction of farm ponds for needy farmers, Training related to Modern Agricultural techniques to the farmers.	39	26	13
10	Rain water Harvesting	Already covered under above point no 5.	-	-	-
11	Soil moisture conservation works	As per CAT & Soil Moisture Conservation plan	5	5	5
12	Avenue plantation	-	-	-	-
13	Plantation in community areas	Greenbelt Development including biological conservation Plan	10	5	5
14	Infrastructure	Already covered under above point no 5.	-	-	-
15	Health	Location: villages Gondkhari and Kalambi. Physical work: Establishment of Ambulance Room and Health Centre,	117	65	39

		Free Medical camps and Medicine Distribute by hiring a MBBS doctor to treat patients in nearby 7 villages, Arrange Waterborne diseases camp and Cancer detection camps.			
16	Art, Culture & Sports	-	-	-	-
17	Livelihood	-	-	-	-
	Agricultural programme:	Already mentioned in above point no. 9	-	-	-
Subtotal			335	219	132
Total			686.0		

- xxiii. No River/nalla is flowing within the boundary of lease. The nallah will be/not be diverted in consultation with the Water Resource Department of the State Government. - No Nala diversion is proposed.
- xxiv. Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted toand also to MoEF&CC along with half yearly EC compliance Report - Not applicable - To be submitted after environment clearance Base line pre monsoon ambient air quality monitored for EIA/EMP report preparation. In general, the results of ambient air quality monitoring data were found within prescribed limits.
- xxv. No court cases, violation cases are pending against the project of the PP.

V. BENEFITS OF THE PROJECT

- xxvi. The project involves no project affected families. There is No R&R of the PAPs involved as it is an Underground Mine.
- xxvii. Total cost of the project is Rs. 130300 lakhs. Cost of production is Rs 2800/- per tonne., CSR cost is Rs. 5/- per tonne, R&R cost if applicable. Environment Management Cost is: Capital Rs.17.50 crores; & Recurring 1.6 crores.

VI. CONTROL OF POLLUTION: (A) AIR & (B) WATER

- xxviii. **Air Quality:** Environmental Baseline data have been generated in the season from March 2022 to May 2022 (Pre-Monsoon Season) at 10 locations alongwith additional AAQ monitoring conducted at 2 different locations during pre-monsoon season from 1st March 2023 – 31st March 2023. The result indicates that the maximum and minimum values of PM₁₀ are in the range of 41.5 µg/m³ to 88.4 µg/m³, whereas the PM_{2.5} are in the range of 15.8 µg/m³ to 41.0 µg/m³. The SO₂ concentrations within the study area are in the range of 4.8 µg/m³ to 15.9 µg/m³ and the NO_x are in the range of 8.8 µg/m³ to 31.1 µg/m³. This is underground mining project wherein no drilling, blasting and crushing of coal is involved. The incremental increase in the values due to transportation were projected to be 2.19 µg/m³

for PM10, 30.2 µg/m³ for CO, 3.90 µg/m³ for Hydrocarbon and 37.3 µg/m³ for NO_x. The values of Total GLC (Incremental + Baseline) at AAQ7 are for 72.15 µg/m³ PM10 µg/m³, 451.53 µg/m³ for CO and 44.98 µg/m³ for NO_x. The observed pollutant levels are compared with CPCB National Ambient Air Quality Standards.

xxix. **Surface water quality:** Number of sampling location monitored -8 Nos.: The physico-chemical characteristics of the surface water samples collected and analysed are presented and are compared with the IS-10500 standards. The analysis results indicate that the pH ranged between 7.12 – 8.37 which is well within the specified standard of 6.5 to 8.5. TDS was observed to be 381 – 1100 mg/l which is within the permissible limit of 2000 mg/l. The total hardness recorded was in the range of 211.95 – 712.19 mg/l as CaCO₃ which is also within the permissible limit of 600 mg/l. The levels of chloride and sulphate were found to be in the range of 58.6 – 240.8 mg/l and 9.28 – 57.61 mg/l respectively. The reported DO value are in range of 5.1 – 6.3 mg/l. Phosphorus (as PO₄) is an important nutrient for plants and algae. Because phosphorus is in short supply in most fresh waters, even a modest increase in phosphorus can cause excessive growth of plants and algae that deplete dissolved oxygen (DO) as they decompose. PO₄ concentration was found to be in the range of 0.36 – 0.62 mg/l. COD ranges from 26 – 88 mg/l and BOD ranges from 3.6 – 17.3 mg/l. Heavy metals like As, Pb, Ni was found below detection limit i.e. BDL (DL-0.01), BDL (DL-0.001), BDL (DL-0.1) respectively and Iron was found in the range of 0.21 to 0.61 mg/l.

1.1.3 The committee during deliberations noted following: -

- i. Terms of Reference granted by Ministry vide its letter dated 13th February 2023.
- ii. The block is virgin area and is free of any mining activity except for surface quarrying for road metal as seen from KML file. Gondkhari Coal Mine is proposed underground coal mining project in the Gondkhari area (Kamptee Coalfield) in Nagpur District, allotted to M/s Adani Power Maharashtra Limited (APML) vide vesting order no. NA-104/7/2021-NA, dtd. November 18, 2021. Application for mining lease has been submitted by PP and its approval is under process in State.
- iii. Mining Plan (Including Progressive Mine Closure Plan) had been approved by Ministry of Coal, Government of India on 22.12.2022 for allotted block area of 862 ha while in EIA report, the approval is reported to be accorded on 9th January 2023.
- iv. Life of mine is reported to be 30 years; while Approved Mine Plan mentions 24 years life of the mine.
- v. Application for obtaining Stage-I Forest clearance for 87.351 ha of forest land (i.e. involved in the ML area of 862 ha) has been submitted on 06.01.2023.
- vi. Total water requirement for the project is 492 KLD (452 KLD from mine seepage and 40 KLD from bore well).
- vii. NOC from CGWA has been obtained for 492 m³ /day (Fresh Water 40 m³ /day & dewatering 452 m³ /day) vide NoC No.- CGWA/NOC/MIN/ORIG/2023/19155 and valid upto 31.08.2025.
- viii. Public Hearing was conducted on 13.07.2023 for 2 MTPA/3.0 MTPA (Normative/Peak) capacity for ML area of 862 ha under the Chairmanship of Subhash Choudhary (Additional

- District Magistrate). The advertisement was communicated through Dainik Lokmat (Marathi) on 10.06.2023 and Times of India (English) on 10.06.2023. The point wise compliance of issues raised were submitted in EIA report and during appraisal.
- ix. Environment baseline data was generated in the season from March 2022 to May 2022 (Pre-Monsoon Season) at 10 locations and along with additional AAQ monitoring conducted at 2 different locations during pre-monsoon season from 1st March 2023 – 31st March 2023.
 - x. ML area includes Surabardi reservoir (eastern part of the project area), Karle reservoir (central part of the project area), Alesur Local Lake, National Highway No. 6 (southern part of the project area), Ring road (passing through the central part of the project area), patches of forest, National Academy of Petroleum and Explosives Safety and Testing Station and Suraburdi Resorts.
 - xi. Coverage of water body in the total ML area is about 13.89 ha.

1.1.4 *The EAC after deliberations observed that the instant proposal is a greenfield underground coal mine project. As observed by Committee from KML file, most of mine lease area belongs to Agriculture land that is engaged in fruit plantation particularly Oranges. Additionally, the Committee advised PP that forest area of 87.351 ha in the mine lease area shall not be disturbed and shall not be used for any infrastructure. Further quality of forest shall be improved in collaboration with State Forest Department.*

It was observed that several water bodies exist within mine lease such as Streams/Nallah and also in vicinity of ML area named as Surabardi Dam & reservoir, Karle lake, Alesur lake and Wena Dam & Reservoir. PP was required to submit the point-wise TOR compliance. However, due to lack of drone video/photographs of lake/reservoir, which is one of Tor conditions, the Committee could not capture real ground reality. On enquiry about water profiles in the area, the consultant could explain properly the water management/its profiles in catchment area, to be impacted due to mining activities.

On the lake rejuvenation issue, PP was required to submit the concrete plan with activities, however PP submitted merely 15 lakhs budget for management of surface lakes without adequate action plan. The EAC advised that the same needs to be revised substantially with concrete plan. The rejuvenation plan should include de-silting & aqua fishing activities, bio-remediation if required. The Committee found higher BOD level (Biochemical oxygen demand) in the lake which needs to be addressed as a target under the rejuvenation plan. The Committee was of the view that for development and enhancement of water harvesting facility, PP shall have to submit the construction of new ponds/recharging well within or outside the ML area and after rejuvenation of the lake, there is need to fix water supply in the near village area..

Subsequently, the committee asked the PP to re-assess the traffic impact study which should now be based on 40 to 45 tonnes (payload) of trucks in place of 30-35 tonnes for the transportation of coal until construction of mechanized system

In view of the above, the Committee desired that the project proponent must rework on the proposal and submit the following documents: -

- i. PP to submit the Drone videos & Photographs of the Forest area (lying within the ML area) including Lake/Reservoir/Dam and the other sensitive zone.*
- ii. Status of Forest Clearance for 87.351 ha of forest land involved in the ML area of 862 ha.*
- iii. PP shall submit Letter of Intent from concerned State Government as per Ministry's OM dated 7th October, 2014.*
- iv. PP shall submit the approved Mine Plan chart for 3 MTPA peak capacity with calendar plan.*
- v. Details of Pre-mine land use and post mine land use plan keeping the area occupied by Dam/Lake/Reservoir to be same with all protection measures.*
- vi. PP shall submit the Geo-tagged location of the lake/reservoir/Dam namely Ambazari, Bhivkund Dam, Futala Lake, Alesur Local Lake, Mordham Dam and Reservoir, Suraburdi Lake, Vena Dam, Jilpi Lake w.r.t. the ML area.*
- vii. As suggested by EAC, PP shall submit lake rejuvenation plan with detailed plan with adequate budgetary allocation.*
- viii. PP shall submit details of new water harvesting facilities (ponds) with protection of Dam/Lake/Reservoir lying within the ML area & in Buffer zone.*
- ix. PP shall submit proper layout surface plan for construction of infrastructure on the Mine lease without affecting forest land.*
- x. PP shall re-asses option analysis to reduce the distance being covered for the transportation of coal through road and with mid-term plan of railway siding by rail transportation.*
- xi. PP shall submit compliance of ToR specific conditions (xiii), (xvii) and (xix) with detail analysis and report with certificate from PCCF regarding absence of schedule-I specifies as per WPA 1972 and 2022. Further, the comparison of existing mining practices of Underground mine across the world mainly in terms of extraction of higher coal efficiency and in terms of consumption of lesser fuels.*
- xii. PP shall submit the signed copy of Corporate Environment Policy from its Board of Directors.*
- xiii. PP shall analyse the possible adverse impacts on forest corridors and forest areas and their mitigation measures by fencing all along the forest area, due to transportation activity.*
- xiv. PP shall submit the location of Ambazari Ordinance Factory w.r.t. ML area and mitigation measures considering the sensitivity of this location.*
- xv. PP shall document the exact number of persons/families under socio economic survey living within the ML area and living within the Buffer zone of the ML area.*
- xvi. PP shall submit mitigation plan for nearby villages w.r.t. higher observed value of pollutants in the Gondkhari area.*
- xvii. PP shall submit the adequate monitoring data as prescribed condition no. 11 of TOR regarding additional monitoring station after grant of ToR (i.e. additional locations of Sahuli & Drugdhamna).*
- xviii. PP shall submit the revised EMP cost after considering all above issues (if any) along with the cost of mitigation measures pertaining to Air and water.*

- xix. PP shall also submit the activity-wise budget addressing the all the issues highlighted during the Public hearing along with recurring cost.
- xx. PP shall submit the plan for Green belt development on 33% area of the total ML area either within/outside the ML area.
- xxi. PP shall submit the elaborated water balance sheet covering the complete utilization of water.
- xxii. PP shall submit the dedicated plan for drinking water to near village through pipeline system.

In view of the above, the project was **deferred** to submit the above observation.

Agenda No. 1.2

Expansion of Baroud Opencast Mine for production capacity from 3.6 to 4.32 MTPA (i.e. increase of 20%) with mine lease area of 1111.40 ha of M/s SECL located at Village Baroud, Tehsil Gharghora, District Raigarh (Chhattisgarh) – Reconsideration for Environmental Clearance under OM vide F. No. IA3-22/10/2022-IA.III [E 177258] dated 11.04.2022 - reg.

[Online proposal number IA/CG/CMIN/274062/2022; File no. J-11015/228/2007-IA. II. (M)]

1.2.1 The proposal is for Environmental Clearance for Baroud Opencast Mine for production capacity from 3.6 MTPA to 4.32 MTPA (i.e. increase of 20%) in mine lease area of 1111.40 ha of M/s SECL located at Village Baroud, Tehsil Gharghora, District Raigarh (Chhattisgarh).

1.2.2 Details of the proposal, as ascertained from project proponent, are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No. 64 N/7 and is bounded by the geographical coordinates ranging from 22°15'14" and 22°17'39" N and longitudes 83°19'22" and 83°21'47" E
- (ii) Coal linkage: Thermal Power Stations
- (iii) Joint venture: No Joint Venture
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation/To be generated: 281
- (vi) Benefits of the Project: The project activities will directly or indirectly improve physical infrastructure (like road and rail network, bridges, telecommunication), social infrastructure (like educational facilities, medical facilities, women and child welfare facilities, water supply and sanitary facilities, banking facilities, training and skill development facilities, employment opportunities), Central and state Exchequer, helps Nation in Energy self-sufficiency, Green cover and Water reserves.
- (vii) Environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No J-11015/228/2007-IA-II(M) dated 20.05.2009 for 3.5 MTPA in mine lease area of 1111.40 ha.

- (viii) Term of Reference granted: NA as application made under clause 7(ii) of EIA notification OM vide F. No. IA3-22/10/2022-IA.III dt: 07.05.2022 – Availing total 50% relaxation of OM dealing with exemption of public hearing.
- (ix) Total mining lease area as per block allotment is 1111.40 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the CIL Board on 20.05.2022

II. LAND USE DETAILS OF THE MINE

- (x) The land usage pattern of the project is as follows:

Pre-mining land use details (Area in Ha)

S.N.	LAND USE	Within ML Area (Ha.)	Outside ML Area (Ha.)	Total
1	Agricultural Land	567.553	0	567.553
2	Forest Land	381.273	0	381.273
3	Waste Land	0	0	0
4	Grazing Land	2.289	0	2.289
5	Surface Water Bodies	3.626	0	3.626
6	Settlements	32.412	0	32.412
7	Others	124.247	0	124.247
Total		1111.40	0	1111.40

Post Mining land use details (Area in Ha)

Land Use	Plantation	Water Body	Public Use	Total
Excavation		111.65	0	111.65
Top soil storage	1.25	0	0	1.25
Ext OB Dump	38.7	0	0	38.7
Internal OB Dump	770	0	0	770
Roads		0	11.61	11.61
Built up Area (colony/office)	12.81	0	2.5	15.31
Green Belt-avenue plantation	10	0	0	10
Virgin Area	0	0	0	0
Other (Safety Zone as Green belt, ETP, Mineral Storage R&R)	151.99	0	0.89	152.88
TOTAL	984.75	111.65	15	1111.4

- (xi) Total geological reserve reported in the mine lease area is 108.02 MT with 108.02 MT mineable reserve. Out of total mineable reserve of 108.02 MT, 108.02 MT are available for extraction. Percent of extraction is 100%.
- (xii) 09 seams with thickness ranging from 5.78 m to 9.88 m are workable. Grade of coal is G-12, stripping ratio 3.93 cum/tonne, while gradient is 1 in 3.
- (xiii) Method of mining would be Opencast method (Coal- Surface miner and dumper; OB-Shovel and dumper combination).
- (xiv) Life of mine is 21 years.

- (xv) The project has one external OB dumps in an area of 38.70 ha with 60 m height and 9.5 Mcum of OB two internal OB in an area of 770 ha with 544.16 Mcum of OB is envisaged in the project.
- (xvi) Total quarry area is 881.65 ha out of which backfilling will be done in 770 ha while final mine void will be created in an area of 111.65 ha with a depth of 60 m. Backfilled quarry area of 770 ha shall be reclaimed with plantation. Final mine void will be converted water body

III. TRANSPORTATION OF COAL

- (xvii) Transportation of coal has been proposed by in-pit coal loaded into trucks by loader for transport to surface, from surface to siding by trucks and at sidings by rail and to local customers by trucks.
- (xviii) Total afforestation Plan in an area of 984.75 Ha, comprising of 38.70 ha of external dump, 770 ha of internal dump and 10 ha of avenue plantation. In addition to this, an area 151.74 of ha, included in the safety zone, has also been proposed for green belt development & 14.31 Ha others.
- (xix) 381.273 Ha of forest land has been reported to be involved in the project. Stage-II FC obtained for 19.001 Ha vide F. No 8C/21/2003-FCW/577 Dt: 02.04.2004 & Stage -II FC obtained for 123.899 Ha vide F. No 8-102/2005-FC Dt: 13.12.2006. Stage -I FC of Forest land of 238.373 Ha obtained vide letter No. 8-35/2019-FC dt 12.05.2023.
- (xx) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xxi) Wildlife conservation plan for schedule – I species has been submitted to PCCF Wildlife, Raipur and approved on dated 12.07.2023.
- (xxii) The ground water level has been reported to be varying between 3.2 m to 11.3 m during pre-monsoon and between 1.15 m to 5.5 m during post-monsoon. Total water requirement for the project is 1248 m³/day.
- (xxiii) Application for obtaining the approval of the Central Ground Water Authority for dewatering ground water has been submitted on 16.11.2022. EAC held on 05.07.203 and the proposal has been approved by EAC on dated 07.07.203 through mail NOC yet to be issued.

IV. DETAILS OF PUBLIC HEARING & RELATED ISSUES

- (xxiv) Public hearing for the project of Baroud OC 3.5 MTPA (Peak capacity) in an area of 1111.40 ha was conducted on 11.04.2008 at Gram Panchayat Bhawan, Baroud Tehsil- Gharghoda, Dist. Raigarh (C.G.) under the Chairmanship of Additional Collector Raigarh. Major issues raised in the public hearing include compensation, RR, Environment, employment. Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed to be taken are as under:
- (xxv) Consent to Operate for the existing capacity was obtained from the State PCB on 18.08.2022 and is valid till 25.09.2025.
- (xxvi) Kurket river flowing adjacent to western boundary of lease. River/ nallah will not be diverted.
- (xxvii) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to SPCB and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.

(xxviii) Pending legal litigations: -Case No. 996/2021 – pending at High Court of Chhattisgarh Bilaspur, Kshetriya Adhikari v/s M/s Baroud Opencast Coal Mine

(xxix) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine was started from the year 1994 onwards. Details of production of coal with sanctioned capacity is detailed below:

Year	EC Capacity (MTPA)	Coal production (Million tonnes)
2009-10	3.5	1.13000
2010-11	3.5	1.43610
2011-12	3.5	3.34037
2012-13	3.5	2.85265
2013-14	3.5	3.50000
2014-15	3.5	3.50000
2015-16	3.5	3.50000
2016-17	3.5	3.50000
2017-18	3.5	3.43781
2018-19	3.5	1.39419
2019-20	3.5	2.70020
2020-21	3.5	3.45472
2021-22	3.5	2.51527
2022-23	3.5	3.50000

V. BENEFITS OF THE PROJECT

(xxx) The project involves 398 project affected families. The PAF's and PAP's are being rehabilitated and paid economic compensation/ employed as per State Govt. R&R package and Coal India rule.

(xxxii) Total cost of the project is Rs. 258.56 crores. Cost of production is Rs.386.21/- per tonne. at 85% production level, CSR cost is 2% of the average net profit of the company for the three immediate preceding financial years or Rs. 2.00 per tonne of coal production of previous year whichever is higher, R&R cost is Rs. 1486 lakhs. Environment Management Cost is Rs. 4731.51 lakhs (Capital cost) & Total Revenue nature cost per annum is Rs. 38.20 lakhs.

(xxxiii) Consent to operate (CTO) was obtained from the State Pollution Control Board on 18.08.2022 and is valid till 25.09.2025.

VII. CONTROL OF POLLUTION: (A) AIR & (B) WATER

(xxxiiii) Environment baseline data generated in the post monsoon season from October 2022 to December 2022 at 09 locations. The result indicates that the maximum and minimum values of PM₁₀ are in the range of 83.60 to 67.70 µg/m³, whereas PM_{2.5} are in the range of 37.20 to 49.10 µg/m³ for. The SO₂ concentrations within the study area are in the range of 18.3 to 30.5 µg/m³ and NO_x in the range of 18.9 to 29.70 µg/m³.

The incremental values are projected to be 12.2 µg/m³ for PM₁₀, 3.65 µg/m³ for PM_{2.5}, 4.21 µg/m³ for SO₂, and 13.52 µg/m³ for NO_x. The value of total GLC is estimated to be 95.80 µg/m³ for PM₁₀,

52.75 µg/m³ for PM_{2.5}, 34.71 µg/m³ for SO₂, and 43.22 µg/m³ for NO_x. The observed pollutant levels are compared with CPCB National Ambient Air Quality Standards.

(xxxiv) Surface water Monitoring was done at 04 locations. The result indicates that the pH value in the range of 7.12 and 7.58 and Turbidity value is <0.1 NTU, Dissolved Oxygen in range of 6.5 to 7.2 mg/l, Dissolved Solids ranged 112 to 401 mg/l, Total Hardness in range of 56 to 178 mg/l. Surface water samples have Coliforms ranges between 23 to 69 MPN/100 ml and contaminated due to surface runoff entering these sources.

1.2.3 The Committee during deliberations noted the followings:

- (i) PP had obtained EC vide Ministry's letter No. J-11015/228/2007-IA-II(M) dated 20.05.2009 for 3.5 MTPA in ML area of 1111.40 ha.
- (ii) Life of mine is 21 years.
- (iii) Transportation of coal has been proposed by trucks through loader for transport to surface, from surface to siding by trucks till implementation of belt conveyor system. The belt conveyor and silo loading system of the project which is integrated with other mines are in advance stage of completion.
- (iv) 381.273 Ha of forest land has been reported to be involved in the project. Stage-II FC obtained for 19.001 Ha vide F. No 8C/21/2003-FCW/577 Dt: 02.04.2004 & Stage -II FC obtained for 123.899 Ha vide F. No 8-102/2005-FC Dt: 13.12.2006. Further Stage -I FC of Forest land of 238.373 Ha obtained vide letter No. 8-35/2019-FC dt 12.05.2023.
- (v) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (vi) Wildlife conservation plan for schedule – I species has been submitted to PCCF Wildlife, Raipur and approved on dated 12.07.2023.
- (vii) Application for obtaining the approval of the Central Ground Water Authority for dewatering ground water has been submitted on 16.11.2022. NOC is yet to be issued by Authority.
- (viii) Public hearing was conducted on 11.04.2008 for capacity of 3.5 MTPA under the Chairmanship of Additional Collector Raigarh.
- (ix) Consent to Operate for the existing capacity was obtained from the SPCB vide dated 18.08.2022 and is valid till 25.09.2025.
- (x) Kurket river flowing adjacent to western boundary of lease and river/ nallah will not be diverted.
- (xi) Case No. 996/2021 – pending at High Court of Chhattisgarh Bilaspur- Instant matter was dismissed by the Hon'ble High court of Chhattisgarh Bilaspur on 21st April 2023.
- (xii) Earlier, the proposal was considered in 49th EAC meeting held on 29th August, 2023 wherein committee had deferred the proposal and sought the additional information. The PP had submitted the following replies vide letter dated 27.09.2023:

S. No.	Observation of EAC	Reply by PP

1	PP should submit the updated report on all the pending work before October 2023 and submit the time bound action plan for compliances of existing EC.	S. No	Pending Works	Status as on 01.10.23	Will be Completed by
		1	FC Stage-II	FC stage-I compliance submitted on 11.08.2023 and is currently with APCCF (LM), Raipur.	Dec-23
		2	In-pit belt conveyor along with Silo loading system	90% of Silo loading system work completed. In-pit belt conveyor system will be done in 10 MTPA proposal.	Dec-23
		3	NOC from CGWA	Abstraction charges of Rs 1,00,49,245/- paid and In principle NOC approved.	Nov-23
		4	ETP	Existing Oil & grease trap is in operation.	
				Installation of ETP with fabricated tanks at cost of 21.59 lakhs is under progress.	Nov-23
				Upgradation of existing oil and grease trap to ETP (58.42 Lakhs) will be completed	May-24
		5	CAAQMS	Installed and will be in operation by Oct-23.	Oct-23
		6	Wildlife conservation plan	Approved on 12.07.2023 and will be implemented by Forest Dept. Estimated Budget 26.82 Cr. Total Amount Paid in CAMPA on 10.08.2023.	Done
		7	Plantation on OB dumps	Information enclosed	Continuous
8	IME & PME	Information enclosed	Continuous		
9	Establishment of Environmental Lab	Process of establishment initiated	March-24		
2	PP should submit an undertaking w.r.t. completing the pending work on time.	PP has submitted the undertaking vide letter dated 09.10.2023.			

3	PP shall complete the compliance as per the OM dated 11.04.2022 w.r.t expansion under 7 (ii) (a) Stage I (20%) for the instant coal mine.	PP has submitted the compliance as per the OM dated 11.04.2022.
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(xiii) PP has submitted the compliance of MoEF&CC vide OM Dated 11.04.2023 w.r.t. Baroud OC:

S. No	OM Condition	Brief summary of Compliance
a.	The project should have gone through the public hearing process, at least once, for its existing EC capacity on which expansion is being sought, except those category of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.	The existing EC capacity is 3.5MTPA within a project area of 1111.4 Ha on which expansion is being sought. A PH was conducted on 11.04.2008 for this capacity and project area. ATR of issues raised during PH is enclosed.
b.	There should not be change in Category of the project from 'B2' to BV or 'A' due to proposed modernization or expansion.	This project is of Category A and it is not changing.
c.	There is no additional land acquisition or forest land diversion involved for the proposed expansion or there is no increase in lease area with regard to mining vis-a-vis the area mentioned in the EC, based on which public hearing has been held earlier.	The area mentioned in the EC, based on which public hearing has been held earlier is not changing.
d.	The proposed expansion shall not be more than 50% of production capacity as mentioned in the prior EC, issued on the basis of public hearing held and the same shall be allowed in minimum three phases.	This proposal is for first 20% expansion i.e. 3.5 MTPA to 4.2 MTPA (Phase I of 50% as per OM dated 11.04.2022).
e.	Predicted environmental quality parameters arising out of proposed expansion/modernization shall be within the prescribed norms and the same shall be maintained as per prescribed norms.	The predicted concentration levels of PM ₁₀ , PM _{2.5} , SO ₂ and NO _x are within the limits as prescribed in GSR 742 (E) Dt: 25.09.2000 by MoEF&CC and NAAQS, 2009.
f.	The proposed expansion should not result in reduction in the greenbelt area as stipulated in the earlier EC, or if the existing ratio of greenbelt is more than 33%, after expansion it should not reduce below 33%.	The proposed expansion is not reducing the greenbelt area as stipulated in the earlier EC.

S. No	OM Condition	Brief summary of Compliance
g.	The project proponent should have satisfactorily complied the conditions stipulated in the existing EC(s) and satisfactorily fulfilled all the commitments made during the earlier public hearing/consultation proceedings and also the commitments given while granting previous expansion, as may be applicable. This shall be duly recorded in the certified compliance report issued by the IRO/CPCB/ SPCB, which should not be more than one-year-old at the time of submission of application.	The Certified Compliance status report vide F.No.3-50/2009(Env) Dt 19.06.2023 is satisfactory and ATR with suitable budgetary provisions for Partially complied conditions is attached. The commitments made during the earlier public hearing are addressed duly and ATR with suitable budgetary provisions for the same is attached.
h.	Public Consultation shall be undertaken [if applicable as per table below] by obtaining response in writing, as per para 7 III (ii) (b) of EIA Notification 2006, except those category of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.	Not applicable for this proposal.
i.	Effluent monitoring including air quality monitoring systems as specified in the existing EC, if stipulated, should have been installed.	Further, installation of continuous ambient air quality monitoring system (CAAQMS) has been initiated and commissioning is in final stage.

1.2.4. The Committee noted that the instant proposal is for increase in production capacity from 3.6 to 4.32 MTPA (i.e. 20% Stage I) as expansion of EC under OM vide dated 11.04.2022. Earlier it was deferred due to lack of compliances observed in existing EC. PP has now submitted the detailed response as given above. The Committee discussed in length the submission of PP and verified the progress with respect implementation of In-pit belt conveyor along with Silo loading system via geo-tagged photograph & Drone Video, which reveals that the works of mechanized system for coal transportation is at verge of completion and ready to Commission by December, 2023 based on physical progress and commitment of PP. Further, EAC noted the installation of online CAAQMS with photographs (Geotagged-location within mine), which is confirmed to display and sharing of data with SPCB/CPCB by end of October 2023. With regard to installation/functioning of ETP, the civil works was seen through photographs and reported to be operationalized by November 2023. Further, Wildlife Conservation Plan was approved on 12.07.2023 and confirmed to be implemented by Forest Dept. at estimated Budget 26.82 Cr. PP has constructed environmental laboratory within the mine and ready for analysis by March 2024. Finally, it is noted that most of non-complied points are being complied. Further, it was observed that compliance w.r.t issues raised during last public hearing has been duly addressed and EAC found it satisfactory.

The committee also took a note of Showcause notice issued based on RO report dated 8th February, 2023; however, it was observed that after few months RO-Raipur had again conducted the site visit. This instant report dated 19th June, 2023 (the report provided by PP for appraisal) has shown improvement in the compliance as compared to previous report. Accordingly, EAC desired PP to submit the action taken report in its previous meeting (which was deferred).

Now, in view of the above forgoing it was found that most of the non-compliances conditions are now addressed to larger extent and further on the basis of commitment of PP to comply the conditions within certain timeframe & in view to meet the coal production target at the request of PP, the committee agreed to recommend the proposal for grant of expansion in production capacity. Since location of instant project is at Tehsil Gharghora, Raigarh wherein Hon'ble NGT in the matter of Shivpal Bhagat & Ors vs UOI vide order dated 15.02. 2022 in Original Application No. 104/2018 has directed to add certain additional condition for environmental safeguards. In this context, the Committee prescribed the additional safeguard.

*Based on the above discussions held in the EAC meeting, the EAC **recommended** the Environmental Clearance under Ministry's OM dated 11.04.2022 for Baroud Opencast Mine for increase in production capacity from 3.6 to 4.32 MTPA (i.e. increase of 20% expansion – Stage I) with mine lease area of 1111.40 ha of M/s SECL located at Village Baroud, Tehsil Gharghora, District Raigarh (Chhattisgarh) with the following specific conditions under the provisions of EIA Notification, 2006 and its amendments:*

Specific condition: -

- i. RO may verify the submission of action taken report of PP for observing the present status conditions, as part of its regular monitoring of previous EC conditions.*
- ii. As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UOI, PP to comply with all the recommendation of Carrying Capacity Study being conducted by reputed institute by CPCB & SPCB.*
- iii. As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, proper and free health care facilities with multispecialty treatment system shall be provided in coal mine buffer area.*
- iv. As per NGT order dated 15.02. 2022 in Original Application No. 104/2018 in the matter of Shivpal Bhagat & Ors vs UIO, PP shall have to comply that when coal is sold to TPP, there is the agreement to sell that at least 25% Fly Ash of the coal sold, should be accepted by the coal company (seller) from TPP(Purchaser) failing which coal company shall be liable for civil action and other legal measures.*
- v. PP to obtain the CTO for Opencast coalmine capacity of 4.32 MTPA after grant of EC.*
- vi. PP shall construct and complete In-pit belt conveyor system along with Silo loading system for 10 MTPA by December 2023 and accordingly SPCB shall grant the CTO without road transportation beyond timeline.*
- vii. PP shall complete the commissioning of ETP by November 2023 and upgradation of existing oil and grease trap by December, 2023.*

- viii. CAAQMS to be operational by October 2023 and subsequently initiation of online data sharing to CPCB/SPCB.
- ix. PP shall create embankment all across the Kurket River with a safe width of 300m.
- x. PP to address the issues of local public with sufficient budgetary provisions as a part of public hearing. The maintenance of all public hearing activities shall be covered through recurring cost, which will be part of CSR budget.
- xi. PP to address activities-wise budget of Rs. 678.96 Lakhs (as EMP cost) in time bound manner as mentioned below in tabular form. The details of annual expenditure shall be part of report submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored through dedicated online monitoring mechanism. The maintenance of all activities shall be covered through recurring cost, which will be part of CSR budget.

Capital for Anti-Pollution measure in mine & Industrial Area		
I.	Particulars	Capital Cost
	a 2 Nos. of water sprinklers	191.12
	b Settling tank for mine water disposal	18.00
	c Sewage disposal arrangement in workshop effluent	4.18
	d Other development measures in industrial site viz. Drains, tree guards, etc.	20.80
	e Garland drains	20.00
	f Dust suppression arrangement at CHP and Railway siding	14.97
	g Green belt 7.5 m all along quarry boundary 9.765 Ha @53,500/Ha	5.35
	Sub-Total (1)	274.42
II.	ENVIRONMENTAL CONTROL MEASURES IN	
	a Sewerage disposal I colony including sewerage plant	400.00
	b Water drains	4.35
	c Other development measures in township to improve cleanliness & aesthetics parks-play-grounds & tree guards	0.19
	Sub-total (2)	404.54
III.	Steps for prevention of possible mine inundation if	20
IV.	Cost of EMP preparation	22
V.	Community development in surrounding villages	75
	Total capital from 1 to 2	4731.51

- xii. PP shall establish Environmental laboratory at project site by March 2024 and create Environmental Management Cell to monitor the issues related environmental degradation.
- xiii. PP shall treat the mine water with analytical reports before use by the local villagers.
- xiv. PP shall deploy the truck size of upto 40 tonnes (payload) for transportation of coal within the mine area through dedicated haul road till implementation of In-pit belt conveyor system. SPCB shall monitor the coal transportation by road or rail and CTO to be issued accordingly.

- xv. *No coal transportation shall be done through sensitive locations such as villages, hospitals, schools etc.*
- xvi. *PP shall deploy at least 20% of overall fleet size of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc and deploy e-vehicles for workers/staff in/out of the mine.*
- xvii. *PP shall conduct feasibility studies for assessment of voids for backfilling of ash and mixing of ash with overburden, taking up backfilling ash and OB mixing activities during operations as well as post closure of mines in line with the Fly Ash Utilization Notification, 2021.*
- xviii. *PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.*
- xix. *PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&CC.*
- xx. *PP shall ensure the compliance of expenditure to be incurred for wildlife conservation plan submitted to the State Govt. and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO. Also, PP shall engage State Biodiversity Authority and local biodiversity committee for implementation of CSR activity for developing the local market.*
- xxi. *The project proponent shall submit the video footage and photographs after completion of above EC conditions within 2 months to record the dumpsite, status of plantation, construction of boundary wall, construction of embankment, Installation of ETP and CAAQMS.*
- xxii. *PP shall create a "Public Grievance Redressal and Monitoring System" for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on "Public Grievance Redressal and Monitoring System."*
- xxiii. *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India &Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*
- xxiv. *All other terms and conditions as prescribed in the Ministry's letter dated 20th May 2009.*

Agenda No. 1.3

Dulanga Opencast Coal Mining Project of production capacity 7.0 MTPA in ML area of 785.37 ha of M/s National Thermal Power Corporation Limited located in Ib Valley Coalfields, District Sundargarh (Odisha) - For Amendment of Environmental Clearance dated 03.03.2014 – reg.

[Online proposal no. IA/OR/CMIN/446984/2023; File no. J-11015/1140/2007-IA-II (M)]

1.3.1 The proposal is for amendment in Environment Clearance (EC) for Dulanga Opencast Coal Mining Project of production capacity 7.0 MTPA in the ML area of 785.37 ha of M/s National Thermal Power Corporation Limited located in Ib Valley Coalfields, District Sundargarh (Odisha).

Broadly, PP has requested to change in project area from 785.37 to 762.42 ha by citing the reason of without environmental impact due to mining.

1.3.2 The EAC during deliberations noted the following:

- Earlier, Environment Clearance was granted vide Ministry's letter No J-11015/1140/2007-IA. II(M) dated 03.03.2014 for 7 MTPA in an area of 785.37 ha.
- Dulanga Coal Mine was deallocated by Hon'ble Supreme Court of India vide Judgment dated 24.08.2014 read with order dated 24.09.2014 and reallocated by Ministry of Coal vide MOC Allotment Order No. 103/32/2015/NA dated 08.09.2015.
- EC dated 03.03.2014 was transferred & revalidated vide Ministry's letter No. J-11015/1140/2007-IA. II(M) dated 28.10.2015 based on reallocation of coal block to M/s NTPC.
- Amendments in Environment Clearance were obtained for Dulanga Coal mine at different time interval vide letters dated 09.02.2016, 08.08.2018, 04.07.2019 & 07.01.2020 regarding relaxation in EC conditions for transportation of coal roads instead of MGR system.
- Now, PP has requested for the amendment in EC w.r.t. change in project area from 785.37 ha to 762.42 ha area as given below:

S. No.	Area Description	Project Area in EC dated 03.03.2014 (in Ha)	Amendment of Project Area (Ha) in EC
1.	Mine Lease Area	567.19	567.19
2.	Outside ML Area	218.18	195.23
	TOTAL	785.37	762.42

- PP has mentioned that the reduction in project area from 785.37ha to 762.42ha has no impact on mining as the area of 22.95 Ha reduced from the outside mining lease area i.e it is comprising of area envisaged for colony and in village Khapurikachhar. Total net project area is 762.42 ha.
- Earlier, the Mining Plan for 7 MTPA production was prepared and approved by Ministry of Coal (MOC) vide letter no. 13016/29/2003-CA-I (Vol. II) dated 30.07.2009. The revised Mining Plan and Mine Closure Plan for 7 MTPA of Dulanga Coal Mine was also approved by Ministry of Coal (MoC) vide letter no. 13016/27/2012-CA-I dated 14.08.2012.
- Total 304.75 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980. FC was obtained vide F. No. 8-23/2013-FC dated 23.12.2015.

- Wildlife conservation plan for schedule-I species has been submitted to Competent Authority and get approved vide letter no. 7480/1WL(C)SSP-270/2012 dated 30.09.2014

1.3.3 The Committee, after detailed deliberations, observed that the instant proposal of amendment of EC dated 03.03.2014 is in respect of reduction in Mine area from 785.37 ha to 762.42 ha. It has been noted that that in total project area i.e. 762.42 ha, an area measuring 567.19 ha from coal block has been acquired under CBA Act 1957 and 195.23 ha (based on authenticated land schedule & same has been lying outside the ML area) as a non-coal bearing area for dumping of overburden and infrastructure purposes. The Committee inferred that only 567.19 ha is covered under actual Mine lease area against the total area of 762.42 ha. However, PP has assumed significant portion of block area as acquired by them, a part of mine lease area without obtaining valid document from State. Therefore, it was concluded that the proposed amendment of project area is inconsistent Mine lease area.

It is to be mentioned here that instant proposal of amendment has been applied in a view to fulfill the conditional requirements contained in OM dated 11.04.2022 wherein expansion are allowed to those project which has mine lease and mine area are consistent and there is no change in area while availing expansion under said OM. PP has separately applied proposal bearing no. IA/OR/CMIN/434835/2023 for expansion; however the same was deferred for clarification in terms of mine areas. While examining that proposal, the then EAC asked PP the followings in its 48th meeting held during 25-28th August 2023;

“PP shall submit the Mine lease area documents and other valid documents clarifying for different ML area with the valid documents. Land use discrepancies may first be removed by taking amendment of EC or correction of records.”

Now, this Committee in view of forgoing concluded that PP does not have complete ML area with project area of 762.42 ha. Hence, due to inconsistencies of project area with mine lease area, the amendment of EC dated 03.03.2014 is not possible. Similarly, committee also observed that the Mine plan has been prepared for ML area of 849.34 ha which should be coterminous with the mine lease area as one of the mandatory requirements of OM dated 11.04.2022.

With the above remarks, the Committee advised PP to follow the instructions already given by the Hon’ble Supreme court on the management of mine activities within Mine lease area. The Hon’ble Supreme Court in the matter of WP(C) No. 435 of 2012 in Goa Foundation Vs Union of India & Ors vide order dated 21th April, 2014, has stated the following:

At Para-29: “a holder of mining lease does not have any right to dump any reject, tailings or waste in any area outside the leased area of the mining lease on the strength of mining lease granted under the MMDRA Act and the Rules made thereunder. Such area outside the leased area of the mining lease may belong to the State or may belong to any private person, but if the mining lease does not confer any right whatsoever on the holder of a mining lease to dump any mining waste outside the leased area, he will have no legal right whatsoever to remove his dump, overburden, tailings or rejects and keep the

same in such area outside the leased area. In other words, dumping of any waste materials, tailing and rejects outside the leased area would be without a valid authorization under the lease deed"

At Para 71: (ii) dumping of minerals outside the leased area of the mining lessees is not permissible under the MMDR Act and the Rules made thereunder

In view of the above, the Committee asked the project proponent to submit the following information:

- i. PP shall submit the valid Mine lease documents for appraisal of this amendment application in EC dated 03.03.2014 for further consideration of separate proposal for expansion in EC under OM dated 11.04.2022.*
- ii. PP shall submit the co-terminus documents of Approved Mine Plan (including Mine closure plan), Mine Lease Area with respect to Environment Clearance and remove the observed defects.*
- iii. PP should comply above condition no. (i) for consideration of proposal for expansion in EC under OM dated 11.04.2022.*

*In view of above, project was **returned** for submission of above observation.*

Annexure-I

Standard EC Conditions for Coal Mining Project (Opencast mining):

All the projects recommended for grant of environmental clearance by the EAC shall also comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

- (a) Statutory compliance**
 - (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
 - (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
 - (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of Schedule-I species in the study area).
 - (iv) The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
 - (v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
 - (vi) Solid/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.

- (b) Air quality monitoring and preservation**
 - (i) Continuous ambient air quality monitoring stations as prescribed in the statute established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
 - (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
 - (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered

trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM₁₀/PM_{2.5}) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.

- (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
 - (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
 - (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid airborne dust. Drills shall be wet operated or fitted with dust extractors.
 - (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (c) Water quality monitoring and preservation
- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
 - (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J- 20012/1/2006-1A.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
 - (iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
 - (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
 - (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water

resources.

- (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
 - (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
 - (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
 - (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
 - (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
 - (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
- (d) Noise and Vibration monitoring and prevention**
- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard.

Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

- (ii) 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.
 - (i) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.
- (e) Mining Plan
- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
 - (ii) Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
 - (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
 - (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.
- (f) Land reclamation
- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
 - (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land shall be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
 - (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/“post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
 - (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

- (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
- (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.
- (g) Green Belt**
 - (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
 - (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.
- (h) Public hearing and Human health issues**
 - (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
 - (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
 - (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
 - (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
 - (v) The project proponent shall follow the mitigation measures provided in this Ministry's

OMNo.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

- (i) Corporate Environment Responsibility
- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- (ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (j) Miscellaneous
- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x(ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the

company.

- (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
- (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (xvi) The above conditions 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, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

Annexure-II

Standard EC Conditions for Coal Mining Project (Underground mining):

All the projects recommended for grant of environmental clearance by the EAC shall also comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

I. Statutory compliance:

- (i) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project
- (ii) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (iii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iv) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)
- (v) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- (vi) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vii) Solid waste/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the

SPCB

- ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal

Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.

- iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/ mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
- iv. Major approach roads shall be black topped and properly maintained.
- v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.
- vi. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- vii. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- viii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
- iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the

Ministry of Environment, Forest and Climate Change/Regional Office.

- v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
 - vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
 - vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
 - viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
 - ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
 - x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
 - xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.
 - xii. The project proponent shall take all precautionary measures to ensure riverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A riverian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
- IV. Noise and Vibration monitoring and prevention**
- i. Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in underground mining operations, operation of HEMM,

etc. shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms/guidelines in this regard. Progress in usage of such accessories to be monitored. Adequate awareness programme for users to be conducted.

- ii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

V. Mining Plan

- i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- ii. No change in mining method i.e. UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- iii. Mining shall be carried out as per the approved mining plan (including mine closure plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- iv. Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.
- v. No mining activity shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.
- vi. Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

- i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MoEFCC) from time to time shall be submitted to MoEFCC/Regional Office (RO).
- ii. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.
- iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with

fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

- v. A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.
- vi. Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.
- vii. Native tree species shall be selected and planted over areas affected by subsidence.
- viii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Green Belt

- i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. Action plan, in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
- ii. Greenbelt, consisting of three-tier plantation, of width not less than 7.5 m, shall be developed all along the mine lease area in a phased manner. The greenbelt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

VIII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.
- ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any.
- iii. Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
- v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.
- vi. Implementation of Action Plan on the issues raised during the Public Hearings shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees shall be compensated as per the norms laid out R&R Policy of the Company/ or the National R&R Policy/ R&R Policy of the State Government, as applicable
- vii. The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining

activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation/ violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. The above conditions 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, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Annexure-III

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

- (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. Therecommendations of the approved Site-Specific Conservation Plan / WildlifeManagement Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in thestudy area)
- (iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water(Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
- (v) The project proponent shall obtain the necessary permission from the CentralGround Water Authority.
- (vi) Solid waste/hazardous waste generated in the washery needs to addressed inaccordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules,2016.
- (vii) Coal beneficiation practices shall be carried out under strict adherence to provisions of the Factories Act, 1957 and subordinate legislations made there under.

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based onthe meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statuebe established in the core zone as well as in the buffer zone for monitoring ofpollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on themeteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the

State Pollution Control Board. Online ambient air quality monitoring stationsmay also be installed in addition to the regular monitoring stations as per therequirement and/or in

consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

- iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board
- iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.
- v. Covered trucks shall be engaged for mineral transportation outside the washery up to the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.
- vi. Facilities for parking of trucks carrying raw material from linked mine shall be created within the unit.
- vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having 'PUC' certificate from authorized pollution testing centres shall be deployed for washery operations.
- viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.
- ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.
- x. The temporary reject sites should be appropriately planned and designed to avoid air and water pollution from such sites.

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
- iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
- iv. The project proponent shall not alter major water channels around the site. Appropriate

embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the riverfront side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.

- v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
- vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface run off from reject dumping sites.
- vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEFCC and implemented.
- viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.
- ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.
- x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m³/tonne of raw coal.
- xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- xii. The project proponent shall take all precautionary measures to ensure riverine/ riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government

IV. Noise and Vibration monitoring and prevention

- i. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on a six-monthly basis
- ii. Adequate measures shall be taken for control of noise levels as per noise pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard.

Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

V. Coal beneficiation

- i. Coal stacking plan shall be prepared separately for raw coal, clean coal, middling and rejects.
- ii. Efforts should be made to reduce energy consumption by conservation, efficiency improvements and use of renewable energy.

VI. Green Belt

- i. Three tier greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.
- ii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis. The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any. as amended time to time.
- ii. Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iii. Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- iv. The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

VIII. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/ forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation/ violation of the environmental / forest / wildlife norms / conditions and / or shareholders /stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in form-V to the concerned State Pollution Control Board as prescribed under the Environment

- (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- viii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
 - ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
 - x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
 - xi. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made
 - xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
 - xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
 - xvi. The above conditions 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, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
 - xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

ANNEXURE-IV

Generic ToR for coal washery

- i. Siting of washery is critical considering its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washer preferably through closed conveyer belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant along with a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Report should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. along with the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM10, PM2.5, SOx and NOx, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.
- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transported by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail

is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.

- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.
- xiv. O.M.no.J-II0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
- xvi. Analysis of samples indicating the following be submitted: Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc). Characteristics and quantum of coal after washing. Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
- xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
- xxii. Wastewater /effluent should conform to the effluent standards as prescribed under

Environment (Protection) Act, 1986

- xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

- (i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
- (ii) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A toposheet specifying locations of the State, District and Project site should be provided.
- (iv) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.
- (v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note on the land use.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (vii) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (viii) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channeling of the water courses, etc., approach roads, major haul roads, etc should be indicated.

- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion /modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.
- (x) Similarly, if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.
- (xi) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

LAND USE DETAILS FOR OPENCAST PROJECT should be given as per the following table:

Sl. No.	Land use	Within ML area (ha)	Outside ML area (ha)	Total
1.	Agricultural land			
2.	Forest land			
3.	Wasteland			
4.	Grazing land			
5.	Surface water bodies			
6.	Settlements			
7.	Others (specify)			
	TOTAL			

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever

- applicable. Observed values should be provided along with the specified standards.
- (xvi) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
 - (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
 - (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
 - (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
 - (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
 - (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.
 - (xxii) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
 - (xxiii) Impact of blasting, noise and vibrations should be given.
 - (xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
 - (xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan

for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.

- (xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Efforts be made for maximizing progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void. --to reduce land degradation.
- (xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

Table 1: Stage-wise Land use and Reclamation Area (ha)

S.N.	Land use Category	Present (1 st Year)	5 th Year	10 th Year	20 th Year	24 th Year (end of mine life)*
1.	Backfilled Area Reclaimed with plantation)					
2.	Excavated Area (not reclaimed)/void					
3.	External OB dump Reclaimed with plantation)					
4.	Reclaimed Top soil dump					
5.	Green Built Area					
6.	Undisturbed area(brought under plantation)					
7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
	TOTAL					

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

S. No.	YEAR*	Green Belt	External Dump	Backfilled Area	Others(Undisturbed Area/etc)	TOTAL
1.	1 st year					
2.	3 rd year					
3.	5 th year					
4.	10 th year					
5.	15 th year					
6.	20 th year					
7.	25 th year					
8.	30 th year					
9.	34 th year (end of mine life)					
10.	34-37 th Year (Post-mining)					

* As a representative example

(xxx) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining landuse should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.

Table 3: Post-Mining Landuse Pattern of ML/Project Area (ha)

S.N.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External OB Dump					
2.	Top soil Dump					
3.	Excavation					
4.	Roads					
5.	Built up area					
6.	Green Belt					
7.	Undisturbed Area					
	TOTAL					

- (xxxii) Flow chart of water balance should be provided. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be done.
- (xxxiii) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower in the mine should be given.
- (xxxiv) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- (xxxv) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
- (xxxvi) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxxix) Corporate Environment Responsibility:
- a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- (xl) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xli) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xlii) Status of any litigations/ court cases filed/pending on the project should be provided.

- (xliii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xliv) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept.(if req.), etc. wherever applicable.

FOREST CLEARANCE: Details on the Forest Clearance should be given as per the format given:

TOTAL ML/PROJECT AREA (ha)	TOTAL FORESTLAND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl for. diversion of forest land
		If more than, provide details of each FC			

**GENERIC TORs FOR AN UNDERGROUND COALMINE
PROJECT**

- (i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification,2006.
- (ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A Study area map of the core zone (project area) and 10 km area of the bufferzone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as BiosphereReserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found inthe 15 km study area should be given.
- (iv) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas(as per records), along with other physical features such as water bodies, etc should be furnished.
- (v) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the majorrivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (vi) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (vii) Original land use (agricultural land/forestland/grazing land/wasteland/waterbodies) of the area should be provided as per the tables given below. Impactsof project, if any

on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

S. N	ML/Project Land use	Area under Surface Rights(ha)	Area Under Mining Rights(ha)	Area under Both (ha)
1.	Agricultural land			
2.	Forest Land			
3.	Grazing Land			
4.	Settlements			
5.	Others (specify)			

Area under Surface Rights

S.N.	Details	Area (ha)
1.	Buildings	
2.	Infrastructure	
3.	Roads	
4.	Others (specify)	
	TOTAL	

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (ix) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and

adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.

- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
- (xvi) Detailed water balance should be provided. The breakup of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
- (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
- (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and

trucks/tippers.

- (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
- (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
- (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
- (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
- (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
- (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxvii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxviii) Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

- (xxix) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xxxi) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xxxii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxiii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept.(if req.), etc. wherever applicable.

Details on the Forest Clearance should be given as per the format given:

Total ML /Project Area (ha)	Total Forest Land (ha)	Date of FC	Extent of Forest Land	Balance area for which FC is yet to be obtained	Status of appl. For diversion of forest land
		If more than one provide details of each FC			

ANNEXURE-VII

GENERIC TORs FOR AN OPENCAST -CUM UNDERGROUND COAL MINE PROJECT

- (i) An EIA-EMP Report would be prepared for a combined peak capacity of.....MTPA for OC-cum-UG project which consists of... MTPA in an ML/project area of ha for OC and MTPA for UG in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification 2006.
- (ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum underground mining.

LIST OF PARTICIPANTS OF EAC (COAL) IN 1ST MEETING HELD ON 17TH OCTOBER, 2023 THROUGH VIDEO CONFERENCING

1.	Dr. Sharad Singh Negi (I.F.S Retd.)			DAY
		-	Chairman	
2.	Sh. Inder Pal Singh Matharu, (I.F.S. Retd.)	-	Member	P
3.	Sh. Lalit Kapur (Retd. Adviser, MoEFCC)	-	Member	P
4.	Dr. Umesh Jagannathrao Kahalekar	-	Member	P
5.	Shri K.B. Biswas	-	Member	P
6.	Sh. Savalge Chandrasekhar	-	Member	P
7.	Prof. Shyam Shanker Singh		Member	P
8.	Dr. Vinod Agrawal		Member	P
9.	Dr. Santosh Kumar Hampannavar	-	Member	P
10.	Prof. R M Bhattacharjee, Representative of IIT/ISM Dhanbad	-	Member	P
11.	Shri M.P Singh, Representative of CEA	-	Member	P
12.	Representative of IMD	-	Member	A
13.	Dr. Nazimuddin Representative of Central Pollution Control Board	-	Member	A
14.	Shri Lalit Bokolia, Director, MoEFCC	-	Member Secretary	P
