

MINUTES OF 50th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 27th SEPTEMBER 2023 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 49th Meeting of the EAC (Coal): The minutes of the 49th Meeting of the EAC (Coal) held during 29th August 2023 has been confirmed by the Chairman.

Opening Remarks of the Chairman: At the outset, the Chairman welcomed the Expert members & other participants and requested to start the proceeding as per the agenda adopted for this meeting.

Consideration of Proposals: The 50th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 27th September 2023 through Video Conferencing. 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. 50.1

Expansion of Gayatri Underground Coal Mining Project from 0.30 to 0.88 MTPA with increase in Mine Lease area from 507.472 ha to 616.957 ha of M/s South Eastern Coalfields Limited located at village Getra, Tehsil Ambikapur, District Surguja (Chhattisgarh) — For Environmental Clearance -reg.

[Online Proposal No. IA/CG/CMIN/444843/2023; File No. J-11015/26/2000 IA. II (M)]

50.1.1 The proposal is for Environmental Clearance for Gayatri Underground Coal Mining Project from 0.30 to 0.88 MTPA with increase in Mine Lease area from 507.472 ha to 616.957 ha of M/s South Eastern Coalfields Limited located at village Getra, Tehsil Ambikapur, District Surguja (Chhattisgarh).

50.1.2 Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

I. LOCATION OF THE PROJECT

- i. The project area is covered under Survey of India Topo Sheet No 64 – I/16 (1:50000) and is bounded by the geographical coordinates ranging from latitude 23⁰05'15" to 23⁰07'30" N and longitude 82⁰53'32" to 82⁰56'53" E.
- ii. Coal linkage of the project is proposed for use in various power/non power customers based mainly in Chhattisgarh, Madhya Pradesh, Odisha, Uttar Pradesh and some other states.
- iii. No Joint venture cartel has been formed.
- 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. 19 nos. of employment has already been generated against acquisition of land for surface

infrastructure. 277 nos of new employment likely to be generated due to acquisition of tenancy land.

Sanctioned project manpower FY 2023-24 is 391. Approx. 200 Nos. of indirect employment is likely to be generated due to proposed expansion.

- vi. The project is reported to be beneficial in terms of fulfilling the demand of nation's electricity and other coal-based industries, apart from earning revenue for the government. Opportunity of employment for the project affected villagers and allied industries.
- vii. Earlier, the Environment Clearance to the project was obtained under EIA Notification, 1994 vide Ministry's letter No. J-11015/26/2000-IA.II(M) Dated : 27thNov. 2002 for 0.30 MTPA for an area of 507.472 ha. and subsequently EC revalidated as per MoEF&CCNotification S.O. 1530(E) dated 06.04.2018 in 34th EAC meeting held on 23rd Aug 2022 and EC issued on 28th Sep 2022.
- viii. Terms of Reference granted on 15.11.2022 – (for EC proposal).
- ix. Total mining lease area – 616.957 ha (including 7.45 ha for mine infrastructure and 8.55 ha for colony- outside ML area). Mining Plan (including progressive Mine closure plan) for 0.88 MTPA and ML Area 616.957 Ha has been approved by CoFD, SECL on 22.05.20223 vide Item no.175.02. The MoM of the board meeting was circulated vide letter no SECL/BSP/CAD/175thCoFD EXT/23-24/151 dated 22.05.2023.

II. LAND USE DETAILS OF MINE

The land usage pattern of the project is as follows:

Pre-Mining land use details (Area in Ha.)

S.No.	Land Use	Within ML Area (Ha.)	Outside ML Area (Ha.)	Total (Ha.)
1.	Agriculture Land	168.551	0	168.551
2.	Forest Land	310.268	0	310.268
3.	Waste land	0	0	0
4.	Grazing Land	0	0	0
5.	Surface Water Bodies	0.60	0	0.60
6.	Settlements	66.618	0	66.618
7.	Others (Govt. Land)	54.92	0	54.92
8.	Old Excavation Area	0	0	0
9.	Old Excavation Area	0	0	0
10.	Old OB Dumps	0	0	0
11.	Roads & Mine Infrastructure	7.45	0	7.45
12.	R&R Colony	0	0	0
13.	Staff Colony	0	8.55	8.55
14.	Green Belt	0	0	0
15.	Balance Area	0	0	0
	Total Project Area=	608.407	8.55	616.957

Post mining:

S.	Land use during Mining	Land Use (ha)
----	------------------------	---------------

No.		Plantation	Water Body	Public Use	Undisturbed	Total
1.	External OB dumps	0	0	0	0	0
2.	Top Soil Dump	0	0	0	0	0
3.	Excavation	0	0	0	0	0
4.	Roads	0	0	7.45	0	7.45
5.	Built Up Area (Colony/Office)	0	0	8.55	0	8.55
6.	Green Belt	0	0	0	0	0
7.	Undisturbed Area				600.957	600.957
8.	Safety Zone/Rationalization Area	0	0	0	0	0
9.	Diversion /Below River/ Nala / Canal	0	0	0	0	0
10.	Water Body	0	0	0	0	0
11.	Staff Colony	0	0	0	0	0
	Total Area=616.957 Ha.	0	0	16	600.957	616.957

As this is an underground mine and only a very small portion of surface area of the land has been disturbed for its use in infrastructure and township development. The post mining land use for this surface land is in plantation at least in 40% area and remaining will be cultivable and built up area, which will be utilized by nearest project of SECL.

- x. Total geological reserve reported in the mine lease area is 36.407 MT with 15.494 MT mineable reserve as on 01.04.2016 (as per approved scheme and PFR). Out of total mineable reserve of 15.494 MT, 13.947 MT are available for extraction (as on 01.04.2023). Percent of extraction is 80%.
- xi. 02 seams with thickness ranging from 2 m to 3.0 m (prevalent) are workable. Grade of coal is G-5 (Seam 1-Comb), stripping ratio is NA, while gradient is 1 in 20.
- xii. Method of mining operations envisages by Underground mining - Bord& Pillar system, Conveyor belt and LHD/SDL & Continuous Miner Package.
- xiii. Life of mine is 19 years (as on 01.04.2022) as per approved Mining Plan.

III. TRANSPORTATION OF COAL

- xiv. Transportation of coal is proposed from underground to Bunkers (located on surface) by series of conveyor belts. **Surface transportation:** Coal will be transported from stock yard/bunker (Gayatri UG Mine) to Kumda siding by trucks/tippers covered with tarpaulin (approx. distance is 21 Kms). Coal will be transported from Kumda railway siding through rail mode to end users.
- xv. Transportation of coal directly to small end users through trucks/ tippers covered with tarpaulin.
- xvi. 310.268 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 547.012 ha (for both Rehar and GayatriUG Mine combined) of forest land for non-forestry purposes has been obtained vide MoEF&CC

letter No. F.No. 8-90/99-FC dated 27.09.2000.

- xvii. No National Park, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- xviii. Draft Wildlife conservation plan for schedule – I species has been prepared and will be submitted to PCCF, Wildlife for approval.
- xix. The ground water level has been reported to be varying between 5 m to 9.75 m during pre-monsoon and between 5.2 m to 10.0 m during post-monsoon (Core Zone). Total water requirement for the project (industrial purpose) is 1032 KLD which will be met by treated mine discharge water. Total water requirement for the project (Potable purpose) is 9 KLD which will be met by water abstraction through tube well.
- xx. Approval of Central Ground water authority to withdraw ground water has been obtained vide NOC no – CGWA/NOC/MIN/ORIG/2023/19089 dated 28.08.2023 and is valid upto 11.10.2024.

IV. DETAILS OF PUBLIC HEARING AND RELATED ISSUES

- xxi. Public hearing for the project of 0.88 MTPA capacity in an area of 616.957 Ha was conducted on 24.07.2023 at Ground in front of Gram Panchayat Bhawan, Uparpara, Village – Pondi, Tehsil – Surajpur, District – Surajpur (C.G), under the Chairmanship of Sub Divisional Magistrate, Surajpur. Major issues raised in the public hearing include Compensation, Employment, Health and Educational Facility, Drinking water, Dust generation etc. Appropriate action to address the issues raised in the Public Hearing are as tabulated below –

S. No.	Issues raised by public	Broad Issues	Action Taken Proposed	Budget already provisioned (in Rs.)	Timeline
1.	R&R - land acquisition, compensation and employment.	Land Acquisition including compensation and employment to be completed in time.	The project is underground coal mining expansion project, therefore there is no surface obstruction is likely to happen. However, tenancy land will be acquired (240.989 Ha from 417 land oustees) as per R&R policy of Coal India, 2012.	Rs. 63.745 Cr	FY 2023-24
2.	Road, Employment to	Road should be constructed from	Widening of existing road (7.5 mtrs) to be	Rs 25 cr. Estimated	FY 2023-24 &

	locals	Chhattisgarh Dhaba to Amgaon.	done from Chhattisgarh Dhaba to Amgaon road. More jobs for locals to be given.	fund has been allocated for work. Award of work is in final stage and expected by 15 th September 2023.	FY 2024-25
3.	Solar street light and power supply in the affected locality.	Electricity cut is being faced, risk of accident in night due to darkness.	Proposal for solar street lights (200 nos) has been approved by SECL HQ and the work is in tendering stage. The works which are recommended by the district administration under CSR, are done on the basis of the Criteria set by SECL.	92.58 lakhs	FY 2023-24
4.	Admission in schools coaching facilities.	Admission of children from village in DAV school, Bishrampur under Right to Education. School infra may be improved.	The Government of India enacted the Right to Education CG RTE on 4 August 2009, which came into effect on 1 April 2010. The Act reserves 25% of seats for economically disadvantaged children in non-aided and minority private schools up to the 8th grade. Student selected for admission on the basis lottery system by State Education department.	NA	NA

			<p>Coaching facilities to be provided to children of coal mines project affected area under “SECL KE SUSHRUT”</p> <p>A CSR initiative of SECL for NEET coaching to underprivileged children.</p> <p>School infra is being improved under CSR and will further be supported.</p>		
5.	Air Pollution, Plantation, Drinking water shortage, Environment Monitoring	Vegetation, houses are black due to dust over it. Local Species not being planted, Water shortage felt all over in villages, Environment conditions to be monitored by State govt.	<p>Air pollution mitigation measures being enhanced and implemented. Native species is planted and distributed among locals to improve biodiversity. Two no’s boreholes each with submersible pump have been provided in Podi, Jobga and Getra village on the request of villagers.</p> <p>Additionally, a proposal for solar operated dual pump overhead tank in Podi village under CSR has been approved.</p> <p>A proposal for providing Water purifier for clean drinking water in 8</p>	<p>6 nos. boreholes – approx.</p> <p>Rs. 5.5 lakhs</p> <p>Rs. 3.0 Lakhs</p> <p>Rs. 4.0 Lakhs</p>	<p>Completed.</p> <p>FY 23-24.</p> <p>FY 23-24</p>

			<p>nos Govt schools near the project has been approved.</p> <p>Adequate drinking water facility through means of water tankers are being provided wherever required.</p> <p>Regular environmental monitoring is being done.</p>		
6.	Ground water depletion	Declining ground water level, drought like conditions and no water for agriculture activities.	<p>Ground water recharge measures are being implemented through roof top rain water harvesting.</p> <p>Two no's boreholes each with submersible pump have been provided in Podi, Jobga and Getra village on the request of villagers.</p> <p>Additionally, a proposal for solar operated dual pump overhead tank in Podi village under CSR has been approved.</p> <p>Adequate drinking water facility through means of water tankers are being provided wherever required.</p>	<p>6 nos boreholes – approx. Rs. 5.5 lakhs</p> <p>Rs. 3.0 Lakhs</p> <p>Rs. 4.0 Lakhs</p>	<p>Completed.</p> <p>FY 23-24.</p> <p>FY 23-24</p>
7.	Health issues	Air pollution should be minimized. Dust is causing	Regular water sprinkling on the coal transportation is being done using mobile		

		health issues to children and elderly.	water sprinklers. Paved road and widening of road (7.5 mtrs) is in final stage of award of work. Regular medical camps are being organized to identify health related issues and distribution of free medicines are done regularly.	Rs. 25 Cr	FY 23-24.
--	--	--	---	-----------	-----------

xxii. Commitment made by the project proponent to address the public hearing concerns in lieu of Corporate Environment Responsibility (CER) is mentioned in the following table –

Sl. No	Particulars	Location (Name of School / Village / area)	Year – 1 (in Lakhs) FY 2024-25	Year – 2 (in Lakhs) FY 2025-26	Total (in Lakhs)
1.	Infrastructure creation for drinking water supply	Surajpur Dist.	5.00	10.00	15.00
2.	Sanitation	Surajpur Dist.	20.00	10.00	30.00
3.	Education	Surajpur Dist.	20.00	20.00	40.00
4.	Skill development	Surajpur Dist.	06.00	15.00	21.00
5.	Roads	-	-	-	-
6.	Cross drains	-	-	-	-
7.	Electrification including solar power	-	-	-	-
8.	Solid waste management facility	-	-	-	-
9.	Scientific support and awareness to local farmers to increase yield of crops and fodder.	-	-	-	-
10.	Rain water harvesting	-	-	-	-
11.	Soil moisture conservation works	-	-	-	-
12.	Avenue plantation	-	-	-	-
13.	Plantation in community areas	-	-	-	-

14.	Infrastructure	-	-	-	-
15.	Health	Surajpur Dist.	3.00	10.00	13.00
16.	Art, culture and sports	-	-	-	-
17.	Livelihood	-	-	-	-
	Agricultural Programme	-	-	-	-
TOTAL			54.00	65.00	119.00

- xxiii. Hearing have already been taken as under: 24.07.2023.
- xxiv. Consent to Operate for the existing capacity was obtained from the CECB, Raipur vide letter no 6400/TS/CECB/2007, 6402/TS/CECB/2007 dated 23.11.2007 and was subsequently renewed vide 5099/TS/CECB/2022 Nava Raipur Atal Nagar, dated: 31.10.2022 and is valid till 31.10.2023.
- xxv. Jobganallah is flowing along western and southern mine boundary. The nallah will not be diverted.
- xxvi. Regular monitoring of ambient air quality is being carried out twice in a week. The documented report is submitted to CECB, Raipur 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.
- xxvii. No court cases, violation cases are pending against the project of the PP.
- xxviii. The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine was started from the year 2003-04 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations. The coal production, realized from the project, from 1993-94 onwards, is as under-

S.No.	Year	Sanctioned Capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the sanctioned EC capacity
1	2003-04	0.30	0.010	0
2	2004-05	0.30	0.049	0
3	2005-06	0.30	0.081	0
4	2006-07	0.30	0.084	0
5	2007-08	0.30	0.106	0
6	2008-09	0.30	0.107	0
7	2009-10	0.30	0.230	0
8	2010-11	0.30	0.282	0
9	2011-12	0.30	0.245	0
10	2012-13	0.30	0.229	0
11	2013-14	0.30	0.226	0
12	2014-15	0.30	0.219	0
13	2015-16	0.30	0.226	0
14	2016-17	0.30	0.297	0

15	2017-18	0.30	0.238	0
16	2018-19	0.30	0.250	0
17	2019-20	0.30	0.250	0
18	2020-21	0.30	0.193	0
19	2021-22	0.30	0.123	0
20	2022-23	0.30	0.186	0

V. BENEFITS OF THE PROJECT

- xxix. The project involves 385 project affected families (R&R already done and compensation has already been provided to 19 PAPs). Expansion of the project will involve employment / compensation as per applicable CIL R&R policies to 385 PAPs.
- xxx. Total cost of the project is Rs.150.27 Lakhs. Cost of production is Rs. 4900.72/tonne. Approved Revised project report (as per cost sheet of June 2023). 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, whichever is higher.
R&R cost is Rs. 63.745.crores.
Environment Management Cost is as below:
Capital – Rs. 2.40 Cr and Recurring – Rs. 2.54 Cr / Year.
- xxxii. Consent to operate (CTO) was obtained from the State Pollution Control Board on 23.11.2007 and is valid till 31.10.2023.

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

- xxxii. Environmental Baseline data was generated in the Pre monsoon season from 01.03.2022 to 31.05.2023 (Pre monsoon Season) at 12 locations. The result indicates that the maximum and minimum values are 194 to 35 µg/m³ for PM₁₀, 55 to 11 µg/m³ for PM_{2.5}. The SO₂ concentrations are in the range of 37 to 10 and NO_x in the range of 41 to 21 µg/m³. The incremental increase is projected to be 4.56 µg/m³ for PM₁₀, 0.81 µg/m³ for PM_{2.5}, 0 µg/m³ for SO₂, and 2.37 µg/m³ for NO_x. The value of total GLC is estimated to be 198.56 µg/m³ for PM₁₀, 55.81 µg/m³ for PM_{2.5}, 37 µg/m³ for SO₂, and 43.37 µg/m³ for NO_x. The observed pollutant levels are compared with CPCB National Ambient Air Quality Standards.
- xxxiii. Surface water Monitoring was done at 08 locations. The result indicates that the pH value in the range of 7.24 and 7.8, and its turbidity value is BQL (LOQ:1) NTU, dissolved oxygen in the range of 6.2 to 7.9 mg/l, dissolved solids ranged 180 to 314 mg/l, total hardness in range of 128 to 178 mg/l. Surface water samples have Coliforms ranges between 13 to 70 MPN/100 ml.

50.1.3 The committee during deliberations noted the following:

- The instant proposal is for expansion in capacity of EC with increase in area of Gayatri Underground coal mine.
- Earlier, EC was granted by Ministry vide its letter No. J-11015/26/2000-IA. II(M) dated 27th November 2002 for 0.30 MTPA in Mine lease area of 507.472 ha. Further, EC was revalidated vide letter dated 28th September 2022as per Notification S.O. 1530(E) dated 06.04.2018.

- iii. Terms of Reference was issued vide letter no. J-11015/26/2000-IA. II(M) dated 15.11.2022.
- iv. The project involves 310.268 ha of forest land in the total lease area of 616.957 ha required for surface rights (i.e. non-forestry activity).
- v. Combined Forest Clearance for 547.012 ha of forest land vide F.No. 8-90/99-FC dated 27.09.2000 for non-forestry purposes (for both Rehar and Gayatri UG Mine combined).
- vi. No National Park, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- vii. PP has prepared Wildlife conservation plan for schedule – I species and reports will be submitted to PCCF, Wildlife for approval.
- viii. PP has obtained NoC from Central Ground water authority vide letter no. CGWA/NOC/MIN/ORIG/2023/19089 dated 11.10.2024 to withdraw ground water and valid upto 11.10.2024.
- ix. Public Hearing was conducted on 24.07.2023 for the project of 0.88 MTPA in ML area of 616.957 Ha under the Chairmanship of Sub Divisional Magistrate, Surajpur.
- x. Major issues raised during the public hearing are as Compensation, Employment, Health and Educational Facility, Drinking water, Dust generation etc.
- xi. Public Hearing issues has been addressed with the budgetary provisions and Capital cost of Rs. 240 Lakh (as EMP cost).
- xii. Environmental Baseline data was generated during 01.03.2022 to 31.05.2023 (Pre monsoon Season).
- xiii. Certified Compliance Status Report of Environmental Clearance No. J-11015/26/2000-IA–II(M) dated 27th November, 2002 and its Revalidation dated 28th September, 2022 was submitted vide IRO-Raipur report dated 19th June, 2023
- xiv. The EMP capital cost is Rs. 240 Lakhs and the details are as follows:

S.No.	Particulars	Capital Provision (lakhs)
1	Dust suppression arrangements at CHP/ Stockyard/ Rly siding	10
2	Continuous Ambient Air quality monitoring system	100
3	CGWA NOC compliance measures such as piezometers/ digital waterflowmeter/waterlevelrecorder etc	20
4	Rainwater harvesting	5
5	Oil & Grease trap at workshop	5
6	Hydrological study & modeling	15
7	Subsidence prediction study	10
8	Green initiatives such as Solar lighting etc.	40
9	Dust barrier around mine premises	10
10	Misc. expenditure for other Statutory/obligatory compliance	25
	Grand Total	240

50.1.4 The EAC, after deliberations observed that instant project is for expansion of coal underground coal mine with increase in Mine lease area and production capacity. Earlier EC dated 27.11.2002 was revalidated on 28.09.2022 as per Ministry's Notification dated 6th April, 2018. Public Hearing was conducted by State Pollution Control Board dated 24.07.2023 as per the provisions of EIA Notifications, 2006 and its amendments therein. The Committee discussed public hearing concerns and noted that major issues were raised on Compensation, Employment, Health and Educational Facility, Drinking water, Dust generation etc.

Further, certified compliance report of Ministry's Regional Office – Raipur for previous EC conditions were also discussed in length and EAC noted some of minor non-compliance and finally opined that PP should comply with the action taken report submitted with strict timeline.

Also, it was observed that existing forest clearance vide dated 27.09.2000 i.e. for 547.012 ha (for both Rehar and Gayatri UG Mine combined), includes the forest area for instant coal mine and adjacent mine. It was desired that PP shall preserve 310.268 ha of forest area involved within the Gayatri UG mine and further gap plantation shall be done.

Currently, the transportation is being done through forest area which is the State highway, on which EAC desired that PP shall explore alternate route and asked to complete the dedicated rail-road route for the transportation of coal.

Based on the above, EAC **recommended** the proposal for grant of Environmental Clearances to Expansion of Gayatri Underground Coal Mining Project from 0.30 to 0.88 MTPA with increase in Mine Lease area from 507.472 ha to 616.957 ha of M/s South Eastern Coalfields Limited located at village Getra, Tehsil Ambikapur, District Surguja (Chhattisgarh) with the following specific conditions under the provisions of EIA Notification, 2006 and its amendments:

Specific condition: -

- i. PP shall submit the compliance of Forest Clearance for the forest land/area (310.268 ha) involved in the mine lease area viz-a-viz obtain renewal of Forest Clearance issued vide dated 27.09.2000. The EC is subject to renewal of Forest Clearance letter dated 27.09.2000, as applicable.
- ii. PP shall obtain CTE/CTO from State Pollution Control Board for 0.88 MTPA production capacities for Underground coal mine operation.
- iii. PP shall comply the partial/non-compliance EC conditions highlighted by Ministry's Regional Office and submit its report within six months to RO-Raipur.
- iv. PP shall use of nearest Railway siding for maximum coal transportation and in future coal transportation through road shall be completely stopped. A report in this regard be submitted to IRO within 1 year to justify the adequacy. PP shall explore alternate route to prevent transportation through forest area and to complete the dedicated rail-road route for the transportation of coal within 2 years.
- v. PP shall install mechanized equipment as much as possible within the mine in order to reduce the

- dust emission.*
- vi. *PP shall obtain No Objection Certificate from Central Ground Water Authority for extraction of ground water.*
 - vii. *PP shall monitor regularly water levels in open dug wells located in village and by establishing Piezometer to ascertain the impact of mining over ground water table and to plan mitigative measures to recharge the area.*
 - viii. *PP shall implement the activities-wise proposed budget for Public Hearing Budget and Capital cost of Rs.240 Lakh (as EMP cost) in time bound manner mentioned para 50.1.3 of minutes. The details of annual expenditure incurred shall be part of report to be submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored by through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, and continued as a part of CSR budget.*
 - ix. *PP shall develop 2 nos. of rain water harvesting pond (100 m, width will be 10 m and the depth will be 3 m) as proposed by PP near the villages of stated area in consultation with Gram Panchayat within 1 year. Also, Indicator aquatic species shall be planted in this water bodies to see the environmental quality. PP shall own water bodies/pond currently present in project area, maintain and regularly monitor the quality for its long term protection.*
 - x. *PP shall implement Water distribution system in near villages. A proper water pipeline distribution network shall be devised to meet the demands of farmers related to irrigation and recharging of ponds, wherever required. The water treatment plant to meet the requirement with the start of production.*
 - xi. *PP shall deposit the approved amount as proposed for wildlife conservation plan to the State Govt. Forest & Environment Dept. and further consult with State Biodiversity Authority for its CSR activity.*
 - xii. *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.*
 - xiii. *The status of mine closure activities must be included in every six months compliance report submitted to the state pollution control board and IRO.*
 - xiv. *Sufficient nos. of fog cannons of atleast 40 mtrs throw shall be installed at coal storage yard, in nearby villages and along the transportation route. Main haul road in the mine shall be provided with permanent water sprinklers, and other roads shall be regularly wetted with water tankers fitted with sprinklers. Also PP shall install Mist Cannon Dust Suppression Systems (distance 80-100 mtrs.) at Coal Stock Yard to suppress the dust particles.*
 - xv. *PP shall transport the coal by trucks of fleet size 35-40 tons (Payload) and no village road or sensitive location shall be used for transportation of coal.*
 - xvi. *PP shall maintain at least 10 mtrs width tree plantation of broad leaves and wind break/green-shield of about 10 mts height along the boundary of coal storage yard.*
 - xvii. *PP to plant additional 100,000 plants with three tier plantation along the transportation route, if not completed, and identified areas with consent to the gram panchayat within two year and plant for remaining within 2 years for their proper growth in additional already committed to plant to plantation in 8.49 ha project area.*
 - xviii. *PP shall implement air pollution mitigation measures near the villages, located at coal storage*

- yard within mine lease area.
- xix. *PP shall follow the recommendation of subsidence study and monitor the degree of subsidence regularly and shall be submitted to IRO.*
 - xx. *PP shall implement Effluent Treatment Plant for wastewater generated from workshop and Sewage Treatment Plan for its colony. No untreated water shall be discharged from mine boundaries to ponds/nallah/river.*
 - xxi. *PP shall deploy atleast 20% of overall fleet of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc.*
 - xxii. *PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.*
 - xxiii. *PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.*
 - xxiv. *Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
 - xxv. *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.*
 - xxvi. *PP shall reduce the carbon footprint after sequestration of CO₂. IRO will review the progress of CO₂ sequestration. The process of sequestration of CO₂ will include the planting trees, by “Developing carbon capture and storage (CCS) technologies” and implementation of renewable energy. Further, PP shall carry out enough plantation to ensure carbon sequestration lost due to deforestation and other fossil fuel based activities.*
 - xxvii. *PP to maintain the transportation road properly to minimize the dust emission. PP to also develop pucca/concrete roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
 - xxviii. *PP to monitor the water quality of the ground water and surface water body located within the core zone and 5 km radius from the periphery of the mine boundary as per procedure laid down by CPCB.*
 - xxix. *PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side with consultation of SPCB. The real time data so generated shall be uploaded on company website and linked it with website of CPCB &SPCB. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
 - xxx. *PP must explore innovative technology to recover methane from gases extracted from underground mine while venting.*
 - xxxi. *Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured*

before initiating the mining activities.

- xxxii. PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority.
- xxxiii. PP shall provide admission to local villages specifically in DAV school as highlighted in Public Hearing issues.

AgendaNo. 50.2

Expansion of Bhubaneswari Opencast Coal Mine for increase in production capacity from 28 MTPA to 30 MTPA (increase of 10% w.r.t 20 MTPA) in mine lease area of 638.341 Ha by M/s Mahanadi Coalfields Ltd., located in the village Jilinda, Hensmul (Sharasahi), Hensmul (Talasahi), Naraharipur, Khandualbhal, Kandhal, Madanmohanpur, Langijoda and Anadipur, Tehsil TalcherSadar, District Angul (Odisha) – Reconsideration for Environmental Clearance under OM vide no. F. No. IA 3-22/10/2022 – IA.III 07.05.2022 [Availing total 50% relaxation of OM dealing with exemption of public hearing under clause 7 (ii) of EIA notification]

[Online Proposal No. IA/OR/CMIN/416178/2023; File No. J-11015/280/2013-IA. II (M)]

50.2.1 The proposal is for Environmental Clearance issued under OM dated 07.05.2022, which has availed 50% relaxation for project Expansion of Bhubaneswari Opencast Coal Mine for increase in production capacity from 28 MTPA to 30 MTPA (increase of 10% w.r.t 20 MTPA) in mine lease area of 638.341 Ha by M/s Mahanadi Coalfields Ltd., located in the village Jilinda, Hensmul (Sharasahi), Hensmul (Talasahi), Naraharipur, Khandualbhal, Kandhal, Madanmohanpur, Langijoda and Anadipur, Tehsil TalcherSadar, District Angul (Odisha).

50.2.2 The Committee during the EAC meeting noted the following:

- Earlier, the instant project was considered by sectoral EAC in its 41st meeting held during 13-14 March 2023 and deferred the proposal based on certain observation. The project proponent has submitted the reply of observation raised vide letter dated 06.09.2023 on Parivesh Portal.
- Accordingly, the compliance of observation is detailed below:

Observation of EAC	Reply of Project Proponent
The PP shall install another CAAQMS towards village side within six	<ul style="list-style-type: none">• One CAAQMS for Bhubaneswari OCP was already installed at BCML workshop.• After the EAC meeting held on 14th Mar'23, based on EAC's observation, the project successfully places the purchase order for the procurement of Continuous Ambient Air Quality Monitors (CAAQMs) in July 2023.• The installation of the CAAQMS is also completed in consultation and guidance from the Regional Office of the State Pollution Control Board (SPCB).

<p>months and the data to be displayed for local villagers</p>	<ul style="list-style-type: none"> The data connectivity between the monitoring system and the SPCB/CPCB (Central Pollution Control Board) server is expected to be finalized. 																																								
<p>PP shall submit the action plan of mechanized conveyor system for transportation of coal till railway siding with silo loading facility upto 28 MTPA and only 2 MPTA road transportation.</p>	<p>Production of the mine is 30.0 MTPA and its existing and proposed dispatch matrix is as follows:</p> <table border="1" data-bbox="444 363 1446 913"> <thead> <tr> <th colspan="5">Upto OCT'23</th> </tr> <tr> <th>Through internal dedicated CT roads not passing through any village.</th> <th>Through Closed Conveyor System</th> <th>Through Closed Conveyor System</th> <th>Through Dedicated corridor</th> <th>coal Total</th> </tr> </thead> <tbody> <tr> <td>Siding 1 & 2</td> <td>Siding 3&4</td> <td>SILO 10.0 Mty Capacity</td> <td>Road Sale</td> <td></td> </tr> <tr> <td>12.0</td> <td>5.0</td> <td>10.0</td> <td>3.0</td> <td>30.0</td> </tr> </tbody> </table> <table border="1" data-bbox="444 949 1446 1402"> <thead> <tr> <th colspan="5">After OCT'23</th> </tr> <tr> <th>Through internal dedicated CT roads not passing through any village.</th> <th>Through Closed Conveyor System</th> <th>Through Closed Conveyor System</th> <th>Through ATLS</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Siding 1 & 2</td> <td>SILO 10.0 Mty Capacity</td> <td>SILO 15.0 Mty Capacity</td> <td>Road Sale</td> <td></td> </tr> <tr> <td>3.0</td> <td>10.0</td> <td>15.0</td> <td>2.0</td> <td>30.0</td> </tr> </tbody> </table> <ul style="list-style-type: none"> The complete coal conveying system to the railway siding, incorporating SILO and mechanized TLS has been designed for a capacity of 25 MTPA and is currently progressing in full swing. Nonetheless, the project is committed to augmenting its rail transportation capacity to a substantial 28 MTPA, thereby reducing its reliance on road transportation. 	Upto OCT'23					Through internal dedicated CT roads not passing through any village.	Through Closed Conveyor System	Through Closed Conveyor System	Through Dedicated corridor	coal Total	Siding 1 & 2	Siding 3&4	SILO 10.0 Mty Capacity	Road Sale		12.0	5.0	10.0	3.0	30.0	After OCT'23					Through internal dedicated CT roads not passing through any village.	Through Closed Conveyor System	Through Closed Conveyor System	Through ATLS	Total	Siding 1 & 2	SILO 10.0 Mty Capacity	SILO 15.0 Mty Capacity	Road Sale		3.0	10.0	15.0	2.0	30.0
Upto OCT'23																																									
Through internal dedicated CT roads not passing through any village.	Through Closed Conveyor System	Through Closed Conveyor System	Through Dedicated corridor	coal Total																																					
Siding 1 & 2	Siding 3&4	SILO 10.0 Mty Capacity	Road Sale																																						
12.0	5.0	10.0	3.0	30.0																																					
After OCT'23																																									
Through internal dedicated CT roads not passing through any village.	Through Closed Conveyor System	Through Closed Conveyor System	Through ATLS	Total																																					
Siding 1 & 2	SILO 10.0 Mty Capacity	SILO 15.0 Mty Capacity	Road Sale																																						
3.0	10.0	15.0	2.0	30.0																																					
<p>PP shall submit plan to convert 100% haul road from unpaved to</p>	<ul style="list-style-type: none"> Currently, the haul roads are temporary, and their location changes based on the availability of exposed coal faces and the progress of mining activities. It is not economically viable to pave these roads. In practical implementation, the project utilizes murram/crushed OB materials on unpaved haul roads, complemented by water sprinkling, as an effective measure to prevent fugitive dust emissions. This process results in a firm surface that safeguards the underlying soil from the impact of vehicle wheels. Apart from above, the routes dedicated to coal transportation towards the sidings are fully concrete to prevent dust generation caused by the movement of trucks and dumpers. 																																								

paved to reduce the emission of fugitive dust.

Details of all haul road within mine and outside mine along with their length width and surface type provided as per format below:

Sl. No.	Name of haul road	Length in km	Width in m	Surface type (concrete, WBM, paved)
1	Naraharipur OB patch to pipeline	1.2	25	Paved with OB crushed materials
2	Hensmul OB patch to South sump	0.5	25	Paved with OB crushed materials
3	Naraharipur patch to Stock no. 4	2.4	8	Paved with OB crushed materials
4	Water filling station to Stock no. 4	1.0	8	Paved with OB crushed materials
5	Hensmul Patch to Stock no.1	1.0	8	Paved with OB crushed materials
6	CT Road crossing to Stock no.4	1.35	8	Paved with OB crushed materials
7	External dump to NSPL camp	1.0	10	Paved with OB crushed materials

Details of air pollution control measures along the haul road for control of fugitive dust from haul roads is provided below:

No	Particulars of air pollution control measures	Qty. Deployed (Nos.)
1	Mobile Water mist sprinklers (28 KL VOLVO FMX-460)	02
2	Mobile Water Tankers (28 KL /CAT 1035)	02
3	Mobile Water Tankers (09 KL /TATA 2518C)	01
4	Mobile Water Tankers (34 KL/ CAT 770G)	01
5	Mobile water tankers (20 KL/ Ashok Leyland)	03
6	Mobile water tankers (20 KL/ Bharat Benz))	04
7	Mobile Fog cannon	03

PP shall submit mitigation plan for dust emission from Coal Handling Plant and Coal storage yard.

- The project employs an eco-friendly surface miner with interlocked water sprinkling drums for 100 percent coal extraction. As a result, a Coal Handling Plant is not required in this project.
- For the Coal Storage yard, a vertical wind barrier or green barrier (800m X 5m), has been established (photographs attached).
- Additionally, the coal storage yard is being maintained in a way that the wind predominantly strikes its width rather than its length throughout the year. Additionally, sprinkling arrangement has also been deployed for arresting dust propagation.

SI No	Particulars of air pollution control measures	Qty. Deployed (Nos./units)
1	Mobile Water mist sprinklers with fire-fighting arrangement (28 KL VOLVO FMX-460)	01
2	Mobile Fog cannon	03
3	Pipeline arrangement with fixed nozzles for fire-fighting and dust suppression	06
4	Static Fog cannons	10
5	Vertical Greenery Barrier	800m

				friendly manner)
3	Employment	Out of the total eligible persons of 1055, employment has already been provided to 1007 persons; cash in lieu of employment provided to 35 persons and rest 13 are under process.	7978.99	1476.0
4	Supply of drinking water	Supply of drinking water by mobile water tankers is providing to nearby villages, i.e. Hensmul, Naraharipur, Maharanasahi, saharasahi etc. throughout the year.	1056.00	700.00
5	Control of pollution (water, air, noise, solid wastes etc)	<ul style="list-style-type: none"> • 100% coal production by surface miner with interlocking water sprinkling arrangement. • 16 nos. of water sprinklers having capacity ranging from 9 to 34 KL. • 03 nos. of Volvo 28 KL Mist sprinklers. • 25 nos. of fixed sprinklers in siding no. 1 & 2. • 02 nos. of instant shower systems at mine gates. • 01 no. of 40 m throw mobile truck mounted fog cannon in hiring basis. • 04 nos. of static fog cannon of 100 m throw at railway siding no. 3&4 are in operation. • A dedicated coal transportation corridor of 20.99 Km length (1.82 Km in Bhubaneswari OCP) has been constructed bypassing the residential area and other habitation. • 4 no. of underpasses have been constructed on the Coal corridor to avoid crossing of public road to avoid vehicular congestion and fugitive emissions. • Peripheral plantation activities have been taken up to abate air and noise pollution. • Persons engaged in drilling and blasting operations of HEMM are provided with earplug/earmuffs and sound proof cabins are provided to the HEMM operators to get protected from the noise levels. 	2,735.02	31,815.00 RLS/Silo with closed pipe conveyor system of capacity 15 MTY is under construction for dust free coal transportation.

		<ul style="list-style-type: none"> ETP of 400 KLD capacity is well established in the mine premises to treat the effluent water at workshop and the water is recycled and reused for industrial purposes. RLS/Silo with closed pipe conveyor system of capacity 10 MTY is constructed 		
6	Plantation in OB dumps and other areas	Regular plantation activity has been taken up through M/s. BCML. Till date, 74500 nos. of plants have been planted on the OB dump having native species like Neem, Gamhari, Sirsa, Mahaneem, Amla, Sissoo etc. Plantation in 20 Ha outside the leasehold area was done in vacant/ safety zone comprising of native species 45650 nos. an amount of 1.70 Cr has been deposited to DFO, Angul for plantation in the mine.	452.73	4,500
7	Water sprinkling in peripheral roads	Regular water sprinkling is done at peripheral roads by engaging 03 nos. of 20KL, 01 no. 22KL and 01 no. 24KL water tankers and 01 No Mobile fog cannon on hiring basis.	5.0	7.0

Sl. No.	Heads under Public hearing	Expenditure incurred till dated in addressing the issues In Rs. (Cr)	Estimated budget proposed in upcoming years In Rs. (Cr)
1	Employment	79.79	14.76
2	Drinking Water & Maintenance of Village ponds	10.56	07.01
3	Pollution control measures	27.35	318.15
4	Peripheral & Mine Plantation	4.53	45.00
5	Pollution control on peripheral Roads	0.05	0.07
Total		122.28	384.99

the effluent characteristics of its ETP and STP with copy of The effluent characteristics of its ETP with the copy of existing CTO capacity is provided in subsequent slide. The absence of a residential colony under Bhubaneswari OCP obviates the necessity for a STP.

Date of Sampling	Sampling Station	pH	O&G	TSS	COD
09.03.2023	ETP Outlet	7.0	2.6	63	58.33
26.03.2023	ETP Outlet	7.1	2.4	61	57.24
26.03.2023	ETP Inlet	7.1	3.2	68	65.27

CTO.	08.04.2023	ETP Outlet	7.1	2.7	64	60.16
	24.04.2023	ETP Outlet	7.0	2.5	63	59.35
	07.05.2023	ETP Outlet	7.0	2.8	65	61.24
	24.05.2023	ETP Outlet	7.2	2.6	64	60.16
	07.06.2023	ETP Outlet	7.2	2.9	66	60.13
	22.06.2023	ETP Outlet	7.1	2.7	64	58.64
	22.06.2023	ETP Intlet	7.4	3.5	68	64.28
	MoEF Standard Notification dated 25 th September 2000 and MoEF Schedule VI, General standard for discharge of Environmental Pollutants Part A: Effluents			5.5-9.0	10	100
PP shall submit the action plan for development of 5 ha Sal nursery and also further plantation of Sal trees in mine lease. The plantation on Slope of Overburden shall be expedited and provide the details of the same.	A Sal Nursery has been established within the mine premises, capable of accommodating approximately 50,000 Sal saplings. Once these saplings attain substantial growth, they will be carefully planted in and around the mine area, with dedicated maintenance and nurturing efforts. Due to limited space and the need to re-handle overburden to access lower coal seams, the slope of the overburden could not be promptly planted. Nevertheless, as the mine is set to advance with additional lease towards the east side. This progression will create ample space after appropriately backfilling the existing lease, providing the opportunity to address the planting requirements more effectively. A tentative Sal plantation table for next three years is provided below:					
	Sl. No.	Year	No. of Sal plants		Location	
	1	2023-24	5000		OB dump area	
	2	2024-25	15000		OB dump area	
3	2025-26	20000		OB dump area		
PP shall submit the improvement in air quality and other environmental parameters after implementation of mitigation measures as proposed in current EIA/EMP report.	Implemented control measures as proposed in the EIA/EMP. The details of control additional measures installed as proposed in the EIA/EMP with timeline is listed below.					
	No.	Control Measures	Quantity (Existing) 28.0 Mty	Additional Quantity(Proposed)	Timeline proposed in EIA/EMP as submitted in Jan 2023	Actual installation time
	1	Mobile water tankers	4Nos. (Caterpillar)	1 Nos.(28 KL)	Apr'23	Completed
	2	Mobile Fog Canon on hiring basis for 02 years	1No.	02 Nos.	Apr'23	Completed
	3	Fixed Sprinklers at railway sidings	25Nos.	10 Nos.	May'23	Completed
4	Fixed type Fog Canon	4 Nos.	06 Nos.	Apr'23	Completed	

5	Wheel washing system	--	1 No.	April'23	Completed
6	Vertical Greenery System & Bamboo plantation at railway sidings	--	350 m & 800 m	April'23	Completed
7	Plantation	132150nos.	150000nos.	Sept'24	30000 has been completed, currently 20000 nos. being taken up this monsoon.
8	RLS/SILO/CONVEYOR*	10 MTY	15 MTY	10 MTY Operational by 31'Mar23 & 15 MTY Operational by Oct'23	10 Mty Commissioned

The project had setup one No of CAAQMS at BCML workshop (core zone) the particulate matter PM_{2.5} and PM₁₀ values data recorded at the machine for the period for year 2021-2022 and 2022- 2023 is listed below.

Year	PM _{2.5}	PM ₁₀
2021-22	39.69	82.20
2022-23	17.36	30.58
Annual standard	40.00	60.00

- The information provided suggests that the measures outlined in the Environmental Impact Assessment/Environmental Management Plan (EIA/EMP) have been put into practice in the designated area.
- These measures have proven to be successful in enhancing the air quality, as indicated by the distribution of particulate matter.

PP shall submit the status of mine closure activity already conducted and further activities as per approved Mine Plan and Mine Closure

Technical reclamation and biological reclamation after backfilling of mine void with OB material has been carried out as part of mine closure activity. Apart from these, activities like construction of embankment, toe wall, retaining wall, garland drains, catch drains etc. were carried out. Status of progressive mine closure activities already conducted till date and further activities as per approved Mine Plan and Mine Closure Report is mentioned below.

Report.	Quarry Area in Ha	Area Excavated in Ha	Area de-coaled in Ha	Area of Void in Ha	Area of Mine sump in Ha	Area backfilled / under backfilling in Ha	Area backfilled and technically reclaimed up to approved level in Ha	Area backfilled, technically and biologically reclaimed in Ha
	583.752	457.93	215.18	7.96	5.00	202.22	139.10	45.50

Details of progressive mine closure audit for Bhubaneswari OCP, Phase -1(2006-07 to 2010-11)

Sl. No.	Activities	Amount recommended
1	Technical reclamation /OB dump reclamation.(2009-10 & 2010-11)	185.71 Lakhs
2	Construction & maint. of drain (under Landscaping)	4.70 lakhs
3	Barbed wire fencing (under safety & security)	2.11 Lakhs
4	Total amount recommended for reimbursement from Escrow by CCO in Phase I (2006-07 to 2010-11)	Rs. 189.583 Lakhs

Details of progressive mine closure audit for Bhubaneswari OCP, Phase -2 (2011-12 to 2015-16)

Sl. No.	Activities	Amount recommended by audit agency
1	Technical reclamation /OB dump reclamation.	934.58 Lakhs
2	Construction & maint. Of Sedimentation pond & REM under the head of Environment mitigation & management (Water quality)	142.33 Lakhs
3	Fencing around Mine lease area (under safety and security)	9.79 Lakhs
4	Total amount recommended for reimbursement from Escrow in Phase II (2011-12 to 2015-16)	Rs. 1086.70 Lakhs

- This project is ideally located and suitably placed for increase in coal production and can contribute additional 2.0 Mty coal production, which is very important for bridging the gap between demand and supply of coal and can straightaway reduce the overall quantity of coal import, hence, identified as one of the potential project for immediate production augmentation by MoC.

- | | |
|--|--|
| | <ul style="list-style-type: none"> • The requirements of MoEF, OMs for grant of EC for expansion in coal production to 30.0 Mty in the existing mining lease are being fulfilled by this project. • Therefore, it is requested to consider the project for grant of Environment Clearance. |
|--|--|

50.2.3 *The EAC, after deliberations observed that instant project has been submitted in compliance of Ministry's OM dated 7th May, 2022 wherein expansion in capacity was granted in advance (10% beyond 40% from the existing capacity) subject to certain conditions related to submission of EIA-EMP report and compliances of existing EC conditions within six months along with other statutory requirements. This EC was granted on 26th July, 2022 by MoEF&CC due to shortage of coal in the country and as per the condition contained therein.*

The committee observed that the PP has successfully completed the installation of CAAQMS in consultation with SPCB. PP has also implemented eco-friendly surface miner with interlocked water sprinkling drums for coal extraction in order to arrest the dust emission.

Further, Committee discussed the ADS reply submitted by PP vide letter dated 27.09.2023 and instructed PP to transport coal after commissioning the mechanized SILO loading system by November 2023 for 28 MTPA (i.e. ~92% of 30MTPA) and rest 2 MTPA (i.e. ~8 % of 30 MTPA) by road through automatic truck loading system(ATLS) linked with SILO arrangement. Further, the progress of mine reclamation was discussed wherein PP submitted the technically & biologically reclamations of an area of 150 ha in next one year i.e. till October, 2024.

*Based on the above, EAC **recommended** the proposal for grant of Environmental Clearance for Bhubaneswari Opencast Coal Mine for increase in production capacity from 28 MTPA to 30 MTPA (increase of 10% w.r.t 20 MTPA) in mine lease area of 638.341 Ha by M/s Mahanadi Coalfields Ltd., located in village Jilinda, Hensmul (Sharasahi), Hensmul (Talasahi), Naraharipur, Khandualbhal, Kandhal, Madanmohanpur, Langijoda and Anadipur, Tehsil TalcherSadar, District Angul (Odisha) under EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:*

- i. PP shall commission the mechanized system for 28 MTPA (i.e. ~92% of 30MTPA) before November 2023 and for the rest 2 MTPA (i.e. ~8% of 30 MTPA) by road through automatic truck loading system linked with SILO arrangement. Accordingly, SPCB shall issue the CTO.*
- ii. PP shall construct dedicated road away from the villages and sensitive location like school and hospitals for the transportation of 2 MTPA (i.e. ~8% of 30 MTPA) coal through 40 tonne (payload) of truck size.*
- iii. PP shall technically and biologically reclaim the area of 150 ha as proposed within one year i.e. till October, 2024 and certificate shall be submitted to Ministry's IRO.*
- iv. Data so generated from online CAAQMS shall be connected with servers of SPCB/CPCB and report to be submitted to IRO, MoEF&CC.*
- v. PP shall provide the unpaved road to paved one in order to reduce the emission of fugitive dust.*
- vi. The PP shall implement the following air pollution control measures within six-month and a progressive report to be submitted to IRO, MoEF&CC:*

S. No.	Particulars of air pollution control measures	Qty. Deployed (Nos./ units)
1	Mobile Water mist sprinklers with fire-fighting arrangement (28 KL VOLVO FMX-460)	01
2	Mobile Fog cannon	03
3	Pipeline arrangement with fixed nozzles for fire-fighting and dust suppression	06
4	Static Fog cannons	10
5	Vertical Greenery Barrier	800m
6	Wheel Washing Unit	01
7	Fixed type sprinklers	25

- vii. PP to resolve suggestions/objections raised during the public hearing with activities-wise proposed budget of Rs. 384.99 Cr. (as estimated budget proposed in upcoming years' part of Public Hearing) as per the table below. 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 by through dedicated monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, which will be part of CSR budget.

S. No.	Heads under Public hearing	Expenditure incurred till dated in addressing the issues in Rs. (Cr)	Estimated budget proposed in upcoming years in Rs. (Cr)
1	Employment	79.79	14.76
2	Drinking Water & Maintenance of Village ponds	10.56	07.01
3	Pollution control measures	27.35	318.15
4	Peripheral & Mine Plantation	4.53	45.00
5	Pollution control on peripheral Roads	0.05	0.07
Total		122.28	384.99

- viii. PP shall construct STP for the villages located inside the Core zone of the ML area such as Kandhal, Madanmohanpur and Anadipurvillage.

- ix. *PP shall protect/preserve 5 ha Sal nursery with capacity of approximately 50,000 Sal saplings and yearly minimum 10,000 saplings to be distributed among near villagers for afforestation purpose.*
- x. *PP shall submit audit report (of next phase) for progressive mine closure beyond the 2015-16 to till date to IRO, MoEF&CC.*
- xi. *PP shall monitor the functionality of ETP and regular monitoring of effluent on six monthly basis and the progressive reports shall be submitted to the IRO, MoEF&CC.*
- xii. *PP shall start reclamation of the mine with combination of top soil and Fly ash with the development of grazing facility and other activities to be considered from the progressive mine closure plan.*
- xiii. *PP shall fulfil the water requirement for agricultural purpose by creating artificial ponds and shall fulfil the drinking water requirement after treatment through dedicated well or alternate sources for villagers.*
- xiv. *Water storage ponds shall be constructed of appropriate depth in nearby village in collaboration with Gram Panchayat.*
- xv. *PP shall provide Quarterly health check-up with free medical facilities for the local villager's surrounding to the 10 km buffer area along with the ambulance facilities.*
- xvi. *PP shall establish a technical training institute in the area to train the local youth for better employment. A report shall be prepared & submitted upon the status of the training session already conducted in order to provide livelihood and skill development to near-by villagers to make them employable.*
- xvii. *PP needs to submit the compliance of SoP issued by CPCB regarding dumping of mine void with fly ash.*
- xviii. *The project proponent shall include development of solar parks, eco-friendly-parks, fish farming pond, picnic spot and sports compound in its Mine Closure Report. Further if possible, maximum possible area of quarry shall be brought upto original ground level and handover the land to Project affected Families.*
- xix. *Proper garland drain and retaining wall should be made (if required) and same should be revived from time to time.*
- xx. *PP shall not use the ground water for any type of mine closure activity. PP shall maintain one permanent Piezometer for monitoring of ground water level.*
- xxi. *PP to complete the tree plantation particularly fruit bearing tree along the village road within six months from date of issue of EC to IRO, MoEF&CC. The plantation shall also be planted along the Mine boundary and Mine pit. A detailed report with GIS images of every six months subsequently be submitted in every six monthly report to justify the adequate tree plantation.*
- xxii. *PP shall increase number of fixed type sprinkling system (near to haul road, stockyard, transportation route etc.) across the mine lease area in order to arrest the dust coming out from the mining activities.*
- xxiii. *PP shall install 100 m jet spray length in order to arrest the heavy air pollution on the roads and other dust generating points. More number of Fog cannons, Road sweeper and Mobile water sprinklers to be used on road.*

- xxiv. *PP shall construct 25-sitting digital library in each village including the daily newspaper facility.*
- xxv. *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.”*
- xxvi. *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.*
- xxvii. *The status of mine closure activities must be included in every six months’ compliance report submitted to the state pollution control board and IRO.*
- xxviii. *PP to maintain the topped haul road properly to minimized the dust emission. PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
- xxix. *PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year*
- xxx. *PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.*
- xxxi. *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.*
- xxxii. *PP shall explore atleast 20% of overall fleet of dumpers/trucks/other vehicles as electrical or CNG/LNG based for transportation of coal/OB etc.*
- xxxiii. *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.*
- xxxiv. *All the other terms and conditions of earlier EC dated 06-06-2003, 30-11-2012 (with Public Hearing), 19-02-2014, 16-02-2018 and 26-07-2022 shall also be complied. .*

AgendaNo. 50.3

Urdhan Opencast Coal Mine Project of 0.70 MTPA Capacity in an ML area of 315 ha. of M/s Western Coalfields Limited, located in Village Urdhan, Tehsil and District Chhindwara (Madhya Pradesh) - For Revalidation of EC

[Online Proposal No. IA/MP/CMIN/28165/1994; File No. J-11015/13/1994-IA. II(M)]

50.3.1 The proposal is for revalidation of EC accorded by the Ministry dated 28.11.1994 for Urdhan Opencast Coal Mine Project of 0.70 MTPA Capacity in an ML area of 315 ha of M/s Western Coalfields

Limited, located in Village Urdhan, Tehsil and District Chhindwara (Madhya Pradesh) and subsequent amendment accorded on 11.08.2015.

50.3.2 The EAC during deliberations noted the following:

- i. Environmental Clearance to Urdhan Opencast Coal Mine Project was granted vide letter no. J-11015/13/94- IA. II(M) dated 28.11.1994.
- ii. Amendment in Environment Clearance was granted vide letter no. J-11015/13/1994-IA-II(M) pt. dated 02.09.2015 under the provisions of EIA Notifications, 2006 and its amendments therein.
- iii. Further, PP had applied for revalidation of EC as per Ministry's Notification dated 6th April, 2018. EAC after deliberations deferred the proposal for compliance of its observation prior to revalidate the instant EC under EIA Notifications, 2006.
- iv. Public Notice was published on 10.03.2021 in both English & vernacular languages for inviting comments/suggestions from stakeholders.
- v. The instant mine involves 78.069 ha of forest land for which Stage-II approval under the Forest (Conservation) Act, 1980 has been obtained by the PP on 11.07.2009.
- vi. Mining Plan including Mine Closure Plan approved by WCL Board vide resolution dated 04.01.2022.
- vii. Certified compliance Report (CCR) of Environmental Clearance conditions dated 28.11.1994 and amendment dated 02.09.2015 has been obtained from IRO, MoEF& CC, Bhopal vide letter dated 19.04.2022. Action Taken Report in response to the partially complied conditions has been submitted to IRO, MoEF& CC, Bhopal vide letter dated 05.05.2022 & 27.06.2022.
- viii. Consent to operate has been obtained from Madhya Pradesh Pollution Control Board (MPPCB) vide No.117873 with validity upto 30.04.2024.
- ix. No court cases on the Urdhan OC Mine.
- x. No Objection Certificate for Groundwater Abstraction has been obtained vide no. CGWA/NOC/MIN/ ORIG/2021/13234 dated 04.10.2021 and valid upto 03.10. 2023.

50.3.3 *The Committee after deliberation observed that the instant project is for revalidation of EC dated 28th November, 1994 granted under the provisions of EIA Notification, 1994. Further, based on Ministry's Notification vide S.O. no. 1530 (E) dated 06.04.2018 had applied to revalidate its EC. However, PP had also obtained the amendment of EC vide Ministry letter no. J-11015/13/1994-IA. II(M) Pt. file dated 02.09.201, which was done under the provisions of EIA Notifications, 2006 and its amendments therein.*

After deliberation, it was opined that revalidation of EC is not required since PP had already obtained amendment in EC under the provisions of EIA Notifications, 2006 which was inadvertently overlooked by earlier EAC before deferring the proposal for appraisal of revalidation.

Finally, the Committee after detailed deliberation concluded that the project proponent has already applied, appraised and obtained amendment in EC from the Ministry under EIA Notification, 2006, so there is no requirement of revalidation of EC dated 28th November, 1994. However, it was

desired that PP must conduct public hearing for any further expansion which is to be appraised by respective SEIAA since instant project is Category B (area less than 500 ha as per Notification dated 20th April, 2022).

*In view of the above remarks, the committee **recommended to return** the proposal.*

Agenda No. 50.4

Talabira II & III Opencast Coal Mine of 20 MTPA (Normative)/23 MTPA (Peak) in mine lease area of 1914.063 Ha of M/s NLC India Limited in the district of Sambalpur, Jharsuguda (Odisha) - For Amendment of Environmental Clearance dated 11.10.2018 - reg.

[Online Proposal No. IA/OR/CMIN/298068/2023; File No. J-11015/215/2007-IA. II (M)]

50.4.1 The proposal is for amendment of Environmental Clearance dated 11.10.2018 to Talabira II & III Opencast Coal Mine of 20 MTPA (Normative)/23 MTPA (Peak) in mine lease area of 1914.063 Ha of M/s NLC India Limited in the district of Sambalpur, Jharsuguda (Odisha).

50.4.2 The Committee during the deliberation noted the following:

- i. Environment Clearance was granted by Ministry vide F. No. J-110115/215/2007-IA. II (M) dated 11.10.2018 for 23 MTPA (Peak) in the mine lease area of 1914.063 Ha of M/s NLC India Limited.
- ii. The Project proponent has proposed amendment in EC for Sl. no. 3 (xvii) of page no-3 in preamble of Environmental Clearance wherein PP committed the following:

“Coal is to be transported to pit head Talabira TPS (4 x 800MW) and NTPL Tuticorin (2 X 500 MW). Coal transportation within the lease area will be done by dumpers and conveyors up to the silo and from Silo; it will be transported through railway for NTPL, Tuticorin. For TalabiraTPS, coal will be transported through closed conveyor from coal depot. Thus, the dumper movement to be restricted within Core area only. However, interim transportation for 3 years up to a distance of 12 Km is proposed by road through covered tippers/dumpers.”

Proposed amendment in EC for Sl. no. 3 (xvii) of page no-3 of Environmental Clearance by PP: *“Coal is to be transported from pit head to Talabira TPS (4 x 800MW) and NTPL Tuticorin (2 X 500 MW) and other users. Coal transportation within the lease area will be done by dumpers and conveyors up to the silo and from silo it will be transported through railway for NTPL, Tuticorin. For Talabira TPS, coal will be transported through closed conveyor from coal depot. Thus, the dumper movement will be restricted to core area only. However, interim road transportation up to 31.03.2027 is permitted i.e; until commissioning of Silo conveying system and railway siding, up to a distance of 12km is proposed by road through covered tippers/dumpers.”*

- iii. PP has submitted the justification for Amendment such as “Due to the delay in commissioning of Railway siding and pithead Talabira TPS, the coal transportation is to be carried out through road and rail network. The railway siding is expected to be commissioned by March, 2027.”
- iv. Earlier the proposal was considered in the 41st EAC meeting held during 13-14 March, 2023 wherein the project was deferred by the committee for submission of reply to its observation. Further the PP has submitted the following reply vide dated 16.09.2023:

EAC observation	Reply by PP																
<p>The project proponent to submit the action plan for implementation of in pit belt conveyor upto silo and from silo to power plant through rail.</p>	<ul style="list-style-type: none"> • Talabira II & III OCP is in its initial stage of operation and commenced its coal dispatch on 16.11.2020. • Mining is being carried out at the Southern side of the mine. • The construction of Conveyor from the mine entry up to Silo loading system is under construction. • However, interim truck loading arrangement with conveyor system and bunker is under construction and will be completed by 31.01.2024. • Action plan showing completion of the conveyor up to silo is furnished in next slide. • Photographs showing the status of construction are given in Subsequent Slides. • The pipe conveyer from Silo to proposed pit head thermal power plant and railway siding is also under construction and will be completed by 31.03.2027. • The action plan for construction of the proposed railway is given in next slide. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Sl. No</th> <th style="text-align: center;">Details</th> <th style="text-align: center;">Target date of completion</th> <th style="text-align: center;">Status (Approximate)</th> </tr> </thead> <tbody> <tr> <td colspan="4">Completion of Conveyor System from the mine pit to trucks loading arrangement</td> </tr> <tr> <td style="text-align: center;">1.</td> <td>Structure erection and completion of 200-meter-long Conveyor from coal stockyard to truck loading arrangement</td> <td style="text-align: center;">31.12.2023</td> <td style="text-align: center;">80 % completed (Civil & Structural work)</td> </tr> <tr> <td style="text-align: center;">2.</td> <td>Completion of truck loading arrangement</td> <td style="text-align: center;">31.12.2023</td> <td style="text-align: center;">70 % completed</td> </tr> </tbody> </table>	Sl. No	Details	Target date of completion	Status (Approximate)	Completion of Conveyor System from the mine pit to trucks loading arrangement				1.	Structure erection and completion of 200-meter-long Conveyor from coal stockyard to truck loading arrangement	31.12.2023	80 % completed (Civil & Structural work)	2.	Completion of truck loading arrangement	31.12.2023	70 % completed
Sl. No	Details	Target date of completion	Status (Approximate)														
Completion of Conveyor System from the mine pit to trucks loading arrangement																	
1.	Structure erection and completion of 200-meter-long Conveyor from coal stockyard to truck loading arrangement	31.12.2023	80 % completed (Civil & Structural work)														
2.	Completion of truck loading arrangement	31.12.2023	70 % completed														

	3.	Commissioning and operation of the truck loading arrangement	31.01.2024	To be carried out on completion of construction.
Completion of Railway Siding, Silo, Conveyor System up to Railway Siding of Talabira II & III OCP & connecting the railway siding to South eastern railway line near IB station, Jharsuguda				
	1.	Approval of DPR for Railway siding	Completed in January 2023	Completed
	2.	Acquisition of Jalbhandar land and execution of agreement with Water Resources, Govt. of Odisha	Completed in March 2023	Completed
	3.	Completion of Land acquisition (i) 2.5 km stretch from truck loading arrangement to the proposed Railway siding (inside mine lease) (ii) 7 km stretch from railway siding to South Eastern Railway line near IB station	31.12.2024	Land acquisition is in advance stage of progress (Almost 60% of land has been acquired)
	4.	Construction of bridges over Jalbhandar land	31.05.2025	
	5.	General Electric work	30.04.2026	
	6.	Completion of construction of Railway siding, Silo, Conveyor up to Silo of Railway siding and laying of rail line till South Eastern Railway line	31.08.2026	
	7.	Signaling and Tele communication	31.08.2026	
	8.	Testing and Commissioning	28.02.2027	
	9.	Permission and Operation	31.03.2027	

<p>The PP shall submit the Certified compliance report of EC and action taken report within span of six months after completing all the EC conditions.</p>	<p>pliance report has been obtained from IRO, MoEF&CC, Bhubaneswar vide File No. 101-1062/23/EPE dated 14.09.2023.</p> <p>lly complied points is submitted to IRO, MoEF&CC, Bhubaneswar on 16.09.2023.</p>																					
<p>Al Tentatively, synchronizing the mechanized system till its implementation, PP to submit a proper coal evacuation plan from road transportation with adequate mitigation measures after exploring the distribution route and mode of coal transportation to other users.</p>	<ul style="list-style-type: none"> • NLC India Ltd. is not using the road passing through village for transportation of Coal. • NLC India Ltd. has already constructed a dedicated coal transportation road (CTR) of 2.4 km for coal evacuation. • The CTR is 3 lanes with 16m width, out of which 2 lanes are being used for entry and one for exit. • As per the traffic study, it was concluded that the traffic on SH-10 is well within the IRC norms even after the mine achieve the full production of 20 MTPA. • Coal evacuation Plan is given in next slide. • Traffic assessment study has been submitted • Details of the mode of coal transportation to other users are given in subsequent slide. • Detailed mitigation measures along with the photographs are given in subsequent slides. <p>Traffic scenario has been studied are as follows: Table: Proposed traffic Scenario and LOS for 20 MTPA capacity</p> <table border="1" data-bbox="805 1346 1430 1881"> <thead> <tr> <th colspan="3">During Mine Operation</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Total Production Capacity of mine (tons/year) as on date</td> <td>12,000,000 TPA</td> </tr> <tr> <td>2</td> <td>Production per day</td> <td>60,606 MT/day</td> </tr> <tr> <td>3</td> <td>No. of working days</td> <td>330</td> </tr> <tr> <td>4</td> <td>Balance mine production to be achieve</td> <td>8,000,000 TPA</td> </tr> <tr> <td>a.</td> <td>Production per day for balance 8 MTPA</td> <td>24,242.42 TPD</td> </tr> <tr> <td>b.</td> <td></td> <td></td> </tr> </tbody> </table>	During Mine Operation			1	Total Production Capacity of mine (tons/year) as on date	12,000,000 TPA	2	Production per day	60,606 MT/day	3	No. of working days	330	4	Balance mine production to be achieve	8,000,000 TPA	a.	Production per day for balance 8 MTPA	24,242.42 TPD	b.		
During Mine Operation																						
1	Total Production Capacity of mine (tons/year) as on date	12,000,000 TPA																				
2	Production per day	60,606 MT/day																				
3	No. of working days	330																				
4	Balance mine production to be achieve	8,000,000 TPA																				
a.	Production per day for balance 8 MTPA	24,242.42 TPD																				
b.																						

	<table border="1"> <tr> <td>c.</td> <td>Capacity of Trucks</td> <td>35 Tonnes</td> </tr> <tr> <td>5</td> <td>Frequency of trucks-up and down (692*2) – for balance 8 MTPA</td> <td>1,384</td> </tr> <tr> <td>6</td> <td>Total PCU/day</td> <td>4,152</td> </tr> <tr> <td>7</td> <td>Total PCU/hr</td> <td>173</td> </tr> </table>	c.	Capacity of Trucks	35 Tonnes	5	Frequency of trucks-up and down (692*2) – for balance 8 MTPA	1,384	6	Total PCU/day	4,152	7	Total PCU/hr	173
c.	Capacity of Trucks	35 Tonnes											
5	Frequency of trucks-up and down (692*2) – for balance 8 MTPA	1,384											
6	Total PCU/day	4,152											
7	Total PCU/hr	173											
PP to Submit the Status of Stage II forest clearance for forest land involved in the project.	Clearance for 1038.187 ha forest land (Revenue and DLC Forest including 4.051 ha safety zone) granted to Talabira II & III OCP on 03.07.2018 and Stage-II Forest Clearance was granted on 28.03.2019.												
PP to submit the drone video covering mine area, tree plantation, routes of road transportation.	<p>covering Mine area, Plantation and Road transportation route has been done.</p> <p>developed a Sal van and Miyawaki plantation etc. outside the Mine lease area, details of which is given below-</p> <p>developed over 10 ha and total 15,000 Nos. of sal sapling planted in vetrabeda degraded forest, Rengali range of Sambalpur forest division.</p> <p>Nos. of saplings planted over 10 ha area in Bomalai degraded forest, Rengali forest range of Sambalpur forest division.</p> <p>plantation developed over 0.5 ha - Plantation of 4,000 numbers of saplings planted at Jharsuguda town, Jharsuguda Dist.</p>												
Status of construction of linked Thermal Power Plants and justification of delay.	<p>Thermal Power Plant) is a pit head power project linked with Talabira II & III OCP located in Jharsuguda and Sambalpur District, Odisha.</p> <p>F&CC for NLC Talabira Thermal Power Project was obtained on 02.02.2021.</p> <p>Delay:</p> <ul style="list-style-type: none"> • The main reason for the delay is due to the land acquisition for the project which got delayed due to COVID 19. • Hence, there is a delay in land acquisition for NTTTP and subsequently awarding the EPC tender were also delayed. • Details of the present construction status of the NLC Talabira Thermal Power Plant along with 												

	the justification of delay in completion are furnished in next slide-
PP shall submit the details of current status of coal transportation by road and rail with distance and quantity.	PP has submitted the status of coal transportation by road and rail with distance and quantity are enclosed.

50.4.3 *The EAC after deliberations observed that the project proponent has opted the change in preamble part of EC such as “transportation of coal to the other users” and therein requesting for “interim road transportation up to 31.03.2027 i.e. until commissioning of Silo conveying system and railway siding upto a distance of 12km and also being proposed by road through covered tippers/dumpers”.*

The Committee examined the reply to the observations of the previous meeting along with the information submitted vide letter dated 27.09.2023 wherein the PP has submitted an undertaking for completion of railway siding alongwith silo loading system by 30.09.2026, transportation of coal by 40 tons (Payload) trucks through road and construction of embankment along Bheden river till October 2024.

During the presentation, based on drone videos and photographs, the committee found that ground work for the mechanized system has been started which is to be completed on or before September, 2026. The Committee also discussed the Certified compliance report vide letter dated 14.09.2023 and found few non-compliances which needs to be completed in time bound manner.

The instant project lies in Sambalpur and Jharsuguda district, however away from Ib Valley i.e Severely Polluted Areas (SPA). EAC desired that though it is out of SPA, additional specific conditions are required to be added for adequate safeguard.

*Based on the above discussion, EAC **recommended** the proposal for amendment of Environmental Clearance dated 11.10.2018 to Talabira II & III Opencast Coal Mine of 20 MTPA (Normative)/23 MTPA (Peak) in mine lease area of 1914.063 Ha of M/s NLC India Limited in the district of Sambalpur, Jharsuguda (Odisha), under the provisions of EIA Notifications, 2006 and its amendments therein with following additional specific conditions:*

- i. PP shall commission in pit belt conveyor system with silo loading system till railway siding for transportation of 100% extracted coal through rail by September, 2026. Accordingly, SPCB should grant the consent to operate.*
- ii. Transportation of coal shall be done in covered trucks till September, 2026. PP shall deploy the truck size of upto 40 tonnes (payload) for transportation of coal by road.*
- iii. PP shall construct embankment after conducting embankment study on the both sides of Ib river, Bheden river and Hirakud reservoir flowing through the ML area on or before October 2024 and conduct dense plantation with fruit bearing native species by itself.*
- iv. Fixed water sprinkling system shall be installed around the coal stock yard area for dust suppression.*
- v. PP shall install wind barriers around the coal stock yard in order to arrest the dust.*

- vi. *Sufficient nos of fog cannons of atleast 40 mtrs throw shall be installed at coal storage yard, in nearby villages and along the transportation route. Main haul road in the mine shall be provided with permanent water sprinklers, and other roads shall be regularly wetted with water tankers fitted with sprinklers. Also PP shall install Mist Cannon Dust Suppression Systems (distance 80-100 mtrs.) at Coal Stock Yard to suppress the dust particles.*
- vii. *PP shall install mechanized sweeping machine in order to trap particulate matter which possibly cause the air pollution.*
- viii. *Internal coal transportation road and other material transport roads of the mine shall be maintained properly to avoid ruts and pots hole. Internal Coal transportation road shall be made Cement concrete.*
- ix. *Coal carrying trucks shall be monitored through GPS system and minored with CCTV cameras for the compliance of safe transport.*
- x. *PP shall treat the mine water through ETP so that the treated water will be utilized for purpose of plantation, workshop and in the Mine as well for the local villagers.*
- xi. *PP shall complete the construction of the Sewage treatment plant within six months and submit the compliance with photographs to Ministry's IRO*
- xii. *PP shall monitor regularly water levels in open dug wells located in village and by establishing Piezometer to ascertain the impact of mining over ground water table and to plan mitigative measures to recharge the area.*
- xiii. *PP shall implement Water distribution system in near villages. A proper water distribution network shall be devised to meet the demands of farmers related to irrigation and recharging of ponds, wherever required.*
- xiv. *PP shall ensure distribution of water from the artificial reservoir within and outside Mine lease area in consultation with gram panchayat. The water treatment plant to meet the requirement with the start of production.*
- xv. *PP shall deposit the approved amount as proposed for wildlife conservation plan to the State Govt. Forest & Environment Dept. and further consult with State Biodiversity Authority for its CSR activity.*
- xvi. *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.*
- xvii. *The status of mine closure activities must be included in every six months' compliance report submitted to the state pollution control board and IRO.*
- xviii. *PP shall maintain at least 10 mtrs width tree plantation of broad leaves and wind break/green-shield of about 10 mts height along the boundary of coal storage yard and transportation road specifically constructed for coal transportation (2.4 KM).*
- xix. *PP shall implement Effluent Treatment Plant for wastewater generated from workshop and Sewage Treatment Plan (of MBR technology as proposed) for its colony. No untreated water shall be discharged from mine boundaries to ponds/nallah/river.*
- xx. *PP shall deploy atleast 20% of overall fleet of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc.*
- xxi. *PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation*

- of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.
- xxii. PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.
- xxiii. PP shall reduce the carbon footprint after sequestration of CO₂. IRO will review the progress of CO₂ sequestration. The process of sequestration of CO₂ will include the planting trees, by “Developing carbon capture and storage (CCS) technologies” and implementation of renewable energy. Further, PP shall carry out enough plantation to ensure carbon sequestration lost due to deforestation and other fossil fuel based activities.
- xxiv. PP to maintain the transportation road properly to minimize the dust emission. PP to also develop pucca/concrete roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.
- xxv. PP to monitor the water quality of the ground water and surface water body located within the core zone and 5 km radius from the periphery of the mine boundary as per procedure laid down by CPCB.
- xxvi. PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.
- xxvii. Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented. The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.
- xxviii. Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.
- xxix. PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground). A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non-compliance or infringement should be reported to the concerned authority.
- xxx. 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.
- xxxi. 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

Agenda No. 50.5

Expansion of North Urimari OCP from 3.6 to 4.2 MTPA in total ML area of 535.82 ha of M/s Central Coalfield Limited located in village Urimari, Tehsil Barkagaon, District Hazaribagh (Jharkhand) – For Amendment in Environmental Clearance letter dated 13.02.2023 – reg.

[Online Proposal No. IA/JH/CMIN/441069/2023; File No. J-11015/307/2005-IA- II (M)]

50.5.1 The proposal is for amendment of Environmental Clearance dated 13.02.2023 to North Urimari OCP from 3.6 to 4.2 MTPA in total ML area of 535.82 ha of M/s Central Coalfield Limited located in village Urimari, Tehsil Barkagaon, District Hazaribagh (Jharkhand).

50.5.2 The EAC during deliberation noted the following:

- Earlier, the Environment Clearance to the project was obtained under EIA Notification-1994 for 3 MTPA. The EC was revalidated on 07.11.2019, under EIA-2006, for a capacity of 3 MTPA.
- The project was granted expansion in Environmental Clearance for a capacity from 3.0 MTPA to 3.6 MTPA (20% Stage I) vide letter no: J-11015/307/2005-IA. II(M) dated 18.02.2022 under clause 7(ii) of EIA Notification 2006 and as per MoEF&CC OM Dt. 15.09.2017
- Further, the project was granted again expansion in Environmental Clearance for a capacity from 3.6 MTPA to 4.2 MTPA (40% of original EC, Stage-2) within the project area of 523.06 Ha vide letter no: J-11015/307/2005-IA. II(M) Dated: 13.02.2023 under clause 7(ii) of EIA notification 2006 and as per MoEF&CC's OM Dt. 11.04.2022.
- Now, PP has requested for amendment/extension in EC letter dated 13.02.2023 to amend the specific condition no. (ii) that is *“PP to complete the work of North Urimari Railway siding and Belt conveyor system with CHP and Silo loading system upto July 2023. No road transportation shall be allowed beyond July 2023. SPCB shall accordingly grant the CTO for the proposed expansion”*.
- PP has submitted the following Justification for the above amendment:

Reply by PP	Current Status of North Urimari Railway Siding and CHP-Silo is tabled below:			
Particulars	Executing Agency	Cost (In Cr)	Physical progress (As on 20th Sept 23)	Expected Time of Completion

North Urimari Railway Siding	RITES	296.63	99%	30 th September 2023 (i.e. the time needed for seeking Temporary Working Permission for 11.11 ha forest land)
CHP-Silo loading system with Conveyor Belt	L&T	293.54	93%	31 st January 2024

Status of North Urimari Railway Siding

- **Being executed by Rail PSU:** The 8 km railway line takes off from Patratu station on Garhwa-Barkakana section of East Central railway. Rail works have been completed by RITES (A PSU under the Ministry of Railways, Govt of India)
- **Track ready for movement of goods trains:** Entire track line upto wharf wall siding is completed. OHE (Over Head Electrification) completed. Trial runs conducted successfully by railways.
- **Clearances given by railways:** Railways have given the Fitness Certificate and successfully conducted Engine Trial Run and Locomotive-with-Box-N-wagon trial run. Railways have also executed the siding agreement with CCL.
- **Stage-I FC obtained under linear category:** Forest land of 11.11 Ha is involved for which, Stage-I (i.e. in-principle) approval has been obtained.
- **Applied for TWP:** Being a linear project, Temporary Working Permission (TWP) will be given by Forest Deptt. For this, CCL has submitted the compliance of Stage-I conditions and has requested for according TWP. The same has been recommended by DFO, CF, RCCF, and approved by HoFF (GoJ). Currently, the proposal is with Additional Chief Secretary (ACS), Department of Forest, Government of Jharkhand for final approval.

Status of North Urimari Railway Siding

- **Siding to commence w.e.f. 1st Oct' 2023:** Evacuation of coal through the Siding will start once TWP is granted by GoJ, for which CCL seeks time up to **30th September 2023**.
- **Pollution control measures in place:** Adequate pollution control measures have already been placed at the siding. It includes, RCC boundary wall with profile sheet on the opposite side of the platform all along for arresting the spread of fugitive dust emission, fixed sprinklers, trolley Mounted Fog Cannon and plantation on both sides. A PM 10 analyzer will be installed immediately after commencement of the siding. Details along with photographs is attached in subsequent slides.
- **CTO exists:** CTO for North Urimari Railway Siding granted by JSPCB up to 31.12.2023.

Status of CHP-Silo:

M/s L&T is executing the CHP-Silo work and M/s RITES is executing the railway line works (beyond the line up to North Urimari siding in continuation). Overall physical progress in respect of CHP-Silo is 93%. Structural works are >95% complete except for Silo part which is 59%. Delay happened due to

slowness of works during monsoon. All remaining works of CHP-Silo will be completed by the time Silo takes shape. Based on the evaluation of project execution by L&T, CCL seeks time up to **31st January 2024**

Timeline sought:

It is requested to extend the timeline for commissioning of North Urimari Railway Siding up to 30th September 2023 and CHP-Silo up to 31st January 2024.

In view of the above, request is hereby placed for amendment in the specific condition no (ii) of EC of North Urimari OCP.

• **Further, PP taken the following Pollution Control Measures at new Siding:**

- 1) RCC Boundary Wall with Profile Sheet against nearby settlement 1.1 km long and 20 ft high constructed at a cost of Rs 2.69 Cr.
- 2) Fixed Sprinklers: 25 numbers along the platform at a cost of Rs 21.25 lakhs.
- 3) PM10 Analyser constructed.
- 4) Afforestation: Block plantation earlier done by CCL exists in the vicinity. In addition, new avenue plantation taken up along the Siding.

Fog Cannons: 4 # Trolley Mounted Fog Cannons to be installed at new siding. Consignment already reached. It will be installed soon after commencement of siding.

50.5.2 The EAC after deliberations observed that earlier PP has obtained the EC under OM dated 15.09.2017 under clause 7(ii) of EIA, Notification, 2006 with condition of implementing belt conveyor system with silo loading for rail transport. Further, PP has obtained EC under OM dated 11.04.2022 (stage-II 40% expansion), wherein committee allowed to complete the mechanization upto July 2023.

The Committee noted that the physical progress for railway siding and CHP-Silo loading system with conveyor belt has been achieved upto 99% and 93% respectively and rest of the work will be completed after obtaining the permission from Forest department. The EAC opined that PP has justified reasons of missing the deadline. However, no further extension and expansion shall be given.

*Based on the above discussion, EAC **recommended** amendment in the Environmental clearance for North Urimari OCP (3.6 to 4.2 MTPA) to implement the work of North Urimari Railway siding, Belt conveyor system with CHP & Silo loading system and to implement in-pit conveyor system with silo loading facility till railway siding on or before January, 2024 w.e.f. 31st July 2023 and accordingly extension to comply was recommended with the following specific conditions;*

- i. PP shall implement the work of North Urimari Railway siding and Belt conveyor system with CHP and Silo loading system till January, 2024.*
- ii. PP shall implement in-pit conveyor system with silo loading facility till railway siding and No road transportation shall be allowed after January, 2024 and accordingly, SPCB shall grant CTO.*

Agenda No. 50.6

Amelia Opencast Coal Mine project with production capacity of 5.6 MTPA in ML area of 1180.2 ha of M/s Tehri Hydel Development Corporation India Limited (THDC India Limited) located in village Pidarwah, Tehsil Singrauli, District Sidhi (Madhya Pradesh) – For Amendment in Environmental Clearance 03.08.2021 – reg.

[Online Proposal No. IA/MP/CMIN/438322/2023; File No. J-11015/310/2006-IA. II(M)]

50.6.1 The proposal is for amendment in Environmental Clearance dated 03.08.2021 for Amelia Opencast Coal Mine project with production capacity of 5.6 MTPA in ML area of 1180.2 ha of M/s Tehri Hydel Development Corporation India Limited (THDC India Limited) located in village Pidarwah, Tehsil Singrauli, District Sidhi (Madhya Pradesh).

50.6.2 The EAC during deliberations noted the following:

- Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/310/2006-IA. II(M) dated 27.03.2008 for 8.4 MTPA in mine lease area of 1619.10 ha. After reallocation of this block to THDC
- Transfer of EC with amendment under EIA Notification, 2006 vide Ministry's letter No. J-11015/310/2006-IA. II(M) dated 03.08.2021 for 5.6 MTPA in a reduced mine lease area of 1180.20 ha was granted.
- Now, PP has requested to amend the specific condition no. 9 (xi) of the EC letter dated 03.08.2021 which *inter-alia* states that:
“As committed, no channelization/diversion will be undertaken and regular water quality monitoring will be done to ensure the quality of water”.
- PP has submitted the justification for diverting order stream of KanchanmudaNala by submitting the hydrological study for KanchanmudaNalla watershed carried out by using CWC mathematical model for flood estimation in some sub zone 1 (d) for 50 year return period of 20 cm in 24 hrs rainfall.
- Further, in the present condition the drain in mine area is seasonal hence aquatic eco system does not exist whereas during mining the nala become perennial and the restoration of the aquatic resources may be promoted.

50.6.3 *The committee after deliberation observed that the instant proposal is for amendment in EC wherein diversion of Kanchanmuda Nala has been requested along with other several drains. The Committee noted that as per EC dated 03.08.2021, PP was not allowed for channelization/diversion of stream as the same was committed during transfer EC as mandatory EC amendment condition.*

The Committee expressed displeasure on the presentation as it was neither well documented nor clearly brought out contentions of the project with respect to catchment area covered under river. Further due to weak internet connectivity, consultant unable to address queries of Committee.

The Committee noted that earlier mine plan was based in UG with OC but now PP is inclined with OCP method which requires diversion of number of drains within catchment area fall in ML. Therefore, knowing with facts that project area forms important catchment zone with number of stream/drains contributing watershed system of the area, and also in view of the area fall within SPA, the committee decided that a sub-committee shall visit the site and bring out the facts about catchment area fall within the mine lease before further consideration of project and meanwhile PP shall work to comply on the followings points.

In view of the above, the committee opined that the project proponent must complete the following course of action and submit the following documents: -

- i. PP shall submit the proper justification for the amendment of EC considering the coal reserves available (in million tonne) near or below the streams with technology intervention.*
- ii. PP should explore alternate technology/methods for exploration of such coal reserves to extract coal without diverting the stream.*
- iii. Biodiversity study of Kanchanmuda Stream/Nallah (source to destination) considering all dependent flora and fauna.*
- iv. Proper Catchment area study including carrying capacity of river and stream passing be done with hydrological and watershed data.*
- v. Environment Impact Study for Nallah in the situation of diversion of catchment area be studies with loss of biodiversity and ecosystem. The Catchment area study should include flowrate of water in the stream, volume of water being diverted and major impact on habitation living therein.*
- vi. Drone video of the ML area mainly covering the source and destination of Kanchanmuda Stream/Nallah.*
- vii. PP should submit the Contour plan for the drainage system.*
- viii. PP should also mention the exact number of rivulets passing through the ML area and flowing within the 5km of Buffer zone of ML area.*
- ix. The PP should study the impact of water management due to channelization/diversion.*
- x. PP should explore the possibility to save the stream flowing through the ML area and adjacent to the lease area.*

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

Agenda No. 50.7

Expansion of Amelia (North) combined OC & UG coal mine with increase of production capacity from 3.36 MTPA to 3.92 MTPA in Mine Lease Area of 728.75 ha by M/s Jaiprakash Power Ventures Limited at village Majhauri, Tehsil Deosar, District Singrauli (Madhya Pradesh) – For Environmental Clearance under OM dated 11.04.2022 (Stage-II expansion) reg.

[Online Proposal No. IA/MP/CMIN/444292/2023; File No. J-11015/355/2006-IA-II (M)]

50.7.1 M/s Jaiprakash Power Ventures Limited has submitted the proposal for Amelia (North) combined OC & UG coal mine with increase of production capacity from 3.36 MTPA to 3.92 MTPA in Mine Lease Area of 728.75 ha at village Majhauri, Tehsil Deosar, District Singrauli (Madhya Pradesh) under OM dated 11.04.2022 as Stage-II expansion i.e. 40% to the Base EC capacity.

50.7.2 Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

- i. The project area is covered under Survey of India Topo Sheet No63L/8 (R.F.1:50,000) and is bounded by the geographical coordinates ranging from Latitudes (N): 24° 07'32" to 24° 08'37" and Longitude (E): 82° 24'25" to 82° 26'45".
- ii. Coal linkage of the project is proposed for JaypeeNigrie Super Thermal Power Plant, Village Nigrie, District Singrauli.
- iii. Joint venture: Not Applicable
- iv. As per the PP, 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. CPA Singrauli is 11.6 km E.
- v. Employment generation- Present manpower for 2.80 MTPA production is 1602 and additional manpower requirement for the expansion of mine to 3.92 MTPA shall be 156 including outsourced. Thus, the total has been estimated as 1758 persons after expansion.
- vi. The project is reported to be beneficial in terms of: Social: Direct and Indirect employment generation and CSR activities in nearby villages. Financial: Income generation to employee and associated persons, revenue generation to state etc. Environmental: Afforestation of backfilled and dump areas, 100% reuse of mine seepage water, use of railway for 100% evacuation of Coal.
- vii. Earlier, the environment clearance to the project for 2.8 MTPA capacity was obtained under EIA Notification, 2006 vide MoEF&CC's File No. J-11015/355/2006- IA. II(M) dated 20.07.2007 and transferred to the PP on 13.05.2015. Subsequently, EC to the project as stage-I expansion for 2.8 to 3.36 MTPA has been granted vide letter dated 16.01.2023.
- viii. Terms of Reference grant- not applicable since this is an expansion under 7(ii) of EIA Notification.
- ix. Total mining lease area as per block allotment is 728.75ha. Mining Plan (for 2.8MTPA) has been approved vide MoC letter no. 13016/3/2003-CA-I dated November 14, 2006. Mine Closure Plan has been approved vide MoC letter no. 34011-22-2010-CPAM dated 18.05.2011. JPVL Board approved for 3.92 MTPA on 05.11.2022 (including mine closure plan) as per the provisions of Clause 1.3(B) of the "Guidelines for Preparation, Formulation, Submission, Processing, Scrutiny, Approval and Revision of Mining plan for the coal and lignite blocks" (F.No. 34011/28/2019-CPAM) dated 29 th May 2020.
- x. The land usage pattern of the project is as follows:

Pre-mining land used details (Area in Ha)

Land use pattern	Within ML Area	Outside ML Area	Total
Forest land	728.75	0.00	728.75
Agricultural Land	0	0.00	0
Waste Land	0	0.00	0

Surface water Body	0	0.00	0
Grazing Land	0	0.00	0
Settlements	0	0.00	0
Total	728.75	0.00	728.75

PostMining Land Use details (in Ha.)

Sl. No.	Description of area	Land use (Ha.)				
		Plantation	Water body	Public use	Undisturbed	Total
I.	ML Area					
	Excavation/Quarry	380.88	94.22	0.00	0.00	475.1
	Top soil storage	0.00	0.00	0.00	0.00	0.00
	Roads	5.5	0.00	0.00	0.00	5.5
	Greenbelts	11	0.00	0.00	0.00	11
	Water reservoir	10	0.00	0.00	0.00	10
	Internal OB Dump	162	0.00	0.00	0.00	162
	External OB Dump	0.00	0.00	0.00	0.00	0.00
	Virgin Area	0.00	0.00	61.15	0.00	61.15
	Built up area (Colony/Office)	4.00	0.00	0.00	0.00	4.00
	TOTAL	573.38	94.22	61.15	0.00	728.75

- xi.* Total geological reserve reported in the mine lease area is 99.23 MT with 73.98MTmineable reserve. Out of total mineable reserve of 73.98 MT, 70.28 MT are available for extraction. Percent of extraction is 71%.
- xii.* 9 seams withthickness above 1mareworkable.Gradeofcoalvaries from D to G (~G9-G14) in seam VII & VIII (to be mined),strippingratio 7.72:1 (Cum:Tonne), whilegradientis 3 to 10 degree.
- xiii.* Method of mining operations envisages by Opencast mechanized method
- xiv.* Life of mine: Reduction of 4 years in opencast only from 27 years (as per MP) to 23 years. No change proposed in underground (23 years). Total life reduced from 41 to 35 years.
- xv.* The project has 2 external OB dumps in an area of 162 ha with 100m height and 82.44 Mcum of OB Balance OB 425.381 Mm3 is proposed to be dump in internal dump.
- xvi.* Total quarry area is 475.10 ha out of which backfilling will be done in 380.88 ha while final mine void will be created in an area of 94.22 ha with a depth of 130 m. Backfilled quarry area of 380.88 ha shall be reclaimed with plantation. Final mine void will be converted into a water body.
- xvii.* Transportation of coal has been proposed by railway wagon loading through rapid loading system at CHP, and from mine pit to CHP by road through trucks/tippers.
- xviii.* Reclamation Plan in an area of 573.38 ha, comprising of 162 ha of external dump (outside pit but within ML), 380.88 ha of internal dump (backfill) and 11.00 ha of green belt (which is also the safety zone), 5.5 ha roads, 4 ha built up area and 10 ha reservoir has also been proposed for plantation.
- xix.* 728.75ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980. FC was obtained vide File No. 8-08/2007-FC dated 30.11.2012 and transferred to the PP on 11.05.2015.

- xx. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- xxi. Wildlife conservation plan for schedule – I species has been submitted to competent authority and approved vide letter no. F-5-2/2010/10-3/2591 issued on 01.11.2012.
- xxii. The ground water level has been reported to be varying between 5.44 to 30.80 meter (Pre-Monsoon) below ground level (m bgl) and 3.25 to 30.26 meter (Post-Monsoon) below ground level. Total water requirement for the project is 1010 KLD.
- xxiii. NOC no. for Ground Water Clearance by Central Ground Water Authority is CGWA/NOC/MIN/REN/2/2021/6323 valid from 31/12/2020 to 30/12/2022.
- xxiv. Public hearing for the project of 2.80 MTPA capacity in an area of 728.75 ha was conducted on 20.03.2007 at Gram Panchayat Majhauri, Tehsil Deosar, District Sidhi, Madhya Pradesh under the Chairmanship of Additional Collector, Sidhi Mr. Z.U. Sheikh and representative of M.P Pollution Control Board, Dr. R.S. Prahar. Major issues raised in the public hearing and appropriate action to address the issues raised in the Public Hearing have already been taken/proposed.
- xxv. Consent to Operate for the existing capacity was obtained from the Madhya Pradesh Pollution Control Board vide letter no. 11763 valid upto 28.02.2024.
- xxvi. No major River/nala is flowing over boundary of lease.
- xxvii. Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to Regional Office, Bhopal of MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits.
- xxviii. No court cases, violation cases are pending against the project of the PP.
- xxix. The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine was started from the year 2014 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations.
- xxx. The project involves no project affected families. R&R of the PAPs is Not Applicable.
- xxxi. Total cost of the project is Rs. 120 crores. Cost of production is Rs 2063/- per tonne for FY 2022-23, Proposed CSR activities for FY-2022-23 is Rs. 20.28 Lakh. Environment Management Cost is Rs. 24 Lakh & Recurring 178 lakh per year.

50.7.3 The Committee during deliberations noted the following:

- (i) Earlier, Environment Clearance to the project for 2.8 MTPA capacity was obtained under EIA Notification, 2006 vide MoEF&CC's File No. J-11015/355/2006- IA. II(M) dated 20.07.2007.
- (ii) The FC and EC transferred from M/s Madhya Pradesh state Mining Corporation to M/s Jaiprakash Power Venture Limited vide letter dated 11.05.2015 and 13.05.2015 respectively.
- (iii) EC for expansion in capacity 2.8 to 3.36 MTPA was granted by Ministry vide its letter dated 16.01.2023 under the provisions of 7(ii) of EIA Notification 2006 under OM dated 11th April, 2022 without any change in project/mine lease area.

- (iv) The entire Mining lease area of 728.75 ha is forest land and the Forest clearance was obtained vide letter dated 30.11.2012.
- (v) Wildlife Conservation Plan: Approval from Forest Department, Government of Madhya Pradesh vide letter no. F-5- 2/2010/10-3/2591 dated 01.11.2012.
- (vi) Mining Plan including Mine closure Plan has been approved by MoC vide dated 14.11.2006 & 18.05.2011.
- (vii) PP has prepared the Final EIA-EMP report for production capacity of 3.92 MTPA (i.e. 40% of the Base capacity).
- (viii) The PP has submitted the point-wise compliance in the following table as per the Ministry's OM dated 11th April, 2022 under para 7(ii)(a) of EIA Notification, 2006, for expansion up to 50%, within the existing premises/ mine lease area, without additional land acquisition. The OM is applicable subject to fulfilment of following criteria

S. No.	Subject to the fulfilment of the following criteria	Compliance of criteria
I.	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.	Public Hearing has been conducted on 20.03.2007 for EC dated 20.07.2007.
II.	There should not be change in Category of the project from 'B2' to 'B1' or 'A' due to proposed modernisation or expansion.	No Change
III.	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-à-vis the area mentioned in the EC, based on which public hearing has been held earlier.	No additional land acquisition or forest land diversion involved as per submission of PP
IV.	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.	Application is for 40% expansion and the full compliance for the previous EC conditions has not been complied.
V.	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.	Predicted environment quality has been conducted in between 01.03.2022 to 31.05.2022 and parameters are within the prescribed limits.
VI.	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 PP had planted upon the land area of 118.29 ha till 2021-22. A total 4,12,759 saplings of native species has been planted till July 2023.

VII.	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.	Certified Compliance Report submitted for Amelia (North) combined OC & UG coal mine (under stage II expansion) vide dated 26.07.2023. Conditions pertaining to the SPA has not been covered under the CCR dated 26.07.2023.
VIII.	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 since the application is for expansion for 40%
IX.	Effluent monitoring including air quality monitoring systems as specified in the existing EC, if stipulated, should have been installed.	Certified Compliance Report for Amelia (North) combined OC & UG coal mine (under stage II expansion) vide dated 26.07.2023.

- (ix) PP has obtained clearance from CGWA vide NOC no. CGWA/NOC/MIN/REN/3/2023/8124 dated 17/08/2023 valid upto 30/12/2024 for 100 KLD fresh water and 2308 KLD dewatering from mine.
- (x) CTO from Madhya Pradesh Pollution Control Board vide letter no. 117673, dated 10.03.2023 for 3.36 MTPA valid till 28.02.2024.
- (xi) Life of Mine reduced for opencast is 14 years and for underground mine is 23 years. Total life reduced from 41 to 35 years.
- (xii) Rs. 14 Crores has been deposited by the prior allottee i.e. MPSMC against the Wildlife conservation plan for the protection of Schedule-I species available within 10 km radius of the project i.e. namely Sloth bear, Peafowl, Monitor Lizard, Indian Elephant, Indian Leopard, Indian Python Wildlife.

50.7.4 *The EAC, after deliberations observed that instant project is for expansion and PP has applied under OM dated 11.04.2022 for enhancement upto 40% (Stage-2) capacity expansion under para 7(ii) of EIA Notification, 2006.*

The Committee discussed the issues with regard to the Mining plan (related to non-submission of latest Mine plan), Wildlife Conservation Plan, Year-wise production status and a time bound action plan for non-complied environmental conditions. With regard to the plantation of exotic species, the committee emphasized to plant native species in and around the ML area and also stressed to provided paved road during transit transportation to National Highway in order to reduce the dust emissions.

On the basis of IRO report, the committee asked PP to increase the plantation on OB and progressive reclaimed area and accordingly, revise the EMP budget with recurring cost.

While granting the EC (Stage-I expansion) vide letter dated 16.01.2023, Ministry imposed SPA conditions as the ML area falls in Singrauli district of Madhya Pradesh. It was opined that instead of complying the SPA conditions, PP stated that SPA conditions are not applicable for the instant ML area. Therefore, committee desired that PP must submit the clarification through concerned SPCB for project falling within the SPA or not. If in case the project falls within the SPA, the PP is bound to comply the conditions of SPA and resubmit the compliance report certified from IRO.

EAC also observed that there is court case in Hon'ble Supreme Court on the instant mine i.e. C.A. No. 6233/2019 "M/s Jaiprakash Power Ventures Ltd. vs Human Right Redemption Social Welfare Association of India and Ors regarding pollution of kanchan river due to overburden dump.

In view of the above, the project proponent may submit the details of following observation: -

- (i) PP to either submit the certificate from the SPCB stating the instant project is out of Severely Polluted Area of Singrauli or otherwise comply the complete SPA conditions followed by the submission of compliance report from IRO.*
- (ii) PP should submit the court case status related to the C.A. No. 6233/2019 "M/s Jaiprakash Power Ventures Ltd. Vs Human Right Redemption Social Welfare Association of India and Ors."*
- (iii) PP shall submit the mitigation measures to be adopted/being adopted w.r.t. movement of leachate arising from OB dumps (mixed with fly ash) area to surrounding forest area and water bodies in perspective of Kanchan river and Kanchan reservoir.*
- (iv) PP should submit a copy of the latest Approved Mining plan along with progressive mine closure plan with year wise past production detail.*
- (v) PP should submit the detail number of exotic species and native species planted in and around the ML area.*
- (vi) PP shall submit the plan of construction for pavement of road wherein road transportation exist i.e. within the ML area and outside ML area till National Highway.*
- (vii) PP should submit the plantation plan for OB and progressive reclaimed area.*
- (viii) PP shall submit the plan of action to display the CAAQMS data at entry and exit gate of mine office and shall be share with the SPCB/CPCB.*
- (ix) Status of installation Fog cannons including the movable fog cannons for the Mines, haul road, CHP area and other required area.*
- (x) PP should submit the status of development of ECO park in 2.0 ha land.*
- (xi) PP shall submit the expenditure status of Rs. 14 crore submitted against the wildlife conservation plan.*
- (xii) PP shall review the recommendation of already prepared Site- Specific Conservation Plan / Wildlife Management Plan in pursuance of increase in production capacity from 2.8 to 3.92 MTPA.*
- (xiii) Status of preparation of Riverine/Riparian Ecosystem conservation & Management Plan.*
- (xiv) PP shall revise the EMP budget capital cost as well as recurring cost.*

*In view of the above, the project was **deferred** to submit the 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. Therecommendations 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 be 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 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 top soil 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 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'.
- (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. 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 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 CentralGround Water Authority.
- (vii) Solid waste/hazardous waste generated in the mines needs to 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.tobe carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular airmonitoring 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 toensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution ControlBoard. 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 criticalareas prone to air pollution with higher level of particulate matter all throughthe coal transport roads, loading/unloading and transfer points. Fugitive dustemissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed bythe 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 theexisting 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 reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /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 Hearing 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 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 environment 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 subjectmatter.
- 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. (incase 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 waste/hazardous waste generated in the washery needs to be addressed in accordance 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 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. carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute be 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.

- 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 runoff 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 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 green belt 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.
- vii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- ix. 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.
- x. 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
- xi. 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.
- xii. 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 subjectmatter.
- 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 to 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 conveyor 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 transport 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 conveyor 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, PM2.5, 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 seamsto 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, diversionand channeling of the existing rivers/water courses flowing though 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 hydrogeologyand 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/orif 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 andtrucks/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

(xxxii) 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.

Table 3: Post-Mining Land use 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.

(xiv) 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 COALMINEPROJECT

- (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 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.
- (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 major rivers/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/water bodies) of the area should be provided as per the tables given below. Impacts of 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 faunaduly 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 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.

- (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 anML/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 50th MEETING HELD ON 27th
SEPTEMBER, 2023 THROUGH VIDEO CONFERENCING**

1.	Shri G.P Kundargi			DAY-1	DAY-2
		-	Chairman	A	P
2.	Dr. N. P. Shukla	-	Member	P	P
3.	Shri Suramya Dolarray Vora, IFS (Retd)	-	Member	P	P
4.	Dr. Umesh Jagannathrao Kahalekar	-	Member	P	P
5.	Shri K.B. Biswas	-	Member	P	P
6.	Dr. Nandini.N	-	Member	P	P
7.	Dr. Unmesh Patnaik	-	Member	A	A
8.	Professor S S Rai, Representative of IIT/ISM Dhanbad	-	Member	P	P
9.	Shri M.P Singh, Representative of CEA	-	Member	P	P
10.	Dr. Santosh Kumar Hampannavar	-	Member	P	P
11.	Prof R.K. Giri Representative of IMD	-	Member	A	A
12.	Dr. Nazimuddin Representative of Central Pollution Control Board	-	Member	P	P
13.	Shri Lalit Bokolia, Director, MoEFCC	-	Member Secretary	P	P