

MINUTES OF 47th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 21 to 22 JULY 2023 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 46th Meeting of the EAC (Coal): The minutes of the 46th Meeting of the EAC (Coal) held during 26 to 27 June 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 47th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 21 & 24 July 2023 through Video Conferencing. The EAC considered proposals as per agenda adopted for the meeting with additional 1 items 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. 47.1

Expansion of Sasti OCP for increase in ML area from 919.69 ha to 1120.48 ha with production capacity of 2.50 MTPA by M/s Western Coalfields Limited located in Village Sasti & Mathra, Tehsil Rajura, District Chandrapur (Maharashtra) – For Environmental Clearance - reg.

[Online proposal No. IA/MH/CMIN/435209/2023; File No. J-11015/435/2006-IA. II(M)]

47.1.1 The proposal is for environmental clearance for Expansion of Sasti OCP for increase in ML area from 919.69 ha to 1120.48 ha with production capacity of 2.50 MTPA by M/s Western Coalfields Limited located in Sasti & Mathra village, Teh Rajura, District Chandrapur (Maharashtra).

47.1.2 Details of the proposal, as ascertained from the documents are given as follows:

- i. The project area is covered under Survey of India Topo Sheet No 56 M/5 and is bounded by the latitudes from N 19^o 47' 18.24" to 19^o 49' 59.41" and longitudes E 79^o 17' 50.89" to 79^o 20' 1.17".
- ii. Coal linkage of the project is proposed for thermal use for MAHAGENCO & miscellaneous consumers.
- iii. There is no Joint venture.
- iv. Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13 January 2010 has imposed moratorium on grant of environment clearance.
- v. Employment generation, Permanent employment to 710 persons will be provided from the project. In addition, approximately 200 Nos. of employment shall be provided by contractual HEMM operators.
- vi. The project is reported to be beneficial to bridge the gap (to the extent of the peak production capacity of the project) between demand & supply of non – coking coal for power plants & other consumers from Western as well as Southern part of the country. The domestic production of

additional coal will reduce the impact of coal and save valuable foreign exchange. The CSR activities will provide development in the nearby villages.

- vii. Earlier, the ToR was issued by MoEF & CC vide its letter no. J-11015/537/2008-IA.II (M) dated: 02.01.2021 pertaining to Expansion of Sasti OC with a production capacity of 2.5MTPA with increase in mine lease area from 919.69 ha to 1120.48 ha. The said proposal is for grant of EC with a production capacity of 2.5MTPA with increase in mine lease area from 919.69 ha to 1120.48 ha.
- viii. Project has been applied for EC under EIA Notification, 2006.
- ix. Total mining lease area as per block allotment is 1120.48 ha. The present proposal is for EC with production capacity of 2.5MTPA with increase in land area 919.69 ha to 1120.48 ha. The Mining Plan along with mine closure plan for Sasti OC was approved by competent authority (i.e. WCL Board) for production capacity of 2.5MTPA with increase in mine lease area from 919.69 ha to 1120.48 ha area in its 345th meeting held on 19.09.2022 and communicated vide resolution no. WCL/Office of CS/BM-345/2022-23/499 dated 27.09.2022.
- x. The land usage pattern of the project is as follows:
Pre-Mining

Sl. No.	Type of Land	Area (in Ha)
1	Tenancy land	1085.98
2	Forest land	0.00
3	Govt. land	34.50
	Total	1120.48

Post Mining

Sl. No.	Land use during mining	Land use (ha)				
		Plantation	Water Body	Public use	Undisturbed	Total
1	External OB Dump	149.54	-	-	-	149.54
2	Top Soil Dump	52.98	-	-	-	52.98
3	Excavation	275.89	268.90	-	-	544.79
4	Roads	5.00	-	15.00	-	20.00
5	Built up area (Infrastructure)	20.00	-	39.52	-	59.52
6	Undisturbed Area	172.00	-	-	67.25	239.25
7	Embankment around quarry	10.00	-	27.80	-	37.80
8	Outside ML Area	1.00	-	15.60	-	16.60
	Total	686.41	268.90	97.92	67.25	1120.48

- xi. Total geological reserve reported in the mine lease area is 117.31 MT with 25.39 MT mineable reserve. Out of total mineable reserve of 25.39 MT, 24.12 MT are available for extraction. Percent of extraction is 95%.
- xii. One composite seams with thickness ranging from 6.34m to 19.05m are workable. Declared Grade of coal is G9 stripping ratio 1:9.47 m³/t, while gradient is 1 in 7.4 to 1 in 18.
- xiii. Method of mining operations envisages by opencast with surface miner- an ecofriendly technology.
- xiv. Life of mine is 11 years.
- xv. The project has 7 external OB dumps in an area of 202.52 ha with 60 m max. height and 46.85 Mm³ of OB. 1 internal OB in an area of 275.89 ha with 90m height and 171.54 Mm³ of OB is envisaged in the project.
- xvi. Total quarry area is 544.79 ha out of which backfilling will be done in 275.89 ha while final mine void will be created in an area of 268.90 ha with a depth of 200 m. Backfilled quarry area of shall be reclaimed with plantation after completion of entire mining operation. Total plantation at post mining would be 686.41 ha. Final mine void will be converted to water body.
- xvii. Transportation of coal has been proposed by dumpers in mine pithead, from surface to siding by trucks and at sidings by railways. Proposed change in transportation means are as follows:
New railway siding will be constructed within existing ML area. About 2.5 km of new railway track will be required to lay upto new siding from main line. Trucks will dump coal on the elevated platform to create stock along the railway siding. Coal from the stock will be loaded into railway wagons with the help of pay loaders/front end loaders.
- xviii. Reclamation Plan in an area of 686.41 ha, comprising of 202.52 ha of external dump, and 275.89ha in internal dump. In addition to this, an area of 36 ha, included in the undisturbed area/ built up area/ township/embankment area, and also 172.0 ha has been proposed for green belt development. Plantation on External dump will be carried out when the dump reaches the stipulated height as per Mining Plan and physical reclamation is completed.
- xix. There is no forestland has been reported to be involved in the project.
- xx. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- xxi. There are Four Schedule-I species recorded in the study area namely Tiger, Sloth Bear, Leopard and wild dog. The conservation plan with capital outlay of 1.59 Crore is proposed on conservation measures.
- xxii. The ground water level varying in core and buffer zone has been deliberated in the table below-

	Ground water level (m)	
	Pre-Monsoon	Post-Monsoon
Core zone	6.60m to 8.60 m	3.90m to 6.48m
Buffer zone	2.32 to 12.50 m	0.98 m to 9.83 m

Total water requirement for industrial purposes is 620 KLD and 474 KLD for residential requirement.

- xxiii. The project has been granted NOC for ground water abstraction by CGWA vide NOC no CGWA/NOC/MIN/ORIG/2021/12462 dated 03.08.2021 and valid upto 02.08.2023.

- xxiv. In compliance with the ToR condition 40 regarding Public Hearing: Date and Venue of Public Hearing: Public Hearing has been successfully conducted on 16.03.2023 by Maharashtra Pollution Control Board at at Manoranjan Kendra, WCL, Sasti Colony, Village Dhoptala, Tehsil – Rajura, District Chandrapur, Maharashtra.
- xxv. Major issues raised in the public hearing include Employment, CSR, land acquisition, Environment Pollution etc.
- xxvi. Issues raised during Public Hearing and assurance given along with the financial provisions and action plan by the project proponent has been attached in a tabular form.

Sl.No	Particulars	Location (Name of School /Village/Area)	FY 2022-23	FY 2023-24
			(In Lakhs)	(In Lakhs)
1	Infrastructure creation for Drinking Water supply	Goyegaon		3
		Rampur	5.32	
		Mathra	5.99	
		Dhidsi	5.99	
2	Sanitation	Ballarpur Area	1.5	
		Nearby Villages		6
3	Education	Manoli	0.58	
		Chincholi		7
		Gauri		5
		Chunala		30
4	Skill Development	Ballarpur Area		
11	Soil moisture conservation works			
12	Avenue plantation			2
14	Infrastructure	Chincholi		
		Mathra		20
		Gouri	0.68	
15	Health	Balarpur area	2	
		Sasti	0.17	5
		Sakhari		
		Mathra		4
		Gauri		4
		Nearby Villages		2
16	Art, Culture & Sports	Ballarpur Area	3	
	Total		25.23	88

- xxvii. A total provision of Rs.100 lakhs has been envisaged in the capital expenditure for compliance of issue raised during Public Hearing etc and will be implemented as per the assurances given by PP during Public hearing.
- xxviii. Consent to Operate for the existing capacity of 2.5 MTPA was obtained from the State PCB on 27.02.2023 valid upto 31.12.2023.

- xxix. Gauri Nallah and Sasti (Shivnal) Nallah flows through the project area and Sakhari nallah flows along the mine boundary of the project. In the coal conservation point of view, 2.60 km and 2.70 km diversion of Gauri nallah and Sasti (Shivnal) nalla is proposed in the proposal respectively. There is also proposal for widening of sakhari nallah for 1.50 km.
- xxx. Baseline Data monitoring has been carried out from 1 October to 31 December 2020. 12 nos. of sampling location monitored during the Baseline Study. All the parameters have been found to be within the permissible limits. Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to MPCB and also to MoEF&CC along with half yearly EC compliance report.
- xxxi. No court cases, violation cases are pending against the project of the PP.
- xxxii. The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine was started from the year 1985-86 onwards. Excess production from the mine was realized from 1994-95 to 2004-05 w.r.t. the EC granted on 3rd April, 1989 for production capacity of 1.0 MTPA. Subsequently, the application under post facto clearance for expansion in production capacity from 1.00 MTPA to 1.60 MTPA was submitted to MoEF&CC in 2004. The Environment clearance was issued on 19th May 2005 for production capacity of 1.60 MTPA after deliberation in EAC meetings. No excess production of coal from the sanctioned capacity has been realized since grant of EC in 2005-06. The project was subsequently submitted again for expansion in production capacity from 1.60 MTPA to 2.50 MTPA and EC for expansion capacity was granted on 17 May 2007. The coal production, realized from the project, from start of mining operations is as under:

Year	EC capacity (MTPA)	Actual Production (MTPA)	Excess production (MTPA)
1985-86	-	-	-
1986-87	-	0.05	-
1987-88	-	0.40	-
1988-89	-	0.75	-
1989-90	1.00	1.25	-
1990-91	1.00	1.47	-
1991-92	1.00	1.91	-
1992-93	1.00	1.80	-
1993-94	1.00	1.76	-
1994-95	1.00	1.86	0.86
1995-96	1.00	2.02	1.02
1996-97	1.00	1.91	0.91
1997-98	1.00	1.80	0.80
1998-99	1.00	1.20	0.20
1999-00	1.00	1.42	0.42
2000-01	1.00	1.41	0.41
2001-02	1.00	1.29	0.29
2002-03	1.00	1.41	0.41

2003-04	1.00	1.42	0.42
2004-05	1.00	1.41	0.41
2005-06	1.60	1.51	Nil
2006-07	1.60	1.46	Nil
2007-08	2.50	1.46	Nil
2008-09	2.50	1.67	Nil
2009-10	2.50	1.70	Nil
2010-11	2.50	1.59	Nil
2011-12	2.50	1.64	Nil
2012-13	2.50	1.55	Nil
2013-14	2.50	1.58	Nil
2014-15	2.50	1.74	Nil
2015-16	2.50	1.73	Nil
2016-17	2.50	1.61	Nil
2017-18	2.50	1.56	Nil
2018-19	2.50	1.62	Nil
2019-20	2.50	1.68	Nil
2020-21	2.50	1.79	Nil
2021-22	2.50	1.35	Nil
2022-23	2.50	2.45	Nil

- xxxiii. Project does not involve resettlement of the any villages.
- xxxiv. Total cost of the project is Rs. 37159.29 Lakhs. Cost of production is Rs.1544.06 per tonne., CSR cost is Rs. 2 per tonne, and no R&R cost as no village rehabilitation is proposed. Environment Management Cost -Capital Rs.1250.06 Lakh & Recurring cost is ₹6/tonne of coal production
- xxxv. Consent to Operate for the existing capacity of 2.5 MTPA was obtained from the State PCB on 27.02.2023 valid upto 31.12.2023.

47.1.3 Committee during the EAC meeting observed the following:

- i. The existing Sasti OC mine has been granted environment clearance by MoEF& CC vide ref no. J-11015/435/2006-IA.II (M) Dt. 17.05.2007 for production capacity of 2.50 Mty within land area of 919.69 ha
- ii. In the approved Sasti Expansion OC mine, about 11.70 ha land is proposed to be transferred from Dhuptala OC mine to Sasti OC mine. The Committee observed that necessary amendment may be done by PP for Dhuptala if its altered. Also, there is 16.6 ha area to be used for public use which is out of mine lease area and is a part of project area.
- iii. MoEF&CC has issued the ToR to this project vide letter No. J-11015/435/2006-IA.II (M) dated 02.01.2021.
- iv. Life of mine is 11 years.
- v. Mining plan was approved by WCL Board vide WCL/Office of CS/BM-345/2022-23/499 dated 27.09.2022 for 2.5 MTPA in ML area of 1120.48 ha.
- vi. PP has proposed diversion of Gauri & Sasti Nallah and widening of Sakhari Nallah.

- vii. NOC from CGWA has been obtained vide letter no. CGWA/NOC/MIN/ORIG/2021/ 12462 dated 03.08.2021 and valid upto 02.08.2023.
- viii. CTO for production capacity of 2.5 MTPA vide dated 27.02.2023 and valid upto 31.12.2023.
- ix. Gauri Nallah diversion and Sakhari Nallah widening has been prepared by CDO Nashik, Water Resource Department, Government of Maharashtra vide technical note no CDO/DAM/ED-2/26/2016, dated 29.04.2016.
- x. About 2.5 km of new railway track required to lay upto new siding from main line and a new railway siding will be constructed within existing ML area.
- xi. NOC for Gauri Nallah diversion has been made to Irrigation Department, Chandrapur by Project officials vide ref no WCL/BA/SAM/SSA/2022-23/1319 dated 17.07.2022. The Nallah will be diverted after obtaining due permission of Irrigation Department.
- xii. The maximum PM10 concentration of 110 µg/m³ was observed in the core zone. While within buffer zone the maximum PM10 concentration of 84.0 µg/m³.
- xiii. The meteorological data and ambient air quality data has been collected from October 2020 to December 2020 at production capacity of 1.46 MTPA. The Air quality modelling has been done on incremental production of 1.04 MTPA (2.50 MTPA – 1.46 MTPA).
- xiv. **Rs. 736.37 lakhs** of capital budget has been proposed for existing and additional air pollution control measures:

Particular/Location	Existing Mitigation Measures	Mitigation Measures proposed	Capital Provision made (in Lakhs)
Mobile Water Sprinklers along Haul road, Coal stockyard, Weigh bridge, Coal transportation road	Total 5 mobile water sprinklers are deployed 2 nos of 28 KL – Departmental and 2 nos of 28 KL capacity-HOE contractor. 1 nos. hired 16KL capacity	Provision for 2 Nos of 28 KL Mobile Water Sprinklers is made (Replacement) Hiring of mobile water sprinklers will be continued in future also.	408.26
Fixed Water Sprinklers along Haul road, Coal stockyard, Weigh bridge, Coal transportation road	29 Nos of Fixed Sprinklers Provided	Provision made for Additional Fixed Sprinklers covering 5 kms of transportation route	80.00
Road Sweeping Machine	-	It is proposed to introduce road sweeping machine for removal of dust from coal transportation route	43.11

Fogging Machine	-	For suppression of dust, fogging machine is proposed in the mine	60.00
Greenbelt	5.15 lakhs nos of trees has been planted with as part of greenbelt and reclamation.	The greenbelt in the dip side along the area of expansion will be developed.	70.00
Continuous Ambient Air Quality Monitoring Station	1 nos of CAAQMS has been installed in nearby mine Pauni-II Expansion OC.	1 nos of CAAQMS is proposed to installed for Sasti Expansion OC Mine.	75.00
Total			Rs. 736.37

xv. **Rs. 125 Lakhs** has been proposed for mitigation of water pollution are as follows:

Particular	Existing Control Measure	Proposed Control Measure	Capital provision made in approved Expansion Project Report (in Lakhs)
Workshop Effluent waste-water	A ETP of 150 KL is in operations at existing Sasti OC.	Capital provision of 25.0 Lakhs has been made for repair/upgradation of ETP in the approved Project Report.	25.00
Mine Water	A sedimentation tank is in operation in existing Sasti OC.	Capital provision of 25.00 Lakhs has been made for the additional sedimentation tank.	25.00
Sewage Treatment Plant	1 MLD Sewage Treatment Plan is in operation at Sasti Township.	Provision of 75 Lakhs has been made for repair/upgradation of existing 1 MLD STP.	75.00
Total Capital Provision Made (Additional)			125.00

xvi. Schedule I species has been found in the study area such as Sloth bear, Leopard, Tiger, Indian Peafowl and Wild dog. Conservation plan has been prepared with the budget of 1.59 Crore on conservation measures.

xvii. **Rs. 13800 Lakhs** will be used for mine closure activities such as:

Sl. No.	Activity	Weighted % of Mine Closure Cost			Mine Closure Amount (₹. in Lakhs)
		Progressive	Final	Average	
A	Dismantling of structure	0.00	8.50	4.25	586.52
B	Safety & Security	6.50	3.20	4.85	669.32
C	OB Dumping Reclamation				
C.1	Technical Reclamation	60.50	60.50	60.50	8349.29
C.2	Biological Reclamation & Plantation	15.00	11.70	13.35	1842.36

D	Landscaping of the open space in leasehold area for improving its aesthetic. Drain, pipe lines, peripheral road, gates, View points, cemented steps on bank	4.00	5.50	4.75	655.52
	Development of Agriculture Land				
E	Environment Mitigation and Manpower	12.00	1.50	6.75	931.53
F	Post Closure Monitoring	0.00	3.20	1.60	220.81
G	Entrepreneurship Development (Vocational/Skill development training for sustainable income of affected people)	1.00	0.50	0.75	103.50
H	Miscellaneous & Other measures like Golden Handshake, one time financial grant, alternative jobs, other services etc.	1.00	5.40	3.20	441.62
	TOTAL	100	100	100	13800.48

xviii. **Rs. 1250 Lakhs** have been proposed w.r.t. Environmental Management as follows:

Sl. No.	Particulars	Amount (Rs. Lakhs)	Timeline
1	Sedimentation Pond upgradation for Treatment of Mine Waste water	25	2023-24
2	Effluent Treatment Plant upgradation for treatment of Workshop Effluent	25	2023-24
3	Base Line Environment Data Generation	15	Generated
4	Fogging machines for Dust control measures.	60	2023-24
5	Digital Mapping for Land Use Plan	15	Completed
6	Continuous Ambient Air Quality Monitoring Station (CAAQMS)	75	2023-24
7	Sewarage Treatment Plant	75	2024-25
8	Installation of fixed type sprinklers on haul roads, transportation of coal route, CHP loading & unloading points and other dust generation sources etc.	80	2022-24
9	10-30m of three tier plantations for green belt along mine boundary for approx 14.00 km to control air pollution	70	2022-25
10	Health check-up for Occupational diseases as per EC Condition	30	Continued
11	Scientific Studies	15	2023-24
12	Installation of Piezometers with telemetry	25	2022-23
13	Fund for Wild Life Conservation	100	2023-24

14	Provision for Compliance of issue raised during Public Hearing etc	100	2022-25
15	Misc. Provisions for fulfillment of statutory requirements under environment clearance, CTE, CTO, ground water clearance or as per directives of SPCB/MoEF&CC.	67.51	2022-26
Appendix – A.3.1 of Project Report			
16	2 nos of 28 KL Mobile Water Sprinklers with mist spray (Replacement)	408.26	2024-25
17	Road Sweeping Machine	43.11	2023-24
Appendix – A.3.2 of Project Report			
18	Energy Conservation	21.18	Continued
	Total	1250.06	

- xix. Public Hearing was conducted on 16.03.2023 for the production capacity of 2.50 MTPA in the ML area of 1120.48 ha. Budget of Rs.100 lakhs has been proposed as capital expenditure for compliance of issue raised during Public Hearing and their action plan has been mentioned below:

Sl. No.	Particulars	Location (Name of School /Village/Area)	FY 2022-23	FY 2023-24
			(In Lakhs)	(In Lakhs)
1	Infrastructure creation for Drinking Water supply	Goyegaon		3
		Rampur	5.32	
		Mathra	5.99	
		Dhidsi	5.99	
2	Sanitation	Ballarpur Area	1.5	
		Nearby Villages		6
3	Education	Manoli	0.58	
		Chincholi		7
		Gauri		5
		Chunala		30
4	Skill Development	Ballarpur Area		
12	Avenue plantation			2
14	Infrastructure	Chincholi		
		Mathra		20
		Gouri	0.68	
15	Health	Balarpur area	2	
		Sasti	0.17	5

		Sakhari		
		Mathra		4
		Gauri		4
		Nearby Villages		2
16	Art, Culture & Sports	Ballarpur Area	3	
	Total		25.23	88

xx. Further, the PP vide letter dated 25.07.2023 submitted that the SILO will be operational before March 2026.

xxi. PP also submitted the revised budget of **Rs. 1341.37 Lakh** for implementing the additional mitigation measures such as:

Particular/Location	Existing Mitigation Measures	Mitigation Measures proposed and presented in 47 EAC	Capital Provision made (in Lakhs)	Modification in Mitigation Measures as directed in 47 EAC	Modified Capital Provision made (in Lakhs)
Mobile Water Sprinklers along Haul road, Coal stockyard, Weigh bridge, Coal transportation road	Presently 05 Nos. of Mobile Water Tankers are provided for dust suppression	Provision for 2 Nos of 28 KL Mobile Water Sprinklers is made (Replacement) Hiring of mobile water sprinklers will be continued in future also.	408.26	a) 3 Nos- 28 KL: In the mine for controlling dust in and around the project. b) 2 Nos- 16 KL : From Sasti mine to Mathra village turning (i.e 3 km road patch of coal transportation route)	608.26
Fixed Water Sprinklers along Haul road, Coal stockyard, Weigh bridge, Coal transportation road	35 Nos of Fixed Sprinklers Provided	Provision made for Additional Fixed Sprinklers and Fogging Machine	80.00	Provision made for Additional Fixed Sprinklers a) covering remaining 3 kms of coal transporta2on route from mine to Gouri deep siding – 75 nos with 15 meters of throw	150

				<p>b) Covering coal stock yard of Sasti Expansion OCM with 20 sprinklers</p> <p>c) Installation of Rain guns at Gauri Deep railway siding - 16 nos.</p>	
Road Sweeping Machine	To be provided	It is proposed to introduce road sweeping machine for removal of dust from coal transportation route	43.11	a) 1 no proposed for Sasti Expansion OC Project.	43.11
				b) Additional 4 nos in neighboring mines. One no. bromming machine in Gauri deep, Pauni II, Gauri Pauni, Ballarpur OC	80.00
Fogging Machine	To be provided	For suppression of dust, fogging machine is proposed in the mine	60.00	7 no's of trolley mounted fogger with 100 m throw.	70.00
Greenbelt	Area not less than 500 ha and around 2500 plants per ha	The greenbelt in the dip side along the area of expansion will be developed.	70.00	Covering 6 kms of coal transportation route from mine to Gauri deep siding – approx. 5000 no's bamboo plantation and also inside mine lease area along	70.00

				the embankment, OB dumps etc	
Continuous Ambient Air Quality Monitoring Station	1 nos of CAAQMS has been installed in nearby mine Pauni-II Expansion OC.	1 nos of CAAQMS is proposed to be installed for Sas2 Expansion OC Mine.	75.00	1 no of CAAQMS is proposed to be installed for Sasti Expansion OC Mine.	75.00
Dust Barrier				Dust Barrier along the coal transportation road to protect Goyegaon village of 12 feet height for 750 m patch on initial basis.	75.00
				Wind barrier is under final stage of completion of height aprox. 18 feet. Along the railway track (1km length) to control dust pollution.	170.00
Total Capital Provision made in Project Report			736.37		1341.37

xxii. CCR has been obtained from IRO, MoEF&CC, Nagpur vide F No. 3-15/2008 (ENV)/10978 dated 13.01.2023.

xxiii. It was noted that in the interim period till construction of railway siding within ML area of Sasti OC, a railway siding at Gauri Deep OC (Distance – 6.2 kms) is proposed to be constructed. This railway siding is likely to be operationalized by August, 2023. It is proposed to install wind barrier system and rain guns for pollution control mitigation measures at Gauri Deep Railway siding with capital of 282.0 Lakhs. New railway siding will be constructed in western side of the proposed quarry beyond fault F8-F8 within existing ML area. The New Railway Siding within ML area of Sasti OC will be operationalized by March, 2026.

47.1.4 *The EAC after deliberations noted that the instant proposal is for environmental clearance w.r.t. increase in Mine lease area from 919.69 ha to 1120.48 ha, keeping same production capacity of 2.5 MTPA. In the instant proposal, ToR was issued on 02.01.2021 followed by public hearing on 16.03.2023. As per the earlier EC, the mining shall have to be carried out at a safe distance from Gouri Nallah/Wardha River flowing very close to the lease boundary and part of the river passing through the mine lease area. The Committee emphasized to maintain safe distance of 100 m from the Nallah/river. The committee emphasized not to divert the river/nallah flowing within the mine lease area or in adjacent part and strengthen the riverside with bund/embankments on both the side.*

Since coal field and its block shares number of mines, which are operating back to back and impacting catchment area of entire zone, therefore, EAC desired to conduct hydraulic study of catchment contributing flow into the river. The catchment study shall be conducted before the proposal of diversion of streams. The committee advised the project proponent not to directly pump out the seeped ground water from the mine to nallah/river directly, seepage water has to pass through ETP and after treating it utilize for the mine purpose

The Committee advised PP to deploy truck size of 40 tonne (payload) for the transportation of coal through road till commissioning of SILO with rapid loading system on or before December 2025. Any type of mining related activities (including transportation) near to the village/sensitive areas shall be prevented from barrier (either permanent/temporary) along with dedicated sprinkling systems within the mine lease area (near to haul road, stockyard, transportation route etc.) in order to arrest the dust coming out from the mining activity.

EAC observed that PP has submitted Wildlife Conservation Plan for schedule I species such as Tiger, Leopard, Peacock etc. However, there is slight mismatch in the distance of Tiger Corridor i.e. 20 km away from project in Conservation Plan and 15.5 km in Mine Plan. It was desired that no coal transportation shall be conducted through any corridors/movement of Wildlife area.

Further, it was observed that PP is joining the area of Dhuptala OCP in this instant mine and as per approved Mine Plan, PP is taking ToR for expansion of Dhuptala OCP mine separately.

The Committee emphasized to install the Continuous air quality system at appropriate location and online data shall be shared with the SPCB as well as CPCB. Further committee has highlighted that the instant mines have high stripping ratio, therefore the PP shall implement the mine plan effectively in order to manage the OB dump.

As per the compliance report of IRO dated 13.01.2023, the committee noted that apart from untimely implementation of mechanized system, PP yet to enlarge the tree plantation. which is currently only on 169 ha. The committee emphasized for plantation not less than 575ha as per their submission. PP has to address and implementation the commitment suggestions/objections raised during the public hearing with outlay of Rs.113.23 lakhs within 2 years. PP has submitted the letter

by SPCB dated 24.00.2022 vide which the aforesaid mine is reported to be out of CPA.

Based on the above, EAC **recommended** the proposal for grant of Environmental Clearance for expansion of Sasti OCP for increase in ML area from 919.69 ha to 1120.48 ha with production capacity of 2.50 MTPA by M/s Western Coalfields Limited located in Village Sasti & Mathra, Tehsil Rajura, District Chandrapur (Maharashtra), under EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:

- i. PP shall conduct comprehensive hydraulic and drainage study of catchment area to assess the impact the Wardha river within a year and submit the report to IRO.
- ii. PP shall submit the proof of submission of Wildlife Conservation Plan for schedule I species to IRO and further deposit the allocated amount within six months.
- iii. PP shall carry out the mining activity at a safe distance of 100m from Gauri Nallah/ Wardha River flowing through mine lease area or adjacent to the lease area. In any circumstances, PP shall not divert any streams flowing within/adjacent to the mine lease area till no comprehensive study as stated above is done.
- iv. PP needs to extract the seepage ground water from the mine and treat it through ETP so that the water can be further utilize in the Mine as well for the local villagers.
- v. PP shall implement dedicated in-pit conveyor belt with silo loading system till railway siding on or before December, 2025. Accordingly, SPCB may grant CTO to strictly comply this condition.
- vi. The truck size of 40 tonne (payload) for the transportation of coal through dedicated road till commissioning of SILO with rapid loading system on or before December, 2025 accordingly SPCB may issue the CTO.
- vii. PP has to resolve suggestions/objections raised during the public hearing along with implement activities-wise proposed budget of Rs. 113.33 Lakhs (as Public Hearing Budget), Rs. 1250 Lakhs (as EMP cost) in time bound manner as per s.no. (xvi) & (xvii) of para 46.1.3 of MoM. 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 online monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, which will be part of CSR budget.
- viii. PP has to implement Rs. 736.37 lakhs of capital budget further revised it upto Rs. 1341.37 lakh for implementing additional air pollution control measures, Rs. 125 lakhs for mitigation of water pollution in time bound manner as per s.no. (xiii) & (xix) of para 46.1.3 of MoM. It shall be monitored by IRO, MoEF&CC.
- ix. Install dust barrier (made up of natural fibre) with automatic fixed type sprinkling system across the village area/sensitive area.
- x. 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.
- xi. Implement the integrated transportation system with Dhuptala OC mine locating near to the existing mine owned by M/s Western Coalfields limited.

- xii. *PP shall install additional Continuous air quality system at different locations near to village area and share online data with SPCB as well as with CPCB.*
- xiii. *Afforestation activity shall cover area not less than 600 ha, including reclaimed external OB dump, backfilled area, along ML boundary, along roads & infrastructure, township area. The density of the trees should be around 2500 plants per ha.*
- xiv. *PP shall conduct special drive for villages such as Sasti, Gauri, Pauni and other nearby villages for air pollution mitigation measures and no coal storage yard, OB dump shall be dumped near to the villages.*
- xv. *Water storage ponds shall be constructed of appropriate depth in nearby village in collaboration with Gram Panchayat*
- xvi. *PP shall increase the bed capacity of the existing Hospital from 25 to 50 bedded at Sasti Township and allow local villager to avail the hospital facility. Quarterly health check- up campaign shall be conducted in all the villages located in 10 km buffer area.*
- xvii. *PP shall construct 25-sitter digital library in each village including the daily newspaper facility.*
- xviii. *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.**”*
- xix. *PP shall conduct third party audit of compliance of EC condition at an interval six months and its report shall be submitted to IRO, MoEF&CC.*
- xx. *The status of mine closure activities must be included in every six months compliance report submitted to the state pollution control board and IRO.*
- xxi. *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.*
- 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. *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*
- 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 deploy atleast 20% of overall fleet of dumpers/trucks/other vehicles as electrical or CNG/LNG based for transportation of coal/OB etc.*

Agenda No. 47.2

Expansion of Gangaramchak & Gangaramchak - Bhadulia Opencast Coal Mine from production capacity of 1.2 MTPA to 3.0 MTPA with total project area of 186.42 ha by M/s The West Bengal Power Development Corporation Limited located at village Bastabpur, Tehsil Khoyrasole, District Birbhum (West Bengal) - For Environmental Clearance – reg.

[Online Proposal No. IA/WB/CMIN/433704/2023; File No. J-11015/375/2006-IA-II (M)]

47.2.1 The proposal is for Environmental Clearance for expansion of Gangaramchak & Gangaramchak - Bhadulia Opencast Coal Mine from production capacity of 1.2 to 3.0 MTPA with total project area of 186.42 ha by M/s The West Bengal Power Development Corporation Limited located at village Bastabpur, Tehsil Khoyrasole, District Birbhum (West Bengal).

47.2.2 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 No.73M/1 and is bounded by the geographical coordinates ranging from 23° 48' 20.812" N to 23° 49' 28.016" N and longitudes 87° 12' 20.292" E to 87° 13' 52.172" E.
- (ii) Coal linkage of the project is proposed for coal use for various thermal power plants.
- (iii) Joint venture cartel has not 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) Employment generation, direct employment to 380 Persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of economical benefits to the state by the way of Royalty from minerals and to the local people by way of direct and secondary employment opportunities.
- (vii) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006, vide Ministry's letter No J-11015/375/2006/IA-II(M) dated 27.12.2022 for 1.2 MTPA in mine lease area of 186.42 ha.
- (viii) Terms of Reference granted on 29.11.2022 vide letter no.- J-11015/375/2006-IA-II(M) and amended on 01.06.2023 (for EC proposals)
- (ix) Total mining lease area as per block allotment is 186.42ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Coal Controller Organization, Ministry of Coal, Govt. of India on 16th Nov, 2022.
- (x) 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	Total
1	Agricultural Land	18.42	18.42
2	Forest land	101.77	101.77
3	Surface Water Bodies, Road	1.65	1.65
4	Barren Land	64.58	64.58

	Total Project Area =	186.42	186.42
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Post Mining

Type	Land Use (Proposed)	Land Use (End of life)	Land Use (Post Closure)						Total
			Agriculture Land	Plantation	Water Body	Public Use	Forest Land	Undisturbed	
Excavation Area	141.90	--	--	--	--	--	--	--	--
Backfilled Area	--	127.9	--	35.90	--	--	92	--	127.9
Excavated Void	--	14.0	--	--	10.0	--	4.0	--	14.0
Top Soil Dump	5.8	5.8	--	5.8	--	--	--	--	5.8
External Dump	12.78	12.78	--	12.78	--	--	--	--	12.78
Safety Zone	8.01	8.01	--	2.24	--	--	5.77	--	8.01
Road & Infrastructure	2.24	2.24	--	--	--	2.24	--	--	2.24
Garland Drain	1.44	1.44	--	--	--	1.44	--	--	1.44
Undisturbed	14.25	14.25	--	--	--	--	--	14.25	14.25
Total	186.42	186.42	---	56.72	10.0	3.66	101.77	14.25	186.42

- (xi) Total geological reserve reported in the mine lease area is 10.58 MT with 9.15 MT mineable reserves. Out of total mineable reserve of 9.15 MT, 9.15 MT are available for extraction. Percent of extraction is 86.48 %.
- (xii) One seam with thickness ranging from 0.95 - 8.90 m is workable. Grade of coal is G11, stripping ratio is 5.2297 (in m³ /te), while gradient is 426 Degree.
- (xiii) Method of mining operations envisages by opencast mining method.
- (xiv) Life of mine is 3 years.
- (xv) The project has one external OB dumps in an area of 12.78 ha.
- (xvi) Total quarry area is 141.92 Ha out of which backfilling will be done in 127.92ha while final mine void will be created in an area of 14.0 ha with a depth of 90m. Backfilled quarry area of 127.9 ha shall be reclaimed with plantation. Final mine void will be converted water body.

- (xvii) Transportation of coal has been proposed by in mine pit head, from surface to siding by road and at sidings by rail.
- (xviii) Reclamation Plan in an area of 186.42 ha, comprising of 12.78 ha of external dump, 5.8Ha of top soil dump and 14.0ha of excavated void. In addition to this, an area of 8.01ha, included in the safety zone/rationalization area, has also been proposed for green belt development.
- (xix) 101.77 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 101.77ha of forest land for non-forestry purposes has been obtained vide MoEF&CC F.No.8-45/2018-FC dated 29th Oct, 2020.
- (xx) Please mention any National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project - NO
- (xxi) No mammals, amphibians, reptiles, and avian fauna found during the study period doesn't come under the **Schedule-I category** as per Wildlife Protection Act, 1972
- (xxii) The ground water level has been reported to be varying between 15.60m to 17.75m during pre-monsoon and between 13.85m to 15.50m during post-monsoon. Total water requirement for the project is 150 KLD.
- (xxiii) Application for obtaining the approval of the Central Ground Water Authority for 1200 m³/hr has been submitted on 30.06.2016.
- (xxiv) Public hearing for the project of 3.0 MTPA capacity in an area of 186.42ha was conducted on 06.02.2023 at 12.00 Noon, under the Chairmanship of IAS, ADM (Gen.). Major issues raised in the public hearing including appropriate action plan has been attached in **Annexure-II**.
- (xxv) Commitment made by the Project Proponent to address the Public Hearing concerns in lieu of Corporate Environment Responsibility (CER) to be mentioned in the following table:

S. No.	Particulars	Year-1 (in lakhs)	Year-2 (in lakhs)	Year-3 (in lakhs)	Annual Cost (Rs in lakhs)
1.	Assist in Yearly Maintenance of Electricity in nearby villages	5.0	5.0	5.0	15.0
2.	Cost of Supply of drinking water with 2 more tankers along with existing 4 tankers	8.0	8.0	8.0	21.0
3	Construction of road to Sagarbhanga village, repairing of Chanditala to Bhadulia road and annual maintenance of these two roads	80.0	10.0	10.0	100.0
4	Delisting of two ponds annually in the nearby villages	5.0	5.0	5.0	15.0
5	Supply of study materials & sports equipments to two schools of the locality every year	4.0	4.0	4.0	12.0
6	Construction and maintenance of	5.0	1.0	1.0	7.0

	football field in Bhadulia village				
7	Deployment of one more tanker along with 2 existing for water sprinkling to minimize dust pollution	15.0	12.0	12.0	39.0
	Total	122	45	45	209

- (xxvi) Hearing have already been taken/proposed to be taken are as under:
- (xxvii) Consent to Operate for the existing capacity was obtained from the State PCB on. 30.07.2021 and is valid till 31.07.2026.
- (xxviii) Hingla River is flowing boundary of lease. The river will not be diverted.
- (xxix) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to SPCB, West Bengal and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- (xxx) No court cases, violation cases are pending against the project of the PP.
- (xxxii) 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 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations.
- (xxxiii) The project doesn't involve any project affected families.
- (xxxiii) Total cost of the project is Rs. 111.5 crore. Cost of CSR is Rs.100 lakh, Capital cost is Rs 278 lakhs & Recurring cost is Rs 77 lakhs.
- (xxxiv) Consent to operate (CTO) was obtained from the State Pollution Control Board on 30.07.2021 and is valid till 31.07.2026.
- (xxxv) Past Production details comparison with existing EC –
- M/s Bengal Emta Coal Mines Ltd. has obtained EC for production of 1 million TPA coal from MoEF vide letter no.- J-11015/375/2006-IA-II. (M), dated 17th May, 2007 and subsequently EC was transferred to M/s West Bengal Power Development Corporation Ltd. (WBPDC) on 20th Dec., 2018.
 - The Mines has obtained EC in favour of the project for capacity expansion of 1.20 MTPA on 27.12.2022 as 1st Stage of the OM dated 11.04.2022.
- (xxxvi) Environmental Baseline data was generated in the Summer season from From- 01/03/2022 to 31/05/2022 (Summer Season) at 8 locations. The result indicates that the maximum and minimum values are 50.12 to 90.58 $\mu\text{g}/\text{m}^3$ for PM10, 22.62 to 58.13 $\mu\text{g}/\text{m}^3$ for PM2.5. The SO₂ concentrations are in the range of 4.31 to 9.81 and NO_x in the range of 9.18 to 18.15 $\mu\text{g}/\text{m}^3$.
- The incremental increase is projected to be 17.33 $\mu\text{g}/\text{m}^3$ for PM10, 7.26 $\mu\text{g}/\text{m}^3$ for PM2.5. The value of total GLC is estimated to be 105.02 $\mu\text{g}/\text{m}^3$ for PM10, 64.62 $\mu\text{g}/\text{m}^3$ for PM2.5. The observed pollutant levels are compared with CPCB National Ambient Air Quality Standards.
- (xxxvii) Surface water Monitoring was done at 3 locations. The result indicates that the pH value in the

range of 7.24 to 7.8, dissolved oxygen in the range of 6.40 to 7.20 mg/l, total Arsenic found to be BDL (<0.01), total dissolved solids ranged 280 to 402 mg/l, total hardness in range of 110.0 to 172.0 mg/l. Surface water samples have Coli forms ranges between 123.6 to 267.8 MPN/100 ml and contaminated due to surface runoff entering these sources.

47.2.3 The committee during the EAC meeting observed the following:

- i. Original Environment Clearance Integrated Gangaramchak Gangaramchak-Badulia Coal Mine Project (1.0 MTPA) located at village Bastabpur, Tehsil Khoyrasole, District Birbhum, West Bengal was granted vide letter dated 17.05.2007. Later, the said EC was transferred to M/s The West Bengal Power Development Corporation Limited (WBPDCCL) vide letter dated 20.12.2018 for 1.00 MTPA in ML area of 186.42 ha. EC for expansion in Capacity under Ministry's OM dated 11.04.2022 was subsequently granted on 27.12.2022 from 1 MTPA to 1.2 MTPA in mine lease area of 186.42 ha.
- ii. Standard Terms of Reference was granted vide letter no. J-11015/375/2006-IA-II (M) dated 29.11.2022 and amended on 01.06.2023 for expansion of capacity from 1.2 MTPA to 3 MTPA.
- iii. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Coal Controller Organization, Ministry of Coal, Govt. of India on 16.11.2022.
- iv. Forest clearance for 101.77 Ha forest land involved in the ML area was obtained by WBPDCCL from MoEF&CC vide letter no 8-45/2018-FC dated 29.10.2018 (Stage I) & F.No-8-45/2018 dated 10.04.2019 (Stage II).
- v. Consent to operate (CTO) from the State Pollution Control Board have been obtained on 01.08.2021 and is valid till 31.07.2026.
- vi. No Schedule-I species have been found in the project area as per WPA, 1972.
- vii. NOC from CGWA is still pending for approval; application for withdrawal of 1200 m³/hr has been submitted on 30.06.2016.
- viii. Public Hearing/Consultation was conducted successfully on 06.02.2023 at 12.00 Noon in the meeting hall of Khayrasole Development Block, Dist.- Birbhum. This consultation was presided over by Smt. Nitu Shulka, IAS (Gen.), Birbhum & assisted by Sri A.K. Dey, In-charge, Durgapur Regional Office, WBPCB
- ix. Hingla River is flowing boundary of lease. The river will not be diverted.
- x. The road distance from mines to siding is 14.70 Km.
- xi. PP has submitted the Certified compliance report vide dated 27.06.2023. IRO Kolkata has informed that project was monitored by Shri Sujoy Dutta (Assistant Commissioner) and Shri Kaushik Mallick (Research Officer). However, as per Notification dated 20.09.2022 Technical Officer & Research Officer have not been authorized to enter the premises for inspection.
- xii. Proposed project falls under "Category B" as per the notification issued on 14th September 2006 by MOEF but due to close proximity of Jharkhand State Boundary, it is treated as Category 'A'.

47.2.4 *The EAC after deliberations noted that the instant proposal is for increase in production capacity from 1.2 to 3.0 MTPA within the ML area of 186.42 ha. The PP has completed the process of public hearing after obtaining ToR vide letter dated 29.11.2022 and amended on 01.06.2023. The committee observed that instant project is considered as Category A though the area of the project is*

less than 500 ha, since it is in the vicinity of interstate boundary. The committee observed that the PP had not submitted sufficient information with regard to the compliance of previous EC conditions such as preparedness of dedicated road for coal transportation, installation of fog cannon at defined location (at mine and railway siding), installation of CAAQMS, NOC from CGWA, installation of wind breaker/ shield arrangement along railway siding, development of eco-park in area of 5 ha, plantation on top soil still pending, and strengthening of environmental cell. ETP still in construction phase while it was earlier committed to complete by April 2023. The Catch drain/garland drain is still under construction.

Further, it was found that the Environmental measurements for one season baseline data is generated by M/s Noida Testing Laboratory, Noida for which necessary NOC for utilizing the baseline data for preparation of Draft EIA/EMP Report is obtained. PP shall provide undertaking to certify or validate the data from new consultant.

It was observed that since the life of mine is only 3 year, PP shall provide the status of activities wrt Mine Closure Plan. In CCR report, it has been mentioned EC condition of inpit conveyor belt and silo loading system is not economically feasible to implement since the life of the mine is only 3 years. It was desired that PP shall submit justifications and take amendment in EC condition (if required)

Public has raised certain issues during the Public hearing conducted on 06.02.2023 such as breakdown of electric poles during coal transportation, irregular supply of safe drinking water, poor road conditions, dust pollution from mining affects the crops and villagers, employment to local people, problem faced by school students for dust & sound and seepage of mine water into canals. These need to address adequately with budgetary provision.

PP shall submit the signed copy of corporate environment policy and details/structure of Environment Management Cell (with qualified Environment Engineer or Environment Science). It has been submitted in EIA report that Hydrogeological study has been carried out by Central Mining Research Institute, Dhanbad for Gangaramchak and Gangaramchak-Bhadulia coal mine project in the year of 2006, which needs to ratify by repute consultant as per current scenario.

It was observed that as per submission of PP, no scheduled I species is present as per Wildlife Protection Act (WPA), 1972. However as per W(P)Act-2022, some species like Jackal, Sambar, Wild Dog, Jungle Cat, striped hyena, Fox, Indian Cobra, King Cobra, Rat Snake, etc, were observed in the Study Area and listed under Schedule – I Category (as mentioned in EIA Report). PP in this connection needs to clarify or advised to submit the Wildlife conservation plan for certified species from State Forest Department with requisite budget as per WPA-2022.

In view of the above, the project proponent shall submit the following details for further compliance:

- (i) PP needs to submit the pointwise non-compliance of the previous EC conditions of the EC letter dated 17.05.2007 & 27.12.2022 and EC transfer dated 20.12.2018 with action plan in a time bound manner.*

- (ii) PP shall submit operational status of ETP.
- (iii) PP shall submit the time bound action plan upon the plantation of trees and submit the status of plantation on the inactive dump located outside the ML area.
- (iv) PP needs to submit the permission for the withdrawal of ground water from CGWA.
- (v) PP shall provide the copy of NOC regarding baseline for records and undertaking to certify and validate the data.
- (vi) PP shall provide the status of activities w.r.t approved Mine Closure Plan and further action plan for its closure.
- (vii) PP shall submit justifications for not implementing in-pit conveyor belt and silo loading system and take amendment in EC condition (if required)
- (viii) PP shall submit the signed copy of corporate environment policy and details/structure of Environment Management Cell (with qualified Environment Engineer or Environment Science)
- (ix) PP shall submit with certification of the latest Hydrogeological study in compliance of ToR for this expansion project.
- (x) PP to submit the clarification w.r.t. schedule 1 species and accordingly submit the Wildlife conservation plan for certified species to DFO with requisite budget as per WPA-2022

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

Agenda No. 47.3

Expansion of existing Wet Type Coal Washery Project based on Heavy Media Cyclone from 2.5 MTPA to 3 MTPA by M/s R.K. Transport & Constructions Ltd. at village Gorbi, Tehsil Chitrangi, District Singrauli, Madhya Pradesh - under para 7 (ii)(a) as per O.M. dated 11.04.2022 – For Environmental Clearance – reg.

[Online proposal IA/MP/CMIN/435826/2023; File No. IA-J-11015/21/2020-IA-II.(M)]

47.3.1 The proposal is for expansion of existing Wet Type Coal Washery Project based on Heavy Media Cyclone from 2.5 MTPA to 3 MTPA by M/s R.K. Transport & Constructions Ltd. at village Gorbi, Tehsil Chitrangi, District Singrauli, Madhya Pradesh under para 7 (ii)(a) of O.M. dated 11.04.2022.

47.3.2 The details of the project as submitted by Project Proponent.

- (i) Latitude and Longitude of the project: 24°12'24.82"N ; 82°37'8.78"E; 24°12'22.33"N ; 82°37'13.25"E ; 24°12'15.51"N ; 82°37'2.49"E ; 24°12'16.23"N ; 82°36'58.86"E
- (ii) Whether the project is in the Critically Polluted Area (CPA): No
- (iii) Cost of the project: 26 Crores (Existing 25 Cr + Expansion 1 Cr)
- (iv) Employment generated/to be generated: 75 persons and no additional manpower will be required for the expanded plant.

- (v) Benefits of the project: Local Infrastructure development, Local people will get direct and indirect employment and Revenue will be generated for governments.
- (vi) Details of coal linkage: The coal washery is not linked to any coal mine. Singrauli area has number of coal mines. 100% ROM coal from NCL mines mainly from Gorbi/Block B, Jayant Coal Mine and Dudhichua Coal and other mines will be transported by Road only. All mines are present within 5-10km radius from project site. Washed coal will be supplied to open market and reject will be supplied to nearby power plants. MoU executed for the same. Washed coal & reject will be transported through road (40%) & rail network (60%) even after proposed expansion of the project.
- (vii) Whether new or expansion project: It's a expansion project i.e., Expansion of existing Wet Type Coal Washery Project based on Heavy Media Cyclone from 2.5 MTPA to 3 MTPA. We are going for 20% expansion under para 7 (ii)(a) as per O.M. dated 11.04.2022.
- (viii) If for expansion, whether the application is under 7(ii) of the EIA Notification, 2006: Yes
 - a. Whether applying for first time under 7(ii), if no how many no. of times applied earlier: Yes
 - b. If applied earlier under 7(ii) what was the percentage of expansion granted in EC (give no. & date): NA
- (ix) If applied under 7(ii) details of PH conducted:-Date and Venue of Public Hearing. Status of Plan of Action on the issues raised to be complied by the PP: We are going for 20% expansion of the project under para 7 (ii)(a) as per O.M. dated 11.04.2022. Hence, PH is not applicable.
- (x) If expansion, please indicate the number and date of the certified Compliance Report of Regional Office of the MoEF&CC: Certified Compliance Report of Regional Office of the MoEF&CC File no. 3-3/2023(Env) dated 03.07.2023.
- (xi) Detail about Coal Washery: Expansion of existing Wet Type Coal Washery Project based on Heavy Media Cyclone from 2.5 MTPA to 3 MTPA at Village- Gorbi, Tehsil- Chitrangi, District- Singrauli, Madhya Pradesh by M/s R.K. Transport & Constructions Ltd.- under para 7 (ii)(a) as per O.M. dated 11.04.2022. 100% ROM coal from NCL mines mainly from Gorbi/Block B, Jayant Coal Mine and Dudhichua Coal and other mines will be transported by Road only. All mines are present within 5-10km radius from project site. Washed coal & reject will be transported through road (40%) & rail network (60%) even after proposed expansion of the project. Nearest railway station (Manadiya Railway siding-2.8 Km towards West direction and Singrauli station Railway Siding is at 2.6 km towards East direction).
- (xii) Date of Ground water clearance and surface water approval: Surface water will be used during operation phase. Surface water permission has been obtained from competent authority, dated:- 17.02.2022.
- (xiii) Existing Ground water level in (M): Pre monsoon depth to water level (2023)-4.13 to 18.50 BGL and Post monsoon depth to water level (2023)-2.94 to 15.17 BGL
- (xiv) Date of mine closure approval: Not applicable
- (xv) Whether Consent to Operate Obtained: Consent to Operate (CTO) was obtained from MPPCB vide consent No. AW-58487 dated 21.06.2023.
- (xvi) Cost of the project

- i. Total capital Cost: 26 Cr. (Existing 25 Cr + Expansion 1 Cr)
- ii. Cost of Production: NA
- iii. Sale Price: NA
- iv. CSR/CER cost: 62.1 Lakh
- v. R&R Cost: None
- vi. No of PAFs: None
- vii. Environmental Management cost: Capital Cost is 416.1 Lakh and Recurring cost is 101.5 Lakh.

(xvii) Details of transportation of Coal: 100% ROM coal from NCL mines mainly from Gorbi/Block B, Jayant Coal Mine and Dudhichua Coal and other mines will be transported by Road only. Washed coal & reject will be transported through road (40%) & rail network (60%) even after proposed expansion of the project. Nearest railway station (Manadiya Railway siding–2.8 Km towards West direction and Singrauli station Railway Siding is at 2.6 km towards East direction).

(xviii) Legal Issues/Violation: Any court case pending. If so, please provide a list with details : No court case pending

(xix) Date and Place of public hearing: Not applicable as we are going for 20% expansion of the project i.e., Expansion of existing Wet Type Coal Washery Project based on Heavy Media Cyclone from 2.5 MTPA to 3 MTPA under para 7 (ii)(a) as per O.M. dated 11.04.2022.

(xx) Name of the consultant who prepared the EIA/EMP report: GRC India Pvt Ltd, Noida, UP accredited by the QCI and NABET Vide Certificate No- NABET/EIA/2124/RA 0213, valid till 15th Feb, 2024.

(xxi) Name of specialists (FAEs) /consultants involved in making EIA/EMP report = GRC India Pvt Ltd, Noida, UP

(xxii) Detail of Air quality and surface water quality

- i. Air quality: Number of sampling location monitored: Ground water sample has been collected from 8 different locations within study period. The result indicates that the maximum and minimum values of PM₁₀ are in the range of 61.7 to 89.7 µg/m³, whereas the PM_{2.5} are in the range of 33 to 51.35 µg/m³. The SO₂ concentrations within the study area are in the range of 6.5 to 12.8 µg/m³ and the NO_x are in the range of 11.3 to 34.82 µg/m³. The observed pollutant levels were compared with National Ambient Air Quality Standards (CPCB) and found to be within prescribed limits. The incremental GLC was projected to be 3.35 µg/m³ and 2.23 µg/m³ for PM₁₀ and PM_{2.5} respective.
- ii. Surface water quality: Number of sampling location monitored: Surface water sample has been collected from 12 different locations within study period. The result indicates that the maximum and minimum values of DO ranges between 5.1 to 6.5 mg/l, TDS between 278 to 664 mg/l, COD between 9-29 mg/l, BOD between 2.4-9.3 mg/l.

47.3.3 The EAC during deliberations noted the following:

- The instant proposal for expansion in EC Capacity under the provisions of OM dated 11.04.2022.
- Earlier, EC was granted by MoEF&CC for 2.5 MTPA in area of 6.07 ha vide letter no. J-11015/21/2020-IA.II (M) dated 25.05.2022. Further EC amendment vide dated 24.02.2023.

- CTO has been obtained from MPPCB vide letter dated 21.06.2023.
- PP has submitted the following justifications as per OM dated 11.04.2022 w.r.t expansion under 7 (ii) (a) Stage I (20%) for M/s R.K. Transport & Constructions Ltd.:

S. No.	Criteria as Per OM dated 11.04.2022	Reply
1	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 categories of projects which have been exempted as per para 7 II (i) of EIA Notification 2006 and its amendments.	Public Hearing for existing project was conducted by Madhya Pradesh Pollution Control Board dated 08.11.2021 at Tehsil- Chitrangi, District Singrauli.
2	There should not be change in Category of the project from "B2" to "B1" or 'A' due to proposed modernization or expansion.	Project falls under category "A" as per the EIA notification 2006 and their subsequent amendment.
3	There is no additional land acquisition or forestland diversion involved for the proposed expansion or there is no increase in lease area with regard to mining vis-a.-vis the area mentioned in the EC, based on which public hearing has been held earlier.	Total land of the present plant is 6.07 ha and no additional land acquisition or forestland diversion is involved for the proposed expansion.
4	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.	Only 20% of expansion from the earlier granted EC.
5	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.	Fresh baseline data has been collected during March to May 2023 (Summer season). Air dispersion modelling has been done and the Predicted GLC has been calculated. The results along with isopleths have been incorporated in EIA/EMP. The values of PM10 and PM2.5 are found in permissible range.
6	The proposed expansion should not result in reduction in the greenbelt area as stipulated in the earlier EC, or if the existing ratio of greenbelt is more than 33%, after expansion it should not reduce below 33%.	The proposed expansion is not going to reduce the green belt area. The total area for green belt is 41.20% of the total area.

7	The project proponent should have satisfactorily complied the conditions stipulated in the existing EC(s) and satisfactorily fulfilled all the commitments made during the earlier public hearing/consultation proceedings and also the commitments given while granting previous expansion, as may be applicable. This shall be duly recorded in the certified compliance report issued by the IRO/CPCB/SPCB, which should not be more than one year old at the time of submission of application.	The current plant is granted EC by MoEFF& CC vide letter no. IA-J-11015/21/2020-IA-II (M), on 25.05.2022. Site visit was conducted by IRO, Bhopal on 01.07.2023 and Certified Compliance Report by IRO, Bhopal Vide File No. 3-3/2023 (ENV).
8	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 categories of projects which have been exempted as per para 7 III (i) of EIA Notification 2006 and its amendments.	Public consultation is not applicable for our current application as we have applied for 20% expansion in production capacity of coal as per OM dated 11.04.2022 & 30.05.2022
9	Effluent monitoring including air quality monitoring systems as specified in the existing EC, if stipulated, should have been installed.	As per the records furnished during the site visit, it was noted that purchase order for procurement of 1 CAAQMS (in accordance with EC condition no. 4(ix)) was placed with M/s Vasthi Instruments Pvt. Ltd. vide letter dated 03.04.2023. Project proponent agreed to comply with the remaining contents of the stipulated condition on commencement of coal washing operations after plant commissioning. As the plant is yet to be commissioned and taking into consideration the purchase order placed, the compliance of the stipulated condition is considered as Compliance in progress.

Action Plan for Commitments Raised During Public Hearing

S. No.	Issue Raised during PH	Physical activity and action plan	Budget	2023-2024	2024-2025
1	Providing employment to local people	Willing and employable youths will be identified in consultation with gram	12.6 Lakhs Stipend – 3.6 Lakh (1000/-	Training of 15 persons will be	Training of 15 persons will be completed in 2 nd year

		<p>panchayat of Gorbi (30 Nos). They will be trained in Singrauli ITI for trades namely electrician, fitters, welders, painters, and civil construction work, etc. Fees will be paid by us. Scholarship of Rs.2500/-per month will be given to the trainees for the entire duration. After successful completion of training, the youths will be offered employment in company.</p>	<p>stipend to 30 persons for 1 year)</p> <p>ITI Fee – 9 Lakhs (30000/- yearly fee for 30 persons)</p>	<p>completed in 1st year</p>	
2	<p>Infrastructure development of local School</p>	<p>PP will make separate toilets for boys and girls (in 3 local schools around the project, Gorbi and Muher (2 schools), kitchen in 3 local schools supplying mid-day meals, providing furniture, computers and colour printers</p>	<p>10 Lakhs</p> <p>6 Toilets–1 Lakh, 3 Kitchen – 1.5 Lakh, 400 - Tables & Chairs– 4.0 Lakh, 12 Computer–3.0 Lakh, 3 Colour printer-1.5 Lakh</p>	<p>We will complete work in Gorbi schools (3 schools)</p>	<p>We will complete work in Muher school (2 School)</p>
3	<p>Drinking Water Supply in nearby areas</p>	<p>Company will make bore wells, with pump, piping and RO system in 3 surrounding villages</p>	<p>7.5 Lakhs</p> <p>Bore with pump & piping – 1 lakh RO – 0.5 Lakh (5 sets)</p>	<p>We will complete drinking water supply in Gorbi and Muher villages</p>	<p>We will complete drinking water supply in Chamarkhoh</p>
4	<p>Rain Water Harvesting System</p>	<p>Company will make 10 recharge type shafts for ground water recharging in 2 nearby panchayat Gorbi and</p>	<p>10 Lakhs</p> <p>Rs.5.0 lakhs each</p>	<p>In Gorbi village</p>	<p>In Muher Village</p>

		Muher community centres			
5	Concern about health of local people	Donate medical equipment like Beds, Stretcher, Oxygen Cylinder, Oxygen Concentrator, Air Purifier, AC, in Health centre of Chitrangi	7 Lakhs Ten Bed-1.0 Lakhs, Ten O2 Cylinder-1, Lakh, Four-Oxygen Concentrator – 2 Lakh, Four Air Purifier– 1.0 Lakh, Four AC-2.0 Lakh	Donated to Health centre at Chitrangi	-
Total			47.1 Lakh		

47.3.4 The EAC after deliberations observed that the instant proposal is for expansion in production capacity for coal washery upto 20% (i.e. Stage I) under para 7(ii) (a) as per O.M. dated 11.04.2022. It was further observed that PP has submitted EIA/EMP report based on standard ToR of coal washery. The EAC reviewed the compliance of OM dated 11.04.2022, PP has fulfilled all the criteria as per OM. EAC advised the PP to complete the commitment made during the Public hearing with time bound manner with the proposed budget of 47.1 lakhs i.e. within 2 years.

The certified compliance report of EC conditions was discussed and it is observed that the plant operation is at nascent stage, however CTO has been obtained. The compliance is being done by PP as per the IRO report. EAC further desired that tree plantation must be expedited before plant achieves its peak capacity. Considering that PP has to expand the plant further based on market demand, the committee was of the view that PP should submit the latest compliance thin 6 months.

Based on the document submitted and discussion held in the EAC meeting, the EAC **recommended** the Environmental Clearance under Ministry's OM dated 11.04.2022 (Stage I - 20% expansion) for Wet Type Coal Washery Project based on Heavy Media Cyclone from 2.5 MTPA to 3 MTPA by M/s R.K. Transport & Constructions Ltd. at village Gorbi, Tehsil Chitrangi, District Singrauli, Madhya Pradesh under the provisions of EIA Notification, 2006 and its amendments therein, along with the compliance of the following terms & conditions / specific conditions for environmental safeguards:-

- i. PP to obtain the CTO for Coal washery capacity of 3 MTPA after grant of EC.
- ii. All other condition stipulated in EC dated 25.05.2022 and amendment in EC dated 24.02.2023 shall also complied with regard to capacity of 3.0 MTPA. CTO shall be granted accordingly. Action taken report shall be submitted to IRO within 6 months.
- iii. PP shall deploy only 40 tonne (payload) with tarpaulin cover or mechanically covered for coal transportation.

- iv. *PP shall strictly implement the facility as per the issues of public hearing as mentioned in the para no. 47.3.3 (iii) and complete in a time bound manner i.e. within 2 years.*
- v. *Thick green belt of 50 m width to be provided around the washery to mitigate/check the dust pollution. A 3-tier avenue plantation having 33% plantation of total area. A detailed action plan with budgetary provision should be submitted within 6 months to IRO. Areal images in this regard needs to be submitted in six monthly reports to IRO.*
- vi. *The technology so chosen for ETP within washery should confirm to 'Zero Liquid Discharge'. No treated & untreated wastewater shall be discharged outside the boundaries of project area.*
- vii. *Heavy metal content in raw coal, and washed coal shall be analyzed once in a year and records maintained thereof and it should be reported in IRO, report.*
- viii. *PP to undertake the recruitment of a full-fledged qualified manpower with Environmental Engineer/ Env. Science degree background in Environment Management Cell etc. at coal washery plant for compliance of EC conditions.*
- ix. *Solar Street light to be installed with its proper maintenance along the road of incoming raw coal to avoid accident in nearby villages and a record must be furnished to IRO with six monthly compliances.*
- x. *PP shall install atleast 5 additional fog cannon at periphery of the washery with enhanced capacity in order to suppress the dust.*
- xi. *Raw coal, washed coal and rejects shall be stored in covered silos or in dome shaped storage facility. Fixed type-high pressure sprinkler shall be installed in this storage yards.*
- xii. *No village road shall be used for transportation of coal and no road transport route shall be adopted, which is passing through any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly.*
- xiii. *PP must also carry out plantation drive (fruit bearing trees, local species etc) with its proper maintenance in nearby villages by seeking consent of gram panchayat and villagers in coming monsoon and a proper record must be furnished to IRO with six monthly compliances.*
- xiv. *The PP must provide the workers proper PPE and must also trained them and a record of training must be furnished to IRO.*
- xv. *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.*
- xvi. *PP shall deploy atleast 20% of overall fleet of dumpers/trucks/other vehicles as electrical or CNG/LNG based for transportation of coal/OB etc and use e-vehicles for transportation of man power.*

Agenda No. 47.4

Expansion of Dhuptala OC in Production capacity from 1.70 MTPA to 2.50 MTPA in Land Area of 1070.49 ha by M/s Western Coalfields Limited located in Village Sasti, Tehsil Rajura, District Chandrapur (Maharashtra) – For Terms of Reference reg.

[Online proposal IA/MH/CMIN/432131/2023; File No. J-11015/538/2008-IA-II (M)]

47.4.1 The proposal is for Terms of Reference for expansion of Dhuptala OC in Production capacity from 1.70 MTPA to 2.50 MTPA in Land Area of 1070.49 ha by M/s Western Coalfields Limited located in Village Sasti, Tehsil Rajura, District Chandrapur (Maharashtra).

47.4.2 Details of the proposal, as ascertained from the documents are given as follows-

- i. The project area is covered under Survey of India Topo Sheet No 56 M/5 and is bounded by the latitudes from N 19°47'59.68"N to 19°51'9.49"N and longitudes 79°18'27.15"E to 79°21'18.52"E
- ii. Coal linkage of the project is proposed for thermal use for MAHAGENCO & other miscellaneous consumers.
- iii. There is no Joint venture.
- iv. Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13 January 2010 has imposed moratorium on grant of environment clearance.
- v. Employment generation - Permanent employment to 174 persons will be provided from the project. In addition, approximately 550 Nos. of employment shall be provided by contractual HEMM operators.
- vi. The project is reported to be beneficial in terms of following
This project will bridge the gap (to the extent of the peak production capacity of the project) between demand & supply of non – coking coal for power plants & other consumers from Western as well as Southern part of the country. The domestic production of additional coal will reduce the impact of coal and save valuable foreign exchange. The CSR activities will provide development in the nearby villages.
- vii. Earlier, EC was granted by MoEF&CC vide its letter no: J-11015/538/08-IA.II (M) dated 10th January, 2013 with production capacity of 1.7 MTPA within Mine lease area of 1300.91 ha. The said proposal is for obtaining ToR under EIA notification, 2006 for expansion in production capacity from 1.7 MTPA to 2.5 MTPA within Mine lease area 1070.49 ha.
- viii. Total mining lease area is 1070.49 ha as per approved Mining Plan. Mining Plan along with mine closure plan for Dhuptala Expansion OC mine was approved by competent authority (i.e. WCL Board) for expansion in production capacity from 1.70 MTPA to 2.50 MTPA within 1070.49 ha area in its 341st meeting held on 09.03.2022 and communicated vide resolution no. WCL/Office of CS/BM-341/2021-22/974 dated 22.03.2022.
- ix. The land usage pattern of the project is as follows:
Pre Mining

Sl. No.	Type of Land	Area (in Ha)
1	Tenancy land	1021.24
2	Forest land	0.00
3	Govt. land	49.25
	Total	1070.49

Post Mining

S.No.	Land use during mining	Land use (ha)				
		Plantation	Water Body	Public use	Undisturbed	Total
1	External OB Dump	175	-	-	23.3	198.3
2	Top soil dump	45	-	-	12	57
3	Excavation	88	297.68	-	-	385.68
4	Roads	0.5	-	4.5	-	5
5	Area around buildings and infrastructure	10	-	35	-	45
6	Green Belt	130	-	-	-	130
7	Undisturbed Area	15	-	-	102.85	117.85
8	Nala diversion	0	15	0	-	15
9	Flood protection embankment	2	-	58	-	60
10	Colony+ Village Rehabilitation + Existing Township	5	-	51.66	-	56.66
		470.5	312.68	149.16	138.15	1070.49

- x. Total geological reserve reported in the mine lease area is 69.63 MT with 55.91 MT mineable reserve. Out of total mineable reserve of 55.91 MT, 53.11 MT are available for extraction. Percent of extraction is 95%.
- xi. One composite coal seams with thickness ranging from 12.77m- 17.18m are workable. Declared Grade of coal is G11 stripping ratio 1:5.26 m³/t, while gradient is 1 in 10 to 1 in 18.
- xii. Method of mining operations envisages by opencast with shovel dumper method
- xiii. Life of mine is 25 years.
- xiv. The project has two external OB dumps in an area of 255.30 ha with 90 m max height and 147.89 Mm³ of OB. One internal OB in an area of 88 ha with 137.97 Mm³ of OB is envisaged in the project.
- xv. Total quarry area is 385.68 ha out of which backfilling will be done in 88 ha while final mine void will be created in an area of 297.68 ha with a depth of 150 m. Backfilled quarry area of shall be reclaimed with plantation after completion of entire mining operation. Total plantation at post mining shall be 470.5 ha. Final mine void will be converted to water body.
- xvi. Transportation of coal has been proposed by dumpers in mine pit head, from surface to siding by tippers and at sidings by railways. Proposed change in transportation means are as follows: The coal is proposed to be transported from Ballarpur railway siding to all consumers.
- xvii. Reclamation Plan in an area of 470.50 ha, comprising of 220.0 ha of external dump, and 88 ha in internal dump. In addition to this, an area of 32.5 ha, included in the undisturbed area/ built up area/ colony/village/R&R sites, and also 130 ha has been proposed for green belt development. Plantation on External dump will be carried out when the dump reaches the stipulated height as per Mining Plan and physical reclamation is completed.
- xviii. There is no forest land has been reported to be involved in the project.

- xix. No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- xx. Fresh baseline data generation for flora & fauna will be carried out and accordingly, wild life conservation plan will be prepared and implemented.
- xxi. The ground water level varying in core and buffer zone has been deliberated in the table below-

	Ground water level (m)	
	Pre-Monsoon	Post-Monsoon
Core zone	4.00 to 13.40 m	4.68 m to 7.92m
Buffer zone	3.00 to 13.95 m	0.98 m to 9.83 m

- xxii. Total water requirement for industrial purposes is 484KLD, 724 KLD for residential requirement (existing +additional 24 KLD for residential quarters)
- xxiii. The project has been granted NOC for ground water abstraction by CGWA vide NOC no CGWA/NOC/MIN/ORIG/2022/16353 dated 19.09.2022 with validity up to 18.09.2024.
- xxiv. Existing EC was granted by MoEF&CC vide its letter no: J-11015/538/08-IA.II(M) dated 10th January, 2013 with production capacity of 1.7 MTPA within Mine lease area of 1300.91 ha. The said proposal is for obtaining ToR under EIA notification,2006 for expansion in production capacity from 1.7 MTPA to 2.5MTPA within Mine lease area 1070.49 ha.
- xxv. Public Hearing will be conducted.
- xxvi. Capital Expenditure made by the Project Proponent to for environmental protection are mentioned in the following table:

Sl. No.	Particulars	Total Capital
1.	Sedimentation pond for treatment of mine waste water	30.00
2.	Effluent treatment plant for treatment of workshop effluent	20.00
3.	Base line Env. data generation (as per new guidelines) and scientific studies related to environment	15.00
4.	Installation of fixed type sprinklers for dust control (including water reservoir, pump, pipeline etc.)	20.00
5.	Plantation during First three year	20.00
6.	Digital Mapping for land use plan	15.00
7.	Misc Provisions	15.00
8.	Corporate Environmental Responsibility (CER)	353.74
	TOTAL	488.74

In addition to the above Rs. 6.00/t has been provided in the cost of production to meet the revenue nature of expenditure related to environmental protection measures.

- xxvii. Gauri Nallah, Mathara/Dhuptala Nallah and one seasonal Nallah flows through the project area. In the coal conservation point of view, 2.4 km diversion of Mathara/Dhuptala nallah is proposed in the proposal.

- xxviii. Baseline Data monitoring (Air, Water & Noise) has been carried out from 15th March, 2023 to 15th June, 2023 and baseline data generation report is under preparation and the details will be included in the EIA-EMP report.
- xxix. No court cases, violation cases are pending against the project of the PP.
- xxx. The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine was started from the year 2022-23 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 start of the mining operations onwards, is as under:

Year	EC Sanctioned capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the EC sanctioned capacity
2022-23	1.7	0.7	NIL

- xxxi. Project involves shifting and rehabilitation of Sasti village after eight years.
- xxxii. Total cost of the project is Rs. 72086.63 Lakhs. Cost of production is Rs. 1783.54 per tonne., CSR cost is Rs. 2 per tonne, R&R cost is Rs 234.5396 crores, Environment Management Cost is: Capital Rs.488.74 Lakh & Recurring cost is ₹6/tonne of coal production
- xxxiii. Consent to Operate for existing mine with production capacity of 1.70 MTPA was obtained from Maharashtra Pollution Control Board(MPCB) on 10.11.2022 and valid upto 31.03.2023 and the application for renewal of CTO has been made on 24.03.2023 and is under process at MPCB.
- xxxiv. Past Production details comparison with existing EC

Year	EC Sanctioned capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the EC sanctioned capacity
2022-23	1.7	0.7	NIL

47.4.3 The committee during deliberation noted the following:

- i. Earlier, EC was issued vide letter no. J-11015/538/08-IA.II (M) dated 10.01.2013 with production capacity of 1.7 MTPA within Mine lease area of 1300.91 ha.
- ii. Mining Plan and mine closure plan for Dhuptala Expansion OC mine was approved by competent authority (i.e. WCL Board) for expansion in production capacity from 1.70 MTPA to 2.50 MTPA within 1070.49 ha on 22.03.2022.
- iii. Life of mine is 25 years. There is no forest land involved in the total land area of 1070.49 Ha.
- iv. NOC for ground water abstraction by CGWA vide no. CGWA/NOC/MIN/ORIG/2022/ 16353 dated 19.09.2022 with validity up to 18.09.2024.
- v. Gauri Nallah, Mathara/Dhuptala Nallah and one seasonal Nallah flows through the project area.
- vi. Baseline Data monitoring (Air, Water & Noise) had been collected within duration from 15.03.2023 to 15.06.2023.
- vii. Consent to Operate for existing mine with production capacity of 1.70 MTPA was obtained from Maharashtra Pollution Control Board (MPCB) on 10.11.2022 and valid upto 31.03.2023 and the application for renewal of CTO has been made on 24.03.2023 and is under process at MPCB.
- viii. Past Production details comparison with existing EC

Year	EC Sanctioned capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the EC sanctioned capacity
2022-23	1.7	0.7	NIL

- ix. PP in its PFR report has mentioned three phases for mine operation and stated that working will be done as per existing EC for a capacity of 1.70 MTPA for an area of 1070.49 Ha (1013.83 ha within mine leasehold boundary and 56.66 Ha land outside mine leasehold boundary) for initial four years. Dhuptala OC mine will be achieving its target capacity of 2.50 MTPA. In Phase-II, EC capacity of 2.50 MTPA will be required for 1070.49 Ha land. Phase –II is proposed from 5th year to 18th year of mine life considering the working will be done in this phase till exhaustion of reserves of Ballarpur NW OC mine having 17 years mine life

47.4.3 *The EAC after deliberations observed that the instant proposal is a brown field project for expansion of production capacity from 1.7 MTPA to 2.5 MTPA in land area of 1070.49 ha. Gauri and Dhuptala Nallah flowing through the ML area. Committee advised the PP for not diverting the existing nallah. Further, during the next revision of mining plan, committee emphasized to incorporate impact of mining on catchment area of Nallah passing through the ML area and emphasis upon the protection of Nallah.*

It was observed the area of the project is being revised by PP by transferring it to Ballarpur NW OC and Sasti Expansion OC. The mine lease area is 1013.83 ha and it was suggested that PP shall submit the EC proposal for 1013.83 ha only and accordingly the proposal of ToR is being recommended for 1013.83 ha. PP shall modify its Mine Plan wrt to mine lease area and not as per phases suitable to PP.

The Committee advised to prepare collective EIA-EMP report by taking fresh one-month data by considering the impact of Sasti OCP & Dhuptala OCP and other ancient mine with monitoring station reflecting the likely impacts of working mines. The Collective EIA-EMP shall also cover the impact on air & water with different scenario of coal evacuation plan from cluster of mines. The committee desired to have Common coal transportation system and avoid the delay in implementation of mechanized system. Tendering should be intitaited for integrated coal mine evacuation plan.

Realizing that mines are operating back to back, it was stressed to complete the catchment area study of Gauri & Dhuptala Nallah along with Wardha River so that the impact on the river hydrology can be analyzed from reputed technical institute of Government of India for finalizing the river restoration plan. The Safety barrier to be prepared all along the stretch of 5 km with barrier height of 6m from the HFL in consultation with the irrigation department.

Further, due to involvement of larger catchment area of the river and impact upon environment due to mining committee agreed to visit the site. The PP shall prepare the preliminary Environmental impact assessment report and drone video of the complete catchment area of existing Nallah/river as well as of mined area.

*Based on the above, EAC **recommended** the proposal for grant of Terms of reference for Dhuptala OC in Production capacity from 1.70 MTPA to 2.50 MTPA in Land Area of 1013.83 ha by M/s Western Coalfields Limited located in Village Sasti, Tehsil Rajura, District Chandrapur*

(Maharashtra) under EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed-

- i. PP shall modify its Mine Plan w.r.t to mine lease area i.e. 1013.83 ha for its peak production. No mining activity shall be conducted beyond this area and certificate from State Pollution Control Board shall be submitted during submission of EC stating that “No mining and its allied activities has been conducted out the mine lease of 1013.83 ha”.*
- ii. PP shall apply for expansion in area of Ballarpur NW OC wherein 213.93 ha has been transferred.*
- iii. Public Consultation, including public hearing, shall be conducted through concerned SPCB in the concerned districts as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal.*
- iv. PP is not allowed to divert the existing Nallah/Rivers and during the renewal of mining plan it should be incorporated in order to protect the streams.*
- v. PP has to plan and implement the mechanized common coal evacuation system including inpit conveyor belt with silo loading for transportation of coal till railway siding. No transportation of coal by trucks/dumpers shall be proposed in EIA/EMP.*
- vi. PP has to prepare the collective EIA-EMP report considering the impact of Sasti OCP & Dhuptala OCP together. Collective EIA-EMP shall cover the impact on air & water and impact of common coal evacuation system.*
- vii. PP has to complete the catchment area study of Gauri & Dhuptala Nallah and other stream present along with Wardha River so that the impact on the river hydrology can be analyzed for the restoration purpose from reputed technical institute of Government of India and incorporate same into EIA-EMP report.*
- viii. PP has to plan and implement the safety barrier all along the stretch of 5 km with barrier height of 6m from the HFL in consultation with the irrigation department.*
- ix. Committee decides to visit the mining site physically after submitting preliminary Environmental impact assessment report along with drone video of complete catchment area of existing Nallah/river as well as of mined area. Committee will consider the proposal for EC only after visiting the mining site.*
- x. PP shall submit the proposal of EC only after completion of about 75% conditions stipulated in earlier three EC dated 10th January 2013.*
- xi. PP shall submit certified compliance report of EC conditions from Ministry’s IRO. IRO shall certify that PP has complied 75% of conditions.*
- xii. PP to submit the Mining plan and mining closure plan after incorporating the existing streams flowing within the ML area duly approved by the Ministry of Coal.*
- xiii. PP shall extract coal from virgin area in the block only through surface miner and by shovel dumper method from underground developed area (due to practical limitation).*
- xiv. PP shall submit the authenticated map of the River/Nallah/Stream flowing through the ML area or adjacent area from the concerned authority from the State.*

- xv. *PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads, manufacture of artificial sand, aggregates, use for farmers etc.) and accordingly Plan shall be included in EIA/EMP Report.*
- xvi. *PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.*
- xvii. *PP shall submit detailed project report for implementation of inpit conveyor belt with silo loading till railway siding for evacuation of coal with its target date of completion.*
- xviii. *Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data. 12 nos of Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area.*
- xix. *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*
- xx. *PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective.*
- xxi. *Detailed Social Impact Assessment shall be prepared in villages for Rehabilitation and Re-settlement. R & R Activity shall be proposed with timeline and allotted fund with the approval of District Commissioner/collector. A need based sample survey, family-wise, should be undertaken to assess their requirements, and action programs prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.*
- xxii. *Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA) only for mining activity.*
- xxiii. *Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report. Further, detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory.*
- xxiv. *No mining activity shall be proposed on grazing land till the alternate land is provided of same area to the community.*
- xxv. *PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.*
- xxvi. *PP shall provide provision of integrated mine plan and mine reclamation cum land form / land scape plan for both underground and open cast coal mining projects. The plan must show the predicted post mining reclaimed and reformed surface by regarding and reshaping to reduce its height as close to the original surface level and proper sloping benching and terracing of external dup should be clearly brought out in the post mine closure plan. This would also include water management strategies such as surface water catchment and drainage paths etc. of post mining land surface. The final mine void shall be reduced from 300 mts of 386.334 ha and brought as near as ground so that land can be restored and reclaimed.*
- xxvii. *PP shall propose to use e-vehciles/LNG/CNG based mining machineries and trucks for mining operation and transportation of coal.*

- xxviii. *PP shall submit letter from Principal Chief Conservator of Forest, State Government that the area does not falls under any Eco-sensitive zone and areas and further is no corridor of Elephants & Tigers.*
- xxix. *Details of toe-wall and garland drain to be constructed along the OB dump.*
- xxx. *Reclamation to be done using geo-texturing technique of the dumps close to habitation and a cause of visual intrusion.*
- xxxi. *Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted.*

Agenda No. 47.5

Pachwara South Opencast Coal Mine of 9 MTPA (Normative & Peak) in mine lease area of 714.8553 ha by M/s Neyveli Uttar Pradesh Power Limited located at Rajmahal Coalfield, District Dumka (Jharkhand) – Reconsideration of Environmental Clearance –reg.

[Online Proposal No. IA/JH/CMIN/168045/2020; File No. J-11015/18/2020-IA. II (M)]

47.5.1 The proposal is for Environmental Clearance for Pachwara South Opencast Coal Mine of 9 MTPA (Normative & Peak) in mine lease area of 715 ha by M/s Neyveli Uttar Pradesh Power Limited located at Rajmahal Coalfield, District Dumka (Jharkhand).

47.5.2 The committee during deliberations noted the following:

- i. Earlier, the instant proposal was considered in the 36th meeting held during 20-21 October, 2022 and 41st EAC held during 13-14 March, 2023 wherein committee deferred the proposal for submission of desired information. The PP has now submitted the reply of observation of EAC which are as follows:

Sr. No.	Observation of EAC	Reply of Project Proponent
1.	The PP shall submit the plan to provide permanent safeguard at distance of 100 m from the bank of the river in order to restrict the seepage of mine water	<ul style="list-style-type: none"> ➤ The geological structure of Pachwara South coal Block reveals that strike of the coal seams are north south and across the Bansloi River. Reduction in working width will not only resulting in reduction in extractable reserve but this will reduce the face widths and will affect the mining operation especially when it goes in depth. ➤ In this regard, NUPPL has already conducted a scientific study through Khargapur IIT where it has recommended that the mine working will be safe to work leaving 60-meter safety distance. ➤ On actuals, there are several places of the block already exists beyond the 100 meters of safety distance and few parts are falling within 60 meter

		<p>safety distance from the river bank.</p> <ul style="list-style-type: none"> ➤ Specific recommendations have been made towards construction of embankment and further primary data generations have been suggested before construction of the embankment. ➤ The scientific study report is enclosed. ➤ NUPPL is committed to strictly adhere the recommendations made there in the scientific study report and implementation of the embankment construction shall be done in accordance with the approved design by the competent authority. 																		
2.	PP shall further explore and discuss with other expert Mine Planners to conclude that forest land can not be avoided for OB dumping	An opinion has been obtained from other QCI NABET Accredited MPPA, Surmine Consulting Private Limited, New Delhi. Expert review is enclosed.																		
3.	The PP shall submit signed Corporate Environment Policy as approved by the Board of the company.	The Board Approved Corporate Environment Policy was presented.																		
4.	The PP shall submit the Benthic Assessment study of the stretch of Bansloi river located very near to the mine lease area and submit the same report to the Ministry.	A benthic assessment Study on the stretch of Bansloi River adjacent to Pachwara South Coal Mine was completed. Complete report is enclosed in ADS reply.																		
5.	PP shall submit the activity proposed to address the compliance of issues raised in Public Hearing by excluding the CSR activity. Accordingly, the budget for the same shall be submitted. Also certified translated copy of public hearing shall be provided.	<table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Activity</th> <th>Budget (Rs)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>School Bus</td> <td>20,00,000/-</td> </tr> <tr> <td>2.</td> <td>Hand pump and pump set</td> <td>15,00,000/-</td> </tr> <tr> <td>3.</td> <td>School Renovation</td> <td>15,00,000/-</td> </tr> <tr> <td>4.</td> <td>Anganbadi</td> <td>15,00,000/-</td> </tr> <tr> <td colspan="2">Total</td> <td>65,00,000/-</td> </tr> </tbody> </table> <p>The Certified Translation Copy of the Public Hearing is enclosed.</p>	Sl. No.	Activity	Budget (Rs)	1	School Bus	20,00,000/-	2.	Hand pump and pump set	15,00,000/-	3.	School Renovation	15,00,000/-	4.	Anganbadi	15,00,000/-	Total		65,00,000/-
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3.	School Renovation	15,00,000/-																		
4.	Anganbadi	15,00,000/-																		
Total		65,00,000/-																		
6.	PP shall submit details of action plan submitted in Wildlife Conservation plan for conservation of schedule I Species.	The details action Plan proposed in the Draft Wildlife Conservation Plan for Schedule-I Species is enclosed.																		
7.	PP shall submit the stringent time for development of railway siding and inpit conveyor system	Time for railway siding was 36 months and construction activities start from 01.04.2023.																		

	with silo loading facilities.	
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ii. **PP has submitted the revised Environmental Budget:**

Activities	Capital Cost (in Rs. Lakhs)	Recurring Cost per Annum (in Rs. Lakhs)	Total Recurring Cost in the lease period (in Rs. Lakhs)
	Air Pollution Control		
Installation & maintenance of Automatic Sprinklers along the haul road.	350	4.5	171
Purchase & maintenance of water tanker & machineries for water sprinkling	65	7.5	285
Online AQ monitoring system	35	2.5	95
Construction & Maintenance of mines haul road	90	8.5	323
Total	540	23	874
Water Pollution Control			
Construction of garland drain around the dump	150	4	152
Construction & maintenance of garland drain around mining pit	225	8	304
Construction of 2 settling ponds & it's collecting drains	175	2.5	95
Masonry Construction of Catch pits to arrest the clay mixed water from the ROM Stack yard.	22	1.25	47.5
Construction of toilets with septic tank & soak pits (5 Nos.)	77.5	1	38
Water Treatment Plant for domestic use of Mine Pit water.	50	2.5	95
Effluent Treatment Plant (ETP)	1050	31.5	1197
Sub-Total =	1749.5	50.75	1928.5
Noise Pollution Control			
Mining machineries fitted with upgraded silencer. noise pollution control facilities	3500	250	9500
Sub-Total =	55	2.5	95
Environmental Monitoring & Management			

Activities	Capital Cost (in Rs. Lakhs)	Recurring Cost per Annum (in Rs. Lakhs)	Total Recurring Cost in the lease period (in Rs. Lakhs)
	Electronic display board near the main gate	22.5	0.5
Installation & maintenance of round the clock Weather Monitoring Station on the office	8.5	1.25	47.5
Monitoring & reporting cost of registered laboratory		5.5	209
Sub-Total =	31	7.25	275.5
Occupational Safety			
Provision of safety shoes, dust mask, safety goggles, ear plugs, safety helmets, etc to workers.	25.76	25.76	978.88
Construction of Rest Shelters & First Aid Centre	25	0.5	19
Annual health checkup of workers & health camp	64.4	12.88	489.44
Ambulance for workers and villagers - 1 No. (Replacement considered in 11 th year)	15	4	152
Training to Staff	2.6	2.6	98.8
Total	132.76	45.74	1738.12
Plantation & Green Belt Development			
Plantation and Green Belt Development for the entire lease period	1642.5	102	3876
Sub-Total =	1642.5	102	3876
Grand Total =	4150.76	231.24	8787.12

PP has submitted the EMP capital cost of Rs. 4150.76 Lakhs and recurring cost to be spent as Rs. 8787.12 Lakhs on environment.

- iii. PP will spent total of Rs. 144,27000 to address the issues raised during Public Hearing mentioned below:

Activity	Budget in Rs.
School Bus Provisions per Year	20,00000
Hand Pump & Pump Sets	15,00000
Construction of School in R & R Colony	89,27000
Provision for Anganwadi	20,00000
Total =	144,27000

47.5.3 *The EAC, after deliberations observed that instant proposal is a green field project for which ToR was issued on 05.11.2020 followed by public hearing conducted on 28.12.2021. Stage-I FC for the forestland of 455.1108 ha is yet to be submitted. The Committee observed that as per the calendar plan, the mining plan and mine closure plan has been prepared for production for 9 MTPA only; therefore, EAC opined that EC shall only be considered for 9 MTPA (Normative) instead of 13.50 MTPA (Peak) capacity. The Committee emphasized to restrict mining activity atleast 100m away from the embankment of the Bansloi River in order to protect the natural flow of river. In addition, the Committee emphasized that the overburden should not be slipped into the River.*

Regarding, transportation of coal, PP informed that railway siding shall be constructed towards other side of riverbank. This railway siding shall be used for all 2-3 coal mines presently functioning in the area. EAC emphasized that the construction of railway siding in commensurate with inpit belt conveyor system along with silo loading system shall be completed within 30 months i.e. on or before February 2026. EAC emphasized that PP must develop adequate drainage pattern all around the Mine lease area and treat it though ETP. In any case, no acidic/untreated water from mine should be allowed to discharge from mine lease area into the water bodies including river after keeping the mine water in sedimentation tank.

Further, Committee observed that except for drinking and domestic purpose, initially (for initial 6 years) water (1560 KLD water) will be drawn from the Bansloi River after taking necessary permissions from the Water Resource Department, Jharkhand, afterwards water shall be harvested at mine pit for industrial utilization based on permission from Water Resources Department of Jharkhand.

The Committee observed that there are schedule I species which include elephants in the project and buffer area, accordingly, it was desired that PP shall do regular follow up with State Forest Department for expenditure of Wildlife Conservation Plan and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO.

*Based on the above, EAC **recommended** the proposal for grant of Environmental Clearance for Pachwara South Opencast Coal Mine of 9 MTPA (Normative & Peak) in mine lease area of 715 ha by M/s Neyveli Uttar Pradesh Power Limited located at Rajmahal Coalfield, District Dumka (Jharkhand) under EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:*

- i. PP shall submit Stage-I Forest Clearance for the forest land/area (455.1108 ha) involved in the mine lease area prior to grant of Environment Clearance.*
- ii. PP should not construct any infrastructure and no dumping of overburden allowed on forestland, (if required Mine Plan shall be revised).*
- iii. PP shall mine 9 MTPA (as peak capacity) as per the calendar plan submitted in the Mining plan and accordingly CTO from State Pollution Control Board shall be obtained for 9 MTPA.*
- iv. PP shall restrict the mining activity at least 100m away from the HFL of the Bansloi River in order to protect the natural flow of river. Accordingly, embankment with stone pitching on both side (towards and outwards of river) shall be developed. Dense plantation shall be developed with Sal Trees on this embankment.*
- v. PP shall construct the railway siding towards other side of riverbank so that all available*

- coalmines can access for the use of transportation purpose.*
- vi. *The construction of railway siding shall be in commensurate with inpit belt conveyor system along with silo loading system and the same shall be completed within 30 months i.e. on or before February 2026; accordingly, SPCB may grant CTO.*
 - vii. *PP has to resolve suggestions/objections raised during the public hearing along with implement activities-wise proposed budget of Rs. 144,27000 (as Public Hearing Budget), Capital cost of Rs. 4150.76 Lakhs and recurring cost of Rs. 8787.12 Lakhs (as EMP cost) in time bound manner as per para 47.5.2 (ii) & (iii) of MoM. The details of annual expenditure shall be part of report submitted to IRO, MoEF&CC. PP needs to include the audited figures against the expenditure and activities to be monitored through dedicated online monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, which will be part of CSR budget.*
 - viii. *The truck size of 40 tonne (payload) for the transportation of coal through road till commissioning of SILO with rapid loading system i.e. on or before February 2026 accordingly SPCB may issue the CTO. No coal transportation shall be done from village road and near to any sensitive locations such as schools, hospitals etc.*
 - ix. *PP must develop adequate drainage pattern all around the Mine lease area and treat it through ETP. No acidic/untreated water from mine should be allowed to discharge from mine lease area into the water bodies including river.*
 - x. *PP shall explore the sand-segregation plant for recovering sand from Overburden.*
 - xi. *PP shall install 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.*
 - xii. *The status of mine closure activities must be included in every six months compliance report submitted to the state pollution control board and IRO.*
 - xiii. *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.*
 - xiv. *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. Also PP shall install Mist Cannon Dust Suppression Systems (80-100 mtrs.) at Coal Stock Yard to suppress the dust particles (at least 10 numbers).*
 - xv. *Garland drains (2mX3m) of adequate size shall be provided at the toe of the benches to arrest discharge and runoff with silt and sediments surging into areas adjoining the periphery of Overburden dump, which will be regularly cleaned before the onset of monsoon every year.*
 - xvi. *PP shall construct 5 water harvesting pond (of at least 5 ha) separately to recharging the ground water and usage of project affected families within 10-15 km of project area within 2 years of commencement of mine operation.*
 - xvii. *PP shall make alternate arrangement of grazing land of at least 10 ha for usage of project affected families within 10-15 km of project area within 2 years of commencement of mine operation.*
 - xviii. *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.

- xix. PP shall make use of advanced computer simulation techniques for design and execution of blasting operation in the mine. PP shall make use of Electronic Delay Detonators for optimal blasting in coal and OB rock to minimize the environmental impacts of blasting such as ground vibration, fly rocks and excessive dust generation*
- 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 and deploy e-vehicles for workers/staff in the mine.*
- xxi. PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.*
- xxii. Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- xxiii. PP shall establish a school for local people and Project affected families as per the new Education policy, 2020 along with the school bus facility with minimum fees.*
- xxiv. 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.*
- xxv. 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.*
- xxvi. PP shall install fixed fog cannon (mist spayer) and fixed sprinkler all along the haul road/ CHP, and OB dump till Railway siding is completed. The sufficient number of fog cannons (not less than 10 nos.) with 40 mts jet length shall be installed within 6 months. It should be ensured that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB.*
- xxvii. PP shall deposit the approved amount as proposed for wildlife conservation plan to the Govt. of Jharkhand, Forest & Environment Dept. shall do regular follow up with for expenditure of Wildlife Conservation Plan and the details expenditure shall be submitted with six monthly EC compliance report to Ministry’s IRO. Also, PP shall engage with State Biodiversity Authority and local biodiversity committee under its CSR activity to develop the local market.*
- xxviii. 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.*
- xxix. 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*

- xxx. Continuous air quality monitoring station (CAAQMS) should be installed within six months of commencement of mine and the real time data so generated to be uploaded on company website. In addition, data should also be displayed digitally at entry and exist gate of mine lease area for public display.
- xxxi. PP to plant 100,000 nos. of Sal trees only and develop nursery of 10 ha sal trees for free distribution in nearby areas.
- xxxii. PP shall obtain prior approval of CGWA for use of groundwater for mining operations
- xxxiii. PP shall conduct catchment area study of the nallah/streams present and may impact river before any diversion. These catchment study shall be submitted to EAC prior to any diversion of streams for appropriate mitigation measures.

Agenda No. 47.6

Kotre Basantpur Pachmo OCP Coal Mine Project with 5.0 MTPA production capacity in ML area of 1011.87 Ha by M/s Central Coalfields Limited located in West Bokaro Coal field at villages Pachmo, Basantpur, Tehsil Gumia, District Ramgarh & Bokaro (Jharkhand) - For Reconsideration in Environmental Clearance-reg.

[Online proposal IA/JH/CMIN/91000/2019; File No. IA-J-11011/18/2019-IA-II (I)]

47.6.1 The proposal is for Environmental Clearance for Kotre Basantpur Pachmo OCP Coal Mine Project with 5.0 MTPA production capacity in ML area of 1011.87 Ha by M/s Central Coalfields Limited located in West Bokaro Coal field at villages Pachmo, Basantpur, Tehsil Gumia, District Ramgarh & Bokaro (Jharkhand).

47.6.2 The EAC, during deliberations noted the following:-

- ii. The instant proposal was considered in the 28th & 33rd EAC meeting dated 01.04.2022 & 25-26 July 2022 respectively wherein committee deferred the proposal for submission of desired information. The PP has submitted the reply vide letter dated 5th July, 2023 are as follows:

S. No.	Observation of EAC	Reply of Project Proponent
1	Revising mine plan and mine closure activity considering the sustainable approach in a view that no nallah/stream shall be diverted, the external dump to be optimized and mine plan shall be	<ul style="list-style-type: none"> • The revised mine plan and mine closure plan of Kotre Basantpur Pachmo OCP (5 MTPA / 1011.87 Ha) has been prepared by excluding 151 Ha. Forest land from the proposed external OB Dump area (complying Stage-I Forest Clearance condition). • Furthermore, a sustainability study on mine planning has been carried out by IIT (ISM) Dhanbad, to assess the possibility of alternate mine planning options and optimization of mine plan to minimize the damages on environment. The suggestions of this sustainable report have also been incorporated in the revised mine plan. Sustainability study report is enclosed. <p>Key issues addressed by the sustainability study based on the observations made by the EAC are given as under:</p>

vetted by reputed international expert/ agency

IA. Emphasis on Protection of Streams flowing within the Lease Area

Based on the geology of Kotre-Basantpur Pachmo block and the natural stream alignment, it has been observed that, mining cannot be done in this block without diversion/ re-alignment of streams. However, in order to minimize the damage, following suggestions were made in the sustainability report.

The observations made in the Sustainability study carried out by IIT (ISM) Dhanbad) are as given below:

Stream	As proposed by the Project Proponent	As per the Sustainability Study
Kotre	Diversion proposed during the construction phase (1 st Year)	The Kotre stream flows through the proposed infrastructure land and for any construction work to happen, the stream would need to be diverted. Therefore, the Kotre stream would still be proposed to be diverted during the construction period so that the stream could be well protected throughout the period of mining operation.
Jhumra Stream	Diversion proposed during the construction phase (1 st Year)	The stage working plan has been revised such that, starting with the box cut operation, the mine moves dip side to protect the Jhumra stream, and then expands along the strike when it cuts across the Jhumra stream in the 3rd year. Jhumra stream will be diverted in year 3 to continue with the mining operation and merged with the Pachmo stream.
Pachmo Stream	Diversion Proposed in the 15 th Year	Diversion Proposed in the 15 th Year
Bhagariastream	Diversion Proposed in the 20th Year	Diversion Proposed in the 20th Year

As per the revised Mine Plan, for the first three years, starting with the box cut operation, the mine moves dip side to protect the Jhumra nalla, and then expands along the strike when it cuts across the Jhumra nalla in the 4th year, and thereafter, again the mine moves dip wards until the 7th year of operation before again it moves laterally along the strike in the eastward direction i.e., towards Pachmo block, to cut the Pachmo nalla in the 15th year of mining operation.

Sl. No.	Nala proposed for Diversion	Diverted into	Yr. of Diversion
1	Kotre Nala	Western wing of Kotre nala	Before start of mining operation
2	Jhumra Nala	Pachmo Nalla (partial)	3 rd Year
3	Jhumra and Pachmo Nala	Baghraiya Nala	15 th Year
4	Bhagharia Nala	Baghlata Nala	20 th Year

The **detailed Stream Diversion Plan along with protection measures have been prepared by IIT Roorkee**. The same has been submitted to Water Resource Department Jharkhand for issuance of NoC for diversion. (Stream Diversion report enclosed).

If the mining operations are carried out without diverting the nallas, not only would there be a significant loss of precious coking coal reserve locked underneath the nallas (import of coking coal rose 5.44 per cent to 54.46 MT in FY23 over 51.65 MT in FY22 – EY Report 2023), the financial viability of the project is also adversely affected because of lower scale of operation and a sharp increase in stripping ratio making the mining operation economically un viable. Secondly, the protection of nallas would be badly affected as there would be mining activities all around destroying the catchment of the nalla making the nalla sick and dry. No protection of nalla would be possible which could be quite a dangerous scenario considering the water requirement of the area. In addition, there will be a risk of flooding of the mine during the rainy season causing an inundation (a major safety issue).

1B. Feasibility of Hybrid mode of Working:

The point is taken care in the **Sustainability Study carried out by IIT (ISM), Dhanbad**. With regards to hybrid mining, the complexities imposed by the geology of the coal deposit, a scientific review of the mine plan to explore the possibilities of hybrid mining (mix of OC and UG mining) has been carried out with the following outcomes:

Underground mining of closely packed, multiple and impersistent thickness coal seam with steep gradient and multiple faults (15 no's) with large variations in their throws (5m to 90m) makes the design of underground coal mining operation not only extremely difficult and complex but also the recovery of available coal reserve is very poor (~ 25-30 %). A lot of coal is lost in designing the underground mining panel for extraction and transport of coal (crossing of faults, in some areas existence of close step faults will not allow extraction of coal seams at all). Thus, it has not been found possible to design large and efficient UG mining panels and production districts for the mass production of coal through deployment of mass production technology to achieve the desired production targets of 5.0 MTPA.

The report suggests that, due to the complexities imposed by the non-uniform thickness, multiple coal seams, steep gradient of the strata, and multiple faults has made the working of the mine very difficult. Therefore, the underground mining method is not proposed for the following reasons:

- 1) *Due to multiple faults with varying throw (5m to 90m), and multiple coal seams with impersistent thickness in pockets, and steep gradient, it would not be possible to design large and efficient mining panels for the mass production of coal and deployment of mass production technology.*
- 2) *Existence of multiple faults (around 15 number of faults) within the block area will require crossing of many of these faults and some area may even be difficult to approach due to existence close step faults and that area will become practically non workable even if thickness permits for mining. This may decrease the percentage extraction of coal by underground mining methods to a great extent and loss of coal may be a source of potential hazard like fire etc.*
- 3) *Given the steep gradient of coal seams coupled with multiple faults and multiple coal seams of varying thickness, extraction & transportation of coal in the underground would be very difficult to achieve and may pose serious safety issues.*
- 4) *A lot of coal will be lost in driving the drifts below ground to cross the faults and barrier against faults. The percentage extraction of coal from coal seams will be very less (~ 25-30%).*

IC: Revise the dumping strategy reducing the external dump area to protect the forest:

The sustainability Study suggests that, KBP mine is surrounded by several operating and virgin coal blocks in south, west, southeast, and east directions with significant remaining coal reserves and mine life. All the surrounding / nearby coal blocks are contiguous in nature and forms part of the West Bokaro Coalfield with similar geological features / structures. Coal seams are dipping south and southeast, and strike predominantly along E-W. Most major coal seams are in-cropped on the northern fringe of the coalfields,

therefore, the coal blocks lying on the northern fringe have lower depth amenable for open cast mining. Coal blocks lying down in the south will have higher depth and will be mined by UG mining method. The below figure and table show the status of adjoining and nearby coal blocks being explored for the external dumping.

Name of the block	Direction from KBP	Status	Remaining life (Years)	Available for dumping?
Kedla Collery (KOC & KUGP)	South	Kedla OC/UG-10 MTY. A virgin coal block for which mine plan is under preparation	20 Years	No
Jharkhand OCP	South	Laiyo & Jharkhand OCP combined mine plan / PR is prepared with integrated dump.	14 Years	No
Laiyo	South & SE		14 Years	No
West Bokaro Mine of TISCO	South and SW	Mine is in operation	9 Years	No
Parej East (UG)	SW	Parej East U/G planned just below Parej East OCP (Balance Life 7 years) is already allocated to MDO.	16 Years	No
Parej East (OC)	SW		----	----
Parej West and North of Parej West	West	Parej West PR prepared and submitted to CCL for onward action (2MT)	20 Years	No
Lalgarh North	East	Non-CIL / Commercial Block	----	----

As seen from figure and table, the only non-coal bearing area where no future coal mining activities could be planned / proposed lie on the north beyond the boundary of the coalfield and marked in the Metamorphics. Therefore, any attempt to place the external dump in the South, East and West will sterilize the precious coking coal reserve for which the country is dependent on the import. Most of the coal blocks lying down south from the northern boundary of the coal block will have to be planned with integrated dumping in a holistic manner to minimize the environmental impact due to mining, KBP presents

a good example as Kotre-Basantpur and Pachmo coal blocks have been planned in an integrated manner. Detailed Report is enclosed.

Stage-I Forest Clearance has been accorded to KBP OCP reducing 151 Ha forest land from the proposed external dump area and directed to revise the Mine Plan. Accordingly, CMPDI revised the mine plan reducing the external dump quantity leaving 2 bottom coal seams as well to reduce the external dump area. The below-given table shows the difference of the reduction of OB Qty and the External dump area:-

	Previous Mine Plan	Revised Mine Plan
Over Burden proposed in external dump	215.57 M cum	72.21 M cum
External OB Dump Area	313.52 Ha	162.77 Ha

No extra land is available in the vicinity for external dump outside the forest area. In such a scenario, a thorough technical review of the mining plan including the dump plan is undertaken in a sustainability study to reduce the quantity of overburden, so that the external dump area could be reduced accordingly.

2 PP to revise analysis and yearly benefit of coal extraction v/s environmental loss

Cost Benefit Analysis has been revised in line with the observations made by the EAC. The summary of CBA is as presented below:
Cost to Environment has been calculated by considering the following parameters:

Environmental Costs Considered	Environmental Benefits Considered
<ol style="list-style-type: none"> 1. Land Eco-system Services <ol style="list-style-type: none"> i. Ecosystem Service Loss due to Proposed Diversion ii. Loss of Animal Husbandry including Loss of Fodder iii. Possession Value of Forest Land Diverted iv. Habitat Fragmentation cost 2. Air Environment <ol style="list-style-type: none"> i. Environmental Damages due to Air Emissions (PM10, PM2.5, SOx & NOx). 3. Water Regime <ol style="list-style-type: none"> i. Ground water abstraction due to mine seepage ii. Surface water iii. Stream Diversion 4. Social Cost 	<ol style="list-style-type: none"> 1. Environmental and Ecological Benefits <ol style="list-style-type: none"> i. Benefit Ecosystem Services due to proposed Compensatory afforestation 2. Social Benefits <ol style="list-style-type: none"> i. Economic Benefit accrued by society due to Direct Employment ii. Employment to Land Losers iii. Economic Benefit accrued by society due to indirect Employment iv. CSR Cost 3. Benefits to Government <ol style="list-style-type: none"> i. Royalty to DMO ii. District Mining Fund iii. National Mineral Exploration Trust iv. Management Fee v. Forest Department

		<p>i. Social Cost of Rehabilitation and Resettlement</p> <p>ii. Social Cost to Carbon Emission due to Energy (HSD and Electricity), Loss of Carbon Stock due to change in LULCF.</p>	<p>vi. Reserve Price equivalent to Royalty</p>																																												
3	<p>PP must carry out plantation in nearby area wherever it is feasible in consultation with gram panchayat. It was advised to explore the plantation along the road sides used for transportation, along the river banks, fruit planation for villagers etc. and these should also be looked after by CCL for its perpetual maintenance.</p>	<p>As desired by the EAC MoEFCC, following action plan for an estimated budget of 12.60 Lakhs is being submitted with regards to plantation by PP in nearby villages, road sides used for transportation, along the river banks, fruit planation for villagers etc.</p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Location</th> <th>Plantation Site</th> <th>No. of plants to be planted</th> <th>Cost in Rs. Lakhs</th> <th>Timeline</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Charhi Ghato MB Road</td> <td>Along both side of road from Charhi to Chopra More, Length = 16 KM (approx.)</td> <td>2000</td> <td>3.00</td> <td rowspan="7">Will be taken up in first 2 years of Mine operation</td> </tr> <tr> <td>2</td> <td>Nearby villages in buffer zone of Hazaribagh Area</td> <td>Site to be provided by the Mukhiya/ Gram Panchayat in the villages nearby the mines of Hazaribagh Area</td> <td>2000</td> <td>3.00</td> </tr> <tr> <td>3</td> <td>Basantpur Village</td> <td>In proposed residence area and near infrastructure of KBP</td> <td>1000</td> <td>1.50</td> </tr> <tr> <td>4</td> <td>Prem Nagar Colony, Tapin village</td> <td>Along roads and near temple, residence area & other infrastructure</td> <td>500</td> <td>0.75</td> </tr> <tr> <td>5</td> <td>Residence Colony, Charhi</td> <td>Along roads and near temple, residence area & other infrastructure</td> <td>200</td> <td>0.30</td> </tr> <tr> <td>6</td> <td>Residence Colony of Tapin South Project</td> <td>Along roads & playground and near residence area & other infrastructure</td> <td>300</td> <td>0.45</td> </tr> <tr> <td>7</td> <td>Residence Colony, Tapin North</td> <td>Along roads and near temple, residence area & other infrastructure</td> <td>200</td> <td>0.30</td> </tr> </tbody> </table>				Sl. No.	Location	Plantation Site	No. of plants to be planted	Cost in Rs. Lakhs	Timeline	1	Charhi Ghato MB Road	Along both side of road from Charhi to Chopra More, Length = 16 KM (approx.)	2000	3.00	Will be taken up in first 2 years of Mine operation	2	Nearby villages in buffer zone of Hazaribagh Area	Site to be provided by the Mukhiya/ Gram Panchayat in the villages nearby the mines of Hazaribagh Area	2000	3.00	3	Basantpur Village	In proposed residence area and near infrastructure of KBP	1000	1.50	4	Prem Nagar Colony, Tapin village	Along roads and near temple, residence area & other infrastructure	500	0.75	5	Residence Colony, Charhi	Along roads and near temple, residence area & other infrastructure	200	0.30	6	Residence Colony of Tapin South Project	Along roads & playground and near residence area & other infrastructure	300	0.45	7	Residence Colony, Tapin North	Along roads and near temple, residence area & other infrastructure	200	0.30
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4	Status of Hydrogeological study, wild life conservation plan & Social Impact Assessment.	<p>All the studies are completed and submitted to their respective Departments for approval.</p> <p>4A. Hydrogeological Study as part of EIA EMP has been carried out as per GEC 2015, and incorporated in the EIA EMP. Hydrogeology report has been incorporated.</p> <p>4B. The Wildlife Conservation Plan has been submitted to DFO Ramgarh and Bokaro vide letter nos: PO (KBP OCP)/2023/14 and PO (KBP OCP)/2023/15 Dt. 03.06.2023 respectively. The proposal is at PCCF Wildlife Warden for final Approval. Letter of submission as acknowledgement of Wildlife Conservation Plan is enclosed.</p> <p>As per the Plan, the allocated fund is Rs. 4391.19 Lakhs. The break-up of proposed activities with budget provision submitted to DFO is given below:-</p> <p>4C. Detailed socio-economic study is conducted by M/s Asian Institute of Sustainable Development, Ranchi at the project-affected villages. Detailed Socio-Economic Survey Report of the project submitted to concern DC vide letter no. PO (KBP OCP)/2023/08 dated 12.05.2023 and letter no. PO (KBP OCP)/2023-24/12 dated 09.06.2023 respectively.</p> <p>The SIA Report and the letter of submission to DC have been enclosed.</p> <p>Proposed R&R plan as per the SIA study carried out is as given below:</p> <p>Brief Details of R&R</p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Activity</th> <th>Budget for Forest Division in Rs. Lakhs</th> <th>Total</th> </tr> </thead> </table>	Sl. No.	Activity	Budget for Forest Division in Rs. Lakhs	Total														
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		Ramgarh	Bokaro	Rs. in Lakhs
1	Habitat Management	947.04	535.31	1482.35
2	Wildlife Conservation Activity	228.57	216.57	445.14
3	Research & Monitoring	125.50	65.00	190.50
4	Eco. Dev. Work/ Capacity Building	80.00	22.00	102.00
5	Awareness and Training Program	113.00	85.00	198.00
6	Strengthening of Infra for wildlife conservation	650.14	427.20	1077.33
7	Other Activities	114.00	50.00	164.00
	SUB TOTAL	2258.25	1401.08	3659.32
	Escalation @15%	451.65	280.22	731.87
	TOTAL	2709.90	1681.30	4391.19

Details of Project Affected People (PAP):

Village	Total Land to be acquired (Acres)	PAF	PDF	PAP	Land losers (Tenancy+ GM Land)	Only Home stead	Land & Home Losers
Basantpur	385.94	543	71	1289	472	6	65
Kotre	654.35	101	0	218	101	0	0
Pachanda	273.23	321	86	717	235	0	86
Hurdag	420.94	130	130	296	0	0	130
Pachmo	513.58	778	778	1790	0	0	778
Baghariya	239.14	0	0	0	0	0	0
Rahawan	13.56	306	8	676	298	0	8
Total	2500.74	2179	1073	4986	1106	6	1067

Summary:

1. Direct Employment (Permanent+ Contractual) to 681 PAPs.
2. R&R Site of 53.65 Acres to accommodate approx. 1073 PDFs.
3. In addition to this as per CIL R & R Policy, one employment is given to Raiyat for every two acres of land, House Compensation, Tree Compensation etc will be paid to the Tenants as per applicable rates of Jharkhand Govt.

Detailed R&R Action Plan is enclosed.

05	PP shall update and revise mine plan & mine closure activity	Reply submitted at pt no. 01 above.
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	considering the sustainable way of mining and by restricting the diversions of streams.	
06	PP shall submit Environment cost benefit analysis of this project (third party) based on loss of forest, biodiversity, diversion of river and accordingly review method of mining.	Reply submitted at pt no. 02 above.
07	Emphasis to be given on protection measures for the 4 streams namely Kotre, Jhumra, Pachmo and Baghariya flowing across the lease area.	Reply submitted at pt no. 1A above.
08	As suggested by EAC, PP and consultant must adopt an integrated approach while handling the Over burden as the void of already existing nearby OCP, which can also be taken into consideration. PP must explore with scientific justification for OB handling as integrated	Reply submitted at pt no. 1C above.

	approach with nearby Kedla OCP.	
09	PP shall provide the acknowledgement of Wildlife Conservation Plan and allocated fund for Schedule-I species and breakup of the proposed activities with budgetary provision submitted to the DFO	Reply submitted at pt no. 4B above.
10	PP shall submit Social Impact Assessment Study and draft R&R plan (to be submitted to District Commissioner)	Reply submitted at pt no. 4C above.
11	PP shall redo the monitoring of ambient air for carrying capacity in order to conduct the cumulative impact and propose the EMP measure in commensurate with State Action Plan for Severely Polluted area.	<p>Ambient air quality at 14 locations and micro-meteorological data has been generated for the period of January - March 2023 by M/S Crystal Consultancy Services. The Detailed Report is enclosed.</p> <p>Further, the cumulative impact assessment has been carried out based on the above ambient air quality data and considering all industrial activities in the 10 km buffer zone study area.</p> <p>The present Ambient Air Quality Index of 10 km buffer zone and the predicted Air Quality Index (AQI) based on the cumulative Impact Assessment carried out using AERMOD software.</p> <p>The detailed Cumulative Impact Assessment report is enclosed.</p>
12	PP shall recheck and re-monitor the water quality of surface water in vicinity of the project area	Surface water monitoring at 7 locations covering all surface water bodies has been carried out by TSC lab, Ranchi during the month of May 2022 and successfully presented before EAC at its 28 th EAC meeting held on 01.04.2022. Sample results have been enclosed.

13	Time bound action plan with budgetary provision for commitment made on the issues raised during public hearing in both the districts.	The summary of major issues raised in PH have been depicted in the graph.
14	PP to submit the revised EMP cost and the break -up of activity proposed in CSR.	Total Capital cost of Environmental Control Measures is kept as Rs. 22563.59 Lakhs and Environmental Revenue Expenditure is kept as Rs. 242.31 Lakhs/year. Total cost (5 years Operation) for proposed CSR Action Plan is kept as Rs.1647 Lakhs. Detailed break-up is enclosed.
15	The state action plan for mining should be taken into consideration while proposing EMP as the mine is located in severely polluted area	As per the comprehensive action plan prepared by Pollution Control Board, Ramgarh and Patratu Industrial areas of Ramgarh Dist. Have been notified as Severely Polluted Areas (SPI). Whereas, the proposed project falls outside the notified area at an aerial distance of 50 kms.
16	The socio-economic study to be conducted with actual survey report and a comparative assessment to be made from the census data of 2011-part B and also economic status of the study area and it should reflect how economically project will contribute to public. The study should also include the status of	Detailed socio-economic study is conducted by M/s Asian Institute of Sustainable Development, Ranchi at the project affected villages. Based on the socio-economic study data and need based survey carried out, a detailed CSR plan for the next 5 years has been prepared for Rs.1647 Lakhs . Detailed break-up is enclosed.

	infrastructural facilities and amenities present in the study area and comparative assessment with census data of 2011 part A of EIA report and link it with the initialization and quantification of need-based survey for CSR activities to be followed	
17	A time bound action plan with its budgetary provision for green belt development with three tier plantation suggesting the name of species its survival rate, must be provided by PP	A detailed action plan for green belt and reclamation has been prepared. The summary is as Table 1 below:
18	List of species of flora and fauna shall be vetted by DFO after conducting primary survey of buffer zone	A certified List of Flora and Fauna of Ramgarh and Bokaro Forest Division is enclosed.
19	A justification on carrying the open cast mining wrt carbon foot print and carbon sink of the existing forest area for next 10 years must be	Net CO ₂ -e emissions due to mine operation have been calculated taking into account energy (HSD and electricity) and LULCF (deforestation, Compensatory afforestation and reclamation of degraded land). It has been estimated that Net CO ₂ -e emissions from KBP OCP is around 25 kg of CO ₂ e/te of coal obtained. Carbon Footprint report enclosed. The comparison w.r.t to other mines is as given below:

	provided by PP with its compensatory provision																
20	Form 2 shall be revised in respect of Land use (Forest Area) and PP must furnish the stage-I FC of 1006.17 ha Forest Land	Stage-I Forest Clearance accorded by MoEF&CC vide File No. 08-08/2022-FC dated 27.02.2023 for diversion of 855.17 Ha (1006.17 – 151.00) of forest land. Copy of Stage-I Clearance enclosed. Form – 2 has been updated accordingly.															
21	Revised EIA/ EMP report, Form-2 & mining plan must be provided by PP as suggested by the EAC.	Mining plan has been revised and approved by CCL Board. Accordingly, Final EIA-EMP and Form-II have been revised based on the revised mine plan.															
22	It was also seen that the forest area mentioned in Pre - mining land use is 762 Ha, the discrepancy in data needs to be reconciled	<p>As per the Revised Mining Plan, the total area required for diversion is 855.17 Ha of Forest land for which Stage-I Forest Clearance has been accorded by MOEF& CC vide File No. 08-08/2022-FC dated 27.02.2023. Break-up of the revised pre-mining land of the project area is given below:-</p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Type of Land</th> <th>Area in Hectare</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Notified Forest</td> <td>564.16</td> </tr> <tr> <td>2</td> <td>GMJJ Land</td> <td>291.01</td> </tr> <tr> <td>3</td> <td>Non-Forest</td> <td>156.70</td> </tr> <tr> <td colspan="2">TOTAL</td> <td>1011.87</td> </tr> </tbody> </table> <p>Copy of Revised Approved Mining Plan is enclosed.</p>	Sl. No.	Type of Land	Area in Hectare	1	Notified Forest	564.16	2	GMJJ Land	291.01	3	Non-Forest	156.70	TOTAL		1011.87
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TOTAL		1011.87															
23	No project specific EMP cell is devised for project as no mention given in EIA/ EMP report.	Environmental Organization of the project Central Coalfields is having a corporate Environment and Forest department headed by General Manager and assisted by 13 officers having PG/ Degree in Environmental Engineering, assisted by sufficient staff. Each area is having qualified Environmental Engineer & supporting staff for monitoring activities of all the mines of the area. The proposed KBP project is also having 1 Assistant Manager with M.Tech Environment qualification working under Project Officer.															

Table 1: Action plan for green belt and reclamation

Year	Green Belt & Embankment		Safety Zone		Backfilled Area		Infrastructure		External Dump		Total		Cost to be incurred Rs. Lakh
	Area (Ha)	Trees	Area (Ha)	Trees	Area (Ha)	Trees	Area (Ha)	Trees	Area (Ha)	Trees	Area (Ha)	Trees (000)	

		(000)		(000)		(000)		(000)		(000)			
Y0	25	40	2.5	4	0	0	0	0	0	0	27.5	44	187.5
Y1	41.25	66	3.5	5.6	0	0	0	0	0	0	44.75	71.6	284.38
Y3	52.56	84.09	5.84	9.34	0	0	0	0	16.07	40.18	74.47	133.61	473.72
Y5	57.06	91.29	5.99	9.58	0	0	0	0	39.02	97.55	102.07	198.42	575.79
Y10	77.79	124.46	6.67	10.67	88.52	221.30	0	0	162.77	40.693	335.75	763.35	1418.49
Y18	125.00	200	9.50	15.20	215.00	537.50	0	0	162.77	40.693	512.27	1159.63	2139.70
Y25	175.96	281.54	11.25	18.00	380.00	950	0	0	162.77	40.693	729.98	1656.46	2965.56
Post Closure Y28	175.96	281.54	11.25	18	477.42	1193.55	26.74	66.85	162.77	40.693	854.14	1966.86	3400.12
In order to prevent the impact of proposed activity on air environment, following imitative measures have been proposed. S. No.									Activity	Details	Estimate d Capital Cost		

1	Mobile Mist Type Sprinklers/ Fog Canons	3 nos. of Mobile Mist type sprinklers of 28 kL Capacity for dust suppression at loading and unloading points, Transfer points, haul roads, workshop etc.	Rs. 522 Lakhs
2	Mobile Sprinklers	2 nos. of Mobile sprinklers for dust suppression and reclamation	Rs. 348 Lakhs

3	PCC Topping of coal transportation road	Provision for PCC road from mine to CHP of around 550 m length	Rs. 100 Lakhs
4	Fixed Sprinkling System	Provision of Fixed sprinkling system of length 4 km on coal and OB Haul road	Rs. 300 Lakhs

5	Permane nt Wind Screen	Perma nent wind screen to be provid ed all along the South wester n and souther n bounda ries of the project of total length of 8 kms	Rs. 800 lakhs
6	Vehicle wheel washing system	2 nos. At CHP and Works hop	Rs. 50 Lakhs

7	Dust Prevention Systems at CHP	Automated Fixed Sprinkling System and Dust Extraction System at Primary and secondary crushers of CHP	Rs. 93.80 Lakhs
	Fog Canons	3 no. of fixed fog canons within CHP premises for dust suppression	Rs. 20 Lakhs

8	Thick 3-tier green belt/ Avenue Plantation	3-Tier green belt/ avenue plantation to be developed all along the transportation roads, mine boundary and industrial premises over an area of 187.21 Ha	Covered under reclamation Section
9	Continuous Ambient Air Quality Monitoring System	4 no. of CAAQ Ms to be installed. One in core zone and 3 nos. in the buffer zone	Rs. 280 Lakhs
		Sub Total (1)	Rs. 8567.80 Lakhs

- iii. PP has obtained the Forest Clearance for 855.17 ha (i.e. 1006.17 ha - 151 ha) out of total mine lease area of 1011.87 ha.
- iv. Compliance of issues raised in the PH along budgetary provisions are as follows:

S.No.	Additional Measures Proposed as per CER/ PH Compliance	Budgetary Provision in Rs. Lakhs	Tentative Timeline
1	Distribution of Fruit bearing Saplings will be done in the Pre-monsoon of every year to nearby villagers @ 1000 Samplings/ year for 10 years	40	Pre-monsoon of Every year for first 10 years of mine operation.
2	Skill development training to PAFs like motor vehicle driving, Animal Husbandry, Pisciculture, Food Processing, Training of Project Affected villagers for Stitching/Knitting etc self-employment generation programmes shall be carried out.	200	Shall be carried out in line with R&R Action Plan
3	Green belt/ avenue plantation is proposed to be developed at following villages. Main road Basantpur Village: 1.20 km Road in Hurdag village: 450 m Rahwan village: 1.50 km Total: 3.15 km 2 no.of Fog canons will be deployed for dust suppression in Buffer Zone @ 90 Lakhs	195	2nd year of mine operation
4	For habitation falling outside the project boundary i.e., Basantpur&Pachanda villages, drinking water resource will be provided by constructing a DWTP.	300	3rd year of Mine operation
5	In order to enhance the ground water level in nearby villages following measures are proposed. 1. Deepening and strengthening of 2 no. of ponds in Basantpur, 1 no. in Hurdag and 1no. In Rahwan village @ 150 Lakhs. 2. Roof-top Rain water Harvesting systems of 10 nos. in Panchayat Bhawan, Community hall and other public buildings in Basantpur, Hurdag, Rahwn&pachanda villages @ 75 Lakhs	225	2nd year of mine operation
6	Additional Health Camps to monitor the respiratory and E&T health status of nearby villages once in a month Basantpur, Pachnada, Durukashmar, Kedla, Hurdag etc.	100	Once in a month for first 5 years of mine operation
	Total	Rs. 1060 Lakhs	

- v. PP has submitted the budgetary provision for Environmental Control Measures are as follows:

Capital Cost of Environmental Control Measures			
Air Pollution Control Measures			
S. No.	Activity	Details	Estimated Capital Cost in Rs. Lakh
1	Mobile Mist Type Sprinklers/ Fog Canons	3 nos. of Mobile Mist type sprinklers of 28 kL Capacity for dust suppression at loading and unloading points, Transfer points, haul roads, workshop etc	522
2	Mobile Sprinklers	2 nos. of Mobile sprinklers for dust suppression and reclamation	348
3	PCC Topping of Coal transportation road	Provision for PCC road from mine to CHP of around 550 m length	100
4	Fixed Sprinkling System	Provision of Fixed sprinkling system of length 4 km on coal and OB Haul Road	300
5	Permanent Wind Screen	Permanent wind screen to be provided all along the South western and southern boundaries of the project of total length of 8 kms	800
6	Vehicle wheel washing system	2 nos. At CHP and Workshop	50
7	Dust Prevention Systems at CHP	Automated Fixed Sprinkling System and Dust Extraction System at Primary and secondary crushers of CHP	93.80
8	Fog Canons	3 no. of fixed fog canons within CHP premises for dust suppression	20
9	Thick 3 row Green belt/ Avenue Plantation	3 row green belt/ avenue plantation to be developed all along the transportation roads, mine boundary and industrial premises over an area of 187.21 Ha	6054
10	Continuous Ambient Air Quality Monitoring System	4 no. of CAAQMs to be installed. One in core zone and 3 nos. in the buffer zone	280
Sub Total (1)			Rs. 8567.80 Lakhs
Capital Cost of Environmental Control Measures			
Water Pollution Control Measures			
S. No.	Activity	Details	Estimated Capital Cost in Rs. Lakh
1	Construction of ETP for Workshop	ETP of 240 KLD Capacity consisting of Oil and Grease Trap and Settling ponds with recycling arrangement	540

2	Catch Drains, Toe Wall and Granland Drains	Catch Drains, Toe walls and graland drains of total length of 18 kms with settling ponds will be provided all along dumps, quarry and other infrastructure	670
3	Mine Sumps	Mine Sumps with sequential settling ponds to treat mine water	250
4	Sewage treatment Plant	STP with Primary and Biological treatment systems to be provided at Colony, R&R site and office premises	270
5	Drinking Water Supply and Treatment Plan	Provision for treated Drinking water for Colony, R&R Site and Office premises	1345
6	Rooftop Rainwater Harvesting System	Rooftop rain water harvesting system on Service and residential buildings of KBP OCP	20
7	Construction of Piezometers	Construction of 5 Piezometers covering upstream and downstream locations	150
8	Embankment along Chutua nadi	3 row green belt/ avenue plantation to be developed all along the transportation roads, mine boundary and industrial premises	150
9	Diversion of Stream and Construction of Checkdams	Diversion of 4 Seasonal Streams flowing across the project boundary	1740
Sub Total (2)			Rs. 5135 Lakhs
Reclamation Activities		Biological reclamation of internal and External OB Dump, Dismantled infrastructure etc. of total area 854.14 Ha	3400
Conservation Plan		Conversion Plan for Schedule-I Faunal Species	4391.19
Plantation in Nearby Areas outside the mine lease		Plantation along the road sides used for transportation, along the river banks, fruit planation for villagers etc.	9.60
Sub Total (3)			Rs. 7800.79 Lakh
Grand Total (1+2+3)			Rs. 21,503 Lakh

47.6.3 The EAC, after deliberations, observed that the instant proposal is a green field project located in rich biodiversity area and falls in catchment area of Bokaro River i.e Kotre, Pachmo, Jhumra and Bagharia Nalla. PP has obtained the Forest clearance for the 855.17 ha out of the total forest area of 1006.17 ha comprises total mine lease area of 1011.87 ha. Committee asked to incorporate sustainable methods of mining so that the streams biodiversity shall be conserved.

During the discussions, Committee examined and allowed to divert Kotre Nallah in one go at the beginning of the mining operations and rest of the nallah i.e. Jhumra, Pachmo & Bhagharia Nallah proposed to be diverted in 3rd, 15th and 20th year respectively after starting the mine operation. It was

desired that no diversion should take place before said timeline. The diversion channel shall be stone pitched and ensured the no silt is drained out adjoining river.

Further, the project is located in Ramgarh district which has been identified as Severely Polluted Areas (SPAs) with CEPI score of 66.75, accordingly EAC desired that PP must comply all the EC conditions with strict timeline and adequate safeguard. The mode of coal transportation shall be converted to mechanized system as per timeline given. Tree plantation along the mine lease within safety zone of 7.5 mts all along the mine boundary shall be conducted as early as possible.

The Committee observed that there are schedule I species which include elephants in the project and buffer area, accordingly, it was desired that PP shall do regular follow up with State Forest Department for expenditure of Wildlife Conservation Plan and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO. It was observed that Public Hearing has been conducted in two districts i.e. in Bokaro and Ramgarh for which PP has submitted the requisite budget to address it.

*Based on the above, EAC **recommended** the proposal for grant of Environmental Clearance for Kotre Basantpur Pachmo OCP Coal Mine Project with 5.0 MTPA production capacity in ML area of 1011.87 Ha by M/s Central Coalfields Limited located in West Bokaro Coal field at villages Pachmo, Basantpur, Tehsil Gumia, District Ramgarh & Bokaro (Jharkhand) under EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:*

- i. PP shall obtain CTE/CTO from State Pollution Control Board for 5.0 MTPA production capacity for open cast operation.*
- ii. PP shall protect the non-diverted forest area (i.e. 151 ha) lies within the ML area with plant density of at least 2500 plant per ha. The non-diverted forest area shall not involve with any type of infrastructure and dumping of Overburden and fencing all around the boundary along the mine lease area shall be conducted.*
- iii. The Kotre Nallah shall be diverted in one go at the beginning of the mining operations and rest of the nallah i.e. Jhumra, Pachmo & Bhagharia Nallah to be diverted in 3rd, 15th and 20th year respectively after starting of the mine operation.*
- iv. PP shall divert the above prescribed Nallah in a manner that its construction for diversion shall be completed in one go without extended period and works plan shall be designed to complete the diversion avoiding Monsoon season (i.e. effective working months of non-monsoon season). Embankment height shall be maintained on both side of stream with sufficient free board upto 3 mts from its HFL. There shall be no inundation of any villages due to diversion. The diversion channel shall be stone pitched and ensured the no silt is drained out adjoining river.*
- v. PP shall install dedicated in-pit belt conveyor with silo loading system till railway siding for transportation of 90% of extracted coal through rail and only 10% by road within three years (i.e. December, 2024). Accordingly, SPCB should grant the consent to operate.*
- vi. PP shall transport coal through conveyor belt to the linked Kedla Washery (as in approved Mine Plan) only or any coal washery and no road transportation shall be done for this. Accordingly, CTO should be granted by SPCB.*

- vii. *PP shall submit Conservation plan for Bokaro River which is in the east of the block at a distance of more than 2.0 km within 2 years to IRO Ranchi and implement the recommendation with State Government.*
- viii. *PP shall generate equivalent amount of Oxygen (O₂) in order to compensate the net CO₂ released from mining operations i.e. 27382823 in tonne.*
- ix. *PP shall maintain 50 mts width of embankment all along the diverted stream/nallah and conduct dense plantation with fruit bearing native species by itself.*
- x. *The diversion status of Nallah shall be monitored by IRO and complete report with the drone video and satellite imagery shall be submitted to IRO, MoEF&CC.*
- xi. *PP shall deploy the truck size of upto 40 tonnes (payload) for transportation of coal by road. Transportation of coal shall be done in covered trucks only till December, 2024.*
- xii. *As proposed dedicated concrete Road of ~2km length and 12 mt width, away from the villages and sensitive location like school and hospitals shall be constructed to transport the coal prior to the start of the mining operation. Further 10 mts width of tree plantation shall be conducted to mitigate the vehicular and dust emission on both side of road along with the atleast 3m width of the mid-road tree plantation.*
- xiii. *The mining plan shall be revised/modified/amended in next revision after incorporating the diversion of Nallah in one go along with the existing nallah.*
- xiv. *PP shall implement activities-wise proposed budget of Rs. 1060 Lakhs (as Public Hearing Budget), Rs. 21503 Lakhs (as EMP cost) in time bound manner as in Table in above para of MoM 47.6.3 (iv) & (v) respectively. 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 online monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, which will be part of CSR budget.*
- xv. *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.*
- xvi. *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 (80-100 mtrs.) at Coal Stock Yard to suppress the dust particles.*
- xvii. *Garland drains (2mX3m) of adequate size shall be provided at the toe of the benches to arrest discharge and runoff with silt and sediments surging into areas adjoining the periphery of Overburden dump, which will be regularly cleaned before the onset of monsoon every year. Proper profiling of working benches of pits and dumps shall be done to channelize water in garland drains & sumps.*
- xviii. *Check dams shall be constructed at required locations within drains to arrest eroded materials and settling ponds shall be constructed to treat mine discharge water inside the mine block.*
- xix. *5 water harvesting pond shall be created separately to recharging the ground water and usage of project affected families.*
- xx. *PP shall make use of advanced computer simulation techniques for design and execution of blasting operation in the mine. PP shall make use of Electronic Delay Detonators for optimal blasting in*

coal and OB rock to minimize the environmental impacts of blasting such as ground vibration, fly rocks and excessive dust generation.

- 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 and deploy e-vehicles for workers/staff in/out of the mine.
- xxii. Waste generated from the domestic use shall be treated in STP and the treated water will be utilized in plantation & greenbelt development. Wastewater from the HEMM washing/ workshop will be treated in ETP. After treatment, water will be reused in washing of HEMM, dust suppression and greenbelt development.
- xxiii. PP shall implement the outcome of the socio-economic study conducted by Asian Institute of Sustainable Development, Ranchi that is mentioned in the above para of 47.6.2 (4) (4.C).
- xxiv. PP shall arrange the permanent drinking water facility through RO plant along with dedicated pipeline facility for the near villagers. PP shall fix the intermittent issues related to the pipeline & RO plant. 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.
- xxv. PP to plant 100,000 nos. of Sal trees only with geotagging to identify the SAL trees and develop nursery of 10 ha sal trees for free distribution in nearby areas. Further tree species of Aawla, Baheda, Jamun, Mango, Kathal, Sakhua and medicinal plants shall have plated in the foot hills of Jhumra Pahad.
- xxvi. 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.
- xxvii. PP shall install fixed fog cannon (mist sprayer) and fixed sprinkler all along the haul road/ CHP, and OB dump till Railway siding is completed. The sufficient number of fog cannons (not less than 10 nos.) with 40 mts jet length shall be installed within 6 months. It should be ensured that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB.
- xxviii. PP shall make alternate arrangement of grazing land of atleast 10 ha for usage of project affected families within 10-15 km of project area within 2 years of commencement of mine operation.
- xxix. PP shall deposit the approved amount as proposed for wildlife conservation plan to the Govt. of Jharkhand, Forest & Environment Dept. shall do regular follow up with for expenditure of Wildlife Conservation Plan and the details expenditure shall be submitted with six monthly EC compliance report to Ministry’s IRO. Also, PP shall engage with State Biodiversity Authority and local biodiversity committee under its CSR activity to develop the local market.
- xxx. PP shall construct new multispecialty (50 beds) hospital in the 10 km of the project area within 5 years for local people out of approved budget outlay of CSR funds. The project affected families shall be given free medical facility. This shall be done in consultation of DM of the district
- xxxi. 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.

- xxxii. *The status of mine closure activities must be included in every six months compliance report submitted to the state pollution control board and IRO.*
- xxxiii. *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.*
- xxxiv. *PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.*
- xxxv. *Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- xxxvi. *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.*
- xxxvii. *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*
- xxxviii. *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.*

Agenda No. 47.7

Expansion of Baranj Opencast Coal Project from 2.5 MTPA to 3.75 MTPA in Mine Lease area of 1457.20 Ha of M/s Karnataka Power Corporation Limited located in District Chandrapur, Maharashtra - Environmental Clearance under provisions of 7(ii) of EIA Notification, 2006 under OM dated 11.04.2022– reg.

[Online Proposal No. IA/MH/CMIN/419089/2023; File No. J-11015/400/2005-IA. II (M)]

47.7.1 The proposal is for Environment Clearance for Coal mining under Clause 7(ii) of Ministry OM dated 11th April 2022 for project Baranj Opencast Coal Project from 2.5 MTPA to 3.75 MTPA in Mine Lease area of 1457.20 Ha of M/s Karnataka Power Corporation Limited located in District Chandrapur (Maharashtra).

47.7.2 The committee during deliberations noted the following:

- i. The instant proposal was considered in the 42nd EAC meeting dated 05.04.2023 wherein committee deferred the proposal for submission of desired information. The PP has submitted

the reply vide letter dated 5th July, 2023 are as follows:

S. No.	Observation of EAC	Reply of Project Proponent
1	PP to install the ETP and CAAQMS in the mining lease area with action plan of its operation.	<p>From inception, ETP of adequate capacity (30KLD) was well connected to workshop before cancellation of coal block by the Hon'ble Supreme Court. The mine operation was discontinued for more than 6 years leading to dilapidation of the old installation. Therefore, the installation of new ETP is being taken up for which work order has already been issued and expected that commissioning will be completed after monsoon. ETP installation has been initiated by placing WO to M/s Vishnu Associates.</p> <p>Moreover, Mine Developer is having an agreement with Maharashtra Enviro Power Limited, Nagpur which is an approved vendor having Common Hazardous Waste Treatment Storage & Disposal Facility (CHWTSDF).</p> <p>CAAQMS has been successfully installed & Commissioned at designated location specified by MPCB on 29.04.2023 and request for online connection to MPCB in MPCB portal is submitted with Regional Officer, MPCB Chandrapur. Installation & Commissioning Report, Calibration Report, Photographs and application for online connection to MPCB.</p>
2	PP to work with the approved Mining plan and Mine Closure Plan as per latest guidelines of Ministry of Coal (issued in 2019 or 2020) including the incorporation of latest mining method and safety norms.	<p>As per the provisions of Ministry of Coal Guidelines 16.12.2019 and 29.05.2020 Mining Plan will be modified incorporating the latest mining methods and safety norms and submitted for approval from MOC.</p> <p>An undertaking for this is enclosed.</p>
3	PP to update the Mine Plan restricting mining and Overburden dump with a distance of 3	<p>Necessary action for updation and restricting mining within a distance of 3 Km along the boundaries of Ordinance Factory shall be incorporated in the modified Mining Plan.</p> <p>An undertaking to this for this has been enclosed.</p>

	km all along the boundaries of Ordinance Factory.	
4	PP shall submit the copy of valid Consent to Operate on the present operating capacity.	<p>Consent to operate (CTO) was obtained from the State Pollution Control Board on 15.08.2022 and is valid till 31/03/2023.</p> <p>The application for renewal of CTO has been already applied on 20.01.2023 and CAC Cell has grant renewal of Consent for one year i.e. 31st March 2024. The application and mail From CAC Cell is enclosed.</p>
5	PP shall submit the status of establishment of environmental laboratory at project site and details of its Environment Management Cell with their qualification. Further, signed copy Corporate Environment Policy approved by its Board of Directors.	<p>The Environmental Laboratory is proposed to be set up within the Mining Lease area near administrative office premises. Construction and commissioning of the Environmental laboratory at site will be completed within 3 Month period. Status of establishment of Environmental Lab is enclosed.</p> <p>Environment Manager (M. Tech. Environment) is already appointed and recruitments of other manpower is under progress. This includes appointment of Chemist (PG in chemistry), Lab Assistant (Science Graduate), Horticulturist (B.SC/MSc Agriculture) and Office Assistant (Graduate). The Qualified Occupational Health Specialist will be associated externally. This appointment will be completed in one-month period. Signed Environment Policy of Board of Directors is enclosed.</p>
6	PP shall submit the approval of wildlife conservation plan from PCCF, along with the expenditure plan to be spent or already spent for the conservation of wildlife.	<p>A Wildlife Conservation Plan & Flora-Fauna Conservation Plan was prepared by DFO, Chandrapur and approved by PCCF, Nagpur vide letter dated 23.12.2022.</p> <p>DFO Chandrapur directed M/s KPCL to deposit Rs. 149.57 Lakh (Rs. 95.85 lakh towards Flora Fauna Conservation Plan and Rs. 53.72 Lakh for Wildlife Conservation Plan) vide letter dated 18-01-2023</p> <p>Accordingly M/s KPCL deposited Rs. 149.57 Lakh on 20.01.2023. Details enclosed.</p>
7	PP needs to submit the past production detail from the inception of the mine.	The past production detail from the inception of the mine is as under.

Financial Year	Production	Approved EC Capacity	Remarks
	Million Tonnes	Million Tonnes	
2008-09	0.99	2.50	Production by earlier allottee
2009-10	2.25	2.50	
2010-11	2.27	2.50	
2011-12	2.19	2.50	
2012-13	2.50	2.50	
2013-14	2.50	2.50	
2014-15	2.48	2.50	
2015-16	0.00	2.50	Coal Block Allocation cancelled in Sept. 2014 and thereafter there was no production.
2016-17	0.00	2.50	
2017-18	0.00	2.50	
2018-19	0.00	2.50	
2019-20	0.00	2.50	
2020-21	0.01	2.50	Production started in March 2021 by KPCL
2021-22	1.26	2.50	

8	PP needs to submit the permission from the Ordinance factory for extraction of coal being joining the boundaries	Recommendation Letter from Dr. A. P.J Abdul Kalam dated 22.07.1998 has been enclosed.
9	PP needs to submit the detail action taken report of EC and its amendment vide dated 18.05.2006 and 06.07.2015.	<p>As stipulated in the EC and its subsequent amendment, the necessary compliance is being done. The Certified Compliance Report (CCR) from IRO, Nagpur has been obtained on 08th March 2023, which is enclosed.</p> <p>The CCR indicates Non Compliance of one Condition i.e. Setting up of Environment Laboratory for which details are provided in Annexure VI. Further CCR reports Two Partially Complied Conditions viz, ETP installation and Environment Management Cell. The process of ETP installation has been initiated by placing WO to M/s Vishnu Associates. The likely commissioning of the WTP will be in three months. Establishment of Environment Management Cell is already initiated and shall be fully functional within a month period.</p>
10	The PP shall submit the status of expenditure incurred from the budget of Public Hearing to IRO, MoEF&CC with its six monthly compliance report.	A Time bound Action Plan along with budgetary provision of Public Hearing issues is prepared and has been submitted to IRO, MoEF & CC with six monthly compliance Report. Information has been enclosed.
11	PP needs to submit the clarification by SPCB upon projects falls under SPA/CPA.	SRO, MPCB Chandrapur has clarified that the project does not fall under SPA/CPA by email and document has been enclosed.
12	PP shall submit the	It is further proposed to carry out 158520 no. of plantation

	status of plantation with photographs alongwith action plan.	in 105.68 Ha at a total cost of Rs. 39.37 lakhs in the next two years.				
		Details are as under;				
		Action Plan of proposed plantation in restricted area within a distance of 3 Km along the boundaries of Ordinance Factory.				
		Year	Name of the plant	Area (Ha)	Number of trees	Location
		1 st	Azadirachta indica (Neem), Acacia nilotica (Babool), Punica granatum (Anar), Terminalia arjuna (Arjuna), Ziziphus mauritiana (Ber), Mangifera indica (Aam), Musa acuminata (Banana), Dalbergia sissoo (Shesham) Ficus religiosa (Pipal), Ocimum sanctum (Tulsi), Syzygium cumini (Jamun), Tamarindus indica (Imli)	55.00	82500	3 km Restricted area along the boundaries of Ordinance Factory
		2 nd		50.68	76020	
		Total		105.68	158520	
Plantation Budget						
		Location	Area ha	No. of Trees	Cost per tree (Rs.)	Total Cost (Rs.)
		Proposed Plantation area 1	6.00	9000	25	225000
		Proposed Plantation area 2	78.00	117000	25	2925000
		proposed plantation area 3	21.68	32520	25	813000
		Total	105.68	158520		3963000

13	The PP shall submit the status of expenditure incurred from the budget of EMP to IRO, MoEF&CC with its six monthly compliance report.	Total expenditure incurred for EMP to IRO and MoEF&CC is Rs. 1,94,83,675.90/- Breakup are enclosed.
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- ii. PP has submitted the budget of 2690.24 lakh for the expenditure towards Pollution Control Measures:

Sr. No.	Activity / Item	Units	Amount Rs (Lacs)	Amount Rs (Lacs)
			Unit cost	Total
1	Air Pollution Control			
a	Truck Mounted Tanker with Mist Spray Sprinkling Arrangement (25m) for Haul Roads/Mine/Safety zone etc.	3	45	135.00
b	Mobile Water Mist Spray Sprinkler for transport route	2	60	120.00
c	Fixed type Mist spray at Coal stock pile/crusher/Transfer Points etc.	5	15	75.00
d	Mechanised Sweeping of Roads Electrically Operated	4	10	40.00
e	Geo textile (MATS) (M2)	50000	LS	100.00
2	Water Pollution Control			
a	Garland Drain	LS	LS	100.00
b	Boulder Check Plug	50 no	0.7	35.00
c	Effluent Treatment Plant (ETP)	1 no	LS	75.00
d	Sewage Treatment Plant (STP)	1 no	LS	50.00
e	Mine Water Sedimentation Pond & Pumps with WTP	1	70	70.00
3	Noise Control			
a	Noise Level Indicator (Fixed)	5	1	5.00
4	Pollution Monitoring			
a	Continuous Air Monitoring Station	3	50	150.00
b	Piezometer for Hydrogeological Monitoring (including drilling)	10	1	10.00
c	Vibration Monitoring Equipment	1	5	5.00
5	Conservation of Natural Resources			0.00
a	Solar lighting arrangement	50	0.5	25.00
b	Rainwater Harvesting	LS	LS	40.00

Sr. No.	Activity / Item	Units	Amount Rs (Lacs)	Amount Rs (Lacs)
			Unit cost	Total
c	Soil Preservation (Biological Reclamation)	LS	LS	25.00
6	Reclamation			
a	Green Belt Development including Plantation over backfilled, other area within ML (Ha) and Avenue Plantation along transport route with tree guard arrangement	2962475	0.0005	1481.24
7	Fire Fighting Equipment			
a	Fire tender	1 no	30	30.00
b	Advance Firefighting equipment, Fire extinguisher, smoke detectors (for office and workshop), firefighting Drones, fire Automatic Fire Detection and alarm system etc,	20	0.2	4.00
8	Occupational Health			
b	Personnel Protection Equipment (goggles, gloves, helmets, dust mask, safety boots)	300	LS	20.00
9	Miscellaneous			
a	Top Soil Management	--	LS	25.00
b	Awareness Programme (Display Boards (Digital) etc.	--	LS	30.00
c	Ecological Conservation Measures	--	LS	25.00
d	Barbed Wire Fencing for protection of void	LS	LS	10.00
e	CCTV camera for monitoring loading and transport, mine blast, fire, dust generation monitoring,	LS	LS	5.00
Total Estimated Cost (Rs. Lacs)				2690.24

- The Baseline Environmental monitoring at the study area (core zone & buffer zone) has been collected from March 2022 to May 2022 (Summer Season) pertaining to various environmental components including air, noise, water, land and biological components along with parameters of human interest which may be affected due to proposed expansion in the Project.
- The existing Mining Lease is 1457.20 Ha. However, the Mining Lease presently has been executed for 1379.50 Ha.
- The boundary of Eco-Sensitive Zone of Tadoba-Andheri Tiger Reserve notified vide Notification No. S.O. 3249(E) dated 11th Sept. 2019 is located at a distance of about 12.60 Kms

in East direction from the Block. The boundary of Core Zone of TATR is located at a distance of about 22.52 Kms in North-East direction from the Project.

- Separate budget for CER in lieu of Public Hearing @ 0.5% of the capital investment which works out to Rs 3.25 Crores has been earmarked and details of activities to be undertaken (like infrastructure creation, creation of drinking water supply, sanitation, health, education, skill development, roads, cross drains, electrification including solar power, solid waste management facilities, scientific support. The Capital Budget of Rs 81 Lakhs and recurring budget of 34 Lakhs has been earmarked for the various CSR activities for the first five years
- Guidelines for Preparation, Formulation, Submission, Processing, Scrutiny, approval and revision of Mining Plan for the coal and lignite blocks issued by Ministry of Coal vide its OM dated 29.05.2020. At Clause 1.3 (A) of the said guidelines, it is noted that

The mining plan may be modified for a. for change in method of mining; b. for facilitating increase in sanctioned peak capacity that is in excess of one hundred and fifty percent of the sanctioned rated capacity;

Further, clause 1.3 (B) of the said guidelines state that :

Notwithstanding anything contained in Clause (A) above, for other minor changes, the project proponent is empowered to make modification with the approval of the respective company board. These minor changes shall cover.....

- It was also noted that Archaeologically listed Important Place are present in the area i.e. Vijasan Ancient Caves – 3.10 Kms – SW, Bhadravati Fort – 1.05 Kms – South-East, Jain Temple – 1.20 Kms - South

47.7.3 *The EAC after detailed deliberations observed that the instant proposal has been applied under Ministry's OM dated 11th April, 2022 for expansion in capacity upto 50% (stage-1 – 20% i.e. 0.5 MTPA) with exemption in public hearing under clause 7 (ii) of EIA, Notification, 2006.*

During the discussions, Committee found that the Ordinance factory shares the same boundary with the Mine lease area. Due to existence of ordinance factory located near to the ML area, the committee advised to take all possible precautions for safe mining. PP stated that 200 ha of mine lease area has been declared as non-mining zone locating near to Ordinance factory.

It was observed that Project Proponent has prepared EIA as per standard ToR of the coal mines and also submitted wildlife conservation plan for schedule I species. Tadoba Andheri Tiger Reserve is about 12.60 km from the project boundary. It can be observed that Vijasan Ancient Caves is located 3.10 kms, Bhadravati Forts at 1.05 km and Jain temple at 1.20 km.

Further, PP has submitted the guidelines of MoC; thereby PP has informed that revised Mine Plan is not required for increase in capacity that is in excess of one hundred and fifty percent. Further, the mine lease area of project is 1457.20 ha; however, execution of mine lease by state government is 1379.50 ha.

Committee noted that the CAAQMS has been installed & commissioned on 29.04.2023; it was advised to PP to share air quality data to SPCB & CPCB. PP was not able to produce the previous

approved EC capacity of 2.5 MTPA while as per the previous record of submission Committee decided to increase the production capacity from 2.5 to 3.0 MTPA (i.e. 20% Stage I). As per the copy of email dated 11.05.2023, it has been clarified that Bhadrawati Taluka of Chandrapur District does not fall in CEPI area. Committee observed that the expenditure sheet for Public Hearing has been submitted by the PP and PP shall utilize an amount of Rs. 2690.24 Lacs towards EMP.

Based on the document submitted and discussion held in the EAC meeting, the EAC **recommended** the Environmental Clearance under Ministry's OM dated 11.04.2022 (Stage I - 20% expansion) for Baranj Opencast Coal Project from 2.5 MTPA to 3.0 MTPA in Mine Lease area of 1457.20 Ha of M/s Karnataka Power Corporation Limited located in District Chandrapur (Maharashtra) under the provisions of EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:

- i. PP to obtain the CTO for Opencast coalmine capacity of 3.0 MTPA after grant of EC.
- ii. PP shall construct permanent boundary wall all along the boundary wall of Ordinance factory within 1 year. SPCB shall grant the CTO accordingly.
- iii. PP shall revise the mining plan as per latest guidelines of Ministry of Coal (issued in 2019 or 2020) including the incorporation of latest mining method and safety norms and excluding 200 ha of mine lease area declared as non-mining zone locating near to Ordinance factory. Accordingly, SPCB shall issue the CTO.
- iv. PP has to resolve issues of local public with sufficient budgetary provisions along with implementation of activities-wise budget of Rs. 2690.24 Lakhs (as EMP cost) in time bound manner as per s.no. (ii) Of para 47.7.2 of MoM and 0.5% of the capital investment which works out to Rs 3.25 Crores. 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 online monitoring mechanism. The maintenance of all activities shall be covered through recurring cost, which will be part of CSR budget.
- v. The Mine Plan shall restrict mining and dumping of OB within the 200 ha of mine lease area declared as non-mining zone lies along the boundaries of Ordinance Factory.
- vi. PP shall obtain No Objection Certificate from Archeological Survey of India for blasting for its impact on Bhadravati Fort and Vijasan Ancient Caves. Further install the vibration monitoring facilities at these locations. DGMS shall ensure that vibration values are within the stipulated guidelines of Archeological Survey of India (if any).
- vii. The project proponent shall submit the video footage and photographs after completion of all EC condition, it is mandatory to record the dumpsite, status of plantation and construction of boundary wall.
- viii. PP shall establish Environmental laboratory at project site and Environmental Management Cell to monitor the issues related environmental degradation.
- ix. PP shall construct Sewage Treatment Plant (STP) within one year.
- x. PP shall treat the mine water through ETP so that the water can be further utilize in the Mine as well for the local villagers.

- xi. *PP shall deploy at least 20% of overall fleet of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc and deploy e-vehicles for workers/staff in/out of the mine.*
- xii. *PP shall deploy the truck size of upto 40 tonnes (payload) for transportation of coal by road in covered trucks. PP shall deposit requisite amount for maintenance of road used for coal transportation till Majri Railway siding (7 km). No other siding shall be used if in case it is beyond 7 km distance.*
- xiii. *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*
- xiv. *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*
- xv. *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.*
- xvi. *PP shall deposit the approved amount as proposed for wildlife conservation plan to the Govt. of Maharashtra, Forest & Environment Dept. shall do regular follow up with for expenditure of Wildlife Conservation Plan and the details expenditure shall be submitted with six monthly EC compliance report to Ministry's IRO. Also, PP shall engage with State Biodiversity Authority and local biodiversity committee under its CSR activity to develop the local market.*
- xvii. *No coal transportation shall be done through sensitive locations such as villages, hospitals, schools etc.*
- xviii. *PP shall explore with detail technical report regarding implementation of inpit conveyor belt with silo loading facility till nearest railway siding and submit the status to Ministry's IRO.*
- xix. *Tree Plantation along the periphery of Chak Baranj, Baranj Moksa, Chichordi and Manora within mine lease area shall be conducted within one year.*
- xx. *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.**”*
- xxi. *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India &Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent”. The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*
- xxii. *All other terms and conditions as prescribed in the Ministry's letter dated 18th May 2006 & 06th July 2015 shall be applicable.*

Agenda item no. 47.8

Expansion of Lakhanpur opencast (Phase -II) coal mining project for increase in production capacity from 21 MTPA to 22.5 MTPA (increase of 10% w.r.t 15 MTPA) in the Mining lease area of 2452 Ha by M/s Mahanadi Coalfields Ltd, located in village Khairakuni, Tingismal, Ubuda, Khuntamahul, Kalarajori, Khaliapalli, Soladia, Lakhanpur, Kudaloi, Kusaraloi, and Banjhipali, Tehsil Lakhanpur, District Jaarsuguda (Odisha) – For Environmental Clearance dated 30.05.2022 issued under OM vide no. F. No. [A3-22/10/2022-IA.III 07.05.2022- [Availed total 50% relaxation of OM under clause 7 (ii) of EIA notification]-ADS

[Online Proposal No. IA/OR/CMIN/408586/2022; File No. J-11015/391/2012- IA. II(M)] – ADS

47.8.1 The proposal is for Environmental Clearance issued under OM dated 07.05.2022, which has availed total 50% relaxation for project “Lakhanpur opencast (Phase -II) coal mining for increase in production capacity from 21 MTPA to 22.5 MTPA (increase of 10% w.r.t 15 MTPA) in the Mining lease area of 2452 Ha by M/s Mahanadi Coalfields Ltd, located in the village Khairakuni, Tingismal, Ubuda, Khuntamahul, Kalarajori, Khaliapalli, Soladia, Lakhanpur, Kudaloi, Kusaraloi, and Banjhipali, Tehsil Lakhanpur, District Jaarsuguda (Odisha)”.

47.8.2 The proposal was earlier considered in the 39th EAC meeting held on 12-13 January 2023 wherein committee deferred the proposal for submission of information. Now, the PP has submitted the reply compliance of observation made in the 39th EAC meeting are detailed below:

S o .	Observation of EAC	Reply of Project Proponent															
1	PP should submit mandatory physical progress for implementation of in-pit belt conveying system with silo loading	<p>The existing capacity of mine is 22.5 Mty for which current dispatch arrangement is as follows:</p> <p style="text-align: center;">Table: Current dispatch arrangement</p> <table border="1" data-bbox="407 1455 1456 1797"> <thead> <tr> <th>Sl. No.</th> <th>Coal in Mty</th> <th>Dispatch medium</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>15.0</td> <td>By rail through Siding no. 6 & 7 (within Mine Lease)</td> </tr> <tr> <td>2.</td> <td>3.5</td> <td>To OPGC by rail through Charla Siding (within Mine Lease)</td> </tr> <tr> <td>3.</td> <td>4.0</td> <td>By road sale to local consumers</td> </tr> <tr> <td>Total</td> <td>22.5</td> <td></td> </tr> </tbody> </table> <p>For mechanized and eco-friendly evacuation of coal in addition to above, construction of 10.0 Mty pipe conveyor, SILO and washery is also under progress. Details of the same is given below:</p>	Sl. No.	Coal in Mty	Dispatch medium	1.	15.0	By rail through Siding no. 6 & 7 (within Mine Lease)	2.	3.5	To OPGC by rail through Charla Siding (within Mine Lease)	3.	4.0	By road sale to local consumers	Total	22.5	
Sl. No.	Coal in Mty	Dispatch medium															
1.	15.0	By rail through Siding no. 6 & 7 (within Mine Lease)															
2.	3.5	To OPGC by rail through Charla Siding (within Mine Lease)															
3.	4.0	By road sale to local consumers															
Total	22.5																

facility for onward transportation of coal.

Sl. No.	Particulars	Current status
1.	Pipe conveyor of 2.4 km (2000 TPH) 10.0 Mty	Already constructed, it is under trial run phase.
2.	Washery 10.0 Mty	99% completed expected to be commissioned by 31.08.2023.
3.	SILO 10.0 Mty	Commissioning by Jan 2024, pending forest clearance which is expected by 31.01.2024.

The above mentioned mechanism is expected to be completed by Jan 2024. However till construction of SILO as a temporary arrangement washed coal will be dispatched through nearby railway siding.

Table: Proposed dispatch arrangement after implementation of 10.0 Mty pipe conveyor and SILO

Sl. No.	Coal in Mty	Dispatch medium
1.	10.0	By pipe conveyor, washery and SILO
2.	5.0	By rail Siding no. 6 & 7 within Mine Lease
3.	3.5	To OPGC by rail Charla Siding within Mine Lease
4.	4.0	By road sale to local consumers
Total	22.5	

Pipe conveyor has been shown for 2.4 Km along with Washery 10 MTPA arrangement at Lakhanpur Area.

Apart from above in future an integrated project has been planned considering Lakhanpur OCP and nearby Belpahar and Lilari OCP having combined capacity of 40.0 Mty. In proposed integration additional 20.0 Mty pipe Conveyor along with SILO is planned. The timeline for the same is as follows:

Table: Time line for proposed 20.0 Mty SILO

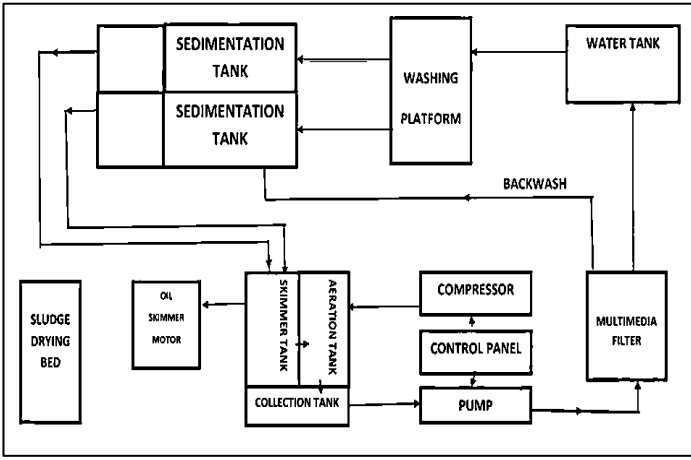
Sl. No.	Activity	Time Line
1.	Final layout preparation	Completed
2.	Draft NIT preparation	Completed
3.	Vetting of Draft NIT by MCL	Completed
4.	Submission of final NIT and cost estimate	10-07-23
5.	NIT and cost estimate approval by MCL	10-08-23
6.	Forest clearance (Stage II)	31-01-24
7.	Tender publication	01-09-23
8.	Tender evaluation and finalization	01-12-23
9.	Award of work	01-01-24
10.	Completion of work	30-11-25

Table: Time line for Automatic truck loading system (ATLS) 4.0 Mty

Sl. No.	Activity	Time Line
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		1.	Final layout preparation	Completed
		2.	Draft scheme submission	Completed
		3.	Vetting of draft scheme by MCL	Completed
		4.	Final scheme preparation	Completed
		5.	Approval of scheme and estimate as per SOP	17-06-23
		6.	Approval of scheme by MCL Board	15-07-23
		7.	Draft NIT preparation	15-08-23
		8.	Vetting of Draft NIT by MCL	23-08-23
		9.	Submission of final NIT and cost estimate	31-08-23
		10.	NIT and cost estimate approval by MCL	07-09-23
		11.	Forest clearance (Stage-II)	31-01-24
		12.	Tender publication	10-09-23
		13.	Tender evaluation and finalization	10-01-24
		14.	Award of work	
		15.	Completion of work	10-01-25
		Proposed dispatch arrangement after implementation of 20.0 Mty conveyor and SILO and 4.0 Mty ATLS is given below:		
		Table: Proposed dispatch arrangement after implementation of integrated project		
		Sl. No.	Coal in Mty	Dispatch medium
		1.	10.0	By pipe conveyor, washery and SILO
		2.	20.0	By conveyor and SILO
		3.	4.0	Local sale by road through ATLS
		4.	3.5	To OPGC by Rail through Charla Siding within Mine Lease
		5.	2.5	By rail Siding no. 6 & 7 within Mine Lease
		Total	40.0	
2	PP shall submit the prior consent to operate for enhanced capacity i.e for 22.5 MTPA from the State Pollution	The mine is already running on its peak capacity i.e. 22.5 Mty. Consent to Operate (CTO) for 22.5 MTPA has been obtained for the period 2022-23 & 2023-24 vide letter dtd 31.03.2022 and 09.02.2023 respectively.		

	Control Board under Air and Water Act	
3	<p>PP shall submit vetted Action Taken Report on non-compliances from IRO on the certified compliance report of the EC vide No. J-11015/391/2012-IA.II (M) dated 28.02.2018 granted for total 40 % expansion after complying all major specific condition mentioned in the EC letter.</p>	<p>A Letter requesting for vetting of ATR on non-compliances from IRO on certified compliance report has been communicated to IRO, MoEF&CC Bhubaneswar office on 08.04.2023. A letter from IRO MoEF&CC, Bhubaneswar office communicated to Lakhanpur Area for inspection of the mine from the period 14.06.2023 to 17.06.2023. Inspection has been completed and the vetted Action taken report is awaited from the IRO, MoEF&CC Bhubaneswar. It will be obtained by 02.07.2023 and will be presented during the EAC meeting.</p>

<p>4 .</p>	<p>PP shall submit the Baseline data collected after grant of the EC vide dated 30.05.2022 along with revised EIA-EMP report incorporating the major changes and their implications.</p>	<p>As per the directive of EAC new baseline data has been collected for the period Jan-Apr 2023 after grant of EC for peak production i.e. 22.5 Mty and accordingly EIA/EMP has been revised, copy of the same is enclosed. The brief statistics of the same is given below:</p> <p><i>From above table it can be observed that all the parameters are well within the permissible limit at all the locations due to proper implementation of control measures.</i></p>
<p>5 .</p>	<p>PP shall submit the status of construction of ETP with photographs along with the plan for addition of recycling setup.</p>	<p>Lakhanpur OCP already have an ETP comprises of primary settling tank, aeration tank, oil skimmer unit & multimedia filtration unit with zero discharge circuit due to recycling set up. The flow diagram is given below:</p>  <pre> graph TD ST1[SEDIMENTATION TANK] --> ST2[SEDIMENTATION TANK] ST2 --> SKIMMER_TANK[SKIMMER TANK] SKIMMER_TANK --> AERATION_TANK[AERATION TANK] AERATION_TANK --> COLLECTION_TANK[COLLECTION TANK] COLLECTION_TANK --> PUMP[PUMP] PUMP --> MULTIMEDIA_FILTER[MULTIMEDIA FILTER] MULTIMEDIA_FILTER --> WATER_TANK[WATER TANK] WATER_TANK --> WASHING_PLATFORM[WASHING PLATFORM] WASHING_PLATFORM --> ST1 WASHING_PLATFORM --> ST2 MULTIMEDIA_FILTER -- BACKWASH --> SKIMMER_TANK </pre>

6	PP shall submit drone survey of 10 minutes and the mine photographs including the dump, 3- tier plantation, ETP and other major mine component.	A drone video comprising of dump, plantation/3 tier-plantation, ETP, pollution control measures adopted in mine and other major mine components has been recorded.
7	PP shall submit the status of expenditure plan with photographs for the already allocated in Public Hearing Budget including the amount that has been spent already	Details has been attached.

	or going to spend in future.																			
8	PP shall submit additional mitigation measures for PM10 in the Khairkuni Village (Core Zone).	<p>Khairkuni village is the core zone area of Lakhanpur OCP, the monitored maximum value of PM₁₀ at Khairkuni core zone has been observed as 121 µg/m³ which is far below the prescribed standard of PM₁₀ for coal mines i.e. 250 µg/m³.</p> <p>However, as per the directive of EAC a mobile fog cannon of 12 KL capacity has been deployed for dust suppression in Khairkuni village and mining areas adjacent to Khairkuni village.</p> <p>Apart from above additional PM₁₀ monitoring has been done in Khairkuni village area for the period of 29-05-23 to 04-06-23 and the observed values of PM₁₀ were lying in the range of 44 to 77 µg/m³ and for PM_{2.5} it varies from 24 to 52 µg/m³ which is well below the prescribed limit of 100 µg/m³ for residential areas as per NAAQS 2009. The monitored values for the said period is given below:</p> <p>The R&R status of the Khairkuni village is also in advanced stage and the details of the same is as follows:</p> <table border="1"> <thead> <tr> <th>No. of displaced families</th> <th>No. of project affected persons</th> <th>Eligible for displacement benefit</th> <th>Cash compensation in lieu of plot and others</th> <th>PA Fs opted for plot at R & R site</th> <th>Balance/ not opted</th> <th>No. of persons eligible for employment</th> <th>Provided employment/person opted for cash compensation in lieu of employment</th> <th>Balance</th> </tr> </thead> <tbody> <tr> <td>374</td> <td>1496</td> <td>374</td> <td>193</td> <td>180</td> <td>0</td> <td>376</td> <td>376</td> <td>0</td> </tr> </tbody> </table> <p>Further 12 sukhwasi families are yet to be shifted. All R&R facilities have been provided to them and further persuasion is being made for earlier shifting.</p>	No. of displaced families	No. of project affected persons	Eligible for displacement benefit	Cash compensation in lieu of plot and others	PA Fs opted for plot at R & R site	Balance/ not opted	No. of persons eligible for employment	Provided employment/person opted for cash compensation in lieu of employment	Balance	374	1496	374	193	180	0	376	376	0
No. of displaced families	No. of project affected persons	Eligible for displacement benefit	Cash compensation in lieu of plot and others	PA Fs opted for plot at R & R site	Balance/ not opted	No. of persons eligible for employment	Provided employment/person opted for cash compensation in lieu of employment	Balance												
374	1496	374	193	180	0	376	376	0												

47.8.3 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 due to shortage of coal in the country and as per the condition contained therein. PP is required to submit the

proposal within six months with preparation of EIA/EMP based on standard ToR. The EAC observed that EC under this OM was granted on 30th May, 2022.

Earlier, Ministry issued ECs and its Expansion vide Ministry's letter dated 02.07.2008 (with Public hearing), 21.05.2014, 28.02.2018 and latest EC under aforadid OM was issued on 07.05.2022. The certified compliance report was also discussed, which has been submitted vide letter dated 23.05.2022. Pipe conveyor system and SILO loading system for 10 MTPA to be implemented by August, 2023 and further for the capacity of 15 MTPA to be Operational on or before January 2024. CTO has been obtained for enhanced capacity of 22.5 MTPA. Action taken report has been received from IRO, MoEF&CC on 10.07.2023. PP has been recollected the baseline data for period from January-April 2023 and accordingly EIA-EMP has been revised.

Based on the above, EAC recommended the proposal for grant of Environmental Clearance for Lakhanpur opencast (Phase -II) coal mining project for increase in production capacity from 21 MTPA to 22.5 MTPA (increase of 10% w.r.t 15 MTPA) in the Mining lease area of 2452 Ha by M/s Mahanadi Coalfields Ltd, located in village Khairakuni, Tingismal, Ubuda, Khuntamahul, Kalarajori, Khaliapalli, Soladia, Lakhanpur, Kudaloi, Kusaraloi, and Banjhipali, Tehsil Lakhanpur, District Jaarsuguda (Odisha) under EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:

- i. PP shall complete the installation mechanized system for 10 MTPA before 31st August 2023 & for 15 MTPA (additional) SILO loading system shall be installed on or before January 2024.
- ii. No mine water shall be discharged into Lilari stream. PP shall treat mine water through ETP. The treated water shall be utilized for purpose of plantation, workshop etc.
- iii. 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.
- iv. PP shall complete the land acquisition, rehabilitation & settlement programme for the people displaced in the past.
- v. PP shall implement the necessary control measures to control the fugitive dust emission. The coal dusts should not be deposited on the water of village wells and ponds.
- vi. 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.
- vii. PP shall immediately submit the status of the closure of the mine as per the approved progressive mine closure plan.
- viii. PP shall engage the electric vehicle or small vehicles for internal roads within mine using green fuel. No vehicle shall be used based fossil fuel.
- ix. 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.
- x. PP shall transport the 4.0 MTPA of coal through dedicated road without passing through village or any sensitive areas. Mine authorities shall repair and maintain roads on six monthly basis to avoid any spillage of coal on the roads. No village road shall be used as well as no road

transport route shall be adopted, which is passing through any sensitive location such as schools, hospitals etc.

- xi. The project proponent shall install effective dust suppression system at the suitable location in the other parts of the mining lease to arrest the fugitive dust emission.*
- xii. The project proponent shall arrange Periodical health check-up camp and in long term PP shall arrange permanent health facility near village area.*
- xiii. PP shall complete plantation on OB dump areas along with roadside avenue plantation.*
- xiv. PP shall provide free medical facilities for the local villager's along with the ambulance facilities.*
- xv. 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.*
- xvi. PP shall complete the dense plantation along mine roads, on OB dumps and non-dump areas with local species particularly of Sal tree/species. PP shall develop 10 ha of Sal nursery in the project area and yearly minimum 10,000 saplings to be distributed among near villagers for afforestation purpose.*
- xvii. PP shall make the pucca roads within the mine lease area and same should be maintained time to time.*
- xviii. PP needs to submit the compliance of SoP issued by CPCB for dumping of mine void by fly ash.*
- xix. PP needs to submit the physical and financial target for the implementation of the action plan for conservation and protection of endangered flora and fauna.*
- xx. PP needs to submit the detail report upon the steps already taken or to be taken towards medical health check-ups for Mine workers.*
- xxi. 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.*
- xxii. Proper garland drain and retaining wall should be made (if required) and same should be revived from time to time.*
- xxiii. The 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.*
- xxiv. PP to shall 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.*
- xxv. PP shall ensure the uniform fee structure in nearby school of MCL for children of MCL employees as well as for other students.*
- xxvi. 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.*

- xxvii. *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 directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*
- xxviii. *All the other terms and conditions of earlier EC dated 02.07.2008 (with Public hearing), 21.05.2014, 28.02.2018 and 07.05.2022 shall remain same.*

Agenda No. 47.9

Chotia I captive Coal Mine with production capacity of 0.75 MTPA (Area: 863 Ha Out of ML area 1179.826 ha) of M/s. Bharat Aluminium Company Limited (BALCO) located in village Salaigot, Tehsil Podiuprodha, District Korba (Chhattisgarh) - For Terms of Reference as per notification S.O. 1530 (E) dated 06.04.2018 by revalidation – reg.

[Online proposal IA/CG/CMIN/434889/2023; File No. J-11015/96/2004-IA-II(M)]

47.9.1 The proposal is for terms of reference requiring revalidation of EC dated 10th November 2005 with as per notification vide S.O. 1530 dated 06.04.2018 for revalidation of Chotia I captive Coal Mine with production capacity of 0.75 MTPA (ML area 863 Ha out of total ML area of 1179.826 ha) of M/s Bharat Aluminium Company Limited (BALCO) located in village Salaigot, Tehsil Podiuprodha, District Korba (Chhattisgarh).

47.9.2 The Committee during the discussions noted the following:

- i. The EC was granted to Chotia I coal mine for production capacity of 0.75 MTPA in the ML area of 1101.03 ha to M/s Prakash Industries Limited vide letter No J-11015/96/2004-IA dated 10th November 2005.
- ii. Later, the Chotia I mine was transferred from M/s Prakash Industries Limited to M/s Bharat Aluminium Company Limited (BALCO) for capacity of 0.75 MTPA in ML area of 1101.03 ha vide letter dated 04.06.2015.
- iii. Separately, vide letter dated 06.05.2019 while taking amendment of Chotia-II captive Coal mine project of 1 MTPA of M/s BALCO, PP vide condition no.6, was informed that revalidation of Chotia-1 project EC to be obtained.

47.9.3 *The Committee after deliberation noted that Chotia-I EC was originally granted to M/s Prakash Industries (original allottee) on 10th November 2005 under EIA, Notification 1994 and after deallocation by Hon'ble Supreme court vide order of 2014 , the successful reallocation of the Chotia geological coal block comprised of Chotia I with lease area of 1101.03 ha was transferred from M/s*

Prakash Industries Limited to M/s Bharat Aluminium Company Limited (BALCO) vide letter dated 04.06.2015 under the provision of EIA, Notification 2006,. The above-mentioned action states that said EC has already been transferred under EIA, Notification 2006; hence question of revalidation of Chotia-I does not arise. Therefore, the instant proposal for granting Terms of Reference for revalidation of existing EC dated 10.11.2005 read with transferred EC dated 04.06.2015 along with other the application dated 31.07.2018, which is pending for revalidation under notification S.O. 1530 (E) dated 06.04.2018 is not required by PP.

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

Agenda No. 47.10

Expansion of Nigahi Opencast Coal Mining Project from 21 MTPA to 25 MTPA in leasehold area of 3582.723 Ha (increase in leasehold from 3018.40 Ha to 3582.723 Ha) of M/s Northern Coalfields Limited located at Village Nigahi, Tehsil Waidhan, District Singrauli (Madhya Pradesh) – For Amendment of Terms of reference dated 06.08.2021

[Online proposal IA/MP/CMIN/433834/2023; File No. J-11015/79/2013-IA-II(M)]

47.10.1 The proposal is for amendment in Terms of Reference dated 06.08.2021 for Expansion of Nigahi Opencast Coal Mining Project from 21 MTPA to 25 MTPA in leasehold area of 3582.723 Ha (increase in leasehold from 3018.40 Ha to 3582.723 Ha) of M/s Northern Coalfields Limited located at Village Nigahi, Tehsil Waidhan, District Singrauli (Madhya Pradesh).

47.10.2 The EAC during deliberations noted the following:

The proposal for amendment in ToR has been submitted by Project Proponent since there is change in initial production figures i.e. from 21 MTPA to 22.5 MTPA. The original TOR was granted for 25 MTPA from 21 MTPA. This change has occurred as meanwhile PP obtained EC for expansion in capacity under Ministry's OM dated 7th May, 2022 (10%), applicable for such project which has already obtained EC under special relaxation (exemption in public hearing without change in mine lease area) given by Ministry from time to time i.e. upto 40%. In this project PP had obtained total 50% increase in capacity against the base EC level. The last expansion under the said OM was granted on 25th July, 2022 and its EC validation was done on 20th July, 2023.

Accordingly, PP has requested to amend the ToR dated 06.08.2021 for administrative purpose.

47.10.3 *The Committee, after deliberation observed that the instant proposal is only the change in initial capacity of project for which ToR was granted on 06.08.2021 since PP has obtained expansion in capacity of EC from 21 MTPA to 22.5 MTPA on 25th July, 2022 and revalidated on 20th July, 2023 under special dispensation OM issued by Ministry and this is applied for clarity/rectification in administrative files for records. In view of the this, committee **recommended** the amendment of Terms of Reference dated 06.08.2021 for Expansion of Nigahi Opencast Coal Mining Project from 21 MTPA to 25 MTPA to 22.5 MTPA to 25 MTPA in leasehold area of 3582.723 Ha (increase in leasehold from*

3018.40 Ha to 3582.723 Ha) of M/s Northern Coalfields Limited located at Village Nigahi, Tehsil Waidhan, District Singrauli (Madhya Pradesh), under the provisions of EIA Notifications, 2006 and its amendments therein.

Agenda No. 47.11

Bandha Opencast Coal Mine of 5 MTPA capacity in mine lease area of 1850.94 ha of M/s EMIL Mines and Mineral Resources Limited (EMMRL) located at Village Bandha, Tenduha, Pidarwah, Deori & Pachaur, Tehsil Sarai, District Singrauli (Madhya Pradesh) – Reconsideration for Environmental Clearance reg.

[Online proposal No. IA/MP/CMIN/425307/2023; File No. J-11015/54/2021-IA-II (M)]

47.11.1 The proposal is for Environmental Clearance for Bandha Opencast Coal Mine of 5 MTPA capacity in mine lease area of 1850.94 ha of M/s EMIL Mines and Mineral Resources Limited (EMMRL) located at Village Bandha, Tenduha, Pidarwah, Deori & Pachaur, Tehsil Sarai, District Singrauli (Madhya Pradesh).

Earlier, the instant proposal was considered in the 43rd EAC meeting wherein committee deferred the proposal for submission of desired information. The PP has submitted the reply vide letter dated 24th April 2023, which are as follows:


47.11.2 Details of the proposal, as ascertained from the proposal documents and as Committee after deliberations observed the following:

Sr. No.	Observation of EAC	Reply of Project Proponent
1.	PP shall submit the clarification regarding the Forestland involved under Forest Right Acts, 2006 from the District Collector of Singrauli district and accordingly work out the land for diversion and protection strategy, if any tribal population fall within forest.	1. There are two individual pattas measuring 3.463 Ha. which have been granted under Forest Rights Act 2006 within the Forest Land which is to be acquired for diversion. 2. These individuals will be given compensation @12 Lakhs/Ha. (Non-Irrigated Land) & @18 Lakhs/Ha. (Irrigated Land). 3. These individuals will be extended all the R&R benefits as per approved R&R Policy which includes a plot of 5400 Sq. Ft., house as per Pradhan Mantri Aawas Yojana and other benefits as per Schedule (2) of LARR Act, 2013 including additional benefits extended to tribal population. 4. Letter to the above effect has been issued by District

		Collector, Singrauli dated 24.05.2023.
2.	PP shall submit Letter of Intent from State Government for the proposed mine lease area.	<ol style="list-style-type: none"> 1. Bandha Coal Mine has been allocated to EMMRL by the Nominated Authority, Ministry of Coal vide order no. NA – 104/5/2020 – NA, Dated - 03.03.2021. 2. The Execution & Grant of Lease in name of Proponent is under process with the State Government. 3. The Grant of Lease in the name of the proponent (EMMRL) is subject to obtaining all the necessary clearance & permissions such as Environment Clearance, Ground Water Clearance, Mining Plan Approval etc. Letter from Department of Mining, Bhopal is attached
3.	PP shall submit the clarification whether project falls within critically polluted area or outside the area from State Pollution Control Board.	The Boundary of the Bandha Coal Mine is approximately at a distance of 15 Kilometers from the Critically Polluted Area, a letter in this effect has been received from Member Secretary, SPCB Bhopal dated 02.06.2023 stating that Bandha Coal Block is situated outside the Critically Polluted Area.
4.	PP shall submit justification why can't alternate mining methodology be exercised to extract coal as presently opencast the coal extraction method able to produce only 35.15% of coal from available reserve, causing consequential deforestation in 782 ha of forest land along with impact on catchment area. CMPDI needs to rework the basic work with data being involved in mine planning and submit the availability of coal reserves below the forest land.	<p><u>Scenario analysis (Opencast vs Underground)</u></p> <p>Detailed analysis has been done by CMPDI for UG potentiality of the seams considered for OC mining in addition to the remaining seams which has already been proposed to be mined through UG method in the Approved Mining Plan. The outcome of the analysis is presented in the table in next slide:</p> <p><u>Scenario 1:</u> UG operations for all seams.</p> <p><u>Scenario 2:</u> Seam-VII & VIII worked with combination of OC and UG method & Remaining seams with UG method as per the Approved Mining Plan including Mine Closure Plan.</p> <p><u>Table: Total Geological Reserves & Extractable Reserves from Open Cast Mining</u></p> <p>It is clear that 259 MTe (197 MTe from OC and 62 MTe from UG as per approved conceptual plan for UG potentiality) of coal can be extracted out of 499.72 MTe available geological reserve which accounts to 52% extraction as per the approved mining method.</p>

5.	PP with CMPDI to submit the cost benefit analysis after comparing the cost of Opencast mine with Underground mine for extracting 1 Million tonnes of coal.	<p>Cost Benefit Analysis comparing the cost for extracting 1 Million Tonnes of coal by Open Cast method and the Cost for extracting 1 Million Tonnes of coal by Underground Mining for Bandha Coal Mine has been prepared in consultation with CMPDI, the summary of which is produced below.</p> <table border="1" data-bbox="738 409 1458 1774"> <thead> <tr> <th data-bbox="738 409 922 703">Parameters</th> <th data-bbox="922 409 1063 703">Seam VII & VIII with UG Mining Only</th> <th data-bbox="1063 409 1263 703">Seam VII & VIII with combination of OC & UG Mining as per AMP</th> <th data-bbox="1263 409 1458 703">Remarks</th> </tr> </thead> <tbody> <tr> <td data-bbox="738 703 922 913">Extractable Reserves (MTe)</td> <td data-bbox="922 703 1063 913">112.87</td> <td data-bbox="1063 703 1263 913">228.54</td> <td data-bbox="1263 703 1458 913">Reduced Extractable Reserves by 115.67 MTe</td> </tr> <tr> <td data-bbox="738 913 922 1092">Initial Capex (in Cr.)</td> <td data-bbox="922 913 1063 1092">6112.90</td> <td data-bbox="1063 913 1263 1092">2300.07</td> <td data-bbox="1263 913 1458 1092">Sizeable Incremental Capex for UG Mining</td> </tr> <tr> <td data-bbox="738 1092 922 1596">Specific Investment (Rs. / T)</td> <td data-bbox="922 1092 1063 1596">11800</td> <td data-bbox="1063 1092 1263 1596">4600</td> <td data-bbox="1263 1092 1458 1596">Very High Specific Investment will be required in case of UG Mining leading to low IRR and Negative NPV.</td> </tr> <tr> <td data-bbox="738 1596 922 1774">Operating Cost (Rs. / T)</td> <td data-bbox="922 1596 1063 1774">2173</td> <td data-bbox="1063 1596 1263 1774">1530</td> <td data-bbox="1263 1596 1458 1774">42% increase in Operating Cost/Ton</td> </tr> </tbody> </table> <p data-bbox="738 1816 1458 1942">At the current representative price of G10 coal there will be a reduction in ~ INR 35000 crores worth of extractable reserves due to UG Mining, which will lead</p>	Parameters	Seam VII & VIII with UG Mining Only	Seam VII & VIII with combination of OC & UG Mining as per AMP	Remarks	Extractable Reserves (MTe)	112.87	228.54	Reduced Extractable Reserves by 115.67 MTe	Initial Capex (in Cr.)	6112.90	2300.07	Sizeable Incremental Capex for UG Mining	Specific Investment (Rs. / T)	11800	4600	Very High Specific Investment will be required in case of UG Mining leading to low IRR and Negative NPV.	Operating Cost (Rs. / T)	2173	1530	42% increase in Operating Cost/Ton
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		to ~ INR 14000 crores loss of revenue to the State due to taxes.
6.	PP with CMPDI shall submit the compliance status of Mine plan w.r.t. conditions of Terms of Reference issued on 13.09.2021. Proper referencing with page number should be done in this regard.	Details has been enclosed
7.	PP shall submit the details related to the destruction of the Agro-forestry area lying inside the Mine lease area as per the approved mine plan. PP must submit the alternatives in terms of compensation (in Rs.) and in terms of Agriculture land.	<ol style="list-style-type: none"> 1. Approximately 660 Ha. of Agricultural area lies within the boundary of the proposed coal block in which 18811 number of trees of different species exist over agricultural land mostly over areas separating the plots or parcels of land. 2. The felling of trees will be done in phases extending over the life of the mine. Total Compensation of Rs 8.47 Cr. will be paid to the individuals who own these trees as per the government guideline rates during the final award of private land. 3. 57308 number of trees will be planted in progressive manner as per Mine Closure Plan. <u>Approved Mining Plan and Mine Closure Plan envisages conversion of 295 Ha. of reclaimed land for agriculture purpose over which trees like Guava, Mango, Jackfruit, etc. will be planted. The agriculture land will be handed over to the State Government after completion of mining activities.</u> 4. Efforts will be made to protect at least 10% of the above trees by way of fencing the undisturbed/rationalized area, Safety Zone and Green Belt areas.
8.	PP shall provide tabulated information upon the number of trees (species-wise) available in the existing forest land.	Tree Enumeration has been completed and the enumeration report has been signed by DFO, which is as follows:

		<p style="text-align: center;">Tree Counting Report Division : Singrauli</p> <p>Project name : Bandha Coal Block in favour of M/s EMIL Mines and Minerals Resources limited Proposal no : FP/MP/MIN/144129/2021 Area : 785.49 Ha</p> <p>(i) Species-wise local/scientific name and girth-wise enumeration of trees at FRL :</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>S.no</th> <th>Scientific Name</th> <th>Local Name</th> <th>Girth (0-30)cm.</th> <th>Girth (31-60)cm.</th> <th>Girth (61-90)cm.</th> <th>Girth (91-120)cm.</th> <th>Girth (121-150)cm.</th> <th>Girth (>150)cm.</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Shorea robusta</td> <td>सास</td> <td>294</td> <td>4381</td> <td>5684</td> <td>4491</td> <td>2092</td> <td>971</td> <td>17913</td> </tr> <tr> <td>2</td> <td>Lagerstroemia parviflora</td> <td>साजा</td> <td>0</td> <td>0</td> <td>18</td> <td>0</td> <td>9</td> <td>9</td> <td>36</td> </tr> <tr> <td>3</td> <td>Stereospermum xylocarpum</td> <td>सावन</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>Careya arborea</td> <td>खैमहा</td> <td>0</td> <td>0</td> <td>0</td> <td>9</td> <td>0</td> <td>18</td> <td>27</td> </tr> <tr> <td>5</td> <td>Gmelina arborea</td> <td>खमहार</td> <td>62</td> <td>9</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>71</td> </tr> <tr> <td>6</td> <td>Tectona grandis</td> <td>सागौन</td> <td>1861</td> <td>1068</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>2929</td> </tr> <tr> <td>7</td> <td>Other Spices</td> <td>सतकडा</td> <td>38753</td> <td>14591</td> <td>13487</td> <td>10609</td> <td>5446</td> <td>3189</td> <td>86075</td> </tr> <tr> <td>8</td> <td></td> <td>महायोग</td> <td>40970</td> <td>20049</td> <td>19189</td> <td>15109</td> <td>7547</td> <td>4187</td> <td>107051</td> </tr> </tbody> </table> <p style="text-align: right;"> मिनिस्टर अफि माइनिंग एंड मेटल सिंगराउली जिपरावा इव बन्धु</p>	S.no	Scientific Name	Local Name	Girth (0-30)cm.	Girth (31-60)cm.	Girth (61-90)cm.	Girth (91-120)cm.	Girth (121-150)cm.	Girth (>150)cm.	Total	1	Shorea robusta	सास	294	4381	5684	4491	2092	971	17913	2	Lagerstroemia parviflora	साजा	0	0	18	0	9	9	36	3	Stereospermum xylocarpum	सावन	0	0	0	0	0	0	0	4	Careya arborea	खैमहा	0	0	0	9	0	18	27	5	Gmelina arborea	खमहार	62	9	0	0	0	0	71	6	Tectona grandis	सागौन	1861	1068	0	0	0	0	2929	7	Other Spices	सतकडा	38753	14591	13487	10609	5446	3189	86075	8		महायोग	40970	20049	19189	15109	7547	4187	107051
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9.	PP shall submit the progressive mine reclamation plan in time bound manner.	<p>Details has been enclosed with</p> <p>According to the Plan, plantation in greenbelt and safety zone will be completed within initial 05 years.</p> <p>Plantation on remaining area will be done as per Approved Mining Plan and Mine Closure Plan.</p> <ul style="list-style-type: none"> ➤ At conceptual stage, approximately 32,77,350 trees will be planted on 1310.94 ha area. ➤ Post mining an area of 295 Ha. Reclaimed Land will be converted into Agriculture Land. The land will be returned to the State Government. ➤ Infrastructure and undisturbed area of 130 Ha will be adequately planted to increase the tree density. 																																																																																										
10.	PP shall submit the road map to resolve the R&R issues particularly for the persons completely dependent on the Forest.	<ol style="list-style-type: none"> 1. Private Land is being acquired through LARR, 2013 and the process up to Section-19 is completed. Award for private land will happen by end of financial year 2023-2024. 2. Land for R&R Colony (100.93 Ha.) has already been identified and development work is in progress. 3. Physical possession by the Project Proponent will start from beginning of next Financial Year (2024-2025), after obtaining all the necessary clearances and will continue up to FY-27. 4. There are two individual rights under FRA 2006 																																																																																										

		given to tribal families. The details of the individual & the benefits that will be extended to them have been discussed under ADS point (i) in the 6 th slide.														
11.	PP shall submit the detailed plan for implementation in form of CPM/PERT chart for implementation of mechanized system within FY 2029.	Details has been enclosed														
12.	PP to submit the detailed report on total carbon sink/absorption currently happening due to forest cover area and its loss after cutting of tress/forest and further, rate of carbon sequestration with progressive backfilling and plantation.	<ul style="list-style-type: none"> ▪ At present the total no. of tress present in the mine lease area are 1,32,876 belonging to different species. <table border="1" data-bbox="738 699 1458 991"> <thead> <tr> <th>Type of Land</th> <th>Block Area</th> <th>Number of Trees Present</th> </tr> </thead> <tbody> <tr> <td>Pvt</td> <td>776.09</td> <td rowspan="2">25825</td> </tr> <tr> <td>Govt</td> <td>289.37</td> </tr> <tr> <td>Forest</td> <td>785.48</td> <td>107051</td> </tr> <tr> <td>Total</td> <td>1850.94</td> <td>132,876</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ▪ Carbon Sequestration potential of the mine lease area due to the trees present till day is estimated to be 43,55,119 kg of CO₂. ▪ Under proposed project 122,458 number of trees will be felled phases wise over the life of mine. It is estimated that there will be a reduction of 40,12,954 kg of CO₂ in carbon sequestration potential of the mine lease area due to proposed tree felling by the end of life of the mine. ▪ A total of 32,77,350 nos. of trees will be planted over the life of the mine in backfilled area, external dump, safety zone, green belt and rationalized area which will bring an additional Carbon Sequestration potential of 6,56,48,584 Kg of CO₂ at the end of life of the mine. ▪ Form the table, it is clear that 6th Year will be the year of attaining neutrality between the loss of carbon sequestration due to tree felling and the gain of carbon sequestration due to additional plantation in the mine lease area. ▪ At present mine lease area is having 1,32,876 no. of trees and at the end of mine lease the area will have 	Type of Land	Block Area	Number of Trees Present	Pvt	776.09	25825	Govt	289.37	Forest	785.48	107051	Total	1850.94	132,876
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		<p>a total of 32,77,350 no. of trees (i.e. approx 25 times of the present value).</p> <ul style="list-style-type: none"> ▪ Also, it can be seen that at the end of 50th Year, the total available CO₂ Sequestration potential of the mine lease area will be 3,11,68,386 kg of CO₂ (i.e. approx. 7 times of initial CO₂ Sequestration potential of mine lease area).
13.	<p>The PP shall submit the progressive reclamation plan of mine in time bound manner and approved Standard Operating Procedure for handing over the land to land allottees and Forest Department</p>	<p>According to this Plan, plantation in greenbelt and safety zone will be completed within initial 05 years. Plantation on remaining area will be done as given in above plan.</p> <ul style="list-style-type: none"> > At conceptual stage, approximately 32,77,350 trees will be planted on 1310.94 ha area. > Post mining an area of 295 Ha. Reclaimed Land will be converted into Agriculture Land. The land will be returned to the State Government. > Infrastructure and undisturbed area of 130 Ha will be adequately planted to increase the tree density. <p>Regarding Approved Standard Operating Procedure for handing over the land, to land allottees and Forest Department.</p> <p>After completion of mining activities and biological reclamation of de-coaled area and dump, non-forest land will be handed over to District Administration and forest land will be handed over to State Forest Department as per FC Act the conditions prescribed in the mining lease.</p>
14.	<p>PP shall submit the detailed justification for diversion of streams namely Kanchanmuda nala being proposed to be diverted.</p>	<ul style="list-style-type: none"> • Approximately 90 MT of coal, fit for extraction is present beneath the Kanchanmuda watershed within the block. • It is proposed to channelize the rainwater in Kanchanmuda watershed within the block through construction of Catch Drains and Sedimentation Ponds. • The catch drain will be made in such a manner that entire runoff generated over mine area will be discharged through sedimentation pond of (250 m x 125 m x 3 m) to main Kanchanmuda nala.

		<ul style="list-style-type: none"> • The Hydrological Study concludes that there will not be any discharge effect to Kanchan nadi due to this channelization of Kanchanmuda watershed within the block. • Hence, there will not be any change in total flow of pre and post channelization through catch drain in Kanchanmuda watershed confluencing into Kanchan nadi. The quality of water will also be ensured through regular tests. <p>Techno-commercial Justification:</p> <ul style="list-style-type: none"> • Valuable coal reserve to the tune of about 90 MT out of extractable reserves of 197 MT beneath the catchment area of mine watershed of 4.30 km². • Thus, the diversion of 1st and 2nd order stream of Kanchanmuda watershed is essential to recover full coal reserve for conservation of natural resources. • The techno-economic consideration also includes the creation of employment, generation of revenue and contribution to energy security. <p>Social Justification :</p> <ul style="list-style-type: none"> • The catch drain will provide controlled water drainage through nearby habitation resulting in proper utilization for their agricultural and other purposes. <p>Environmental Justification :</p> <ul style="list-style-type: none"> • Construction of catch drain will provide solution for preventing water pollution as the runoff will be collected in sedimentation pond specially constructed to arrest Total Suspended Solids (TSS) particles. • The clear runoff will be discharged into Kanchanmuda nala. • The channelization of 1st and 2nd order Kanchanmuda streams through catch drains will also solve the problem of soil erosion through Catchment Treatment Plan. <p><u>Following Mitigation Measures needs to be followed for conservation of water stream:</u></p> <ul style="list-style-type: none"> • In order to discharge clean water into Nalas provision for sedimentation tank within mine
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		<p>boundary is proposed. This sedimentation tank will arrest Total Suspended Solids (TSS) and other unwanted sediments. The sedimentation tank will be annexed with catch drain along boundary of mine.</p> <ul style="list-style-type: none"> • The sedimentation tanks will have capacity to hold peak flood of 120 m³/sec and pass through downstream in respective Nalas to confluence in to some basin. • It is expected that the backfill area will be stabilized and proper vegetation cover will exist under catchment treatment plan and soil conservation plan. • It is likely the natural drainage will form and rainwater will pass through backfilled area as natural secondary drainage after due drainage trailing. <p>Afforestation around drainage or catchment area of water bodies can control soil erosion and helps to minimize sedimentation in the water systems. This can provide better survival environment to aquatic fauna</p>
15.	PP shall submit the number of trees to be cut in non-forest area and steps/SOP to protect these trees.	<p>Tree felling will be done in phases over the life of the mine, the sequence and number of which is given below in a tabular form, which states that approximately 25,071 trees in non forest areas will be felled.</p> <p>Efforts will be made to protect at least 10% of the above trees by way of fencing the undisturbed/rationalized area, Safety Zone and Green Belt areas.</p>

47.11.4 *The Committee observed that the instant proposal is a greenfield project having production capacity 5 MTPA. The project involves total 785.49 ha of forestland for diversion on which forest clearance is presently pending for Stage-I FC.*

The PP has submitted the reply of ADS vide letter dated 10.07.2023 wherein PP has addressed all additional detail sought by the Committee. PP has clarified from the letter from MPPCB dated 02.06.2023 that the project does not fall under critically polluted area. The tribal population will be protected and PP shall taking care of as per forest right act, 2006. Revised activity-wise budget for Public Hearing is Rs. 1672 Lakh and same to be completed by 2028-2029. The Committee noted the satisfactory replies to observations made during last EAC meeting

Based on the above, EAC recommended the proposal for grant of Environmental Clearance for Bandha Opencast Coal Mine of 5 MTPA capacity in mine lease area of 1850.94 ha of M/s EMIL Mines and Mineral Resources Limited (EMMRL) located at Village Bandha, Tenduha, Pidarwah, Deori & Pachaur, Tehsil Sarai, District Singrauli (Madhya Pradesh) under EIA Notification, 2006 and its amendments therein with following additional specific conditions to be followed:

- i. PP shall submit Stage-I Forest Clearance for the forest land/area (785.49 ha) involved in the mine lease area prior to grant of Environment Clearance.
- ii. PP shall obtain CTE/CTO from State Pollution Control Board for 5.0 MTPA production capacity for open cast operation.
- iii. PP shall divert the Kanchanmuda Nallah in a manner that its construction for diversion shall be covered in one go without extended period and works plan shall be designed to complete the diversion avoiding Monsoon season (i.e effective working months of non-monsoon season). Embankment height shall be maintained on both side of stream with sufficient free board upto 3 mts from its HFL.
- iv. PP shall maintain 50 mts width of embankment all along the diverted stream/nallah (Kanchanmuda) and conduct dense plantation with fruit bearing native species by itself.
- v. The diversion of Kanchanmuda Nallah shall be monitored by IRO and complete report with the drone video and satellite imagery shall be submitted to IRO, MoEF&CC.
- vi. PP shall prepare Gabion wall and garland drain all along the OB dumps to catch the surface run-off and sludge coming from dump along with construction of catch drain along the periphery of mine to prevent surface runoff and sedimentation pond to arrest Total Suspended Solids (TSS) particles.
- vii. PP shall install dedicated inpit conveyor belt with silo loading system till railway siding for transportation of 90% of extracted coal through rail on or before December, 2027 and only 10% shall be transported by road. Accordingly, SPCB should grant the consent to operate.
- viii. Till the period of setting up mechanized system, PP shall deploy the truck size of upto 40 tonnes (payload) for transportation of coal by dedicated road not passing through village or any sensitive locations. Transportation of coal shall be done in covered trucks only till December, 2027.
- ix. The mining plan shall be revised/amended at later stage after incorporating the diversion of Nallah in one go with year-wise coal production.
- x. PP shall implement activities-wise proposed budget of Rs. 1672 lakhs (as Public Hearing Budget) in time bound manner as in Table 7-2 Chapter 7 on page no. 435 of EIA report, Rs. 10642 Lakhs as a capital cost and Rs 106.42 lakhs for recurring cost (EMP budget) in time bound manner as in Table 10.5, Chapter 10 on page no. 480 of EIA report. 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 online monitoring mechanism. The maintenance of all activities shall be covered through recurring cost of Public Hearing, which will be part of CSR budget.
- xi. PP needs to protect the tribal population as per forest right act, 2006 and under the supervision of District Collector, Singrauli.

- xii. *PP shall provide protection to the agriculture field lying inside the ML area from dust and polluted water.*
- xiii. *As proposed during the meeting, PP will reduce the carbon footprint after sequestration of CO₂ and the total carbon sequestration potential is approximately 435519 kg/year wherein the carbon sequestration per tree is approximately 32.78 kg/year. PP shall complete the plantation for total 3277350 no of trees to sequestered estimated potential of carbon i.e. 25938838.14 kg/year. IRO will review the progress of tree plantation w.r.t 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. With all efforts, PP to ensure after 6th year no carbon to be emitted and net zero CO₂ shall take place.*
- xiv. *PP shall complete the dense plantation along mine roads, on OB dumps and non-dump areas with local species particularly of Sal tree/species. PP shall develop 10 ha of Sal nursery in the project area and yearly minimum 10,000 saplings to be distributed among near villagers for afforestation purpose.*
- xv. *PP shall complete the plantation in an area of 1310.94 ha @ 2500 plants per ha during the closure of mine. IRO will monitor the coverage of the area through plantation from time to time. The plantation shall also be done in Infrastructure and undisturbed area of 130 Ha proportionately to increase the tree density.*
- xvi. *PP shall maintain the same distribution of species during the progressive mine closure of the lease area. As well as 295 Ha. of reclaimed Land to be converted into agriculture land after completing the mining.*
- xvii. *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.*
- xviii. *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 (80-100 mtrs.) at Coal Stock Yard to suppress the dust particles.*
- xix. *Garland drains (2mX3m) of adequate size shall be provided at the toe of the benches to arrest discharge and runoff with silt and sediments surging into areas adjoining the periphery of Overburden dump, which will be regularly cleaned before the onset of monsoon every year.*
- xx. *Check dams shall be constructed at required locations within drains to arrest eroded materials and settling ponds shall be constructed to treat mine discharge water inside the mine block.*
- xxi. *As proposed 5 water harvesting pond shall be created separately to recharging the ground water and usage of project affected families.*
- xxii. *Proper profiling of working benches of pits and dumps shall be done to channelize water in garland drains & sumps.*
- xxiii. *Waste generated from the domestic use shall be treated in STP and the treated water will be utilized in plantation & greenbelt development. Wastewater from the HEMM washing/*

workshop will be treated in ETP. After treatment, water will be reused in washing of HEMM, dust suppression and greenbelt development.

- xxiv. *PP shall limit the activities of mining in its mine lease area only. No OB Dumping and infrastructure activity should be proposed and dumped on forest land. Accordingly revised Mine Plan should be submitted (if required) and submitted to Ministry.*
- xxv. *PP shall make use of advanced computer simulation techniques for design and execution of blasting operation in the mine. PP shall make use of Electronic Delay Detonators for optimal blasting in coal and OB rock to minimize the environmental impacts of blasting such as ground vibration, fly rocks and excessive dust generation.*
- xxvi. *PP shall explore the possibility & deploy atleast 20% of overall fleet of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc and deploy e-vehicles for workers/staff in/out of the mine.*
- xxvii. *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.*
- xxviii. *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.*
- xxix. *PP shall install fixed fog cannon (mist spayer) and fixed sprinkler all along the haul road/ CHP, and OB dump till Railway siding is completed. The sufficient number of fog cannons (not less than 10 nos.) with 40 mts jet length shall be installed within 6 months. It should be ensured that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB.*
- xxx. *PP shall deposit the approved amount as proposed for wildlife conservation plan to the Govt. of Jharkhand, Forest & Environment Dept. and further consult with State Biodiversity Authority for its CSR activity.*
- xxxi. *PP shall construct new multispecialty (50 beds) hospital in the 10 km of the project area within 5 years for local people out of approved budget. The project affected families shall be given free medical facility. This shall be done in consultation of DM of the district.*
- xxxii. *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.*
- xxxiii. *The status of mine closure activities must be included in every six months compliance report submitted to the state pollution control board and IRO.*
- xxxiv. *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.*
- xxxv. *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.*

- xxxvi. *PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.*
- xxxvii. *Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- xxxviii. *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.*
- xxxix. *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.*
- xl. *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India &Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*
- xli. *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.*

Additional items

Discussion for addition of EC conditions while recommending Environment Clearance Proposal Fly Ash Management and Utilization

In the background of the above subject matter, it was informed that the separate meeting, taken on 'Ash Management and Utilization Mission' on 1st May, 2023 to review the status of actions taken based on the recommendations of the Mission established in the meeting held on 31.01.2023 under the chairmanship of Secretary (EF&CC). The participants were from Coal Mine companies, Thermal Power generating companies, Central Electricity Authority, representative of Govt. of Madhya Pradesh and Uttar Pradesh, CPCB.

2. During this meeting, various decisions were taken which also includes decision applicable for coal mines.

Stipulation of specific conditions in Environmental Clearances of coal mines and non-coal mines for conducting 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 Ash Utilization Notification, 2021

The Ash Utilization Notification, 2021 mandates 100% ash utilisation by Thermal Power Plants (TPPs) within a specified time. Further, the Notification also mandates all mines (working as well as abandoned) under Extended Producer Responsibility (EPR), located within a radius of 300 km radius of TPPs, to undertake backfilling of ash in mine voids or mixing of ash with overburden dumps with at least 25% of ash on weight to weight basis.

3. The EAC after deliberation observed that utilization of flyash generated from Thermal Power Plants is applicable as per Fly Ash Notification dated 31st December, 2021. Further, with regarding handling and disposal of Fly Ash, it is preferred to dispose this material in mine void which was about to be left out by coal mines. Fly Ash disposal includes large scale degradation of virgin earth and since the coal mines having larger area can accommodate flyash.

EAC observed that some companies are using Flyash disposal in working mines pits for backfilling as well mixing with overburden dump, however there are apprehensions of safety factor and stability of overburden dump. Due to various technical reasons or physical properties of flyash, there are chances of slide and failure of overburden dump.

4. *Accordingly, as per suggestion of Ministry, EAC agreed to include the specific EC condition while granting ECs for conducting the feasibility study. Accordingly recommended to add following condition in all the ECs to be granted as stated below:*

Project Proponent 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 Ash Utilization Notification, 2021.

Annexure-I

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

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

(a) Statutory compliance

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

(b) Air quality monitoring and preservation

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute 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 purpose. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
 - (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
 - (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
- (d) Noise and Vibration monitoring and prevention**
- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such

accessories to be monitored.

- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
- (i) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

(e) Mining Plan

- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
- (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

(f) Land reclamation

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land shall be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/“post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
- (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it

should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.

- (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

(g) Green Belt

- (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
- (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

(h) Public hearing and Human health issues

- (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.
- (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
- (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- (v) The project proponent shall follow the mitigation measures provided in this Ministry's 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 OMNo.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
- (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

Annexure-II

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

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

I. Statutory compliance:

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

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the SPCB
- ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the

Ministry/Regional Office and to the CPCB/SPCB.

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

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
- iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water

resources.

- vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
- vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
- viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purposes. 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 reverian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

- i. Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in underground mining operations, operation of HEMM, etc. shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms/guidelines in this regard. Progress in usage of such accessories to be monitored. Adequate awareness programme for users to be conducted.

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

V. Mining Plan

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

VI. Land reclamation

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

and continuous monitoring & implementation of mitigation measures be carried out.

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

VII. Green Belt

- i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. Action plan, in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife

Department.

- ii. Greenbelt, consisting of three-tier plantation, of width not less than 7.5 m, shall be developed all along the mine lease area in a phased manner. The greenbelt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

VIII. Public hearing and Human health issues

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

area'.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation/ violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly 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 subject matter.
- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Annexure-III

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

- (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)
- (iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
- (v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vi) Solid 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. shall be carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute shall 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. shall 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 greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transferpoints 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, NOx (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

- viii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- xi. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made
- xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

ANNEXURE-IV

Generic ToR for coal washery

- i. Siting of washery is critical considering its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washer preferably through closed 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 transported by train as far as possible. Road transport of washed coal and rejects should generally be avoided.

In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.

- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.
- xiv. O.M.no.J-II0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
- xvi. Analysis of samples indicating the following be submitted:
Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
Characteristics and quantum of coal after washing.
Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. Therejects 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 conveyer 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 confirm 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 seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site, should be given.

- (xxii) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiii) Impact of blasting, noise and vibrations should be given.
- (xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Efforts be made for maximizing progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void. --to reduce land degradation.
- (xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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

S.N.	Land use Category	Present (1 st Year)	5 th Year	10 th Year	20 th Year	24 th Year (end o fmine 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 buildingsand 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 ofmine life)					
10.	34-37 th Year (Post-mining)					

* As a representative example

(xxx) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided.

A Plan for the ecological restoration of the mined out area and post mining landuse should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.

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

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

- (xxxii) Flow chart of water balance should be provided. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be done.
- (xxxiii) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower in the mine should be given.
- (xxxiv) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- (xxxv) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
- (xxxvi) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.

(xxxix) Corporate Environment Responsibility:

- a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
- b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
- c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
- d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- (xl) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xli) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xlii) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xliii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xliv) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

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

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

**GENERIC TORs FOR AN UNDERGROUND COALMINE
PROJECT**

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

falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

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

Area under Surface Rights

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

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

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

areas and canteen, and effluents/pollution load resulting from these activities should also be given.

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

general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

- (xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xxxi) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xxxii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxiii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

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

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

ANNEXURE-VII

GENERIC TORs FOR AN OPENCAST -CUM UNDERGROUND COAL MINE PROJECT

- (i) An EIA-EMP Report would be prepared for a combined peak capacity of.....MTPA for OC-cum-UG project which consists of.... MTPA in 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 47TH MEETING HELD ON 21-22 JULY, 2023 THROUGH VIDEO CONFERENCING

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