Annexure

MINUTES OF 10th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD DURING 9th APRIL, 2024 THROUGH VIRTUAL MODE.

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. The list of Members who participated in the meeting is at ANNEXURE VIII. The Standard/Generic EC & ToR conditions shall be system generated through the Parivesh Portal.

Confirmation of the Minutes of the 9th Meeting of the EAC (Coal): The minutes of the 9th Meeting of the EAC (Coal) held from 20th to 21St March 2024 have been confirmed by the Chairman with the following corrections:

Agenda No. 9.1: Expansion of Nigahi OCP from 22.50 MTPA to 25.00 MTPA (increase in leasehold area from 3018.400 Ha to 3582.723 Ha located at Village Muher & Medhauli, District-, Singrauli, Madhya Pradesh by M/s Northern Coalfields Limited. - Environmental Clearance - Reg.

[Proposal No. IA/MP/CMIN/464712/2024; File No. J-11015/79/2013-IAII(M); Consultant: CMPDIL; NABET/EIA/2124/RA 0258 valid till 22/08/2024]

It was informed to the Committee that in the approved MoM it was mentioned as " *Based on the discussion held and the document submitted the Committee* ***recommended*** *the proposal for the grant of Environmental Clearance for the Expansion of Nigahi OCP from 22.50 MTPA to 25.00 MTPA (increase in leasehold area from* ***3018.400 Ha to 3582.723 Ha (2072.712 ha Forest Land and 1510.011 ha non-Forest Land)*** *of Northern Coalfields located in Nigahi Village, Tehsil- Waidhan, District- Singrauli in the state of Madhya Pradesh, as per the provision of EIA Notification 2006 (as amended) subject to compliance of following specific conditions in addition to conditions granted in earlier ECs (including related to SPA) & Amendments and standard EC conditions:*

It was informed to the Committee that details of the forest and non-forest land were inadvertently interchanged the Committee is of the view that the above para shall be read as "*Based on the discussion held and the document submitted the Committee* ***recommended*** *the proposal for the grant of Environmental Clearance for the Expansion of Nigahi OCP from 22.50 MTPA to 25.00 MTPA (increase in leasehold area from* ***3018.400 Ha to 3582.723 Ha (2072.712 ha Non-Forest Land and 1510.011 Ha Forest Land)*** *of Northern Coalfields located in Nigahi Village, Tehsil- Waidhan, District- Singrauli in the state of Madhya Pradesh, as per the provision of EIA Notification 2006 (as amended) subject to compliance of following specific conditions in addition to conditions granted in earlier ECs (including related to SPA) & Amendments and*

standard EC conditions: "

Agenda No. 10.1

Expansion of Dipka Opencast Coal Mine project from 35 MTPA to 37.5 MTPA (increase of 10% w.r.t 25 MTPA) in an ML area of 1999.293 ha of M/s South Eastern Coal Fields Limited, located at village Dipka, Tahsil Katghora, District Korba, (Chhattisgarh) – For Reconsideration of Environmental Clearance under OM dated 07.05.2022 – reg.

[Proposal number IA/CG/CMIN/420565/2023; File no. J11015/487/2007-IA-II (M);Consultant: CMPDIL; NABET/EIA/2124/RA 0258 valid till 22/08/2024]

10.1.1: The proposal is for revalidation of Environmental Clearance granted vide Letter no. J-1015/487/2007-IA-II (M) dated: 05.09.2022 for 37.5 MTPA to Dipka Opencast Coal Mine project of South Eastern Coal Fields Limited in leasehold area of 1999.293 Ha, submitted in compliance of OM dated 07.05.2022 after 10% enhancement in capacity located in Dipka Village, Katghora Tehsil, Korba District, Chhattisgarh State.

The PP obtained EC under OM dated 07.05.2022 after a 10% enhancement in capacity. As per clause 6(iv) of the said OM, PP shall submit a Certified Compliance Report of the EC grated for 40% expansion, along with an EIA/EMP report, prepared based on standard TORs for the additional capacity of 10% on PRIVESH portal within six months of enhancement of production beyond 40%. PP applied to vide proposal no. IA/CG/CMIN/420565/2023, dated: 01.03.2023 along with a copy of the EIA/EMP report, Form-1 and Certified compliance report seeking Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project.

The project falls under Schedule 1(a) of mining and is a Category - "A" project as per EIA notification on 14th September 2006 (as amended) as the mining lease area is more than 500 Ha and requires appraisal at the Central Level.

10.1.2: The PP applied to vide proposal no. IA/CG/CMIN/420565/2023, dated: 01.03.2023 and the proposal was considered in the 43rd EAC meeting held on 24th April 2023, the 48th meeting held during 25-28th August 2023 and the 3rd EAC held during 16-17th November 2023 wherein the committee has deferred the proposal for want of additional information. The PP submitted the information vide its letters dated 05.08.2023, 23.10.2023 and 19.03.2024 respectively. PP also uploaded information on the PARIVESH Portal. The information so far submitted by the PP w.r.t observations of EAC are as follows: -

S.No	ADS sought by EAC during the meeting held on **24.04.2023**	Reply of PP
1.	PP shall submit the updated report on the implementation of fully automated system for 20 MTPA i.e. in-pit conveyor and silo loading system till railway siding.	Conveyor and Silo Loading System:- ▪ An arrangement for 15MTY coal loading using 02 Nos of Silos each having 3200 T capacity with Rapid Loading System (5500-6000 TPH) was initially constructed at Dipka Expansion Project against LoA dated: 02.02.2006 at a cost of Rs.30.90 Crores which came into operation in the year 2009. Sized coal from Feeder Breaker (mini-CHP) is fed into 02 no. of belt conveyors using truck receiving hoppers with vibratory feeders which further discharge the coal into the Silos for loading the wagons. ▪ Further on 04.07.2009, Dipka Project issued LoA for main CHP having 04 no. of Truck Receiving Station, in-pit belt conveyor system of 2300 TPH capacity and 02 no. of RCC overhead bunkers of each 10000 T capacity at a cost of Rs.206.51 Crores. The in-pit belt conveyor system and RCC bunkers were connected to the existing 02 Nos of Silos, thus completing the fully automated system for 20 MTPA coal dispatch capacity which became operational in August 2014. PP also submitted the copy of agreements between SECL and S.K. Samanta & Co. (P). Ltd, Schematic diagram and Photographs of In-pit Conveyor and Silo. ▪ The main CHP (in-pit conveyor system) was designed for 20 MTPA capacity in which 15 MTPA coal was designed for dispatch through 02 no. of Silos and remaining 5MTPA was designed to dispatch through truck loading System. First Mile Connectivity Project:- ▪ Now, a Mechanized Siding with Rapid loading system having additional capacity of 25 MTY is under construction at Dipka Expansion Project as a part of

		First Mile Connectivity Initiative of MoC. This will help Dipka Project to achieve 100% coal dispatch through rail mode. ▪ The LoA was awarded to McNally-AML on 18.01.2021 for a total work value of Rs. 211.22 Crores. The construction activities of mechanized siding to handle coal handling capacity of 25 MTPA, having 02 no. of RCC silo 3000 T capacity each with Rapid Loading system of 4500-8500 TPH capacity, truck receiving station, RCC overhead Bunker of 20000 T and associated belt conveyors with Transfer Points is in progress. Pp Submitted the progress report as on 01.08.2023. ▪ The physical completion of the FMC project is 85% and financial completion is 85.33% with an expenditure of Rs. 190.13 Crores**.** The construction activities of the FMC project will be completed by the end of September 2023 and will be operational by November 2023.
2.	PP shall submit the current status on reclamation and progressive mine closure of the mine with incurred expenditure.	▪ Presently, the overburden removed by Dipka Opencast Coal Mine Project is 100% backfilled in internal dumps. PP submitted the status on land reclamation as on 31.07.2023. ▪ Progressive mine closure plan is incorporated in 37.50 MTPA Mine Plan approved by CoFD on 12.07.2022. Yearly mine closure compliance report is submitted to Coal Controller Officer, Kolkata. PP also enclosed the mine closure reports. PP submitted the details of fund deposited in escrow account till 01.7.2023, claim against mine closure activities and the reimbursement against the claim from 2009-2020, activity wise expenditure
3.	PP shall submit the expenditure status of already allocated budget in the Public Hearing. Along with the expenditure status for the	▪ Separate budget allocation has not been made for the earlier Public Hearing held for Dipka Opencast Coal Mines in 2008. However, the expenditures incurred for issues raised in PH such as R&R activities, CSR works, etc. is provided by PP. ▪ Capital & Revenue Expenditure Status for the activities as per the EMP was enclosed along with the reply. ▪ PP submitted details of expenditures incurred at R&R sites. It is to be noted that many of the R&R

<table>
<tr><td></td><td>activities involved in EMP and R&R.</td><td>infrastructures were developed before 2005. Expenditures on R&R sites are one-time expenditures after which it is handed over to the panchayat. However, the project still takes up repair, renovation and sometimes maintenance of those infrastructures under revenue expenditures upon requests from Sarpanch.</td></tr>
<tr><td>4.</td><td>PP shall submit the status of expenditure spent for CSR activities.</td><td>▪ The CSR activities are taken up by Dipka Opencast Coal Mines based on the recommendation of the District Collector and in line with the CSR Policy. The CSR expenditures was taken up by SECL till 2014-15. However, since 2015-16 identification of CSR works, and allocation of funds are decided by the District Administration against which SECL sanction fund. The district administration is the executing authority of CSR works.
▪ The detailed fund allocation and expenditure for CSR activities are enclosed in the reply.</td></tr>
<tr><td>5.</td><td>PP shall complete the construction of wind barrier wall as per the EC condition along the railway siding.</td><td>▪ Wind Barrier Wall of 20 ft height has been constructed using GI sheet and brick work covering the entire 750 m length of Railway Siding of Dipka Opencast Coal Mines. The total expenditure incurred was Rs. 3.06 Crores.</td></tr>
<tr><td>6.</td><td>PP shall maintain the check/garland drains and siltation ponds.</td><td>▪ Garland/Catch drains in the form of pucca and kachha drains have been constructed around mines, coal stock and dumps for channelling of runoff water during monsoon season. Catch Drains for a total length of 24,760 m have been provided along the toe of dumps, around the quarry, along haul roads and approach roads in the OCP area.
▪ The details of catch drains and garland drains constructed at Dipka OCP is below: -
<table>
<tr><td>Catch Drain/ Garland Drain</td><td>Location</td><td>Length</td><td>Dimensions</td></tr>
<tr><td>Around OB Dumps</td><td>Jhingatpur OB Dump</td><td>1200</td><td>2.0x1.50m</td></tr>
</table>
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</table>

			Western Side of Ext Dump (6&7)	4500	2.0x1.5m
			External OB Dump (1&2)	800	3.0x1.5m
			External OB Dump (3)	1758	1.0x1.0 m
			Ext Dump (5)	1628	1.0x1.0m
		Around the quarry	Mine No.2	2200	3.0x2.0m
			OB Dump below GTP camp	2000	2.0x2.0m
			Along HB bypass road	2500	2.0x1.50m
		Catch Drain along haul road	Behind Coal Stock 17	2000	2.0x1.50m
			Coal Stock 18-19 near mobile crusher	750	1.0x1.0m
			Near mobile crusher behind MTK-2 to coal stock 15	1500	2.0x1.0m
			Neem Garden Road	1600	2.0x2.0m
			Erection yard to Mobile Crusher near Coal Stock 18&19	1140	2.0x2.0m
		Catch Drain along approach road	Near Old Auto Section	70	2.0x1.5m
			From Dump 1&2 to Lilagarh Nallah	4500	8.0x4.0m (varying)

		<table><tr><td>Total</td><td>28146</td><td></td></tr></table> ▪ The Catch Drains and Garland Drains are desilted and maintained before onset of monsoon. ▪ Check dams and bunds were constructed at Jingatpur Dump (25,800 cum) and at Renki Dump (8000 cum) to arrest siltation and protect the dumps from rain cuts. An embankment (400m length) is provided along Lilagarh Nallah using stone masonry in cement sand mortar. ▪ There are 02 mine water sedimentation ponds and 14 rainwater harvesting ponds constructed by the project. De-siltation/ deepening of ponds are taken up from time to time based on the level of silt deposition.
7.	PP shall submit the status of implementation of the action plan for conservation and protection of endangered flora/fauna from Forest Department.	▪ The Wildlife Conservation plan for Dipka Opencast Coal Mine Project prepared through TFRI Jabalpur was approved by APCCF (Wildlife) vide letter no: 187, dated: 04.11.2022. ▪ A Demand Note for Rs.1547 lakhs was raised by DFO Katghora on 08.12.2022 which was paid to Chhattisgarh CAMPA on 01.03.2023. ▪ The Project submitted a request letter on 20.07.2023 and had approached Chief Executive Officer, CAMPA of CG State Forest Department, Raipur for schedule of implementation of the Wildlife Conservation Plan submitted by the project and CEO CAMPA informed that it has not been decided when this work would be included in the action plan, however, the same would be communicated to the project if scheduled for implementation.
8.	PP has to submit the IRO certified compliance report for the Ministry's letter dated 03.06.2009, 12.02.2013, 06.02.2015, 20.02.2018, 20.03.2019,	▪ The site inspection of Dipka Opencast Coal Mine Project was carried out by Scientist-D, IRO, MoEF&CC, Raipur on 09.06.2023. The site inspection was conducted to certify the compliances against EC letters dated: 03.06.2009, 12.02.2013, 06.02.2015, 20.02.2018, 20.03.2019, 09.03.2020 and 05.09.2022. ▪ The Certified Compliance Report from IRO, MOEF&CC Raipur is awaited.

	09.03.2020 and 05.09.2022.	

S. No:	ADS sought by EAC during the meeting held on **28.08.2023**	Reply of PP
1.	PP to submit application after achieving significant progress and operationalization of silo loading system for 15 MTPA and at least 50% works for the 25 MTPA.	• The In-pit Conveyor along with Silo Loading System for 15 MTPA is already in operation since August 2014. Photographs of In-pit Conveyor and Silo (1&2) having 15 MTPA capacity were enclosed with the reply. • The Mechanized Siding with Silo Loading for 25 MTPA capacity is under construction. The physical and financial completion is 95% with an expenditure of Rs. 188.48 Crores**.** • The delay in completion of Mechanized Siding with Silo for 25MTPA capacity was caused in obtaining permissions from railway, as the conveyor gallery was crossing railway track and overhead electric lines of railway were fouling the Silo location, which needed to be shifted by Railways. The issues have been resolved and the construction works are expected to be completed by the end of December 2023 and Silo will be operational by January 2024.
2.	PP to use dedicated pucca road with the fixed sprinkling system till the mechanization put in place.	• A dedicated CC Road is under construction from Railway Siding to TRS with fixed sprinklers installed on the side, which will be used until mechanization is put in place. Overall, 16.575 KM CC road is being constructed of which 10.90 KM has been completed. The expected date of completion of work is 31.03.2024. PP submitted the Work Orders for CC Road & Fixed Sprinklers along with its status. • PP also submitted the photographs of the CC roads with fixed sprinklers.
3.	PP shall submit status of mine closure as on today and future plan for	• PP submitted the status of progressive mine closure activities taken up by the project. • PP also submitted the details of fund deposited in escrow account till 31.03.2023, claim against mine

	progressive mine closure.	closure activities and the reimbursement against the claim from 2009-2020, activity wise expenditure. • The Progressive Mine Closure Plan is an integral part of the Mining Plan for 37.50 MTPA. As per the progressive mine closure plan the balance life of mines was 5 years as on 01.04.2022. However, a Project Report for Dipka OC Expansion Project (40.00 MTPA) dovetailing existing project report of Dipka OC Expansion Project (25 MTPA) and additional property in the dipside (Hardi, Renki and Part of Bhilai Geological block reserves) for a rated capacity of 40.00 MTY was approved on 24.12.2020, in which the project area will increase to 3096.24 Ha and life of mine to 26 years.
4.	Status of Stage II FC for forest area of 409.056 Ha involved within the ML area.	FC details are detailed below, The project has Stage-I Forest Clearance for entire revenue forest land i.e. 409.056 Ha. involved in the project. The status of FC in the mine lease area is given below: FC Stage-II i. FC Stage-II for 133.707 ha was obtained vide letter no.8-78/2006 FC dated 31.01.2022. (The Stage-I FC was accorded for 148.866 Ha, however out of which 15.159 Ha was already included in the Stage-II FC issued vide F.No.8-115/2003-FC, dated:30.06.2004 in favour of NTPC for construction of MGR) ii. FC Stage-II for 16.794 ha was obtained vide letter no. 8C/6/591/98/FCW/78 dated 11.0.2001. iii. FC Stage-II for 2.918 ha was obtained on vide no.8B/115/2001-FCW/869 dated 03.04.2002. FC Stage-I iv. FC Stage I for 206.638 ha (Regularization Case) vide F.No.8-80/2006-FC dated 20.10.2006. FC Stage-I compliance report was already submitted to MoEF&CC on 21.12.2022 for consideration of FC Stage-II. **v.** FC Stage-II for 33.84 ha was obtained vide F.No.171/92-FC in 1995. Renewal application for FC Stage-II has been with MoEF&CC, New Delhi since 01.02.2023.

<table>
<tr><td></td><td></td><td>A chart depicting the details of forest land and its present status was enclosed along with the reply.</td></tr>
<tr><td>5.</td><td>Status of online sharing of CAAQMS data and plan for installation of another 2 CAAQMS system in consultation of SPCB.</td><td>

One CAAQMS is already in operation which is connected with CIL Portal and CPCB portal on 06.10.2023.
As instructed by EAC in meeting dated:28.08.2023, A Proposal has been initiated for procurement of additional 02 CAAQMS for SECL Dipka OC Project, which is under approval stage.

The time bound Action Plan is as follows: -
<table>
<tr><td>S.N:</td><td>Activities</td><td>Timeline</td></tr>
<tr><td>1.</td><td>Approval & Sanction by Competent Authority for Procurement</td><td>31.10.2023</td></tr>
<tr><td>2.</td><td>Tendering for Purchase of CAAQMS</td><td>31.12.2023</td></tr>
<tr><td>3.</td><td>Issue of Work Order</td><td>31.01.2024</td></tr>
<tr><td>4.</td><td>Installation and Commissioning of CAAQMS.</td><td>31.03.2024</td></tr>
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</td></tr>
<tr><td>6.</td><td>Plan to setup in-situ laboratory within the ML area.</td><td>As instructed by EAC in meeting dated:28.08.2023, an in-situ laboratory is planned to be developed at Dipka Opencast Coal Mines with the help of CMPDIL for spot analysis like PH, temperature, DO, conductivity, free chlorine, total coliform etc.

The time bound Action Plan is as follows:-
<table>
<tr><td>S.N:</td><td>Activities</td><td>Timeline</td></tr>
<tr><td>1.</td><td>Construction of Infrastructure such as testing room and sample storage room for the Laboratory.</td><td>29.02.2024</td></tr>
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		2.	Procurement of Necessary Equipment's by CMPDIL.	29.02.2024	
		3.	Deployment of Laboratory Staffs and Executive by CMPDIL.	15.03.2024	
		4.	Commissioning of Laboratory.	31.03.2024	
7.	Drone video clip for 5 minutes shall be submitted for total ML area including mechanized system.	PP submitted the Drone Video Clip of Dipka Open Cast Coal Mine Project showing the mechanized system for coal dispatch.			

S.No	ADS sought by EAC held on 16.11.23	Reply of PP
1.	PP should complete the construction of conveyor belt and silo loading system and submit the photographs and recorded video of operational system as proof of completion required for compliance of Ministry's OM dated 7th May, 2022.	Complied. Dipka OC has installed mechanised siding with rapid loading system for capacity of 40 MTPA. An arrangement for 15MTPA coal loading using 02 Nos of Silos each having 3200 T capacity with Rapid Loading System (5500-6000 TPH) is in operation since year 2009. Additional mechanized siding with rapid loading system having capacity of 25 MTPA was inaugurated by on 24.02.2024 under First Mile Connectivity Program. PP submitted the photographs and video of the above.
2.	PP to complete the construction of pucca road by December 2023 to reduce the dust emission into the atmosphere.	Complied. A dedicated CC Road has been constructed of length 15.675 Km i.e. from Railway Siding to TRS with fixed sprinklers installed on either side. PP Submitted the photographs of the road and map consisting the details of road construction.

	Action taken report be submitted to IRO.	PP submitted the copy of Action taken report submitted to IRO on 14.03.2024
3.	PP should submit closure status of portion of the mine lease area in compliance of progressive mine closure.	Complied. Progressive mine closure plan is an integral part of the mining plan of 37.50 MTPA. PP also submitted the Closure status of the portion of mine lease area in compliance of progressive mine closure.
4.	PP shall submit the detail action plan for fully planting trees on the slopes of 205 ha of external dump and 127 ha of internal dump.	Complied. Every year extensive plantation is being done both on technically reclaimed internal dump, external dump including slopes of the dump by Chhattisgarh Van Vikas Nigam (a state government organization) and till date, a total of 25.37 lakhs no. of saplings has been planted. 204.26 Ha area of external Overburden dump including slopes & 127.66 Ha of Internal Overburden Dump including slopes are already biologically reclaimed. PP submitted the photographs of plantation on slopes. Also, the yearly maintenance of plantation and gap plantation is carried over dump areas where there is casualty/ loss of vegetation is observed. For the year 2023-24, 30000 nos of saplings were planted as gap plantation in Renki external OB dump. PP also submitted the The photographs of the same. For the year, 2024-25, the target plantation is 40000 saplings in the dumps. PP submitted the Breakup of year-wise plantation/maintenance done on external and internal dump.
5.	PP shall submit the proof of developed environment lab with air monitoring and water	Complied. The Environment lab with air & water monitoring/analysis has been established and functional from 12.03.2024 at Dipka CGM Office. PP submitted the photographs for the same.

	monitoring/analysis instruments at the site.	
6.	PP shall submit the NOC of CGWA which was earlier valid till 25.02.2023.	Being Complied. Application for renewal of NOC from CGWA for withdrawal of ground water was submitted on 25.02.2023 and was accepted on 09.03.2023. The NOC has been approved on 19.03.2024 (as per NOCAP portal).
7.	Latest Status of Court cases *i.e. of Case No: 826/2021; Case No: 1217/2007 & Case No: 26/2009*	Complied. Legal status of Court cases are as follows: • **Case No: 826/2021** civil appeal was filed in the Hon'ble Supreme Court of India under section 22 of the National Green Tribunal Act, 2010 against the final order dt: 25.08.2020 of the National Green Tribunal, Principal Bench at New Delhi in appeal no. 79 of 2018 titled Laxmi Chauhan vs UOI & others. The case is under subjudice at the Hon'ble Supreme Court of India. • **Case No: 1217/2007** was filed in the court of CJM Korba by CECB against SECL and CGM, Dipka Area against excess production during 2001-2002 without CTO. A petition CRMP 515/2011 was filed by SECL in Chhattisgarh High Court against the case. The SECL petition was dismissed by High Court vide order dated:18.06.2019. The case is under subjudice at the court of CJM, Katghora. The next hearing date is scheduled on 23.03.2024. • **Case No: 26/2009** was filed in the court of Judicial Magistrate First Class, Katghora by CECB against SECL and Shri Debasis Chatterjee (Ex.CGM, Dipka Area). Judgement was conferred on 14.07.2014 in favour of SECL by acquitting from all charges. A petition CRMP 859/2014 was filed by CECB in Chhattisgarh High Court against the issued order. Appeal was dismissed in favour of the Dipka project on 13.12.2022.

The proposal is now being considered in the 10th EAC meeting wherein the PP and NABET Accredited consultant made a detailed presentation on the ADS points raised. The Committee observed that the instant project has been submitted in compliance with the Ministry's OM dated 7th May 2022 wherein expansion in capacity was granted in advance (10% beyond already granted 40% from the existing base capacity) subject to certain conditions related to submission of EIA-EMP report and compliances of existing EC conditions within six months along with other statuary requirements. This EC was granted on 05th September 2022 by MoEF&CC due to a shortage of coal in the country and as per the condition contained therein.

The Committee deliberated the reply submitted by the PP. After deliberation, the Committee observed the following:

i) *In reply to the query regarding the status of the conveyor belt and silo loading system, PP submitted that Dipka OC has installed mechanised siding with a rapid loading system for a capacity of 40 MTPA. An arrangement for 15MTPA coal loading using 02 Nos of Silos each having 3200 T capacity with a Rapid Loading System (5500-6000 TPH) is in operation since year 2009. Additional mechanized siding with a rapid loading system having a capacity of 25 MTPA was inaugurated on 24.02.2024 under the First Mile Connectivity Program. PP displayed the photographs and video of the rapid loading system.The Committee is of the view that EC was granted on 37.5 MTPA and PP already has the installed capacity of 40 MTPA. Further, while transporting the coal, PP shall ensure to take all mitigative measures for control of air pollution as proposed in EMP.*

ii) *As regards the completion of the construction of Pucca Road, PP submitted that a dedicated CC Road of length 15.675 Km i.e. from Railway Siding to TRS with fixed sprinklers installed on either side has been constructed. PP displayed the photographs of the road. PP also displayed the copy of the Action taken report submitted to IRO on 14.03.2024 during the meeting. The Committee observed that in the previous reply submitted by the PP, the length of the road was mentioned as 16.675 KM but now it has been mentioned that it is 15.675 KM the same needs to be clarified by the PP.*

iii) *PP submitted the status of the progressive mine closure plan. PP mentioned that the Progressive Mine Closure Plan is an integral part of the Mining Plan for 37.50 MTPA and the balance life of mines was 5 years as of 01.04.2022. However, a Project Report for Dipka OC Expansion Project (40.00 MTPA) dovetailing existing mine plan of Dipka 37.5 MTPA/project report of Dipka OC Project (25 MTPA) and additional property in the dip-side (Hardi, Renki and Part of Bhilai Geological block reserves) for a rated capacity of 40.00 MTPA was approved on 24.12.2020, in which the project area will increase to 3096.24 Ha and life of mine to 26 years.*

The committee observed that the Technical and biological reclamation of the external OB Dump is completed for an area of 204.26 Ha which is 99% of the total area of 206 Ha till 2023-24 as reported by PP. PP also informed us that 100% of the planned OB volume of 81 Mcum has been dumped in the external OB dump area. The Internal OB dump is Technically and Biologically reclaimed for an area of 223 Ha (50%) and 127.66 Ha (49%) respectively. The Committee is of the view that the timeline for progressive mine closure shall be complied with and early backfilling needs to be done.

iv) *On the query regarding the detailed action plan for fully planting trees on the slopes of 205 ha of external dump and 127 ha of internal dump, PP submitted that 204.26 Ha area of external Overburden dump including slopes & 127.66 Ha of Internal Overburden Dump including slopes are already biologically reclaimed. PP also displayed photographs of plantations on slopes. PP further submitted that the yearly maintenance of plantation and gap plantation is carried over dump areas where there is casualty/ loss of vegetation is observed. For the year 2023-24, 30000 nos of saplings were planted as gap plantation in Renki external OB dump. For the year, 2024-25, the target plantation is 40000 saplings in the dumps. PP also submitted the breakup of year-wise plantation/maintenance done on the external and internal dumps. PP also informed that every year extensive plantation is being done on technically reclaimed internal dump and external dump including slopes of the dump by Chhattisgarh Van Vikas Nigam (a state government organization). To date, a total of 25.37 lakhs no. of saplings have been planted.*

v) *The Committee also deliberated on the CCR dated 12.06.2023 submitted by RO, based on the site visit conducted on 9.06.2023. The Committee is of the view as to why information such as explosives used in the mines could not be furnished during the inspection. These are the statutory requirements to maintain such records and PP should have shown them to the officer from the concerned RO during the inspection, even the details of the newspaper were not furnished which shows that there is a need to strengthen the Environmental Management Cell of the mines. The Committee is of the view that PP shall provide the details of the persons engaged in the EMC with their designation and qualification.*

The Committee desired the PP to submit the Compliance report of OM dated 11.04.2022. PP displayed the CCR dated 12.06.2023. The Committee observed that as per the CCR PP has to submit the documents and information regarding the measures taken for pollution control, surface drainage/catchment area treatment plan, explosive usage details, Calibration of CAAQMS, de-silting/deepening ponds & cleaning of all drains and newspaper advertised copies, in addition to the issues discussed during the EAC meeting. The committee desired PP to submit the ATR for the issues raised in the CCR.

vi) *As desired by the EAC to submit the proof of developed environment lab with air monitoring and water monitoring/analysis instruments at the site, PP submitted that the Environment lab with air & water monitoring/analysis has been established and functional from 12.03.2024 at Dipka Project Office. PP also displayed the photographs of the lab. The Committee is of the view that the steps taken so far by the PP for the accreditation of labs need to be provided along with details of the staff engaged for the smooth operation of the lab.*

vii) *It was observed that the NOC for CGWA was earlier valid till 25.02.2023. PP submitted that application for renewal of NOC from CGWA for withdrawal of groundwater was submitted on 25.02.2023 and was accepted on 09.03.2023. The NOC was approved on 19.03.2024 (as per the NOCAP portal). PP made Payment of Groundwater abstraction charges on 05.04.2024. The Committee is of the view that PP shall follow up to obtain the CGWA NoC. Further, the Committee desired that PP shall optimise the water requirement and submit a time-bound action plan for the reduction of fresh water requirement.*

viii) *As informed by the PP there are three court cases i. e. Case No: 826/2021; Case No: 1217/2007 & Case No: 26/2009 pending in the block. PP submitted that Case No. 826/2021 is pending at the Hon'ble Supreme Court of India, and Case No. 1217/2007 is pending under the court of CJM, Katghora. The next hearing date is scheduled for 16.04.2024. Case no. 26/2009 was filed in the court of Judicial Magistrate First Class, Katghora by CECB against SECL and Shri Debasis Chatterjee (Ex. CGM, Dipka Area). Judgement was conferred on 14.07.2014 in favour of SECL by acquitting from all charges. A petition CRMP 859/2014 was filed by CECB in Chhattisgarh High Court against the issued order. The appeal was dismissed in favour of the Dipka project on 13.12.2022.*

ix) *The Committee observed that out of 409.056 Ha of forest land, Stage-II FC has already been obtained for 168.578 Ha and Stage-II for 240.478 Ha is yet to be obtained and is under process. The Committee further observed that out of this 84.712 Ha has already broken up as reported by PP. The Committee desired that PP shall follow up to expedite the process of obtaining stage II. Further, it is not clear how the mining activity would be carried out as the forest area is in parts/patches for which Stage-II FC is yet to be obtained. Accordingly, PP is required to submit a surface plan clearly showing the forest area and proposed mining advancement plan.*

x) *The Committee observed as per the ADS reply submitted by PP for the meeting held on 28.08.2023, that PP had to install another 2 CAAQMS systems in consultation with SPCB by 31.03.2024. PP shall submit the status of the installation and commissioning of additional CAAQMS.*

Based on the discussion held and the document submitted the Committee deferred the proposal for want of the following information:

1) *PP should submit the valid/recent NOC from CGWB.*

2) *PP should submit the latest CCR from the Regional office MOEFCC along with its ATR.*

3) *PP shall submit the status of the installation and commissioning of additional CAAQMS.*

4) *PP shall submit the status of FC Stage-II clearance.*

5) *PP is required to submit a surface plan clearly showing the forest area and proposed mining advancement plan.*

6) *PP shall submit the status of accreditation of labs along with details of the staff engaged for the smooth operation of the lab.*

7) *PP shall provide the details of the persons engaged in the EMC with their designation and qualification.*

8) *PP shall optimise the water requirement and submit a time-bound action plan for the reduction of fresh water requirement.*

9) *PP shall submit the comprehensive details of the plantation both existing and planned plantation in line with the progress of mining Operations.*

10) *PP shall clarify whether the length of the road is 16.675 KM or 15.675 KM.*

11) *PP should submit the details of the external dump including the timing of its closure/ non utilisation.*

12) *Latest Status of Court cases i.e. Case No: 826/2021; Case No: 1217/2007 & Case No: 26/2009 needs to be provided.*

Agenda No. 10.2

Proposal for Terms of Reference (ToR) of Kusmunda Opencast Expansion Project of South Eastern Coalfields Limited for increase in mine lease area from 1655.825 Ha to 2991.943 Ha with production capacity of 50 MTPA (Normative) / 62.50 MTPA (Peak) located at Amgaon, Barampur, Barpali, Churrail, Khairbhawna, Khodri, Barkuta, Durpa, Gevra, Jarhajel, Pali, Paraniya, Resdi, Sonpuri, Kusmunda Colliery, Distt Korba, Chhattisgarh
- Terms of Reference- Regarding

[Online Proposal No. IA/CG/CMIN/465725/2024; File No. J-11015/176/2014-IA-II(M); Consultant Details: CMPDIL; Certificate of Accreditation No. NABET/EIA/2124RA 02558 valid up to 22/08/2024.]

10.2.1: Kusmunda Opencast Expansion Coal Mine has made an application online vide

proposal no. IA/CG/CMIN/465725/2024 dated 14.03.2024 along with the application in prescribed format (Form-I) and pre-feasibility report for undertaking detailed EIA study as per the EIA Notification, 2006 for the project.

The present proposal is for grant of Terms of Reference (TOR) for increase in mine lease area from 1655.825 Ha to 2991.943 Ha with keeping production capacity same i.e. 50 MTPA (Normative) / 62.50 MTPA (Peak), located in Barpali/Chandranagar Village, Dipka/Darri Tehsil, **Korba District**, Chhattisgarh

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

10.2.2.1: Location:

i) The project area is covered under Survey of India Toposheet no. F44K11 (64J/11) (1:50000) and is bounded by the geographical coordinates ranging from 22^0 15'18" N and to 22^0 21'30" N and longitudes 82^0 38'39" E and 82^0 42'08" E.

ii) PP reported that, General Conditions are not applicable for this project and project is not falling under Critically Polluted Area.

10.2.2.2 : Forest Area: PP Submitted that the project involves total 249.903 Ha of forest land (existing 205.961 Ha and proposed additional requirement 43.942 Ha).The details of the approval already obtained or applied for is as follows:

Sl. No	Obtained vide letter No.	Area (in Ha)	Stage I	Validity
01	Stage-I FC vide F. No. 8-08/2018-FC dated 26th April, 2018	205.961	Yes	Co-terminus with mining lease
02	Stage-I FC vide F. No. 8-08/2018-FC (Pt) dated 12.02.2024	43.942	Yes	Co-terminus with mining lease
Total		**249.903**		

PP further submitted that total broken forest area is 205.961 ha (Regularization case, broken prior to 12.12.1996) and extent of forest land in the project (including safety zone and all types of forest land) is 249.903 Ha.

10.2.2.3: Protected Area: PP Submitted that the project is not located within 10 KM of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/tiger corridor/elephant corridor etc. and no violation of WLP, Act is reported. PP Further submitted that project involves wildlife issue and Schedule-I species are found in the project area. Wildlife Conservation Plan has been approved by Chief Wildlife Warden/ PCCF (Wildlife), C.G. Forest Department, Naya Raipur on 17.05.2023 for an amount of Rs 6,19,50,000/- for a ten-year period (2022-2032). SECL has deposited the whole amount in Chhattisgarh CAMPA for compliance in respect of Stage-I FC conditions.

10.2.2.4: Previous Approvals: PP submitted the following environment clearances have been obtained earlier under EIA Notification, 2006 (in chronological orders):

SI No.	Details of Letter No.	EC/ Expansion EC/ Amendment in EC/ Validity extension/ Transfer of EC	Capacity (in MTY)	Area (in Ha)	Remarks if any (Like Validity, Exclusions)
1	F. No. J-11015/37/84-IA dated 10-07-1986	Environmental Appraisal	6.00	NA	-
2	F. No. J-11015/372/2005-IA-II(M) dated 16-02-2006	Environmental Clearance	10.00	1673.63	Life of Mine
3	F. No. J-11015/1205/2007-IA. II(M) dated 03-06-2009	Environmental Clearance	15.00	2536.656	Life of Mine
4	F. No. J-11015/374/2013-IA. II(M) dated 19-02-2014	EC Expansion under 7(ii)	18.75	2301.167	Excluding 235.489 Ha Forest Land
5	F. No. J-11015/176/2014-IA. II(M) dated 03-02-2016	EC Expansion under 7(ii)	26.00	1449.864 (Phase-I)	Excluding 205.961 Ha Forest Land
6	F. No. J-11015/176/2014-IA. II(M) dated 03-07-2018	EC Amendment	36.00	1655.825	Validity up to 31.03.2019

7	F. No. J-11015/176/2014-IA. II(M) dated 22-01-2019	EC Amendment	40.00	1655.825	Validity up to one year
8	F. No. J-11015/176/2014-IA. II(M) dated 10-01-2020	EC Amendment	50.00 MTPA (Normative) / 62.50 MTPA (Peak)	1655.825 (Phase-I)	Life of Mine

10.2.2.5: Mining Lease: PP Submitted the that has been acquired under CBA (A&D) Act, 1957 and the total area is 3510.348 Ha out of which 518.405 Ha has already handed over to adjacent Gevra OCP, SECL. The final lease hold area is thus 2991.943 Ha. PP submitted that the lease is perpetual under Coal Bearing Areas (Acquisition & Development) Act, 1957.

10.2.2.6 Mining Plan: PP Submitted that the mining plan & mine closure plan for the project was approved vide following chronology:

Sl No.	Details of Letter No.	Capacity (MTY)	Area (in Ha)	Remarks if any
1	Letter No. CIL:X1(D): 04112:2013:6912 dated 12.08.2013	50.00 MTPA (Normative) / 62.50 MTPA (Peak)	4029.38	Project Report approved by CIL Board in its 300th Meeting on 03/08/13. Mine closure plan was approved on 28/10/2013
2	Letter No. SECL/ BSP/ CAD/ 195th CoFD EXT/23-24/ 791 dated 21.10.2023	50.00 MTPA (Normative) / 62.50 MTPA (Peak)	2991.943	Revised Mine Plan along with Mine Closure Plan with revised escrow agreement on the basis of new MCP guidelines has been approved on 20.10.23 for ML area of 2991.943 Ha.

10.2.2.7: Method of Mining: PP Submitted the following:

(i) Method of Mining to be adopted shall be Open Cast Mining using Surface Miner and Shovel-Dumper Combination

(ii) Excavation of Coal is through mostly Surface Miners & loading is through Front End Loaders & Dumper/Tipper combination. The waste/OB handling is with Shovel-Dumper Combination. Mine will be worked out by departmental equipment for extraction of coal and OB removal. OB removal will be done by the combination of 42 & 10 cum Elect. Rope Shovels and 240T & 100T Rear Dumpers. For extraction of coal, surface Miner with a combination of 10 cum FEL & 45/60 T RD coal body dumper / truck will be used.

(iii) Total geological reserve reported in the mine lease area is 1005.40 MT (as per 50 MTY PR) with Balance mineable reserves of 670.19 MT as on 01/04/23. Out of total mineable reserve of 670.19 MT as on 01/04/23, 670.19 MT are available for extraction. Percent of extraction is 100%.

(iv) Seams with thickness ranging from 2.86 m to 64.40 m are workable. Grade of coal is G11, stripping ratio 1.44 cum/ te of coal while average gradient is 4º to 10º.

(v) Life of mine is 14 years as on 01/04/23.

(vi) The project has 13 external OB dumps in an area of 325 Ha with Up to 90 m above surface level height and 20.80 Million cum of OB. 01 internal OB in an area of 1245 Ha with up to 90 m above height and 1342.45 Mm3 of OB is envisaged in the project. PP submitted external Dumps created within Kusmunda OCP Mine Leasehold Area till 2009-10. No External Dumping has been done after 2009-10 & 100% Backfilling is being done in Kusmunda Mine since then. Area backfilled till 31.12.2023 – 559.71 Ha.

(vii) Total quarry area is 1600.00 Ha out of which backfilling will be done in 1245 Ha while final mine void will be created in an area of 355 Ha with a depth of 40 m. Backfilled quarry area of 1245 Ha shall be reclaimed with plantation. Final mine void will be converted into a water body.

(viii) **Details of Land usage:**

i. Pre mining (Area in Ha).

Sl. No	Land use	Within ML area		Outside ML area		Total Land Use 62.50 MTPA	
		Existing	Proposed	Existing	Proposed	Existing	Proposed
1	Agriculture land	1045.597	2110.32	-	-	1045.597	2110.32
2	Forest land	205.961	249.903	-	-	205.961	249.903

3	Waste land	Nil	20.567	-	-	Nil	20.567
4	Grazing land	373.225	456.247	-	-	373.225	456.247
5	Surface water Bodies	31.042	83.377	-	-	31.042	83.377
6	Settlements	Nil	Nil	-	-	Nil	Nil
7	Other (Roads, Safety Zone etc.)	Nil	71.529	-	-	Nil	71.529
	Total	1655.825	2991.943	-	-	1655.825	2991.943

ii. Land Use During Mining

Sl. No	Land use during Mining	Land use (Ha)				
		Plantation	Water body	Public use	Undisturbed	Total
1	External OB dump	325				325
2	Top Soil				03	03
3	Excavation	1245	355			1600
4	Roads			10		10
5	Built up areas			470.25		470.25
6/7	Green Belt/ Safety Zone				163	163
8	Undisturbed Area				420.693	420.693
	Total	1570	355	480.25	586.693	2991.943

iii. Post-Mining: (Area in Ha).

Sl. No.	Purpose	Total Area (in Ha)	Reclaimed Area (in Ha)	Un-Reclaimed Area (in Ha)
1	Excavation/Quarry Area:			
	a) Backfilled Area	1245	1245	00
	b) Excavated Void	355	00	355
2	External Dumps	325	325	00
3	Safety Zone/ Green Belt	166	166	00
4	Road & Infrastructure	480.25	00	480.25
7	Others (future mining)	420.693	00	420.693
	TOTAL	2991.943	1736	1255.943

(ix) PP Submitted that the coal is proposed to be transported within the outside mining lease in the following manner:

a. In pit: By Tippers/Dumpers at present. (Work Awarded for in pit conveyor belt for a cost of Rs 544.59 Cr on 18.01.2021. Construction is under progress – 95% up to 28.02.2024. Likely to be commissioned after trial run by 30.06.2024)
b. Surface to siding: By Tippers to Sidings & By Conveyor Belt to Silos
c. Siding to loading: By Belt Conveyor and Rail
d. Quantity being transported by Road/Rail/Conveyor/Ropeway

Mode of Coal Dispatch	20-21	21-22	22-23
Rail (MT)	21.668	21.481	24.948
Belt (MT)	6.678	6.715	7.182

Road (MT)	4.945	5.559	5.746

e. After commissioning of in-pit conveyor belt by 30.06.2024, road transportation from in-pit to surface will considerably decrease.

(x) The Status of implementation of progressive mine is that out of total excavated area of 876.967 Ha as on 31.12.2023, the area backfilled after excavation is 559.71 Ha as on 31.12.2023, the total area reclaimed is 424.242 Ha (This includes Backfilled area of 228.00 Ha & External Dump Area of 196.242 Ha) as on 31.12.2023. There is no deviation from the approved PMCP.

(xi) There are 17 villages within the mining lease area. Out of which 07 no of villages has already been shifted and remaining 10 nos of villages are under process of Rehabilitation in a phased manner. Total lease area of **2991.943 Ha** has already been acquired. Possession of 10 villages is under progress in a phased manner.

(xii) Reclamation: The reclamation plan includes a total Afforestation plan that shall be implemented covering an area of 1570 Ha at the end of mining. This will include:

i. Reclaimed external OB dump (in ha): 196.242 Ha.
ii. Internal dump (in ha): 1245 Ha
iii. Green belt (in ha): 166 Ha
iv. Density of tree plantation (in no of plants): 2500 per Ha on plain area & 3500 per ha on dump slopes.
v. Void (in ha) at a depth of (in m) which is proposed to be converted into water body: Void area 355 ha at a depth of 40 m will be converted into water body.
vi. Others in ha (such as excavation area along ML boundary, along roads and infrastructure, embankment area and in township located outside the lease etc. 480.25 Ha
vii. Agriculture and horticulture: Grazing Land will be provided outside Safety Zone Area for agriculture/ grazing purposes.
viii. Fisheries: Void area 355 ha at a depth of 40 m will be converted into water body& used for fisheries
ix. ECO Tourist/recreation spot: Reclaimed Dump sites (External/Backfilled) will act as Eco-tourist/ recreation spots at the end of mining.

(xiii) Consent obtained from MPPCB/CECB for a capacity of 3.4 Lakhs Te / Month.

10.2.2.9: Legal Issues/ Violation: PP reported that there is no legal issue/violation w.r.t Environment (Protection Act), Air (P&CP) Act, Water (P&CP) Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, no case is currently pending under any court of law in respect of Kusmunda OCP for the above-mentioned acts. PP has also submitted undertaking in this regard.

10.2.2.10: Production Details: PP Submitted the details of actual coal production vis-à-vis sanctioned capacity with existing EC since FY 1978-79:

Year	EC Sanctioned Capacity (MTPA)	Actual production (MTPA)	Excess production beyond the EC Sanctioned Capacity
1978-79	4.08*	0.005000	NIL
1979-80	4.08*	0.298800	NIL
1980-81	4.08*	0.746000	NIL
1981-82	4.08*	1.148150	NIL
1982-83	4.08*	1.404000	NIL
1983-84	4.08*	2.237500	NIL
1984-85	4.08*	3.842000	NIL
1985-86	4.08*	4.330000	NIL
1986-87	6.00	5.115000	NIL
1987-88	6.00	4.703000	NIL
1988-89	6.00	3.745000	NIL
1989-90	6.00	4.000000	NIL
1990-91	6.00	4.229000	NIL
1991-92	6.00	4.109000	NIL
1992-93	6.00	4.418000	NIL
1993-94	6.00	4.706000	NIL
1994-95	6.00	4.738000	NIL
1995-96	6.00	5.124000	NIL
1996-97	6.00	4.893000	NIL
1997-98	6.00	4.489750	NIL
1998-99	6.00	5.194500	NIL

1999-00	6.00	5.524000	NIL
2000-01	6.00	5.605400	NIL
2001-02	6.00	5.974430	NIL
2002-03	6.00	6.682050	0.682050
2003-04	6.00	7.599970	1.599970
2004-05	6.00	7.603656	1.603656
2005-06	6.00	8.001100	2.001100
2006-07	10.00	9.066050	NIL
2007-08	10.00	8.713100	NIL
2008-09	10.00	10.557600	0.557600
2009-10	15.00	11.204237	NIL
2010-11	15.00	14.562998	NIL
2011-12	15.00	15.000000	NIL
2012-13	15.00	15.000000	NIL
2013-14	18.75	18.422639	NIL
2014-15	18.75	18.750000	NIL
2015-16	26.00	24.501010	NIL
2016-17	26.00	26.000000	NIL
2017- 18	26.00	26.000000	NIL
2018- 19	40.00	40.000000	NIL
2019-20	50.00 (Normative) / 62.50 (Peak)	42.331201	NIL
2020-21	50.00 (Normative) / 62.50 (Peak)	37.260656	NIL
2021-22	50.00 (Normative) / 62.50 (Peak)	28.900522	NIL
2022-23	50.00 (Normative) / 62.50 (Peak)	43.051758	NIL

2023-24	50.00 (Normative) / 62.50 (Peak)	50.124	NIL

10.2.2.11: Water Requirement: The PP submitted that the total water requirement is 16,515 KLD (Ground Water – 13,715 KLD; Surface Water – 2800 KLD). NOC for withdrawal of 13715 cum/day ground water for mining activity at Kusmunda (Expansion) opencast mining project was obtained vide CGWA/NOC/MIN/REN/2/2023/8041, dated 25.07.23. PP submitted that Artificial Rainwater Harvesting Structures or Recharge Ponds have been constructed at 06 locations & Deepening of existing village ponds have been carried out at 05 locations close to Kusmunda OC Project. Total recharge capacity-24,624 m3/year. Roof top rain water harvesting system is augmenting the groundwater recharge to the tune of 24,333 m3/year at 08 locations in Kusmunda OCP.

10.2.2.12: Diversion: PP submitted that no Diversion of Right Bank Canal is proposed for the instant proposal. Mining Activities will be restricted to 100 m safe distance from the west bank of the Right Bank Canal.

10.2.2.13: R&R Plan: PP Submitted the following details about R&R:

(i) No. of Villages involved: 17 nos.
(ii) No. of villages already rehabilitated: 07 nos.
(iii) Balance No. of villages to be rehabilitated: 10 nos.
(iv) R&R Cost: Rs. 508.28 Crores
(v) No. of PAFs: 2982 nos.
(vi) No. of families already Rehabilitated: 1134 nos.
(vii) Balance No. of families to be rehabilitated: 1848 nos.

10.2.3: Committee based on the documents submitted noted the following:

1. The proposal is for a grant of ToR for expansion in the mine lease area from 1655.825 Ha to 2991.943 Ha and applied under 7(ii)(a) of EIA Notification 2006 (as amended) keeping the production capacity the same as 50 MTPA (Normative)/ 62.5 MTPA (Peak) with a request to exempt public hearing.

2. Baseline data was generated in summer 2022, from 01.03.2022 to 31.05.2022 according to Ministry's OM dated 08 June 2022.

3. The mining plan and mine closure plan for the project were approved for 50 MTPA to 62.50 MTPA in an area of 2991.943 Ha land in the 195th meeting of CoFD of SECL held on 20.10.2023 and communicated vide Ref. No. SECL/BSP/CAD/195thCOFD EXT/23-24/791, dated 21.10.2023.

4. The total Forest Land involved in the project is 249.903 Ha for which Stage – I FC has already been granted, vide letter dated 26th April 2018 (for 205.961 Ha) and 12th February 2024 (for 43.942 Ha).

5. PP Submitted that the project is not located within 10 KM of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/tiger corridor/elephant corridor etc. and no violation of WLP, Act is reported.

6. The committee observed that the Project does not fall in the Critically Polluted Area (CPA)/ Severely Polluted Area (SPA) as per CEPI Assessment 2018.

7. PP has submitted that NOC from CGWA was obtained on 25.07.2023 vide NOC No. CGWA/NOC/MIN/REN/2/2023/8041, which was valid up to 18.01.2024.

8. PP Further submitted that the project involves wildlife issues and Schedule-I species are found in the project area. Wildlife Conservation Plan has been approved by Chief Wildlife Warden/ PCCF (Wildlife), C.G. Forest Department, Naya Raipur on 17.05.2023 for an amount of Rs 6,19,50,000/- for a ten-year period (2022-2032). SECL has deposited the whole amount in Chhattisgarh CAMPA for compliance with Stage-I FC conditions.

9. PP has submitted that there are no pending court cases and submitted an Undertaking in this regard.

10. As per the production details provided by the PP the production is well within the last granted EC and there is no violation in that regard.

The Project Proponent (PP) along with the Consultant accredited by the QCI/ NABET consultant made a detailed presentation on the project. The Committee deliberated on the various aspects of the project and observed the following:

1) The committee observed that PP obtained ToR vide letter dated 01/12/2014 for 50 MTPA (normative) 62.5 MTPA (Peak) capacity for the area of 3510.348 Ha. Based on the ToR, PP prepared the EIA/EMP report and conducted a public hearing for the entire area (3510.348 Ha) on 11/02/2015, but the EC was granted over an area of 1449.864 Ha (1655.825 under Phase-I excluding revenue forest land of 205.961 Ha) and capacity was restricted to 26 MTPA, and thereafter PP obtained amendment in EC i.e. after obtaining Stage-I FC for inclusion of forest land and increase in production capacity. As this EC was granted for one year the PP further obtained the amendment in EC including remaining capacity addition. The PP also informed that 518.405 Ha out of 3510.348 Ha has already been handed over to adjacent Gevra OCP, SECL. Thus, the final leasehold area is 2991.943 Ha. PP now applied under 7(ii)(a) of EIA Notification 2006, for an increase in lease area (1655.825 Ha to 2991.943 Ha) keeping the production capacity the same as 50 MTPA (Normative) / 62.50 MTPA (Peak). The PP during the meeting also showed the area for which the public hearing was conducted and area for which EC was granted and the area proposed now. PP submitted

that the mine is about to reach the pit limit as per the existing EC and due to this there is a requirement for an increase in lease area. The committee is of the view that under para 7(ii) (a) of the EIA Notification committee is empowered to decide on requirements of public consultation. In the instant case the public hearing has already been conducted for the entire area but as the 10 villages are yet to be rehabilitated, therefore at this stage it is suggested that PP shall get the public consultation done through written submission as per provision of EIA Notification 2006 (as amended).

2) The committee observed that there is a canal passing through the lease area and a river is flowing along the lease boundary. PP submitted that no diversion of any major water body is proposed as the entire quarry boundary is planned at 100 m distance from the Right Bank Canal & minimum of 500 m from Hasdeo River.

3) The committee also observed that there is a river flowing on the eastern side of the lease and there is a temple located. PP submitted that the temple is outside the lease area and the direction of the mining is away from the river towards the south direction.

4) The Committee observed that out of 249.903 Ha of forest land, PP had applied for regularization of 205.961 Ha already broken up (before 12/12/1996) forest land and obtained post facto in-principle approval for the diversion of 402.996 Ha of forest land for Kusmunda and Laxman OCP. PP reported that the matter was discussed in AC meeting held on 17/01/2024 and it has been reiterated that reclaimed revenue forest land has to be notified into RF to complete the compliance of Stage – I approval. Accordingly, the FC Division of MoEF&CC requested the State Government to Notify the said revenue forest into RF/ PF. The Committee is of the view that PP shall follow up for the early grant of stage-II FC. PP shall ensure that no mining shall be done on forest land without obtaining stage-II FC.

5) The committee also deliberated on the CCR dated 9.05.2023 and is of the view that some basic documents, status of installation of belt conveyor, digital survey, details of explosive used, ATR on issues raised during PH, and installation of latest details of solar panels/rooftops was sought. The Committee is of the view that PP shall submit the desired information to the concerned RO on priority.

6) The committee observed that the water requirement is 16,515 KLD and PP is increasing the water requirement. The committee is of the view that the PP should explore the possibility of reduction of specific water requirements by optimization/ technology upgradation, etc. Also, the PP shall prepare the scheme for mandatory re-cycle/ re-use of water as specified by the CGWA for different category areas seeking NoC for groundwater withdrawal.

7) In the context of transportation of coal PP submitted that transportation upto pit head is done by the dumper from the face to in pit crusher, transportation from the pit head to the siding/loading is done by belt conveyors and silo and transportation from loading point to consumers is done by Rail, Belt conveyors and road. The Committee is of the view that PP shall reduce the coal transportation from roads and accordingly submit an action plan for the same with proper justification.

8) The committee is of the view as the mine is approaching close to canal a site visit by a sub-committee shall be done to see the actual ground situation and suggest for safety distance to be maintained from the canal and to make any other suggestions/recommendations based on the site visit.

*Based on the discussion held and the document submitted the EAC **recommended** the proposal for the grant of Terms of Reference (ToR) for the expansion for increase in mine lease area from 1655.825 Ha to 2991.943 Ha with a production capacity of 50 MTPA (Normative) / 62.50 MTPA (Peak) of Kusmunda Opencast Expansion Project of South Eastern Coalfields Limited, located at Amgaon, Barampur, Barpali, Churrail, Khairbhawna, Khodri, Barkuta, Durpa, Gevra, Jarhajel, Pali, Paraniya, Resdi, Sonpuri, Kusmunda Colliery, Distt Korba, Chhattisgarh under EIA Notification, 2006 (as amended) with the following specific ToR conditions in addition to generic ToR*

1. *PP has to prepare the EIA-EMP report as per Ministry's OM 08/06/2022 and thereafter conduct Public Consultation to seek public comments through written submission only, through concerned SPCB in the concerned district(s) as per the provision/ procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal.*

2. *PP shall explore the possibility of reduction of specific water requirements by optimization/ technology upgradation, etc. and accordingly submit a plan. Also, the PP shall prepare the scheme for mandatory recycle/ reuse of water as specified by the CGWA for different category areas seeking NoC for groundwater withdrawal. PP shall comply with the conditions as specified in OM dated 23rd May 2019.*

3. *PP shall bring out that what are the specific diesel consumption ~ (Litres/Tonne of total excavation & mineral) and steps to be taken for reduction of the same.*

4. *PP shall propose to use e-vehicles/LNG/CNG-based mining machinery and trucks for mining operations and transportation of coal.*

5. *PP should submit the real-time aerial footage & video of the mining lease area including transportation route, streams passing through the ML area, and plantation status.*

6. *PP shall submit the action plan with an appropriate budgetary provision for addressing the issues arising during the public consultation (written submission).*

7. *PP should bring out the details of the awareness campaign to be carried out on various Environmental issues, and practical training facilities to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, other trades related to mining operations, fresher/interns working/worked in the field of mining/environment. The target for the same needs to be submitted.*

8. *PP should bring out the details of the manpower to be engaged for this project with their roles/responsibilities/designations. In addition to this PP should mention the number and designation of persons to be engaged for the implementation of an environmental management plan (EMP).*

9. *The PP should ensure that only NABET-accredited consultants shall be engaged in the preparation of EIA/EMP Reports. PP shall ensure that the accreditation of the consultant shall be valid during the collection of baseline data, preparation of the EIA/EMP report and during the appraisal process. The PP and consultant should submit an undertaking the information and data provided in the EIA Report and submitted to the Ministry are factually correct and the PP and consultant are fully accountable for the same.*

10. *PP shall align its activities to one/few of the Sustainable Development Goals (SDG) and start working on the mission of net zero by 2050. PPs shall update the same to the EAC*

11. *PP should provide in the EIA Report details of the statutory clearances, permissions, no objection certificates, consents etc. required for this project under various Acts, Rules and regulations and their status or estimated timeline after the grant of EC.*

12. *PP to submit the status of any pending court cases or disposed of cases related to Civil court, High court, Supreme court and in any tribunal.*

13. *The PP should submit the number of saplings to be planted in area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development. In addition to this PP should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years. The capital and recurring expenditure to be incurred needs to be submitted. Plantation plan should be prepared in such a way that 80% of the plantation to be carried out in first 5 years and for the remaining years the proposal for gap filling. The seedling of height not less than 2 meters to be selected and accordingly cost of plantation needs to be decided. In addition to this plantation in the safety zone at the lease boundary, the plantation should be completed within 2 years only.*

14. *Details of grazing land if any involved in the mining lease are to be provided. In case activity is to be proposed on grazing land then PP shall provide the relevant rule position applicable in this regard and compliance of the same.*

15. *PP shall submit the plan for drinking water supply through a dedicated pipeline inside the ML area as well for the nearby villagers.*

16. *PP shall submit the action plan to adhere to the Plastic Waste Management Rules 2016 and to adhere Ministry's OM dated 18/07/2022.*

17. *Carrying capacity study of the area and surrounding coal bearing tract is required to be done which should also include 10 year temporal land use change information.*

18. *Latest report of RO of compliance status alongwith ATR report and subsequent observations of RO be submitted.*

19. *The Hasdeo river is on the periphery of the ML hence a plan for protecting the river, its aquatic bio diversity and ecosystem services be submitted.*

Agenda No 10.3

Proposal for grant of Terms of Reference (ToR) of JSW Steel Ltd. Coal Washery project (Ind Barath Energy (Utkal) Ltd.) of 3.0 MTPA Coking Coal located at village Sahjbahal, Tehsil:- Lakhanpur, District:- Jharsuguda, Odisha- Terms of Reference-Reg.

[Proposal No. IA/OR/CMIN/465604/2024; J-13012/31/2008-IA.II (T)]

[Consultant: M/s Vardan EnviroLab; NABET/EIA/2326/RA 0284 Valid up to 04.05.2026]

10.3.1: M/s JSW Steel Ltd. has made an application online vide proposal no IA/OR/CMIN/465604/2024 dated 13.03.2024 along with the application in prescribed format (Form-I), copy of pre-feasibility report and proposed ToRs for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 2 (a) Coal washeries Under Category "A" of the schedule of the EIA Notification, 2006 and do not attract general condition, being appraised at Central Level.

The project of M/s. JSW Steel Ltd. located in Village-Sahajbahal, PO: Charpali-Barpali, Via: Bandhbahal, Tehsil: Lakhanpur, District: Jharsuguda, State: Odisha is for operating a washery for production of 3.0 Million Tons Per Annum (MTPA) in area of 13.29 Ha.

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

10.3.2.1: Location:

i) The project area is covered under Survey of India Topo sheet No. F44R14 and is bounded by the geographical coordinates ranging from Latitude 21°39'13.58460" N to 21°39'13.76964"N and longitudes 83°55'27.06780"E & 83°55'27.7428"E.

ii) The project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed a moratorium on the grant of Environment Clearance.

10.3.2.2: Forest Area: PP submitted that the Project does not involve a Forest Land.

10.3.2.3: Protected Area: PP reported that the project is not located within 10 KM of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/tiger corridor/elephant corridor etc. PP further submitted that 6 Reserve Forests viz. Unnamed RF (5.85 Km in SW), Desar RF (7.50 Km in WSW), Maulabhanja RF, (6.60Km in ENE), Baighara RF (9Km ESE), Arhaparha RF (6.19 NW) and Unnamed RF (8.5 Km NW) exist in 10 Km radius of the project. PP also submitted that a Specific Wildlife Conservation Plan will be prepared for Schedule – I species if found during the survey. There is no violation of the WLP, Act, of 1972.

10.3.2.4: Type of Project –Coal Washery: PP Submitted the following details w.r.t washery:

i) The proposed Washery is a new project. The Washery will be situated over an area of 13.293 Ha. in Village-Sahajbahal, PO: Charpali-Barpali, Via: Bandhbahal, Tehsil: Lakhanpur, District: Jharsuguda, State: Odisha. The land is primarily Agricultural land.

ii) Capacity of Coal washery: 3.0 MTPA

iii) Type of Coal Washery: Wet Process (Heavy Media Cyclones and Froth Flotation)

iv) Reject in form of Shale, sandstone & tailings will be generated during beneficiation process, it will be disposed in mines as backfilling material.

v) The transportation of raw coking coal from the BCCL/CCL mines to the washery site at Ind Bharat will be through Rail. The clean coal will be utilized in the steel plants of the company for steel making. The clean coal will be transported through rail.

vi) The middling produced in the washery will be consumed in the existing boilers of IBEUL, Jharsuguda. The middling will be transported by conveyor belt.

vii) **Details of Land usage:**

Sl. No.	Details	Area in Ha	% w.r.t. Total Area
1.	Plant Infrastructure	2.458	18.5
2.	Coal Storage Area	0.850	6.4
3.	Green Belt	5.390	40.5
4.	Water Reservoir	0.254	1.9
5.	Internal Roads	1.750	13.2
6.	Parking Area	0.050	0.4
7.	Misc Area (Vacant Area)	2.541	19.1
Total		13.293	100.00
Total Washery Area - 13.293 Hectares - 32.8 Acres			

viii) To operate and maintain the Washery plant a total manpower of 150 is required to be directly employed. In addition, more than 750 people will benefit indirectly, and preference for employment will be given to the local person.

10.3.2.6: Legal Issues/ Violation: PP reported that there is no legal issue/violation wr.t i) Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case on the project.

10.3.2.7: Water Requirement:

Source of Water	Hirakud Dam which is located at a distance of 2.10 Km.
Ground Water Intersection	Not Applicable
NOCs (Surface Water/Ground Water)	Application for obtaining the approval of the Central Ground Water Authority for NOC for water withdrawal will be submitted after the approval of ToR.
Water Requirement	Total water requirement for the project is 2555.4 KLD.

Diversion of River/ Nallah	Not Applicable

PP reported that the Laboratory involved in analysis of water, air, noise & soil quality data, etc. has been accredited by the NABL/ MoEF&CC bearing the Certificate of Accreditation No. No – TC-6299 and valid till 27.08.2024.

- M/s Vardan EnviroLab, Gurgaon is accredited by NABL.
- NABL Certificate No – TC-6299, Valid up to – 27.08.2024

10.3.2.8: Details of solid and hazardous waste: PP Submitted the following details of solid and hazardous waste generation along with its mode of treatment/disposal:

Sl. No	Type of Waste	Source	Quantity (TPA)	Disposal	Remarks
1.	Rejects	Washing Process	210000	Backfilling	
2.	Domestic Solid Waste	Persons Employed for washery operations	9	Human wastes through STP & food waste will be composted.	Site Composting & dry waste will be recycled
3.	Used Batteries	Vehicles at sites	0.2	Authorized vendor	
4.	Used Oil	Machineries	0.5	Through CPCB /SPCB registered recyclers.	
5.	Empty Barrels/ containers /liners	Machineries	0.2	Through CPCB / SPCB registered recyclers.	

10.3.3: Committee after deliberations noted the following:

The Project Proponent (PP) along with the Consultant accredited by the QCI/ NABET made a detailed presentation on the project. The Committee deliberated on the site

selection, transportation route, presence of habitation, village and school in vicinity of the proposed site and observed the following:

The committee noted that three (3) sites were considered & examined before selecting the proposed site for the establishment of the Coal Washery at Village - Sahjbahal, P.O - Charpali, Barpali, Tehsil: - Lakhanpur, District: - Jharsuguda, Odisha. The feasibility of the site for the proposed project was examined on various parameters like road and rail connectivity, water and power availability, distance from densely populated areas, protected forests, sensitive locations, availability of logistic support, manpower, etc. Site-II & Site-III were rejected by the PP because the sites were away from the Power Plant hence the transport cost would be high and there would be a negative impact on the environment due transportation of coal. Further sites II and III have schools located nearby. PP further submitted that keeping into consideration the short distance from the siding facility for direct load-out into wagons, out of all the above sites, the SITE- I location is better suited to ensure smooth offtake. Further, the land is free from any kind of habitation, hence there will be less pollution due to the transportation of coal, therefore there will be negligible impact on the environment due to the transportation. PP submitted that the total area required for the proposed project will be 13.293 Ha (32.848 Acres), out of which a Greenbelt will be developed in 40 % of the plant area (5.390 Ha. of the project area) since the project is located near a Severely Polluted Area (Ib Valley). approx. 13,500 Indigenous trees will be planted with a tree density of 2,500 trees per hectare. *The Committee observed that site selection did not provide complete insight into the transportation from the source to the Thermal power plant and the Steel Plant, and neither any analysis for the same was presented during the meeting. The committee further observed that even for site 1 PP has proposed that for the initial few years, the transportation will be through road any analysis for the same was also not submitted for the three sites. How the road transportation would be beneficial for the environment in this case?*

The Committee observed that there is a school at a distance of around 620m from the proposed site. PP shall submit an action plan for re-location of the school or submit an alternate fourth site for establishment of the proposed washery.

As the project is close to the SPA the Comments of the concerned pollution control board may also be obtained regarding the site selection and whether the Ministry may consider the proposal for grant of ToR.

Further, PP needs to submit the coal linkage of the existing power plant for which it is proposed to use washery coal and whether any amendment is required in the said EC. Further, latest certified compliance with the existing EC conditions of the power plant needs to be submitted. The regional office may also interact with the local community including school administration regarding the operation of the existing Power Plant and any issues they are facing due to its operation.

The Committee observed that the proposal is from JSW Steel Ltd but the name of the project is mentioned as JSW Steel Ltd. Coal Washery project (Ind Barath Energy (Utkal)

Ltd.). PP should clear whether the project is of JSW Steel Ltd or Ind Barath Energy (Utkal) Ltd and accordingly submit the proposal.

Based on the discussion held and the document submitted the **Committee returned the project in the present form** and the proposal may be considered only after submission of the above information.

Agenda No 10.4

Proposal for Terms of Reference (ToR) of EFG Valia Lignite Block of production capacity of 5.0 MTPA for an area of 3011.4312 ha of M/s Gujarat Mineral Development Corporation Ltd located at Villages Choramla, Singla, Vithalgam, Vandariya, Umargam, Sodgam, Rajgargh, Itakla, Pithore, Daheli, Bhamadiya, Jabugam, Bharadiya, Kesargam, Kosmadi, Luna, Sinada & Tuna, Taluka – Valia, District- Bharuch, Gujarat.Terms of Reference- regarding

[Proposal No. IA/GJ/CMIN/429162/2023; File No.: IA-J-11015/14/2023-IA-II(M)]

[Consultant: M/s Vardan EnviroLab; NABET/EIA/2326/RA 0284 Valid up to 04.05.2026]

10.4.1: Gujarat Mineral Development Corporation Ltd (GMDC) has made an application online vide proposal no IA/GJ/CMIN/429162/2023 dated 23/05/2023 along with the application in prescribed format (Form-I) and pre-feasibility report for undertaking detailed EIA study as per the EIA Notification, 2006 for the project mentioned above. The proposed project activity is listed at S. No. 1(a) Mining of minerals Under Category "A" of the schedule of the EIA Notification, 2006 and to be appraised at Central Level as the mine lease area is more than 500 Ha.

The project of Gujarat Mineral Development Corporation Ltd (GMDC) located in villages Choramla, Itakla, Jabugam (partial), Rajgargh, Singla, Sodgam, Umargam, Vandariya, Vithalgam, Bhamadiya (partial), Daheli (partial), Pithore (partial), Bharadiya, Kesargam, Kosmadi, Luna, Sinada & Tuna, Taluka – Valia, **District- Bharuch**, State - Gujarat is for operating a mine for production of 5.0 Million Tons Per Annum (MTPA) of Lignite within the Mine lease area of 3011.4312 ha.

The proposal was considered in the 46th EAC meeting held on 26-27th June 2023 wherein the Committee deferred the proposal for want of additional information. The PP submitted the information on the Parivesh Portal and the proposal is now placed in the 10th EAC meeting held 9th April 2024.

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

10.4.2.1: Location:

iii) The project area is covered under Survey of India Topo-sheet No. 46 G/2 & 46 G/6 and is bounded by the geographical coordinates ranging from 21°31′ 21.181″ N to 21°35′ 29.959″ N and Longitude- 73°11′ 9.169″ E to 73°15′ 28.16″ E.

iv) The project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC vide its OM dated 13th January 2010 has imposed a moratorium on the grant of Environment Clearance.

10.4.2.2: Previous Approval & Past Production details: PP submitted that the proposal is for fresh ToR

10.4.2.3: Forest Area: PP submitted that the Project does not involve Forest Land.

10.4.2.4: Protected Area: PP reported that the project is not located within 10 KM of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/tiger corridor/elephant corridor etc. PP Further submitted that reserve forests Vad, Kevdikund and Tuket are at a distance of 6.87 Km SE, 6.88 km SE and 9.16 km South respectively, from the project area. PP also submitted that a Specific Wildlife Conservation Plan will be prepared for Schedule – I species if found during the survey. There is no violation of the WLP, Act, of 1972.

10.4.2.5: Lease Details: PP submitted the following details regarding the mining lease of an area of 3011.4312 (ha) :

S. No.	Govt. Order/Notifications as the case may be	Area (ha)
1	GUJ-2017-23-MCR-102015- 406-CHH-1 dated 03.07.2017	3015 ha
2	Details of LOI: MCR 102021-ML-04-CHH1 dated 18.01.2022	3011.4312
Grand Total		3011.4312

Date of Block allotment: 17th February 2016

10.4.2.6 Mining Plan: PP submitted that the mining plan & mine closure plan for the project was approved for the rated capacity of 5.0 MTPA and peak capacity of 7.5 MTPA, Area 3011.4312 Ha area vide letter no. EFG-ValiaGJGU005/APP00249/2023 dated 26.07.2023 by Ministry of Coal.

10.4.2.7: Mining Details:

i) PP submitted that the total Mining lease area as per block allotment is 3011.4312 Ha. The Mining plan and Mine closure plan for EFG Valia Lignite Mine was approved by Ministry of Coal on 26.07.2023.

ii) PP Submitted that Method of Mining to be adopted shall be Opencast through Pay loader – Dumper/ Shovel – Dumper method and the waste/OB handling is with shovel dumper. Gross geological reserve reported in the mine lease area is 509.31 MT and Net geological reserve is 458.3800 MT with 277.4 MT mineable reserves. Out of total mineable reserve of 277.4 MT, 263.5200 MT are available for extraction. Percent of extraction is 57.4890%. There are 9 seams with thickness ranging from 0.30 m – 24.40 m are workable and Grade of coal is 2725, stripping ratio 4.8128 (m3/ton) while gradient is 30-50 of the lignite seams. Life of mine is **54** years.

iii) PP Submitted that the project has 2 external OB dumps in an area of 418.33 ha with 90 m height and 344.21 M.cum of OB and 4 internal OB in an area of 1,212.27 ha with 813.36 Mm^3 of OB is envisaged in the project.

iv) PP submitted that total quarry area is 1641.74 ha out of which backfilling will be done in 1340.8000 ha while final mine void will be created in an area of 300.9400 ha with a depth of 150 m. Backfilled quarry area of 1340.8000 ha shall be reclaimed with plantation. Final mine void will be converted water body. Post mining land use will as follow:

Type	Land Use (Post Closure " ha")				
	Plantation	Water Body	Public Use	Undisturbed	Total
External OB Dump	418.33	0	0	0	418.33
Topsoil Dump	-	0	0	0	0
Excavation	1340.8	300.94	0	0	1641.7
Roads	0	0	4.00	0	4.00
Diversion of River Nala/Canal	20.0	0	0	0	20.0

Built up areas	80.00	0	0	0	80.00
Settling Pond	0	2.00	0	0	2.00
Garland Drains	7.0	0	0	0	7.00
Embankment	0	27.00	0	0	27.00
Green Belt	207.68	0	0	0	207.68
Safety Zone	20.00	0	0	0	20.00
Rationalization Area	143.48	0	0	0	143.48
Undisturbed Area	0	0	0	440.2	440.2
TOTAL	2237.3	329.94	4.00	440.2	3011.44

v) PP submitted that lignite transportation from this mine will initially be done through road. The transportation feasibility study of the EFG Valia Lignite Block will be worked out.

vi) The project involves 3631 PAF. R&R of the PAPs will be done as per prevailing laws.

vii) Total capital cost of the project is ₹ 8,999 crores. Cost of production is Rs. 1800/t.

10.4.2.8: Legal Issues/ Violation: PP reported that there is no legal issue/violation wr.t i) Environment (Protection) Act, ii) Air(P&CP) Act, Water (P&CP), Act, Forest Conservation Act, Wildlife Protection Act, CRZ Notification, MMDR Act, Factories Act. Further, there is no court case on the project.

10.4.3: The Committee after deliberations noted the following:

i) The proposal is for ToR with a production capacity of 5.0 MTPA from an area of 3011.4312 Ha. It's a green field project.

ii) PP submitted that the Mining plan & mine closure plan for the project was approved for capacity 7.5 MTPA, Area 3011.4312 Ha area vide letter no. EFG-ValiaGJGU005/APP00249/2023 dated 26.07.2023 by Ministry of Coal.

iii) PP reported that the project is not located within 10 KM of any ESZ/ ESA/ national park/ wildlife sanctuary/ biosphere reserve/ tiger reserve/ elephant reserve/tiger corridor/elephant corridor etc.

iv) The project does not fall under CPA/SPA.

The proposal was initially considered in the EAC meeting held on 26-27th June 2023 wherein the Committee after deliberation deferred the proposal for want of additional

information. PP submitted the following reply on the PARIVESH portal and the proposal is now being considered in the 10th EAC meeting wherein the PP and NABET Accredited consultant made a detailed presentation on the ADS points. The Committee deliberated the reply submitted by the PP. After deliberation, Committee noted the following:

The reply submitted by PP is as follows:

Query-1 & 4 : PP has to submit the option analysis along with cost benefit analysis for choosing the methods of mining as Opencast or underground without diversion of river flowing through mine lease area

And

PP shall revise the mining plan considering no diversion of rivers, stream and irrigation canal accordingly mining plan to be prepared

Reply: PP submitted that the Mining plan is approved by Ministry of Coal vide letter date 26.07.2023. and submitted the following as regards the method of mining:

Underground mining proves unviable for lignite extraction in the case of EFG Valia due to several inherent challenges like:

1. The geological strata surrounding the lignite seams at EFG Valia primarily consist of sandy clay, presenting considerable technical difficulties for roof support. The low strength of these strata, as per rock mechanics standards, would impede effective underground mining operations.

2. Lignite exhibits high moisture content, rendering it more friable and prone to spontaneous heating. Consequently, opencast mining emerges as a more practical alternative to underground mining.

3. The elevated moisture content of lignite coal further exacerbates the likelihood of bursting in underground scenarios. Working floors, roofs, and side walls are susceptible to frequent ruptures due to the heightened hydrostatic water pressure. Opencast mining offers a solution to mitigate this issue through the implementation of water pumping to reduce hydrostatic pressure.

4. According to the Indian Minerals Yearbook, 60th Edition - Coal & Lignite, published in March 2023 by the Indian Bureau of Mines, only 20 active lignite mines operate in India, exclusively utilizing opencast mining techniques.

5. Notably, there exists no precedent for underground mining of lignite in India.

6. Historically, Germany held the title of the world's largest lignite producer, predominantly through opencast mining of lignite. Presently, China has assumed the leading role in lignite production, exclusively employing opencast mining methods.

PP further submitted that Feasibility Analysis without Nala and River Diversion has been carried out and the summary of the same are as follows:

1. In the absence of diverting the canal and river, the creation of five small pits, namely Pit 1, Pit 2A, Pit 2B, Pit 3A, and Pit 3B, is conceivable. However, Pit 3C cannot function as an independent pit due to a pit-of-pit configuration with a depth of 150 m, rendering it geometrically impractical for opencast mining

2. The cumulative excavation area for all five small pits would be 974 hectares, a significant reduction from the initially planned 1620 hectares. This adjustment results in a diminished mineable reserve of 95 million tons, down from the initial estimate of 176 million tons, rendering the project economically unviable.

3. Additionally, the absence of river and canal diversion poses challenges in creating external dump sites. Consequently, all overburden (OB) material would need to be deposited within the lignite-bearing area, requiring rehandling after the completion of each pit. This constraint not only contributes to slow and unscientific mining progress but also significantly increases operational costs. The sluggish mining progress further hinders the achievement of the planned production capacity (PRC) of 5 million tons per year.

4. Mining plan has been approved by Ministry of Coal application no. EFG-ValiaGJGU005/APP00249/2023 dated 26.07.2023 (refer Annexure 2). The approved mine plan entails the establishment of three quarries, labelled 1, 2, and 3, each with depths of 110 m, 150 m, and 150 m, respectively The mining method employed is opencast with a production capacity of 5 million tons annually.

As regards the hydrology study, PP Submitted that GMDC commissioned a comprehensive hydrology and diversion study for the Dolatpura main canal, Kim, and Tokri River. The key findings of the study are elucidated below:

1. Kim and Tokri River:

   - The study area encompasses the watershed of Kim, extending downstream to the confluence of Tokri Nadi, spanning 277 km^2. The altitude within this area ranges from 218 m above mean sea level (amsl) to 32 m amsl. Approximately 70% of the region is dedicated to cultivation, while habitation covers a mere 3.5%.

   - Geologically, the area is characterized by a thin layer of black cotton soil overlaid by clay, sandstone, and lignite. The bedrock in this region is basalt (Deccan Trap). The hydrogeology features a deep water level, with an average depth to water level measuring 11 m and 8 m during pre-monsoon and post-monsoon, respectively, potentially contributing to the seasonal nature of both Kim and Tokri rivers.

- The pre-monsoon water table varies from 125 m amsl to 25 m amsl in the ridge-to-toe region of the Kim-Tokri watershed.

- Groundwater flows from northeast to southwest.

- The climatic water balance analysis, considering an annual normal rainfall of 1209.3 mm and potential evapotranspiration at 1606.3 mm, yields a calculated runoff coefficient of 0.39.

- Area drainage study indicates that the mine area is part of the Tapi watershed, classified under sub-zone 3(b) by the Central Water Commission. The Kim down to Tokri stretch constitutes the study area, covering 277 km^2 (Kim - 165 km^2,Tokri - 112 km^2).

- Morphometric studies affirm that the geological structure does not distort the drainage pattern, which has been primarily influenced by elevations and erosional activity. Erosional activity is factored into the diversion planning.

- Hydrological analysis employs the mathematical model of C.W.C. sub-zone 3(b). The synthetic unit hydrograph approach is adopted for peak runoff estimations.

- The Synthetic Unit Hydrograph reveals a 50-year peak flood of 1475 m^2/sec and 1239 m^2/sec, with a safety factor applied to both the Kim and Tokri watersheds, informing the design considerations for the diversion system.

- The planned construction involves the establishment of a diversion channel for a segment of the Kim River spanning a length of 1900 meters. The proposed gradient for the channel is 0.00212. The geometric configuration of the diversion channel will adopt a trapezoidal shape with a side length ratio of 1.5 H:1, featuring a floor width of 30 meters, a depth of 6 meters, and a freeboard of 3 meters. The design incorporates provisions for concrete lining on both the channel floor and side lengths, complemented by retention walls on either side.

- Likewise, a diversion channel is proposed for a segment of the Tokri Nadi with a length of 7401 meters. The intended gradient for this channel is 0.00189. The geometric layout of the diversion channel adheres to a trapezoidal configuration with a side length ratio of 1.5 H:1. The channel specifications include a floor width of 30 meters, a depth of 6 meters, and a freeboard of 3 meters. Concrete lining is envisaged for both the channel floor and side lengths, accompanied by retention walls on either side to enhance structural stability.

- The estimated cost for the diversion project, inclusive of lining, is 575.71 crores. Ensuring the safety and preventing mine seepage are paramount considerations for the diverted river in the context of mining activities. The projected lifespan of the mine is 38 years, with a targeted production volume of 176 million metric tons (Mmt). This translates to a cost per million tons of lignite at Rs. 33.00. It is

noteworthy that the mine is anticipated to operate without seepage issues and remain flood-free, emphasizing the robustness of the proposed diversion measures

2. Dolatpura Main Canal:

- The Daulatpura irrigation canal, originally extending over 15,350 meters, is set to undergo redirection as per the mine plan, resulting in a new diverted route spanning 11,250 meters. The proposed gradient for the diverted canal is 0.0017. The geometric configuration of the diverted canal is envisaged as a trapezoid with a side length ratio of 2.25 H:1, featuring a width of 2 meters, a depth of 2 meters, and a freeboard of 1 meter. Concrete lining is incorporated for both the canal floor and side lengths to enhance structural integrity.
- Cost-Benefit Analysis: The estimated cost for the canal diversion, inclusive of lining, amounts to Rs. 127,929,7762 (approximately 128 crores). In the context of mining, prioritizing safety and mitigating mine seepage are paramount considerations for the diverted canal. The mine's anticipated lifespan is 38 years, with a targeted production volume of 176 million metric tons (Mmt). Consequently, the cost of canal diversion per million tons of lignite is estimated at Rs. 7.00. The inclusion of concrete lining in the diverted canal serves to prevent water seepage, ensuring the mine remains free from canal-related seepage issues.

PP also submitted the detailed report on “Hydrology and River Diversion of Kim River and Todi Nadi” and “Hydrology and River Diversion of Daulatpura Main Canal”

Query-2: PP shall submit the suggestions of river ecologist after studying/analyzing existing stream flowing through ML area.

Reply: PP Submitted that Detailed ecology study for existing stream flowing through ML area has been carried out by Gujarat Environment Management Institute (GEMI) is an autonomous Institute of the Government of Gujarat.

The observations of the report prepared by GEMI is given below:

- The Kim River with its tributaries Tokri River & Daulatpura Canal is surrounded by vegetation having grassland ecosystem. Hence, if the river gets diverted from a current location, at no more than too far distance, it is not likely to hinder the population growth of benthic macroinvertebrates. As this grassland ecosystem is suitable to build an ecological niche for benthic organisms.

- The benthic macroinvertebrate community monitoring results obtained the majority of genus from Crustacea and Hemiptera classes, and some genus from Coleoptera, Odonata and Mollusca classes.

- Upon facing the environmental changes, these communities may feed on alternative nutritional sources. The majority of the classes mentioned above have phytophagous eating habit. Hence food chain going on in the ecosystem may not be hindered.

- The individuals of class Hemiptera, have varied feeding habits and performance. In situations, where there are few preferred host plants and the climatic factors - such as sufficient photoperiod, high relative humidity, and adequate temperature, they allow Hemipterans to also feed on less desirable plant sources and stay active.

- Crustaceans found serve as a vital link between benthic, pelagic and other higher organisms in the food web. The majority of the class have a wide range of food preferences and are omnivores, they contribute to the ecosystem's structure.

- The individuals of class Coleoptera also exhibit phytophagous nature and the preferred host plant is selected by choice behavior to remain active.

- Mollusca rely on algae for their food source. On the other hand, Odonata consumes small insects that they may readily grab while flying, such as buterflies, bees, flies, midges, and mosquitoes. Such small insects proliferate rapidly in stagnant water.

- The site study of the phytoplankton community shows the population consisting of individuals from various classes in descending order as mentioned below:

Name of Class	**No of Genera found**
Bacillariophyceae	35
Cynophyceae	15
Fragilariophyceae	10
Chlorophyceae	
Zygnematophyceae	
Euglenophyceae	01
Dinophyceae	01

- The majority consists of individuals from the Bacillariophyceae class. Most other classes also form the population of diatoms.

- If river diversion occurs it is not going to change the atitude of the area leading to minor or no difference to the population of the phytoplankton community structure as far as all these factors are ensured.

- Various fish species found in the river were Rohu, Catla, Murrel or Snakehead fish, Tilapia and Hilsa. No endangered fish species were reported in the study area

- There is no regular commercial fishing practiced in the study area, in view of the seasonal nature of the rivers.

- The stretches of both the rivers, Kim and Tokri passing through the proposed lease area, were found to be deep & narrow with no suitable spawning ground for fish.

- Daulatpura Canal was found to be in bad shape. It was broken at many places and mostly found dried up during the visit. Therefore, no fishing activity was observed or reported in the canal.

- Kim and Tokri rivers are non-perennial rivers and receive the flow during the rainy season.

- The Daulatpura minor irrigation canal consists of an earthen embankment and fills up in the rainy season only.

- The rivers and the canal have been reported to have little or no flow in summer.

PP also submitted detailed report on River ecology for existing streams with impact study of the proposed diversion of River and Canal.

Observation of EAC: *The Committee deliberated on the information submitted by the PP and is of the view that based on the geology and other parameters of the deposit, it is not feasible to exploit this deposit by the UG method. Hence OC mining can be done. Further, the PP has proposed to initiate the mining operation from the northern part of the lease and proposed for straightening of a portion of the Kim River. However, the Tokri River is proposed to be diverted along the lease boundary. Further, it is proposed for the diversion of the Daulatpura minor irrigation canal. The Committee is of the view that the river and canal have come under the preview of the State Government and PP shall approach the concerned State Government to obtain necessary permission for diversion and concerned State Government before issuing NOC shall take into account the requirement/dependency of the persons living in the downstream of the river/canal and care needs to be taken to ensure that people living in the downstream areas are not deprived of water for drinking or irrigation.*

With respect to the proposal for straightening of the Kim River the Committee is of the view Conservation plan for this may be submitted with measures to maintain the continuity of the aquatic ecology, flora and fauna & ecosystem services. No concrete lining should be considered and a plan for a safety strip of at least 50 mts width on either side during and after mining operations to be submitted.

With respect to the Tokri river, the Committee noted that it flows in two channels in the southern part of the ML. It also supports a riverine ecology including flora and fauna and provides vital ecosystem services. Its diversion should not be planned at this stage and can be considered at later stage.

The Committee is of the view that PP should submit the cost benefit analysis considering the agricultural product vis-a vis mining product. Further, technical recommendation of the concerned department needs to be submitted on the diversion plan.

Query-3: PP shall submit the drone video, particularly of the stream passing through the ML area.

Reply: As regards the drone survey PP submitted that Drone survey has been conducted in entire Mine Lease Area and also for the stream passing through the ML area. The same will be shown to the committee during the presentation before EAC members.

Observation of EAC: *The drone video was shown to the Committee during the meeting and the Committee is of the view that the area has rich agricultural fields and there may be the possibility of sub-surface water in the river/stream. The PP agreed with the same. The Committee is of the view that although it's a site-specific project and involves a change in land use for the extraction of minerals. Since excellent agricultural lands are proposed to be used for mining, a detailed plan be submitted for restoring at least 90% of this land for cultivation in a phased manner as mining progresses. This should start within 5 years after commencement of mining operations. The PP shall submit the year-wise production, development and backfilling plan both in tabular format and also on the surface plan and confirm the timeline by which PP can convert the mine void into the same profile suitable for agriculture. Further, PP shall submit a surface geological plan clearly showing the extent of the coal seam vis-a-vis rivers and canals.*

The Committee also noted that the details of post-mining land use mentioned in previous minutes and the application form submitted by the PP and submitted now are different and there is a change in post-mining land use, reserves and life of mine. The EAc took a serious view that these aspects were not brought to the notice of the Committee during the meeting neither by the PP nor by the Consultant which is not acceptable and it is the responsibility of the PP as well as the consultant to bring to the notice of the committee any changes occurred during the two meetings. The committee also observed that the

units mentioned in Annexure-I (ADS reply) are also not correct. The PP and consultant should ensure the correctness of the documents before submission.

The Committee is of the view that PP and Consultant should be more cautious in future while submitting the proposal. The Committee therefore ***returned the proposal in its present form*** *and is of the view that the proposal needs to be submitted afresh based on details provided in the approved mining plan and along with the above information and correct ADS reply.*

Additional Agenda:

The Chairman EAC discussed over the best practices being followed by some of the coal mines and is of the view that Committee Members/Ministry Officials/Consultants working in the Ministry may visit such mines, not with a view of inspection rather for knowledge sharing purpose. So that EAC may decide on feasibity of implementing the same in other mines while appraising the projects and such visit are also required to understand the partcial difficulty being faced by Coal Mines in implementation of some of the EC conditions. The Chairman suggested that Member Secretary may request Coal India/NTPC Mining subsidiary to suggest mines which can be visited. The EAC members may also suggest some of the mines which can be visited for knowledge sharing purpose.

Annexure-I

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

All the projects recommended for grant of environmental clearance by the EAC shallalso 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 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 statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.5, SO2 and NOx. Location of the stations shall be decided based on themeteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring 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/PM2.5) 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 air borne 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-IA.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 andaround the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.

(iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.

(v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.

(vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the

river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.

(vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).

(viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.

(ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

(x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.

(xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 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.

(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 blastingand 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.

(iii) 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 MinesAct 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.

(iv) (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 shallbe submitted to MOEFCC/Regional Office (RO).

(ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.

(iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/”post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.

(iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.

(v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The 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 allalong 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 & it's RO on six-monthly basis.

(ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.

(iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

(iv) Implementation of the action plan on the issues raised during the public hearing

shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.

(v) The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.I1 (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 approve 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 shareholder's/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, 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 follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA. II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

(viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

(ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

(x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

(xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.

(xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

(xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

(xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

(xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

Annexure-II

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

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

I. Statutory compliance:

(i) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, fromtime 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 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 NOx.Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc.tobe carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular airmonitoring stations as per the requirement and/or in consultation with the SPCB.

ii. The Ambient Air Quality monitoring in the core zone shall be carried out 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 bythe Central/State Pollution Control Board.

iv. Major approach roads shall be black topped and properly maintained.

v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through 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-IA.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 run off.

viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.

x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.

xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI

Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.

xii. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A revarian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

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

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 MinesAct 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 in1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shallbe 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 green belt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

VIII. Public hearing and Human health issues

i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.

ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be

subjected to health check-up for occupational diseases and hearing impairment, if any.

iii. Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.

iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.

v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.

vi. Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees shall be compensated as per the norms laid out R&R Policy of the Company/ or the National R&RPolicy/ R&R Policy of the State Government, as applicable.

vii. 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'.

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 approve 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 shareholder's / 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 sevendays 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.

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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 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 NOx. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out

at least once in six months.

ii. Continuous ambient air quality monitoring stations as prescribed in the statue be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.5, SO2 and NOx. Location of the stations shall be decided based on themeteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board

iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.

v. Covered trucks shall be engaged for mineral transportation outside the washery up to the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.

vi. Facilities for parking of trucks carrying raw material from linked mine shall be created within the unit.

vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having ‘PUC’ certificate from authorized pollution testing centres shall be deployed for washery operations.

viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.

ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.

x. The temporary reject sites should appropriate 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-IA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.

iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.

iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the riverfront side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.

v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.

vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to

leachate from rejects and surface run of 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 onsix-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.I1 (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. 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 tithe 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, 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.

vii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made.

xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of

the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. 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.

xv. 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.

xvi. 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.

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ANNEXURE-IV

Generic ToR for coal washery

i. Siting of washery is critical considering to its environmental impacts. Preferenceshould 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 shouldbe transported from mine to the washer preferably through closed conveyerbelt 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 Repot 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 ElA in case coal mine, TPP and other washeries are located within 10km radius. The ElA should also include mitigative measures needed to minimize adverse environmental impacts.

vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. along with the comments of the Chief Wildlife Warden of the State Govt.

viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM10, PM2.5, SOx and NOx, noise, water (surface and groundwater), soil be submitted.

ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.

x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.

xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through 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-ll0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.

xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.

xvi. Analysis of samples indicating the following be submitted: Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc). Characteristics and quantum of coal after washing. Characteristics and quantum of coal rejects.

xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.

xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.

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.

e) 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.

f) Permission of drawl of water shall be pre-requisite for consideration of EC.

g) Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986

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

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ANNEXURE-V

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 mayalso 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.

LANDUSE DETAILS FOR OPENCAST PROJECT should be given as per the followingtable:

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 (PM_{10}, $PM_{2.5}$, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.

(xv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.

(xvi) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.

(xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.

(xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.

(xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.

(xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.

(xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt..and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.

(xxii) Impact of mining and water abstraction from the mine on the 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 28o 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 (1st Year)	5th Year	10th Year	20th Year	24th 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 buildings and Infrastructure					
	TOTAL					

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

* As a representative example

(xxxi) 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 andmanagement 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 inthe 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 useof 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 thestudy 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 implementationof 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:

(xl)

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 welllaid 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 publicand commitments made by the proponent and theaction proposed with budgets in suitabletime frame. These details should bepresented in a tabular form. If the Public Hearing is inthe regional language,an authenticated English Translation of the same should be provided.

(xli) In built mechanism of self-monitoring of compliance of environmental regulations shouldbe 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/PROJECTAREA (ha)	TOTAL FORESTLAND (ha)	Date of FC	Extent of forestland	Balance area for which FC isyet to be obtained	Status of appl for. diversion of forest land
		If more than, provide details of each FC			

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ANNEXURE -VI

GENERIC TORs FOR AN UNDERGROUND COALMINE PROJECT

(i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project areaof 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.

(iii) Baseline data collection can be for any season (three months) except monsoon.

(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) 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.

(vi) 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.

(vii) 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.

(viii) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

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

5.	Others (specify)			

Area under Surface Rights

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

(ix) 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.

(x) 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.

(xi) 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.

(xii) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.

(xiii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM_{10}, $PM_{2.5}$, 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.

(xiv) 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.

(xv) 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.

(xvi) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.

(xvii) 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.

(xviii) 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.

(xix) 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.

(xx) 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.

(xxi) 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.

(xxii) 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.

(xxiii) 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.

(xxiv) 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.

(xxv) 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.

(xxvi) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.

(xxvii) 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.

(xxviii) 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.

(xxix) 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.

(xxx) 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 bepresented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.

(xxxi) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.

(xxxii) Status of any litigations/ court cases filed/pending on the project should be provided.

(xxxiii) 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.

(xxxiv) 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 are a for which FC	Status of appl. For diversion of forest land

				is yet to be obtained	
		If more than one provide details of each FC			

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ANNEXURE-VII

GENERIC TORs FOR A N O P E N C A S T -CUM UNDERGROUND COAL MINE PROJECT

(i) An EIA-EMP Report would be prepared for a combined peak capacity of.....MTPA for OC-cum-UG project which consists of.... MTPA in an ML/project area of ha for OC and .... MTPA for UG in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification 2006.

(ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.

(iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum underground mining.

ANNEXURE-VIII

LIST OF PARTICIPANTS OF EAC (COAL) IN 10th MEETING HELD ON 9th APRIL, 2024 THROUGH VIRTUAL MODE

S. No.	Name & Address	Role	9.04.2024
1.	Dr. Sharad Singh Negi (I.F.S. Retd.)	Chairman	Present
3.	Shri Inder Pal Singh Matharu, IFS (Retd.)	Member	Present
3.	Shri Lalit Kapur	Member	Present
4.	Dr. Umesh Jagannathrao Kahalekar	Member	Present
5.	Dr. Santosh Kumar Hampannavar	Member	Present
6.	Shri Savalge Chandrasekhar	Member	Present
7.	Shri K. B. Biswas	Member	Present
8.	Prof. Shyam Shanker Singh	Member	Present
9.	Dr. Vinod Agrawal	Member	Present
10.	Dr Nazimuddin, Scientist - F	Representative of the Central Pollution Control Board	Absent
11.	Shri Mahi Pal Singh, Chief Engineer	Representative of the Central Electricity Authority (CEA)	Present
13.	Shri Harmeet Sahaney	Representative of the Indian Meteorological Department (IMD)	Absent
13.	Prof. R M Bhattacharjee	Representative of IIT/ISM Dhanbad	Present
14.	Shri Amit Vashishtha	Member Secretary	Present
MOEF&CC			
1.	Sh. Mohit Saxena	Scientist 'D'	Present

APPROVAL OF CHAIRMAN EAC