

**MINUTES OF 8th MEETING OF THE EXPERT APPRAISAL COMMITTEE (COAL)
FOR ENVIRONMENTAL APPRAISAL OF COAL MINING PROJECTS HELD ON 11th
FEBRUARY, 2021.**

Friday, 11th February, 2021

Confirmation of the Minutes of 7th Meeting of the EAC (Coal) held on 29th January, 2021:

No comment was made from members of the committee on the minutes of the 7th meeting of the EAC held during 29th January, 2021 therefore the Minutes of the Meeting (MoM) of 7th EAC meeting was confirmed.

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

Consideration of Proposals: The 8th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 11th February, 2021 through video conferencing with support NIC team due to Covid-19 lockdown. The EAC considered proposals as per agenda adopted for the meeting. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

Agenda No. 8.1

Modernization of Jamadoba Underground Coal Mine of 0.34 MTPA in ML Area of 927.17 ha by M/s Tata steel Limited at village Jorapokhar, PattiyaDungri, Tehsil Jharia, District Dhanbad (Jharkhand) – reg Environment Clearance

[Online Proposal No. IA/JH/CMIN/109757/2019; File No. J-11015/91/2017-IA.II (M)]

8.1.1 The proposal is for grant of Environment Clearance (EC) for Modernization of Jamadoba Underground Coal Mine of 0.34 MTPA in ML Area of 927.17 ha by M/s Tata steel Limited at village Jorapokhar, Pattiya Dungri, Tehsil Jharia, District Dhanbad (Jharkhand). M/s. Vimta Consultant Pvt. Ltd alongwith M/s Tata Steel representative made a presentation on the key parameters and salient features of the project to the EAC (Coal).

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

- (i) The project area is covered under Survey of India Topo-Sheet No.- Points 1 (23° 41' 53.3" N 86° 22' 09.5" E); Points 12 (23° 43' 17.0" N 86° 22' 08.9" E); Points 15 (23° 43' 35.9" N 86° 22' 16.5" E); Points 55 (23° 42' 43.1" N 86° 23' 58.8" E); Points 63 (23° 41' 04.6" N 86° 24' 46.4" E); Points 66 (23° 41' 06.6" N 86° 24' 30.4" E);

Points 89 (23° 41' 22.0" N 86° 23' 08.8" E) and Points 90 (23° 41' 21.4" N 86° 22' 58.1" E)

- (ii) Coal linkage of the project: It is a captive Mine.

- (iii) Joint venture cartel has been formed: Not Applicable
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation: Presently, 622 direct and 474 indirect employments as on 1st June 2019. It includes all officers, staff & daily rated persons. There is no additional manpower requirement for the proposed modernization project.
- (vi) The proposed modernization of mine shall further add to their social and economic upliftment in terms of indirect income generation opportunities.
- (vii) The TOR was granted vide Letter No.J-11015/91/2017-IA.II (M) 30.11.2017 and its amendment on 16th October 2019.
- (viii) Mining plan and mine closure plan has been approved by Ministry of Coal under vide Letter No: 13016/1/2014-PCA dated: 03.05.2019.
- (ix) Application is already submitted to CGWA and is in Process (Application Number: 21-4/222/JH/MIN/2017; dated: 21/03/2017)
- (x) River/ Nallah flowing adjacent in the lease area are Kari Jhor (within ML area), Dungri Jhor (within ML area), Damodar River (within ML area), Damohaninadi/Kashijora (2.2 km, E)
- (xi) Total geological reserve: 204.0 Million Tonnes; Mineable reserve: 41.68 Million Tonnes; Extractable reserve: 27.09 Million Tonnes; Per cent (%) of extraction: 20.29 % on Net Geological Reserves
- (xii) Range of ground water level: 1.23-10.31 mts BGL
- (xiii) Total estimated water requirement: 11,000 cum/day
- (xiv) Thickness of seams to be worked on: 1.55 m to 8.06 m, Grade of coal: W-III, Category of gaseousness: Degree III, Average gradient: 1 in 5, Maximum thickness of seams: 8.06 m.
- (xv) The ambient air quality season data has been documented for winter season from 1st December 2017 to 28th February 2018. All results are within the prescribed limits.
- (xvi) Total quarry area of 927.17 ha. Out of which 1.1 ha will be final mine void at a depth of 15.5m; Backfilled quarry area of 22.55 ha shall be reclaimed with plantation.
- (xvii) A void of 1.1 ha at a depth of 15.5 m which is proposed to be converted into a water body.
- (xviii) Life of mine is 15 years.
- (xix) The pre mining land use details are as follows-

Sl.No.	Land Use	Within	Outside ML Area	Total
1	Agricultural Land	0.0	0.0	0.0
2	Forest Land	0.0	0.0	0.0
3	Wasteland	0.0	0.0	0.0
4	Grazing Land	0.0	0.0	0.0
5	Surface Water Bodies	0.0	0.0	0.0

6	Settlements	0.0	0.0	0.0
7	Others (Specify)	927.17	0.0	927.17
8	Old Excavation Area (East	0.0	0.0	0.0
9	Old Excavation Area (West	0.0	0.0	0.0
10	Old OB Dumps	0.0	0.0	0.0
11	Roads & Mine	0.0	0.0	0.0
12	R & R Colony	0.0	0.0	0.0
13	Staff Colony	0.0	0.0	0.0
14	Green Belt	0.0	0.0	0.0
15	Balance Area	0.0	0.0	0.0
	Total Project Area =	927.17	0.0	927.17

As for records, of total lease area of 927.17 ha, there is no forest land. The mine was started way back in year 1918. Due to U/G mining with stowing, no changes are anticipated from present to proposed land uses

(xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.

(xx) This is an underground mine. Afforestation/ green belt development takes place every year on the open surface within leasehold areas.

8.1.3 The EAC during deliberations noted the following:

The proposal is for Environmental Clearance titled Modernization of Jamadoba Underground Coal Mine of 0.34 MTPA in ML Area of 927.17 ha by M/s Tata steel Limited at village Jorapokhar, Pattiya Dungri, Tehsil Jharia, District Dhanbad (Jharkhand).

The Terms of Reference for the project was granted by Ministry vide its Letter No. J-11015/91/2017-IA.II (M) dated 30th November, 2017 and ToR amendment on 16th October 2019

Consent to Operate has been granted by Jharkhand State Pollution Control Board vide letter No: JSPCB/HO/RNC/CTO-8628652/2020/2019 Ranchi dated 31st December, 2020 is valid till 31st December, 2021.

River/ Nallah flowing adjacent in the lease area are Kari Jhor (within ML area), Dungri Jhor (within ML area), Damodar River (within ML area), Damohaninadi/Kashijora (2.2 km, E)

Public hearing was conducted on 17th February 2020 at 11:00 AM under the Chairmanship of Shri. Shyam Narayan Ram, Additional District Collector, Dhanbad, at community center, Kalimela Village, Jamadoba, District Dhanbad. The major issues raised were regarding, employment, drinking water problems, electricity and education, Measures for controlling underground mine environment, Water sprinkling arrangements to check dust pollution, Solid Waste Management (Domestic Waste) Continuous, Mine Water Management, Provision of employment to local people & contractors, Provision of basic amenities like drinking water, free electricity, Provision for education of children from poorer families, assistance in

providing books and study materials

No forest land is involved for non-forestry activities.

Mining plan and mine closure plan has been approved by Ministry of Coal under vide Letter No: 13016/1/2014-PCA dated: 03.05.2019

No objection Certificate for extraction of ground water from Central Ground Water Authority is not yet obtained however only application is submitted to CGWA vide No. 21-4/222/JH/MIN/2017 dated 21/03/2017.

8.1.4 *The EAC, after deliberations observed that the mining is being done since pre-independence and till now was in operation based on Consent to Operate (CTOs) granted by Jharkhand State Pollution Control Board wherein earlier CTOs there was no production capacity was being mentioned. Production capacity vis-à-vis 1993-94 base year as per Hon'ble Supreme Court is required to be checked. Damodar river is flowing within the ML area due to which water quality and quantity of Damodar River may be affected. Further project proponent could not explain current benefits of modernization in terms of environment improvement since its inception. The Committee desires this should be elaborated properly in tabular form. Further, adequate pollution mitigation measures in terms of transportation, plantation and dust control and impact prediction are found be lacking. Also, it is observed that coal washery in the mine lease area have separate Environment Clearance. In view of above, the proposal requires further analysis and deliberations. EAC expressed displeasure on the misinformation regarding existing coal washery on the site and inadequate presentation given by Consultant i.e M/s Vimta Consultant Pvt. Ltd. and advised MoEF&CC to take action.*

Finally, EAC desired that PP shall further submit the details on the following points.

- (i) PP shall submit Past Production details since inception of mine duly authenticated by departments of Mine and Geology Government of Jharkhand or from Coal Controller vis-à-vis CTO.*
- (ii) PP shall clarify the presence of Coal Washery in the mine lease area and whether it is included in approved Mine Plan. Whether EIA for proposed project has included the washery component. A cumulative impact to this project site with washery component would be required.*
- (iii) Whether any show cause or closure notice issued in the past and its status of compliance. Self-Certified compliance to consent to operate issued by State Pollution Control for the mine.*
- (iv) The PP should come up with proposal/installation of continuous air quality monitoring stations (2 numbers).*
- (v) PP shall submit additional provision i.e capital and recurring cost by proposing additional EMP measures including dust suppression*
- (vi) PP shall provide reclamation plan of which the systematic and post mining land form management / landscape management of mining area.*
- (vii) Impact on nearby agricultural land and on biological Environment. Proper biological management plan needs to be prepared.*

- (viii) PP shall submit water quality and Bioassay test of Damodar River (Upstream and Downstream)
- (ix) PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken.
- (x) Permission for extraction of ground water from Central Ground Water Authority shall be submitted.
- (xi) PP shall be providing details of material used for stowing, its mode of transportation and mitigation measures while transporting.
- (xii) PP shall submit measures to be taken for preventing subsidence of land due to mining activity.
- (xiii) PP shall optimize the number of trucks by increasing tonnage/load capacity of trucks and accordingly assessment should be submitted.
- (xiv) Proper plan for tree plantation as a part of EMP together with washery process.

The proposal was **deferred** on above lines.

Agenda No. 8.2

PadmavatiKhani No.5 inclined Underground Mine project from 1.2 MTPA to 0.825 MTPA in mine lease area of 916.48 ha of M/s Singareni Collieries Company Limited in villages Rudrampur Tehsil, Kothagudem, District Bhadrachari Kothagudem (Telangana) - Revalidation of Environment Clearance (EC) and amendment in EC- reg.

[Online Proposal No. IA/TG/CMIN/194659/1991; File No J-11015/27/88-IA-II(M)]

8.2.1 The proposal is for Revalidation of Environmental Clearance (EC) dated 23rd October, 1992 to PadmavatiKhani No.5 inclined Underground Mine project from 1.2 MTPA in mine lease area of 916.48 ha of M/s Singareni Collieries Company Limited in villages Rudrampur Tehsil, Kothagudem, District Bhadrachari Kothagudem (Telangana) under Ministry's Notification dated 6th April, 2018 and including amendment in EC by reducing the production capacity from 1.20 MTPA to 0.825 MTPA in existing project area of 916.48 ha

8.2.2 The EAC during deliberations noted the following:

Earlier the proposal was considered by EAC meeting held on 27th September, 2018. The EAC after deliberations deferred the proposal for further information. PP has submitted the compliance of observation of EAC with respect to following points:

Sr. No.	Observations of EAC	Compliance / Submission of Project Proponent
1.	Public Consultation, including public hearing, shall be conducted through concerned SPCB as per the provisions/procedure contained in the	Public hearing for the Project of 0.825 MTPA capacity in an area of 916.48 ha was conducted on 29.12.2020 at Govt. polytechnic, Rudrampur village, Chubnachupalli Mandal,

	EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal,	Bhadradi Kothagudem District under the Chairmanship of Additional Collector, Bhadradi Kothagudem District, T.S. Major issues raised in the public hearing were already addressed. However, public hearing include employment to local youth in contract works, taking up of infrastructure developmental works in affected villages under CSR and with DMFT funds and taking environmental mitigative measures as addressed in EIA/EMP report. Appropriate action to address the issues raised in the public hearing have already been taken /proposed to be taken. Issues like supply of excess mine water into Penagadapa village tanks for irrigation purpose, improve sanitation facilities, medical health facilities were also discussed.		
2.	Valid Mining Plan and the Progressive Mine Closure Plan duly approved by the competent authority	Mining Plan (including Progressive Mine Closure Plan) has been approved by the MoC, GoI on 26.07.2016 vide Lr.No. 13016/4/2007-CA-II, for an annual coal production capacity of 0.825 MTPA in project area of 916.48 ha with underground method with Bord & Pillar with Continuous Miner (CM) and Load Haul Dumper (LHDs) Technology for exploiting deep seated reserves of the mine.		
3.	Compliance status of the conditions stipulated in the environmental from the concerned Regional Office of the Ministry.	Certified Compliance Report (CCR) on Compliance of existing EC conditions was obtained Vide Lr.No.F.No.EP/12.1/79/AP., dated:30.04.2020.		
4.	Consent to operate from the State Pollution Control Board for the present mining operations.	Consent to Operate (CTO) was obtained from the State Pollution Control Board on 22.03.2017 (CFO Order No.17082598619) and is valid till 31.03.2022.		
5.	Coal production realized from the mine from 1993-94 vis-à-vis capacity stipulated in the environment clearance.	Year	EC capacity (MTPA)	Actual Production (MTPA)
		1993-94	1.20	0.338
		1994-95	1.20	0.244
		1995-96	1.20	1.080
		1996-97	1.20	1.110
		1997-98	1.20	0.860
		1998-99	1.20	0.790
		1999-00	1.20	0.910
		2000-01	1.20	0.690
		2001-02	1.20	0.600

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6.	Need assessment survey for the activities proposed under the CSR and the comprehensive plan to be prepared accordingly for implementation by the project proponent. Also, impact of the CSR activities undertaken at an interval of 5 years to be evaluated and a report to be submitted.	<p>The project is reported to be beneficial in terms of socio-economic and improving living standards.</p> <p>Socio: The Social infrastructure in terms of Road transport, Communication, Water supply and sanitation, Power, Educational, Banking, Communication, Medical, Recreation, Business establishments and Plantation & Parks will be improved.</p> <p>Economic: Indirect employment opportunities to local people in contractual works like civil construction, transportation, sanitation, supply of goods and provision of services to the project and other community services.</p> <p>The project is beneficial in terms of socio-economic and improving living standards.</p> <p>Environmental: Parks will be developed in the area. Avenue plantation will be taken up in along the roads. Extensive plantations will be taken up in the area. Environmental awareness will be created in the area. Fruit bearing and other saplings will be distributed at free of cost to the schools and surrounding villages. De-silting of surrounding irrigation tanks. Construction of rain water harvesting pits in surrounding villages.</p>																																																						
7.	Details of court cases and the compliance status	No court cases, violation cases are pending against the project of the PP.																																																						

The proposal is for revalidation of Environment Clearance vide Lr. No. J-11015/27/88/-IA-II (M) dated 23rd October, 1992 under Ministry's Notification dated 6th April, 2018 including amendment by reducing the production capacity from 1.20 MTPA to 0.825 MTPA in existing project area of 916.48 ha.

In the project, 768.99 ha of forest land have been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 768.99 ha of forest land for non-forestry purposes have been obtained vide MoEF&CC letter No. 8-277/85-FC, dated.17.02.2009 (Stage-II) (for UG Rights).

Out of 768.99 ha of Forest land, forest land diversions for surface rights are furnished below.

- 0.90 ha is diverted vide Lr.No. F.No.8-277/85-FC,dt.18.08.2008 (initial) and Lr.No.F.No.8-277/1985-FC(Vol.I), dt.15.10.2019 (renewal) (Stage-I) for submersible pumps, approach road, transmission line and pipe lines and
- 2.85 ha is diverted vide Lr.No. F.No.8-277 /1985-FC (Vol.),dt.22.06.2018 (Stage-I) for submersible pumps and sand stowing plant.

There are no wetlands, coastal zone, biospheres and mountains within 10 km from the project boundary. The project boundary is falling 6.1 Kms away from Eco Sensitive Zone boundary of Kinnerasani Wildlife Sanctuary.

No R&R is involved in the project.

One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data has been generated for AAQ from March, 2019 to May, 2019. PM10 concentrations are in range of 70.0 µg/m³ to 93.0 µg/m³ at PVK-5, and 197 µg/m³ and 245 µg/m³ at Rudrampur CHP. PM2.5 concentrations are in range of 23.7 µg/m³ to 35.5 µg/m³ at PVK-5, and 68.6 µg/m³ to 93.6 µg/m³ at Rudrampur CHP. However PM10 and PM2.5 levels were found to be within the coal mine standards.

It is estimated that 16,200 KLD (avg.) of water will be pumped out from the mine. Out of this 2,996 KLD (80 KLD for domestic, 1,296 KLD for water spraying (dust suppression) and 1,620 KLD for plantation/gardening) of water will be used for various mine activities and 9,640 KLD of treated and chlorinated water for colony for domestic needs. About 3,564 KLD of excess mine discharge water after treating in settling tank/mine sump/filter beds and after meeting the stipulated norms is being let out into the nearby stream for irrigation and ground water recharge.

A Wildlife Conservation Plan is prepared for Kothagudem region mines including PVK-5 Incline and the same has been submitted to the Chief Conservator of Forest, Kothagudem vide letter Ref.No.CRP/ENV/A/534/676 dated 08.10.2020 for approval. The conservation plan after approval by forest dept., will be implemented for Conservation of Schedule I Species found in buffer area of the project

8.2.3 The EAC, after deliberation **recommends** the proposal for grant of revalidation of Environment Clearance dated 23rd October, 1992 to PadmavatiKhani No.5 inclined Underground Mine project from 1.2 MTPA in mine lease area of 916.48 ha of M/s Singareni Collieries Company Limited in villages Rudrampur Tehsil, Kothagudem, District Bhadradi Kothagudem (Telangana) under Ministry's Notification dated 6th April, 2018 and including amendment in EC by reducing the production capacity from 1.20 MTPA to 0.825 MTPA in existing project area of 916.48 ha for life of the mine or 30 years whichever is earlier, as required under Ministry's Notification dated 6th April, 2018 and under the provisions of Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

- (i) Effective safeguard measures for prevention of dust generation and subsequent suppression like regular water sprinkling shall be carried out in areas prone to air pollution. The Fugitive dust emission from all sources shall be regularly controlled by installation of required equipment's. It should be ensured that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB.
- (ii) PP to install 2 continuous ambient air quality monitoring station at suitable location preferably one village side and with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.
- (iii) 5 nos. of Fog canon (mist sprayer) shall be installed to reduce the impact of air pollution.
- (iv) Adequate effectiveness of EMP should be analyzed from the offset/hike of air pollution data from continuous monitoring stations and quarterly report shall be generated and submitted with 6 monthly compliance report to RO, MoEF&CC.
- (v) Third party monitoring (by NEERI/CIMFR/IIT/NITs) for air quality shall be carried out at identified locations, both ambient and the process area, to arrive the impact at regular interval of 3 years
- (vi) Project proponent to plant 150,000 nos. of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer
- (vii) Fund allocated in Wildlife Conservation Plan for schedule I species shall be deposited within six months of issue of EC letter. A copy of action plan shall be submitted to the Ministry of Environment, Forest and Climate Change and its Regional Office.
- (viii) Transportation of coal shall by closed conveyor belts in mine pit to siding through Rudrampur Coal Handling Plant (RCHP).
- (ix) Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.
- (x) Effective mitigation measures shall be implement to prevent any subsidence studied by Anna University
- (xi) No untreated mine water shall be discharged in nearby tanks and online monitoring of water quality shall be installed
- (xii) Effect to mining under Tella Vagu shall be studied in six months and accordingly its report including mitigation measures shall be submitted to Ministry's Regional Office
- (xiii) Continuous monitoring of gaseous concentration shall be monitored in outgoing ventilation
- (xiv) Project proponent shall supply clean drinking water and for domestic purpose for the people coming under the zone of influence of this mining activity.
- (xv) Proponent shall appoint an Occupational Health Specialist for Regular and Periodical

medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.

- (xvi) Persons of nearby villages shall be given training on livelihood and skill development to make them employable.*
- (xvii) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours*
- (xviii) PP shall implement rain water harvesting mechanism in order recharge the ground water or as water conservation measure in addition to the proposed structure. PP shall carry out regular monitoring of Ground water level and quality.*
- (xix) The PP shall submit time bound action plan to the concerned Regional Office of Ministry within 6 months from the date of issuance of EC for undertaking the activities committed during the Public Consultation.*
- (xx) The Project Proponent shall complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors. State Government shall ensure that the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.*

Agenda No.8.3

Cluster of Godavarikhani No. 1&3 (GDK No.1&3) incline and Godavarikhani coal mine (No.2&2a and No.5) opencast cum underground with a production capacity of 4.134 MTPA (Peak -5.134 MTPA) (OC: 3 / 4 MTPA (Normative/Peak) and UG: 1.134 MTPA) in the project of area of 1927.13 ha of M/s Singareni Collieries Company Limited, Ramgundam –I area, near Jangoan & Vithalnagar Villages, Ramagundam Mandal, District Peddapalli (Telangana)- For Amendment Term of Reference – reg.

[Online Proposal No. IA/TG/CMIN/196347/2021; File No 23-78/2018-IA.III(V)]

8.3.1 The proposal is for amendment to Terms of Reference (ToR) granted by Ministry vide No. 23-78/2018-IA-III(V) dated 14th January, 2021 for Cluster of Godavarikhani No.1&3 incline and Godavarikhani Coal Mine (No. 2 & 2A and No. 5) of 4.134 (Peak: 5.134) MTPA {OC: 3 / 4 MTPA (Normative/Peak) and UG: 1.134 MTPA} capacity in mine lease area of 1927.13 ha of M/s

The Singareni Collieries Company Limited located in Jangaon and Vithalnagar Villages, Tehsil Ramagundam, District Peddapalli (Telangana).

8.3.2 The EAC during deliberations noted the following:

ToR for the project was granted by Ministry vide its letter dated 14th January, 2021 with certain terms & conditions.

Project proponent has requested for amendment in following conditions as mentioned below:

Condition No.4(i) “..... PP must take a holistic and more scientific approach towards mine planning to minimize the requirement of external overburden dumps (D2 &D3) so as to reduce the environmental foot print due to mining”.

Condition No.4(viii): “PP shall prepare Single Mine Plan including Mine Closure Plan for Peak production capacity as per latest guidelines of Ministry of Coal for Godavarikhani No. 1&3 (GDK No.1&3) incline and Godavarikhani coal mine (No.2&2a and No.5) opencast cum underground”.

Condition No.4(ix): “... PP to remove/exclude External OB Dump-2 and accordingly revise the Mine Plan as per the applicable guidelines. Further, sequence of mining operations should be proposed as such that there is no requirement of External OB Dump-2 & 3”.

PP submitted that the sequence of Mining operation will be changed by removing the external dumps-2&3 as advised by the EAC. However, with regard to condition No.4(viii) it is requested to consider individual mining plans for granting Cluster EC.

SCCL will revise the Mining Operations by excluding external OB Dumps-D2 & D3 without changing the rated Capacity, Project Area and Progressive Mine Closure Conditions as per the 22E of Mineral Concession Rules,1960 amended up to 29.05.2020 and also as per the guidelines for preparation of Mining plan issued by MoC vide condition No.1.3 (B) of OM dated 29.05.2020 with the approval of Board.

Accordingly, the aforesaid revised mining operations will be submitted to MoEF&CC at the time of uploading Form-2 along with Final EMP and will be appraised to EAC.

The individual approved Mining Plans and Mine Closure plans for GDK 1&3 Inclines and Godavarikhani Coal Mine (No.2&2A and No.5) are already available and the project areas, rated & peak production capacities are also same as per the granted Cluster ToR. Hence, preparation of single Mining Plan for the Cluster ToR as per the latest guidelines of Ministry of Coal is not feasible.

Further, the proposal is for expansion of two existing Cluster EC mines i.e., GDK 2&2A (0.648 MTPA in 282.76 ha) and GDK 5 (0.6 MTPA in 532.43 ha) and accordingly, the Mining Plans and Mine Closure plans approved by MoC as per the latest guidelines have been presented.

The integration of GDK 1&3 Inclines in the Mining Plan (GDK Coal Mine) is not feasible because of its long life and number of surface features such as villages and water bodies.

8.3.4 The EAC observed that external OB dump-2 & 3 has been excluded by project proponent in view of providing the safeguard to nearby river and agreed to earlier observations of EAC. Further optimizing the OB dump within the mine lease area, the committee opined that site visit may not require and may be removed from ToR condition. Also it is observed that there are two separate Mine Plans for Godavarikhani No. 1&3 (GDK No.1&3) incline and Godavarikhani coal mine (No.2&2a and No.5) opencast cum underground respectively, EAC desires that necessary clarification may be given PP while submitting EIA that how two separate mine plan for one EC proposal shall function. Based on commitment of project proponent EAC recommends to exclude the ToR condition 4(i) and 4(ix) and further clarification in EIA on 4(viii) for grant in amendment in Term of Reference for Cluster of Godavarikhani No. 1&3 (GDK No.1&3) incline and Godavarikhani coal mine (No.2&2a and No.5) opencast cum underground with a production capacity of 4.134 MTPA (Peak -5.134 MTPA) (OC: 3 / 4 MTPA (Normative/Peak) and UG: 1.134 MTPA) in the project of area of 1927.13 near Jangoan&Vithalnagar Villages, Ramagundam Mandal, District Peddapalli (Telangana), under the provisions of Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

- (i) PP shall revise the Mining Operations by excluding external OB Dumps-D2 & D3 without changing the rated Capacity, Project Area and Progressive Mine Closure Conditions as per the 22E of Mineral Concession Rules, 1960 amended up to 29.05.2020 and also as per the guidelines for preparation of Mining plan issued by MoC vide condition No.1.3 (B) of OM dated 29.05.2020 with the approval of Board.
- (ii) PP shall optimize the Overburden in internal Dump D1; part of the Infrastructure & Rationalization area by flushing with internal dump and relocating the part of the infrastructure area into D2 & D3 area.
- (iii) No such infrastructure having source of air/water pollution shall be planned in area excluded for D2 & D3.
- (iv) Necessary clarification for two separates mine plans for one EC proposal and timeline for change of mine plan.

Agenda No.8.4

Barsingsar Opencast Lignite Mine of capacity 2.1 MTPA in mine lease area of 971 ha by M/s Neyveli Lignite Corporation Limited at village Barsingsar, District Bikaner (Rajasthan)-For Term of Reference – reg.

[Online Proposal No. IA/RJ/CMIN/188918/2020; File No. J-15012/23/97-IA-II(M)]

8.4.1 The proposal is for Terms of Reference for Barsingsar opencast Lignite Mine of capacity 2.1 MTPA in lease area of 971 ha by M/s Neyveli Lignite Corporation Limited at village Barsingsar, District Bikaner (Rajasthan).

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

- (i) The project area is covered under Survey of India Topo Sheet No: 45E/1 and is bounded by the geographical coordinates ranging from latitudes 27°48'59" to 27°51'02" N and longitudes 73°11'20" to 73°11'58" E.
- (ii) Coal linkage of the project is proposed for internal use for various 2 x 125 MW captive Barsingsar Thermal power plants.
- (iii) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (iv) Employment generation, Direct employment to 207 persons had been provided from the project.
- (v) The project is reported to be beneficial in terms of supplying entire power generated to Rajasthan State (98%)
- (vi) Earlier, the environment clearance to the project was obtained under EIA Notification 1994, vide Ministry's letter No J-15012/23/97-IA.II(M) dated 03.06.1998 & 20.12.2002 (Transf. EC) for 2.1 MTPA in mine lease area of 971 ha.
- (vii) Total mining lease area as per block allotment is 971 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Section Officer/Ministry of Coal & Mines on 08.09.2004
- (viii) The land usage pattern of the project is as follows:

Pre-mining land use details (Area in Ha)

S. No.	Land Use	Within ML Area	Outside ML Area	Total
1	Agricultural Land	893	NIL	893
2	Forest Land	0		0
3	Wasteland	0		0
4	Grazing Land	0		0
5	Surface Water Bodies	0		0
6	Settlements	0		0
7	Others (Specify)	0		0
	Old Excavation Area (East Quarry)	0		0
	Old Excavation Area (West Quarry)	0		0
	Old OB Dumps	0		0
	Roads & Mine Infrastructure	0		0
	R & R Colony	0		0
	Staff Colony	0		0
	Green Belt	0		0
	Balance Area (Govt. Land)	78		78
	Total Project Area	971		971

Post Mining

S. No.	Land use	Land use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	Total

1	External OB Dump	199	0	0	0	199
2	Top Soil Dump	0	0	0	0	0
3	Excavation	310	0	0	0	310
4	Roads	9	0	0	0	9
5	Built-up Area	9	0	0	0	9
6	Green Belt	56	0	0	0	56
7	Undisturbed Area	273	0	0	0	273
8	Safety-Zone/Rationalization	14	0	0	0	14
9	Diversion/Below	0	0	0	0	0
10	Water Body	0	101	0	0	101
11	Staff Colony	0	0	0	0	0
	Total Area	870	101	0	0	971

- (ix) Total geological reserve reported in the mine lease area is 58.89 MT with 53.0 MT mineable reserve. Out of total mineable reserve of 53.0 MT, 53.0 MT are available for extraction. Percent of extraction is 90 %.
- (x) Lignite Single Main seams with thickness ranging from 0.5 m to 44 m (average thickness is 22 m) are workable. Grade of coal is G-15, stripping ratio 1 in 4.81, while gradient is to 2⁰ to 6⁰.
- (xi) Method of mining operations envisages by Opencast Mining method with conventional technology (Shovel dumper combination)
- (xii) Life of mine is 29 years.
- (xiii) The project has One external OB dumps in an area of 199 ha with 45 m height and 84.5 Mm³ of OB. Single internal OB in an area of 82 ha with 25.513 Mm³ of OB is envisaged in the project. (Data till 2019-20)
- (xiv) Total quarry area is 411 ha out of which backfilling will be done in 310 ha while final mine void will be created in an area of 101 ha with a depth of 15-20 m. Backfilled quarry area of 310 ha shall be reclaimed with plantation. Final mine void will be converted into Water body.
- (xv) Transportation of coal has been proposed by dumpers in mine pit head, from surface to siding by closed conveyor and at sidings by Reclaimer through closed conveyor.
- (xvi) Reclamation Plan in an area of 971 ha, comprising of 199 ha of external dump, 310 ha of internal dump and 56 ha of green belt. In addition to this, an area of 14 ha, included in the safety zone/rationalization area, has also been proposed for green belt development.
- (xvii) No forest land is involved in the project.
- (xviii) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project
- (xix) The ground water level has been reported to be varying between 148 mRL to 158 mRL during pre- monsoon and between 148 mRL to 158 mRL during post-monsoon. Total water requirement for the project is 1300 KLD.

- (xx) Ground Water not being extracted. The source of water is from IGNP canal
- (xxi) Public hearing for the project of 2.1 MTPA capacity in an area of 971 ha was conducted on 22.02.1997 at The Project Office of NLCIL, Barsingsar Project under the Chairmanship of Shri Alok Gupta, the then District Collector, Bikaner. Major issues raised in the public hearing include 7 points.
- (xxii) Consent to Operate for the existing capacity was obtained from the State PCB on 03.08.2017 and is valid till 30.06.2022
- (xxiii) There is no River/nalla flowing boundary of lease.
- (xxiv) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to The Regional Director, Lucknow and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- (xxv) No court cases, violation cases are pending against the project of the PP.
- (xxvi) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine was started from the year 2009 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations. The coal production, realized from the project, from 1993-94 onwards.
- (xxvii) The project involves 151 (total) in which 20 are for mines project affected families. R&R of the PAPs will be done as per Mining Plan.
- (xxviii) Total cost of the project is Rs. 214.52 crores. Cost of production is Rs. 888/- per tonne, CSR cost is Rs. 15.01 per tonne, R&R cost is Rs. 2.5 crores. Environment Management Cost is Rs. 1.68 crores as Capital cost and Rs.1.04 Crores per annum as recurring cost.
- (xxix) Past Production details comparison with existing EC.

Lignite production since inception

Year of Production	OB (MCum) (A)	Top Soil (MCum) (B)	Total Overburden (MCum) (A+B)	Lignite (M Te)
2006 – 07	5.818	0.600	6.418	0.00
2007 – 08	11.139	0.350	11.489	0.04
2008 – 09	9.957	0.250	10.207	0.116
2009 – 10	9.921	0.000	9.921	0.025
2010 – 11	9.078	0.465	9.543	0.409
2011 – 12	7.027	1.000	8.027	0.883
2012 – 13	7.503	0.250	7.753	1.379
2013 – 14	6.215	0.408	6.623	1.553
2014 – 15	6.838	0.262	7.100	1.352
2015 – 16	6.941	0.062	7.003	1.224
2016 – 17	6.448	0.585	7.033	1.413
2017 – 18	6.204	0.806	7.010	1.584
2018 – 19	5.635	0.383	6.018	1.208

2019 – 20	5.507	0.361	5.868	1.348
Total	104.231	5.782	110.013	12.534

8.4.2 The EAC during deliberations noted the following:

The proposal is for Terms of Reference for Barsingsar opencast Lignite Mine of capacity 2.1 MTPA in lease area of 971 ha by M/s Neyveli Lignite Corporation Limited at village Barsingsar, District Bikaner (Rajasthan).

Earlier, the environment clearance to the project was obtained under EIA Notification 1994, vide Ministry's letter No J-15012/23/97-IA.II(M) dated 03.06.1998 & 20.12.2002 (Transf. EC) for 2.1 MTPA in mine lease area of 971 ha.

The instant proposal has been submitted since project proponent failed to apply under Ministry's Notification dated 6th April, 2018 for revalidation in view of Hon'ble Supreme Court wherein EC granted by under EIA Notification 1994 is valid for 5 years only.

Ministry vide its notification gave a 6 months window for revalidating such proposals however PP did not applied in that period thereby continuing mining operation with out valid EC. Therefore these project is being considered as violation since the closing of six months window period i.e from October, 2018 till now.

Consent to operate (CTO) was obtained from the State Pollution Control Board on 03.08.2017 and is valid till 30.06.2022.

No forest land is involved in the project.

Permission for extraction of ground water in case of mining operation has not yet been obtained by project proponent.

*8.4.4 The EAC, after detailed deliberation and considering this project as violation of EIA Notification, 2006 **recommends** the proposal for grant of Terms of Reference to Barsingsar opencast Lignite Mine of capacity 2.1 MTPA in lease area of 971 ha by M/s Neyveli Lignite Corporation Limited at village Barsingsar, District Bikaner (Rajasthan), with specific conditions as below and as defined in the Standard ToR under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto.*

- (i) PP should submit the certified authenticated/Audited production figures from the revenue department or department of mining and geology of State Government or certificate from Coal Controller for production capacity since 1993-94.*
- (ii) PP shall be assessing the damage assessment of environment against the excess production against the quantities for not taking EC/valid EC.*
- (iii) Certified compliance report of previous EC from Ministry's Regional Office shall be submitted.*
- (iv) 100% Transport of coal from TPP by closed conveyor belt. PP shall provide the detailed action plan for completion of the conveyor belt to avoid the road transportation*
- (v) PP should bring out the awareness campaign to be carried out on various Environmental*

issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.

- (vi) PP shall prepare Mine Plan including Mine Closure Plan for Peak production capacity as per latest guidelines of Ministry of Coal.
- (vii) Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area
- (viii) The parameters Arsenic, Lead and Silica shall also be analyzed in ambient air quality
- (ix) The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples
- (x) PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads, manufacture of artificial sand, aggregates, use for farmers etc.) and accordingly Plan shall be included in EIA/EMP Report
- (xi) Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.
- (xii) PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective.
- (xiii) The State Government/SPCB to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no consent to operate for project to be issued till the project is granted EC.
- (xiv) The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.
- (xv) Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment..
- (xvi) The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter (13) in the EIA report by the accredited consultants.
- (xvii) In case of violation of undertaking by way of affidavit to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated 02.08.2017 in WP (Civil) case No-114/2014,, the ToR/Environmental Clearance shall be liable to be terminated forthwith.
- (xviii) Budget of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage shall be completed within three years and to prepare accordingly.
- (xix) The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25.10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.

- (xx) *PP shall be submitting R &R in respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.*
- (xxi) *Description of water conservation measures proposed to be adopted in the Project should be given.*
- (xxii) *PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.*
- (xxiii) *PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory*
- (xxiv) *PP should clearly 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 person to be engaged for implementation of environmental management plan (EMP).*
- (xxv) *The PP should submit the number of saplings to be planted, 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 lease boundary the plantation should be completed within 2 years only.*
- (xxvi) *PP should submit the real-time aerial footage & video of the mining lease area and of the transportation route.*
- (xxvii) *PP should clearly 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 person to be engaged for implementation of environmental management plan (EMP).*
- (xxviii) *PP should submit the measures/technology to be adopted for prevention of illegal mining and pilferage of mineral.*
- (xxix) *The budget to be earmarked for the various activities shall be decided after perusal of the Standard EC Conditions published by the Ministry.*

Agenda No.8.5

Neyveli Mine –II Opencast Coal Mine Project of 15 MTPA in area of 7193.975 ha by M/s Neyveli Lignite Corporation Limited at Village Neyveli, Tehsil Vridhachalan, District Cuddalore (TamilNadu) - For Term of Reference – reg.

[Online Proposal No. IA/TN/CMIN/188484/2020; FileNo. J-11015/30/2001-IAII (M)]

8.5.1 The proposal is for Terms of Reference for Neyveli Mine-II Opencast Project of 15.0 MTPA capacity in mine project area of 7193.975 ha of M/s NLC India Limited located in village Virdhachalam Tehsil Neyveli District Cuddalore (Tamilnadu).

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

- (i) The project area falls under Survey of India Topo Sheet No 58 M/6, 7, 10 & 14 & 11 and is bounded by the geographical coordinates ranging from Latitude 11o 27' N to 11o 32' N and Longitude 79o 27'E to 79o 35'E.
- (ii) Lignite linkage of the project is supplying the lignite to linked thermal power stations TPS II (7 X 210 MW-1470MW) & TPS II Expansion (2 X 250 MW-500 MW)
- (iii) Joint venture cartel has been formed – Not applicable.
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance
- (v) Employment generation: Departmental (2276) and Contractual (4425), total employment to 6701 persons is provided from the project.
- (vi) The project is beneficial in terms of economical development of southern states by generating and supplying continuous power supply of 1970 MW.
- (vii) Earlier, the environment clearance to the project was obtained under EIA Notification, 1994 vide Ministry's letter No J-11015/30/ 2001-IA.II(M)/GOI/MOEF, dated 24.12.2002 for 15 MTPA in mine project area of 7193.975 ha
- (viii) Total project area of Mine-II is 7193.975 ha. Progressive Mine Closure Plan has been approved by the MOC vide Lr. No.43012272010-CPAM/ GOI/ MOC/ dt.31.03.2011.
- (ix) The land usage pattern of the project is as follows:

Details of land use of the mine Lease Area (Pre-mining)

Sr. No.	Land Use	Within ML area Area in (ha)	Outside ML area	Total Area in Ha
1	Forest Land	0	0	0
2	Irrigated Land (Patta lands)	1540.691	0	1540.691
3	Un irrigated Land (Dry land)	3751.032	0	3751.032
4	Cultivable Waste land (Govt. Tharisu) (Barren)	654.35	0	654.35
5	Common facility -Govt Land (Govt. Poramboke):	1212.895	0	1212.895
6	Govt Land (natham)	35.008	0	35.008
	Total	7193.9	0	0

The post mining Land-use breakup of the project is shown below

POST MINE LAND USE BREAK-UP:

Sl. No.	Post Mining Land use	Within ML area Area in (ha).	Outside ML area	Total Area in Ha
1	External OB Dump as (Progressive Reclaimed with plantation is under	1323.02	0	1323.02
2	Mine Backfilled area (Progressive Reclamation and plantation is under progress)	3818	0	3818
3	Mine Final void (Converted as Lake)	721	0	721
5	Infrastructure (Brought under plantation)	425.37	0	425.37
6	Inspection Road around the Mine (With Avenue trees)	33	0	33
7	Intervening area (Brought under plantation)	503.5	0	503.5
8	Garland canal & Drainage	200	0	200
9	Safety Zone (Brought under plantation)	170	0	170
	Total land	7193.9	0	7193.9

- (x) Total geological reserve reported in the selected mine project area is 622 MT with 595.69 MT mineable reserve. Out of total mineable reserve, Percent of extraction is 92.5 to 95 %
- (xi) One seam with thickness ranging from 4m-24 m is workable. Grade of coal is G15 to G16. Stripping ratio 1:5.2 while gradient is 1 in 70 to 1 in 100.
- (xii) Method of mining is continuous mining technology. The Overburden is being removed in 5 benches viz, New Surface, Surface, Top, Middle and Bottom by Specialized Mining Equipments like Bucket Wheel Excavator, Belt Conveyor, Tripper car and Spreader. During progressive mining, the overburden (OB) excavated for in order to mine lignite is dumped as inside & outside Dumps. These dumps are reclaimed by proper terracing and stabilized and top soil which is excavated from mine advancing front is spread over these refilled / dump area for afforestation. Lignite excavation is carried out by Bucket Wheel Excavators, transported to pit head lignite bunker by belt conveyors and stacked by stacker. From bunker it is reclaimed by reclaimer and dispatched to Thermal Power Stations by belt conveyor method.
- (xiii) Balance Life of mine is 19 years (considering balance lignite reserve mined at 15 Million Tonnes per annum).
- (xiv) The project has one external OB dump in an area of 1323.02 ha. With 65 m height, 739.95 Mm³ of OB. 5 internal OB benches in an area of 3818.00 ha with 2278.535 Mm³ of OB is envisaged in the project.
- (xv) Total project area is 7193.975 ha. out of which backfilling will be done in 3818.00 ha while final mine void will be created in an area of 721.00 ha with an average final depth of 15 m to 20 m. Backfilled quarry area of 3818.00 ha shall be reclaimed with plantation. Final mine void will be converted as lake.

- (xvi) Transportation of lignite is being done by belt conveyors to pit head lignite bunker and stacked by stacker. From bunker it is reclaimed and dispatched to Thermal Power Stations by belt conveyors.
- (xvii) Reclamation plan in an area of 5141.02 ha. Comprising of External OB dump : 1266.02 ha., Internal dump : 3743.00 ha., Green belt : 132.00 ha. In addition to this, an area of Infrastructure (Brought under plantation) 425.37 ha. Inspection Road around the Mine (With Avenue trees) : 33.00 ha. Intervening area (Brought under plantation) : 503.50 ha. Garland canal & Drainage : 200.00 ha. Safety Zone (Brought under plantation) : 170.0 ha.
- (xviii) There is no forest land present in the project.
- (xix) There are no national parks, Wildlife Sanctuaries and Eco Sensitive zones are available in the project area.
- (xx) Central Ground Water Clearance obtained from Central Ground Water Authority for Mine-II project on 04.02.2003.
- (xxi) Public hearing for the project of 15.0 MTPA capacity in an area of 7193.975 ha was conducted on 29.06.2001 at Cuddalore under the Chairmanship of District Collector. Major issues raised in the Public Hearing have already resolved and EC was accorded in 2002.
- (xxii) Consent to operate for existing capacity was obtained from State Pollution Control Board on 29.06.2019 expired on 31.03.2020. NLCIL submitted application for renewal for consent order (CTO) for the year 2020 - 2022 in January 2020. Extension of validity for CTO until 30.09.2020 was issued by TNPCB in the wake of outbreak of Corona. TNPCB sought certain queries on 07.12.2020 for issuing CTO. The reply for the query is submitted to TNPCB. It is expected that renewal of CTO for the year 2020 to 2022 will be issued shortly. As per Air & Water act, the CTO is under deemed extension.
- (xxiii) Small seasonal water courses / seasonal water bodies within the mine boundary are re-routed/relocated. Finally during closure activities, water bodies will be restored in refilled area for irrigation for plantation.
- (xxiv) Ambient air quality (AAQ) is being conducted by Central Applied Research & Development (CARD) at NLCIL for once in 15 days within core zone & on alternate days within the buffer zone. Also AAQ survey is being conducted by Tamilnadu Pollution Control Board (TNPCB) once in 6 months. Results are within the prescribed limits. Half yearly compliance report is being submitted to MoEF&CC.
- (xxv) No court cases, violation cases are pending against the project of the PP.
- (xxvi) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The lignite production from the mine was started from the year 1985 onwards. The lignite production, realized from the project, from 1993-94 onwards, is as under:

Sr. No.	Year	Achieved production in Lakh Tones.
1	1993-94	80.06
2	1994-95	87.02
3	1995-96	99.37
4	1996-97	100.73
5	1997-98	106.08

6	1998-99	106.26
7	99-2000	106.50
8	2000-01	109.71
9	2001-02	107.10
10	2002-03	106.01
11	2003-04	87.05
12	2004-05	78.28
13	2005-06	64.28
14	2006-07	66.62
15	2007-08	94.38
16	2008-09	91.09
17	2009-10	104.43
18	2010-11	117.11
19	2011-12	130.96
20	2012-13	139.45
21	2013-14	130.52
22	2014-15	132.21
23	2015-16	123.09
24	2016-17	140.23
25	2017-18	126.70
26	2018-19	126.42
27	2019-20	125.70
28	2020-21 till Jan 2021	66.34

(xxvii) The project involves 3610 project affected families. R&R of the PAPs will be done as per LA RR 2013 act

(xxviii) Total cost of the project is Rs. 3639.33 Crores. Cost of production is Rs. 1595 per ton of lignite for the year 2019-20. CSR cost for the year 2019-20 is 75.65 Cr. R&R cost is Rs 41.34 Crores. Environment Management Cost: Capital cost is Rs.17.69 crores and Recurring cost: 8.58 crores/annum.

(xxix) Past Production details comparison with existing EC.

Year	EC granted quantity in Lakh tones (15.0 EC obtained on 24.12.2002)	Achieved production in Lakh tonnes
2002-03	150	106.01
2003-04	150	87.05
2004-05	150	78.28
2005-06	150	64.28
2006-07	150	66.62
2007-08	150	94.38
2008-09	150	91.09
2009-10	150	104.43

2010-11	150	117.11
2011-12	150	130.96
2012-13	150	139.45
2013-14	150	130.52
2014-15	150	132.21
2015-16	150	123.09
2016-17	150	140.23
2017-18	150	126.70
2018-19	150	126.42
2019-20	150	125.70

8.5.2 The EAC, during deliberations noted the following

The proposal is for Terms of Reference for Neyveli Mine-II Opencast Project of 15.0 MTPA capacity in mine project area of 7193.975 ha of M/s NLC India Limited located in village Virdhachalam Tehsil Neyveli District Cuddalore (Tamilnadu).

Earlier, the environment clearance to the project was obtained under EIA Notification, 1994 vide Ministry's letter No J-11015/30/ 2001-IA.II(M)/GOI/MOEF, dated 24.12.2002 for 15 MTPA in mine project area of 7193.975 ha

The instant proposal has been submitted since project proponent failed to apply under Ministry's Notification dated 6th April, 2018 for revalidation in view of Hon'ble Supreme Court wherein EC granted by under EIA Notification 1994 is valid for 5 years only.

Ministry vide its notification gave a 6 months window for revalidating such proposals however PP did not applied in that period thereby continuing mining operation without valid EC. Therefore, these project is being considered as violation since the closing of six-month window period i.e from October, 2018 till now.

Small seasonal water courses / seasonal water bodies within the mine boundary are re-routed/relocated. Finally, during closure activities, water bodies will be restored in refilled area for irrigation for plantation.

*8.5.3 The EAC, after detailed deliberation and considering this project as violation of EIA Notification, 2006 **recommends** the proposal for grant of Terms of Reference to Neyveli Mine –II opencast Project (5321.99 ha to 7193.975 ha and 10.5 MTPA to 15.0 MTPA by M/s Neyveli Lignite Corporation Limited at Village Neyveli, Tehsil Vridhachalan, District Cuddalore (TamilNadu) with specific conditions as below and as defined in the Standard ToR under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto.*

- (i) *PP should submit the certified authenticated/Audited production figures from the revenue department or department of mining and geology of State Government or certificate from Coal Controller for production capacity since 1993-94.*
- (ii) *PP shall be assess the damage assessment of environment against the excess production against the quantities for not taking EC/valid EC after the October 2018 till now.*

- (iii) *Certified compliance report of previous EC from Ministry's Regional Office shall be submitted.*
- (iv) *100% Transport of coal from TPP by closed conveyor belt. PP shall provide the detailed action plan for completion of the conveyor belt to stop the road transportation*
- (v) *PP shall prepare Mine Plan including Mine Closure Plan for Peak production capacity as per latest guidelines of Ministry of Coal.*
- (vi) *Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area*
- (vii) *The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples*
- (viii) *PP should bring out the awareness campaign to be carried out on various Environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted*
- (ix) *PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads, manufacture of artificial sand, aggregates, use for farmers etc.) and accordingly Plan shall be included in EIA/EMP Report*
- (x) *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*
- (xi) *PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective.*
- (xii) *The State Government/SPCB to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no consent to operate for project to be issued till the project is granted EC.*
- (xiii) *The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.*
- (xiv) *Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.*
- (xv) *The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter (13) in the EIA report by the accredited consultants.*
- (xvi) *In case of violation of undertaking by way of affidavit to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated 02.08.2017 in WP (Civil) case No-114/2014, the ToR/Environmental Clearance shall be liable to be terminated forthwith.*
- (xvii) *Budget of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage shall be completed within three years and to*

prepare accordingly.

- (xviii) The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25.10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.*
- (xix) PP shall be submitting R &R in respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.*
- (xx) PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.*
- (xxx) PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory*
- (xxxi) PP should clearly 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 person to be engaged for implementation of environmental management plan (EMP).*
- (xxxii) The PP should submit the number of saplings to be planted, 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 lease boundary the plantation should be completed within 2 years only.*
- (xxxiii) PP should submit the real-time aerial footage & video of the mining lease area and of the transportation route.*
- (xxxiv) PP should submit rejuvenation plan for seasonal water courses/ seasonal water bodies and financial commitments need to be submit for the protection of river. PP shall carry out regular monitoring of Ground water level and quality and measures to be taken.*
- (xxxv) PP should conduct epidemiology study within the 5 Km of Mine study area.*
- (xxxvi) Clarification from PCCF that mine does not fall under corridors of any National Park and Wildlife Sanctuary and does not involve any violation of forest area and wild sanctuary.*

Agenda No.8.6

Sanghmitra Opencast Coal Mine of 20 MTPA capacity within the area of 2244.48 Ha by M/s Central Coalfields Limited located at villages Burkutte, Develgada, Hechabalia, Honhe, Koed, Kundi, Kurlonga, Naudiha, Sharadhu, Soparam, Banalat, Banwar, Manatu, Tehsil Tandwa & Balumath District Chatra & Latehar (Jharkhand)- Term of Reference – reg.

[Online Proposal No. IA/JH/CMIN/195714/2021; File No J-11015/10/2021-IA.II(M)]

8.6.1 The proposal is for Terms of Reference of Sanghmitra OCP Project of 20MTPA capacity within the area of 2244.48 Ha of M/s Central Coalfields Limited located in villagesBurkutte, Develgada, Hechabalia, Honhe, Koed, Kundi, Kurlonga, Naudiha, Sharadhu, Soparam, Banalat, Banwar, Manatu TehsilTandwa & Balumath District: Chatra & Latehar, Jharkhand.

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

- (i) The project area is covered under the Survey of India Topo Sheet No.73-A/13 (RF 1:50,000) and special sheet nos. 8, 9, 12 & 13 (RF 1:10,000) and is is bounded by latitude 23° 49' 12" and 23° 53' 52" N and longitude 84° 55' 40" and 84° 58' 55" E.
- (ii) Coal linkage of the project is proposed through Basket Linkage for various power plants& other industries.
- (iii) Project does not fall in Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13thJanuary 2010 has imposed moratorium on grant of environment clearance.
- (iv) Sanghmitra OCP will be a major source of direct and indirect employment for nearby villagers in buffer zone. It is expected to generate 1516 employments.
- (v) The project is beneficial in terms of improvements in physical infrastructure; improvements in social infrastructure; increase in employment potential; contribution to the exchequer; meet energy and steel sector requirement; productive utilization of existing manpower of project.
- (vi) The Land use of the project is as follows:

Pre-mining land use details

SN	Particulars	Forest Land	Non-Forest Land	Total Area in Ha.
1	Quarry	641.18	775.66	1416.84
2	External OB Dump	70.13	193.4	263.53
3	Infrastructure (W/S, CHP, S/S etc.)	48.07	43.48	91.55
4	Approach Road to mine	6.74	14.62	21.36
5	Nallah Diversion	15.84	0.51	16.35
6	Embankment & Greenbelt	9.72	7.99	17.71
7	Green Belt	0	28.24	28.24
8	Vacant Land	108.28	142.18	250.46
9	Safety Zone	8.18	0	8.18
10	MGR & Railway Siding	29.87	50.87	80.74
Total Area in Ha		938.01	1256.95	2194.96

The post mining land use plan is given below:

SN	Land Use During Mining		Land Use After Mining	
	Particulars	Total Area	Particulars	Total

		in Ha.		Area in Ha.
1	Quarry, Haul Road, RoadHS, PC	1416.84	Biological Reclamation & Plantation	1352.14
			Water Bodies	53.72
			Infrastructure (Road & Conveyor)	10.98
2	External OB Dump	263.53	Biological Reclamation & Plantation	263.53
3	Infrastructure (W/S, CHP, S/S etc.)	91.55	Infrastructure (Road, Conveyor, offices for community Use)	91.55
4	Road	21.36	Road for community Use	21.36
5	Nallah Diversion	16.35	Nallah	16.35
6	Embankment & Greenbelt	17.71	Embankment & Greenbelt	17.71
7	Green Belt	28.24	Green Belt	28.24
8	Vacant Land	250.46	Plantation	239.56
			Water Bodies	10.90
9	Safety Zone	8.18	Plantation in Safety Zone	8.18
10	MGR & Railway Siding	80.74	Railway Siding	80.74
Total Area in Ha		2194.96	Total Area in Ha	2194.96

- (vii) Total geological reserve reported in the mine lease area is 552.70 MT with 419.23 MT mineable reserve. Out of total mineable reserve of 419.23 MT, 419.23 MT are available for extraction.
- (viii) Five seams with thickness ranging from 0.10 m 17.06 m are workable. Grade of coal is F, stripping ratio 2.56, while gradient is 1 in 5 to 1 in 11 .
- (ix) Method of mining operations envisages by opencast method using By Surface Miner & Shovel Dumper Combination.
- (x) Life of mine is 25 years.
- (xi) The project has 3 external OB dumps. Out of which 661.72 Mcum of OB has been proposed to be dumped in the dump (external & internal) marked as 'A'. The proposed dump height is maximum 90m from lowest surface level. Total three decks of height 30 m each leaving 30 m wide berms on each deck have been proposed. Another OB dump 'B' (Internal & External) will accommodate 401.23 Mcum and 'C' will accommodate around 11.81 Mcum of OB, which will be rehandled.
- (xii) Total quarry area is 1416.84 Ha out of which backfilling will be done in 1352.14 Ha while final mine void will be created in an area of 53.72 ha with a depth of 50 mBGL. Backfilled quarry area of 1352.14 ha shall be reclaimed with plantation.
- (xiii) Transportation of coal has been proposed by dumpers in mine pit head, from surface to siding by belt conveyor and at sidings by silo.
- (xiv) Reclamation Plan in an area of 1643.91 ha, comprising of 263.53 ha of external dump, 1352.14 ha of internal dump and 28.24 ha of green belt. In addition to this, an area of 8.18

ha, included in the safety zone/rationalization area, and 239.56 Ha in vacant land has also been proposed for green belt development.

- (xv) 938.01 Ha of forestland has been reported to be involved in the project. Application under the Forest (Conservation) Act, 1980 for diversion of 908.14 ha of forestland for non-forestry purposes has been made vide proposal no: FP/JH/MIN/66396/2020 Dated: 04.12.2020. The Forest application balance 29.87 Ha for MGR & Railway siding shall be made after finalization of layout of the railway siding.
- (xvi) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xvii) Total water requirement for the project is 3663 KLD.
- (xviii) Application for obtaining the approval of the Central Ground Water Authority will be submitted after issuance of ToR.
- (xix) Beso nala flowing centrally from north to south in Quarry-1 needs to be diverted in the initial years. Also, Kurlonga nala and Domuhani nadi needs to be diverted (about 4.0 k long) in the later stages (in the 17th to 19th year) so as to exploit dip side coal from Koyad & Manatu blocks to the maximum extent possible. The nallah/nadi will be diverted in consultation with the Water Resource Department of the State Government.
- (xx) No court cases, violation cases are pending against the project of the PP.
- (xxi) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. This is a Greenfield project and no coal production from the mine has been done till date.
- (xxii) The project involves approximately 2000 project affected families. R&R of the PAPs will be done as per R&R Policy of CIL.
- (xxiii) Total cost of the project is Rs. 1,69,474 Lakhs. Cost of production is Rs. 1,012.98/- per tonne., CSR cost shall be as per Company's Act & CSR Rules, R&R cost is Rs 22016 Lakhs. Environment Management Cost is Rs. 27048.91 Lakhs.

8.6.3 The EAC during deliberations noted the following:

The proposal is for ToR of Sanghmitra OCP Project of 20MTPA capacity within the area of 2244.48 Ha of M/s Central Coalfields Limited located in villages Burkutte, Develgada, Hechabalia, Honhe, Koed, Kundi, Kurlonga, Naudiha, Sharadhu, Soparam, Banalat, Banwar, Manatu Tehsil Tandwa & Balumath District: Chatra & Latehar, Jharkhand.

Stage-I Forest application for 908.14 has been submitted vide proposal no: FP/JH/MIN/66396/2020 Dated: 04.12.2020.

Beso nala flowing centrally from north to south in Quarry-1 needs to be diverted in the initial years. Also, Kurlonga nala and Domuhani nadi needs to be diverted (about 4.0 k long) in the later stages (in the 17th to 19th year) so as to exploit dip side coal from Koyad & Manatu blocks to the maximum extent possible. The nallah/nadi will be diverted in consultation with the Water Resource Department of the State Government.

The Forest application for MGR & Railway siding shall be made after finalization of layout of the railway siding

8.6.4 The EAC, after detailed deliberation **recommends** the proposal for grant of Terms of Reference to Sanghmitra Opencast Coal Mine of 20 MTPA capacity within the area of 2244.48 Ha by located at villages Burkutte, Develgada, Hechabalia, Honhe, Koed, Kundi, Kurlonga, Naudiha, Sharadhu, Soparam, Banalat, Banwar, Manatu, Tehsil Tandwa & Balumath District Chatra & Latehar (Jharkhand) with specific conditions as below and as defined in the Standard ToR under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto.

- (i) Public Consultation, including public hearing, shall be conducted through concerned SPCB in both the concerned district as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal
- (ii) PP shall submit Stage-1 FC of forest land involved in project (presently 908.14 ha) and for MGR and Railway siding for non-forestry activity
- (iii) Cumulative Impact Assessment Study of the area shall be carried over by project proponent.
- (iv) Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area
- (v) Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report
- (vi) Detailed Social Impact Assessment shall be prepared since it involves 2000 PAFs in villages for Rehabilitation and Re-settlement
- (vii) PP should submit the measures to be taken for safety of mine and protection of the river till Domuhani nadi is diverted. Water quality and Bioassay test of Domuhani nadi shall be monitored quarterly and submitted to State Pollution Control Board. No wastewater shall be discharged in river.
- (viii) Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA)
- (ix) Impact of proposed project/activity with respect to mining as well as diversion of Beso stream, Kurlonga stream, Bahutchuan stream and Domuhani nadi on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
- (x) Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report.
- (xi) PP shall be submitting R & R in respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programs prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.
- (xii) No OB dumping shall be undertaken/proposed in the forest land, near the river and villages.
- (xiii) Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area

- (xiv) *Inpit conveyor belt with silo loading should be proposed and installed for transportation of coal till railway siding.*
- (xv) *PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads, manufacture of artificial sand, aggregates, use for farmers etc.) and accordingly Plan shall be included in EIA/EMP Report*
- (xvi) *Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report.*
- (xvii) *PP shall provide an integrated mine production and mine reclamation plan of which the systematic and post mining land form management / land scape management of mining area, internal, and external dump area will be integral. Both internal and external dumps shall be regraded and reshaped to reduce its height as close to the original surface level as possible for better land use post mining activities.*
- (xviii) *PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective.*
- (xix) *PP shall propose progressive greenbelt yearwise and fund allotted for the same.*
- (xx) *Fund allotted for diversion of Beso stream and other smaller streams should not part of Environment Control Measures since it is operational requirement of mining activity. PP shall submit fresh cost of Environment Control Measures.*
- (xxi) *PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.*
- (xxii) *PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory*

Agenda No.8.7

Jitpur Underground Coal Mine of 0.6 / 0.7 MTPA(Normative/Peak) in mine lease area of 163.69 Ha by M/s Steel Authority of India Ltd. (Collieries Division) at village Noonudih, JitpurNoonudih, Mouza No. 108, 109 Tehsil Jitpur cum Jorapokhar cum Sindri, District Dhanbad (Jharkhand) - For Term of Reference – reg.

[Online Proposal No. IA/JH/CMIN/194486/2021; File No J-11015/66/2015-IA.II(M)]

8.7.1 The proposal is for Terms of Reference for Jitpur Underground Mine of 0.6/0.7 MTPA capacity in mine lease area of 163.69 ha of M/s Steel Authority of India Limited (Collieries Division) located in village Noonudih Jitpur, Tehsil Jharia cum Jorapokhar cum Sindri, District Dhanbad (Jharkhand).

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

- (i) The project area is covered under Survey of India Topo Sheet No. 73I/6 and is bounded by the geographical coordinates ranging from Latitudes 23°42'32" to 23°43'14" N and longitudes 86°23'05" to 86°24'14" E.
- (ii) Coal linkage of the project is proposed for Captive use for various Steel plants.

- (iii) Joint venture cartel has been formed: No
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation: employment to 347 persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of : The project will further improve the living condition of the people. The project will generate direct as well as indirect employment. The income thus generated will thus improve the beneficiaries living conditions.
- (vii) Total mining lease area as per block allotment is 163.69 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved is under preparation by M/s MECON, Ranchi
- (viii) The land usage pattern of the project is as follows:

(Area in Ha)

S. No.	LANDUSE	Within ML Area (ha)	Outside ML Area (ha)	TOTAL
1.	Agricultural land	21.34	Nil	21.34
2.	Forest land	Nil	Nil	Nil
3.	Wasteland	37.08	Nil	37.08
4.	Grazing land	Nil	Nil	Nil
5.	Surface water bodies	2.30	Nil	2.30
6.	Settlements	30.01	Nil	30.01
7.	Others (specify)			
	• Mining Area	5.49		5.49
	• Railway Area	54.30		54.30
	• Other Infrastructure	12.12		12.12
	• Lawn Area	1.05		1.05
	TOTAL	163.69	Nil	163.69

Post-Mining: As this project is an underground mine, hence virtually no land degradation will take place. Post mining activity shall be executed as per mine closure plan.

- (ix) Total geological reserve reported in the mine lease area is 19.33 MT with 16.59MT mineable reserve. Out of total mineable reserve of 16.59MT, 8.09 MT are available for extraction. Percent of extraction is 49-50%.
- (x) XVA, XIV, XII seams with thickness ranging from 0.9m to 10.36m are workable. Grade of coal is W-III, stripping ratio NA, while gradient is 1 in 6 to 1 in 7.5.
- (xi) Method of mining operations envisages by Underground method
- (xii) Life of mine is 23 years @ nominal 0.6 MTPA / peak 0.7 MTPA (May be modified as per Mining plan which is under preparation).
- (xiii) Transportation of coal has been proposed by Aerial ropeway from mine to Chasnalla washery.

- (xiv) There is no forest area involved in the Mine Lease area.
- (xv) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project
- (xvi) The ground water level has been reported to be varying between 5.85m to 9.87m during pre-monsoon and between 3.12m to 6.43m during post-monsoon. Total water requirement for the project is 1510 KLD.
- (xvii) Application for obtaining the approval of the Central Ground Water Authority for has been submitted on 29th December, 2017
- (xviii) Consent to Operate for the existing capacity was obtained from the State PCB on 07.11.2017 and is valid till 31.03.2022 (for production capacity of 11700 T / month)
- (xix) Kari Jore nalla is flowing along western boundary of lease and no diversion is involved.
- (xx) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to JSPCB and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- (xxi) No court cases, violation cases are pending against the project of the PP. Letter Enclosed as Annexure-A
- (xxii) The coal production, realized from the project, from 1993-94 onwards, is as under: The production has nominally exceeded during the 2003-04 & 2004-05

FY	Actual Production (Metric Tonnes)	FY	Actual Production (Metric Tonnes)
1970-71	173215	1995-96	129348
1971-72	290174	1996-97	134681
1972-73	396634	1997-98	148683
1973-74	354076	1998-99	154906
1974-75	407839	1999-00	137980
1975-76	409850	2000-01	126720
1976-77	327518	2001-02	128088
1977-78	227320	2002-03	127300
1978-79	177726	2003-04	143131
1979-80	146804	2004-05	163000
1980-81	133771	2005-06	107324
1981-82	155089	2006-07	99087
1982-83	143286	2007-08	64489
1983-84	140787	2008-09	113652
1984-85	131917	2009-10	109602
1985-86	153109	2010-11	83956
1986-87	122050	2011-12	50663
1987-88	107636	2012-13	32224

1988-89	148629	2013-14	56275
1989-90	133590	2014-15	91591
1990-91	111427	2015-16	74621
1991-92	146811	2016-17	85150
1992-93	147155	2017-18	93269
1993-94	128492	2018-19	91616
1994-95	131115	2019-20	70498

(xxiii) Thus no R&R and PAF involved.

(xxiv) Total capital cost of the project is Rs. 222.69 Crores, CSR cost to be incurred as per the guidelines. R&R cost. As it is an existing mine, most of the area under reference is developed with surface constraints of colliery complex and no R&R is involved. Environment Management Cost: Capital provisions for environmental control measures, which includes pollution control arrangement, technical and biological reclamation etc for the project will be finalized during the preparation of EIA- EMP report.

7.7.3 The EAC during deliberations noted the following:

The proposal is for Terms of Reference for Jitpur Underground Mine of 0.7 MTPA capacity in mine lease area of 163.69 ha of M/s Steel Authority of India Limited (Collieries Division) located in village Noonudih Jitpur, Tehsil Jharia cum Jorapokhar cum Sindri, District Dhanbad (Jharkhand).

Earlier, Jitpur Colliery has been granted TOR on 29.05.2015 [No. J-11015/66/2015-IA-II(M)] but due to delay in certification of mine boundary from nodal agency CMPDIL, Ranchi, EIA/EMP could not be finalised before the validity period of ToR.

The mine has been operational since pre-nationalisation and lease granted in 1902 for 991 years. Application for revalidation has been submitted to the State Govt. which is pending for want of Environmental Clearance(EC).

Jitpur Underground Mine Consent to operate (CTO) was obtained from the State Pollution Control Board on 07.11.2017 and is valid till 31.03.2022

Earlier the proposal was considered in the EAC coal meeting held on 17-18 April, 2020 through video conferencing. The EAC noted, that project involves violation of EIA notification 2006, however since PP has earlier applied in the Ministry, the proposal may be forwarded to violation sector for appraisal.

Subsequently, Revised application along with requisite documents submitted to the Director (IA-Violation) on 09.12.2020 for consideration for grant of TOR.

Further, as per MoM of MoEF&CC dated 08th December, 2020 the lateral entry proposal will now be dealt by Coal Sector

Kari Jore nalla is flowing along western boundary of lease and no diversion is involved.

8.7.4 The EAC, after detailed deliberation **recommends** the proposal for grant of Terms of Reference to Jitpur Underground Coal Mine of 0.6 / 0.7 MTPA(Normative/Peak) in mine lease area of 163.69 Ha by M/s Steel Authority of India Ltd. (Collieries Division) at village Noonudih, JitpurNoonudih, Mouza No. 108, 109 Tehsil Jitpur cum Jorapokhar cum Sindri, District Dhanbad (Jharkhand), with specific conditions as below and as defined in the Standard ToR under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto.

- (i) PP should submit the certified authenticated/Audited production figures from the revenue department or department of mining and geology of State Government or certificate from Coal Controller for production capacity since 1993-94.
- (ii) Accordingly, PP shall be assessing the damage assessment of environment against the excess production against the quantities for not taking EC from the period of excess production.
- (iii) Public Consultation, including public hearing, shall be conducted through concerned SPCB as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal.
- (iv) Cumulative Impact Assessment Study of the area shall be carried over by project proponent
- (v) PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- (vi) Clarification from PCCF that mine does not fall under corridors of any National Park and Wildlife Sanctuary and does not involve any violation of forest area and wild sanctuary.
- (vii) Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area
- (viii) The PP should submit the photograph of monitoring stations & sampling locations. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which will analyze the samples
- (ix) PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground/surface water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.
- (x) Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted

- (xi) *Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA)*
- (xii) *PP shall provide the measures to be taken as Kari Jore nalla is flowing along western boundary of lease and no diversion is involved.*
- (xiii) *Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report.*
- (xiv) *PP should bring out the awareness campaign to be carried out on various Environmental issues, practical training facility to be provided to the environmental engineer/diploma holders, mining engineer/diploma holders, geologists, and other trades related to mining operations. Target for the same needs to be submitted.*
- (xv) *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*
- (xvi) *PP shall provide an integrated mine production and mine reclamation plan of which the systematic and post mining land form management / landscape management of mining area, internal, and external dump area will be integral. Both internal and external dumps shall be regarded and reshaped to reduce its height as close to the original surface level as possible for better land use post mining activities.*
- (xvii) *PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective.*
- (xviii) *PP shall prepare Mine Plan including Mine Closure Plan for Peak production capacity as per latest guidelines of Ministry of Coal.*
- (xix) *The State Government/SPCB to take action against the project proponent under the provisions of section 19 of the Environment (Protection) Act, 1986, and further no consent to operate for project to be issued till the project is granted EC.*
- (xx) *The project proponent shall be required to submit a bank guarantee equivalent to the amount of remediation plan and natural and community resource augmentation plan with the SPCB prior to the grant of EC. The quantum shall be recommended by the EAC and finalized by the regulatory authority. The bank guarantee shall be released after successful implementation of the EMP, followed by recommendations of the EAC and approval of the regulatory authority.*
- (xxi) *Assessment of ecological damage with respect to air, water, land and other environmental attributes. The collection and analysis of data shall be done by an environmental laboratory duly notified under the Environment (Protection) Act, 1986, or an environmental laboratory accredited by NABL, or a laboratory of a Council of Scientific and Industrial Research (CSIR) institution working in the field of environment.*
- (xxii) *Preparation of EMP comprising remediation plan and natural and community resource augmentation plan corresponding to the ecological damage assessed and economic benefits derived due to violation.*
- (xxiii) *The remediation plan and the natural and community resource augmentation plan to be prepared as an independent chapter (13) in the EIA report by the accredited consultants.*
- (xxiv) *In case of violation of undertaking by way of affidavit to comply with all the statutory requirements and judgment of Hon'ble Supreme Court dated 02.08.2017 in WP (Civil) case No-114/2014, the ToR/Environmental Clearance shall be liable to be terminated forthwith.*

- (xxv) Budget of remediation plan and natural and community resource augmentation plan corresponding to the ecological damage shall be completed within three years and to prepare accordingly.
- (xxvi) The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25.10.2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
- (xxvii) PP should submit the real time aerial footage and video of the Mining lease area.
- (xxviii) Certified compliance from State Pollution Control Board for existing Consent to Operate for the mine
- (xxix) PP shall submit measures to be taken for preventing subsidence of land due to mining activity.
- (xxx) PP shall be providing details of material used for stowing, its mode of transportation and mitigation measures while transporting.

Agenda 8.8

Amrapali Opencast Coal Mine from 14.4 MTPA to 25/35MTPA (Normative / Peak) in an ML area of 619.87 ha of M/s Central Coalfields Limited located in District Chatra (Jharkhand) – For Reconsideration of Environmental Clearance – reg.

[Online Proposal No. IA/JH/CMIN/123390/2019; File No. 11015/109/2003-IA (M)]

8.8.1 The proposal is for Environmental Clearance for Expansion of Amrapali Opencast Coal Mine project of 25 MTPA in project area of 619.87Ha of M/s Central Coalfields Limited located in Block: Tandwa, District Chatra (Jharkhand).

Earlier, the environment clearance to the project was obtained under EIA Notification-2006 vide Ministry's letter No J-11015/109/2003-IA.II(M) dated: 20.03.2020 for 14.4 MTPA in project area of 619.87 Ha.

8.8.2 The EAC during deliberations noted the following:

Earlier the proposal was considered by EAC in its 7th meeting held on 29th January, 2021. The EAC after deliberations deferred the proposal for further information on certain observations. PP has submitted the compliance of observation of EAC with respect to following points:

Sr. No	Observation of EAC	Reply of Project Proponent
i	PP shall submit compliance of EC conditions which are still non-complied with proof/photograph.	The Compliance & action taken report for observation raised by RO, MoEF&CC during his Inspection on 21.12.2020 for EC (14.4) in respect of Amrapali OCP, Amrapali-Chandragupta Area has been shown during the Meeting.
ii	The PP should come up with proposal/installation of continuous air	The procurement of CAAQMS system at Project Office of Amrapali OCP is under progress from

	quality monitoring stations with photographs. The photograph should bear the date, time, latitude & longitude of the monitoring station/sampling location. In addition to this PP should submit the original test reports and certificates of the labs which analyse the samples	GeM portal of Govt. of India. Continuous PM ₁₀ analyser has been installed at Shivpur Railway Siding of Amrapali OCP. The copy of supply order & photographs has been shown The original test reports and certificates of the labs, which analyse the samples shall be submitted to Regional office of MoEF&CC & JSPCB
iii	PP shall justify for considering two different emission factors source for AQIP modelling and further modelling has been conducted only for normative production capacity	AQIP modeling was carried out for the peak capacity scenario of 25 MTPA. Emission factors used in this study have been derived from emission factor S & T study of CMPDI & AP42 of USEPA.
iv	PP shall propose the measures to be taken for reduction of air pollution due to internal and external transportation of mine.	The proposed & existing measures for reduction of air pollution due to internal and external transportation of mine was shown during the Meeting Following are the additional control measures suggested to bring down the impact of proposed transportation activity on Honhe village. <ul style="list-style-type: none"> Existing coal transportation road will be converted into PCC roads (5 km length and 10.5 m width). Fixed sprinklers are proposed near Honhe village on coal transportation road (1.30 km Length) 2 no. of road sweeping machines will be deployed to remove dust on roads. Wind Barriers will be installed on either side of coal transportation road near Honhe village in order to contain the impact of coal transportation on nearby settlement (2000 m Length X 7 m Height). For Ursu village - A wind barrier of length 1.3 km and height 7 m will be provided between project boundary and Ursu village and 3- tier plantation/ green belt will be developed all along the project boundary to restrict the impact of mining activities on Ursu village.
v	PP shall submit the specific mitigative measures for Dudhmatia Nala flow	The detailed diversion plan of Dudhmatia Nala along with specific mitigative measures is

	through the mining leasehold area. Detailed diversion plan along with its impact on Barki river shall be provide with allocated fund and timeline and likely Impact of mining on Chundru, Garhi river shall be submitted.	<p>provided and presented during the meeting Easterly flowing Dudhmatia nala/ Binglat Nala has been proposed for diversion along the northern boundary of the project.</p> <ol style="list-style-type: none"> 1. The course of existing Binglat nala is atleast 60 m away from the present quarry. No obstruction has been created due to mining activity on the course of nala. 2. De-siltation of Nala bed is being carried out before Monsoon. In 2021, de-siltation and deepening of Dudhmatia Nala has been carried out with an expenditure of Rs. 5.80 Lakhs. 3. Check dam has been constructed on Dudhmatia nala before confluence into Barki river for silt removal and artificial ground recharge. 4. Water quality monitoring of this nala is being done periodically
vi	PP should submit proper adequate response to public hearing issues with financial commitment and submit year wise breakup and timeline for Action Plan for addressing the issues.	The detailed response to issues as discussed during Public Hearing along with financial commitment and year wise breakup was presented during the meeting
vii	Fresh socio-economic study and study on flora and fauna shall be submitted since it is older than 3 years.	<p>Socio-economic and flora and fauna study were carried out in Pre monsoon 2017. The data was validated after field survey by QCI accredited Functional Area Experts (FAE) of CMPDIL, Ranchi in pre monsoon 2020 ie., during COVID-19 lockdown period.</p> <p>This Socio economic and Flora Fauna data/status which was prepared after field survey during Pre monsoon 2020 was presented in the EIA EMP report after incorporating latest data/observations.</p>
viii	The PP should submit the number of saplings to be planted, 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	<p>The plantation development plan was shown during the Meeting which indicates number of saplings to be planted, area to be covered under afforestation & green belt, location of plantation, target for survival rate and budget earmarked for the afforestation & green belt development.</p> <p>It also contains the afforestation & green belt to be developed within the project life & during</p>

	<p>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 lease boundary the plantation should be completed within 2 years only.</p>	<p>mine closure period of the mine.</p> <p>As the project life of Phase-1 of the mine is 4 years, the direction of EAC that 80% of the plantation to be carried out in first 5 years & plantation in the safety zone at lease boundary the plantation within 2 years shall be completed.</p>																
ix	<p>PP to submit R &R in respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.</p>	<p>As desired the demographic analysis of sample population along with action plan for R & R (including SC and ST) was shown during the Meeting</p> <p>Around 260 PAFs have been identified in the villages Bingalt and Manwatongri falling within the project boundary for R&R. Details are as given below</p> <table><tr><th>S. N</th><th>Village</th><th>PA Fs</th><th>Status</th></tr><tr><td>1</td><td>Binglat</td><td>210</td><td>R&R site identification in progress. R&R will be completed by 2022-23</td></tr><tr><td>2</td><td>Manwa tongri</td><td>50</td><td>R&R site of 5.5 Ha identified near Honhe village. Development of site in progress. Shifting will be completed by 2021-22</td></tr></table> <p>Till date, direct employment has been provided to 90 PAPs under Amrapali OCP. It includes 16 employment to SC and ST PAPs.</p> <table><tr><th>Descr</th><th>Total</th><th>Site</th><th>Year of Shifting</th></tr></table>	S. N	Village	PA Fs	Status	1	Binglat	210	R&R site identification in progress. R&R will be completed by 2022-23	2	Manwa tongri	50	R&R site of 5.5 Ha identified near Honhe village. Development of site in progress. Shifting will be completed by 2021-22	Descr	Total	Site	Year of Shifting
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Descr	Total	Site	Year of Shifting															

		ption	No.	prepa ratio n	20 21 - 22	202 2-23	2023- 24
		Rehabil itation of PAFs	260	2021- 22	50	110	100
x	Impact on nearby agricultural land and on biological Environment. Proper biological management plan needs to be prepared.	The report detailing the impact on nearby agricultural land and on biological Environment along with biological management plan was shown during the Meeting					
xi	Comprehensive Plan for supplying/distribution with piped water to the nearby habitation in villages/ settlements (particularly for habitation coming under zone of influence)	A report on existing & proposed plan for supplying & distribution of treated water was shown during the Meeting					
xii	PP should submit the quantity of surface or ground water to be used for this project. The complete water balance cycle need to be submitted. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken.	The complete water balance of Amrapali OCP is provided and details of existing & proposed rainwater harvesting measures undertaken was shown during the Meeting along with source of water. No Objection Certificate (NOC) For Ground Water Abstraction of 4,220 m3/day has been issued.					
xiii	PP shall state the reason of high variation (% variation) of proposed production capacity between Normative and peak values.	The expansion project report of Amrapali OCP has been approved for a rated capacity of 25 MTY with peak capacity of 35 MTY (40 % above the normative capacity) by CIL Board. However, the mining plan & mine closure plan has been approved by CCL Board for a capacity of 25 MTPA, and the proposal submitted to MoEF&CC is for the rated capacity of 25 MTPA only.					
xiv	Plan of OB Dumping and rehandling and management of enhance capacity to be given with proper layout	The detailed plan & layout of OB dumping and rehandling along with management of enhance capacity was shown during the Meeting Total OB to be removed is estimated as 99.36 M.Cum including 15.65 M.cum proposed to be re-handled (Honhe Dump on Western Section).					
		SN	Dump	Details			

		<table> <tr> <td>01</td><td>Dump-A(External Dump)</td><td>Area of Dump: 89.16 Ha Top RL +530m. (60m above G.L) Vol. of OB: 24.41 M.Cum. (Excluding 16 M.Cum of OB already accommodated in this external dump)</td></tr> <tr> <td>02</td><td>Dump-B (Internal Dump in the Eastern Quarry)</td><td>Area of Dump: 200.64 Ha Top R.L: +530m Vol. of OB: Approx. 52.47 M.Cum.</td></tr> <tr> <td>03</td><td>Dump-C (Internal Dump in the Western Quarry)</td><td>Area of Dump: 71.07 Ha. Top R.L: +530m Vol. of OB: Approx. 22.48 M.Cum</td></tr> </table>	01	Dump-A(External Dump)	Area of Dump: 89.16 Ha Top RL +530m. (60m above G.L) Vol. of OB: 24.41 M.Cum. (Excluding 16 M.Cum of OB already accommodated in this external dump)	02	Dump-B (Internal Dump in the Eastern Quarry)	Area of Dump: 200.64 Ha Top R.L: +530m Vol. of OB: Approx. 52.47 M.Cum.	03	Dump-C (Internal Dump in the Western Quarry)	Area of Dump: 71.07 Ha. Top R.L: +530m Vol. of OB: Approx. 22.48 M.Cum
01	Dump-A(External Dump)	Area of Dump: 89.16 Ha Top RL +530m. (60m above G.L) Vol. of OB: 24.41 M.Cum. (Excluding 16 M.Cum of OB already accommodated in this external dump)									
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xv	Plan for coal transportation from pit head to Amrapali Railway Siding through belt conveyer to be completed in 2 years.	<p>As directed, it is proposed to complete the work of Amrapali Railway Siding through belt conveyer within the stipulated timeline of 2 years.</p> <p>The work order of construction of Amrapali CHP has been awarded to M/s Larsen & Turbo Ltd on 31.12.2020 & application of diversion of Forestland has also been submitted to MoEF&CC on 12.10.2018 for construction of Amrapali Railway Siding. The work of construction of railway siding has been awarded to M/s RITES Ltd.</p> <p>The proposed plan & alignment of Amrapali Railway Siding is enclosed was shown during the Meeting</p>									
xvi	PP shall submit impact of blasting with adequate safeguard on nearby villages	<p>The ground vibration monitoring reports for the month of January was shown during the Meeting</p> <p>The workings of Amrapali OCP can be extended within 300m but beyond 100m from nearby villages/hutments or dwellings etc, not belonging to CCL with a maximum explosive charge per delay 49.0 kg with other established blasting parameters, considering the threshold value of PPV 15mm/sec for a dominant</p>									

		<p>frequency range of > 25 Hz.</p> <p>2. Proper initiation system is being followed for restricting the maximum charge/delay and control of fly rock.</p> <p>3. Free face is being maintained and blasted materials are cleared off before the commencement of blasting operations.</p> <p>4. Blasting at Amrapali OCP is being conducted with muffling arrangement. Muffling of holes is being done with wire netting pieces (1.8m x 1.2m) overlain by 3 to 4 sand bags each 40 kg by weight.</p> <p>5. The code of blasting signals shall be strictly followed as framed by the Mine Manager and means of effective communication should be utilized gainfully in mine. A siren is being used during blasting operation for warning the people before blasting and to give all clear signals after blasting.</p>
xvii	PP shall submit additional provision i.e capital and recurring cost by proposing additional EMP measures including dust suppression as suggested by Ministry's Regional office	The additional provisions for additional EMP measures including dust suppression as suggested by Ministry's Regional office is provided and was shown during the Meeting. Revised Capital estimate of environmental measures was submitted.

8.8.3 The EAC during deliberations noted the following:

The proposal is for Environmental Clearance for Expansion of Amrapali Opencast Coal Mine project of 25.00MTPA in project area of 619.87Ha of M/s Central Coalfields Limited located in Block Tandwa, District Chatra (Jharkhand).

Bariki river is the major drainage of the project. Dhudumati nala, which is flowing across the project and Honhe nala which forms the west boundary of the project are two major nalas flowing in the vicinity of proposed working and these nalas finally merge into barki river and Chundru river respectively. The Barki nadi and Chundru nadi are the major tributaries of Garhi nadi.

A Bahutchuan nala which is the small seasonal tributary of Chundru nadi flows from north to south in the west of the project at a safe distance of 60m

The seasonal Dudhmatia Nala, which flows from west to east in the north of the project through the project boundary, needs to be diverted along a stretch of 1,500 m. The diversion of nala is proposed

Public hearing for the project of 25.00 MTY capacity in an area of 619.87 Ha was conducted on 17.11.2020. Major issues raised in the public hearing include mitigation of air & water pollution, compensation, employment opportunity, medical facilities & provision of drinking water etc. Appropriate action to address the issues raised in the Public Hearing shall be taken.

CTO issued vide no: JSPCB/HO/RNC/CTO-6645615/2020/1408 dated 01.09.2020 for 12 MTPA, valid till 30.06.2021. CTE issued for 14.4 MTPA vide no: JSPCB/HO/RNC/CTE-7811934/2021/7 dated: 08.01.2021. CTO issued for 14.4 MTPA vide no: JSPCB/HO/RNC/CTO-7819614/2020/712 dated: 26.03.2020 till 30.09.2020. Renewal under process at JSPCB.

The Committee noted that most of EC conditions of earlier ECs have not been complied; rather PP submitted the information inadequately and the Committee expressed concerns over the monitoring of basic parameters like noise sampling during night time, monitoring of heavy metals, effluent quality of ETP has not been submitted to Regional Office. Further, riverine/riparian ecosystem conservation and management plan has not been submitted by PP. Also there is inadequate greenbelt implementation, many places on the Bingalat O/B dump where grassing and vegetation has not been developed, details of actual expenditure incurred on CER has not been submitted to this Regional office.

The Committee noted that there are two cases pending in Hon'ble NGT of which one is regarding non-compliance of EC conditions. Also, it was observed that compliance in existing EC conditions are not adequately addressed.

8.8.4 The EAC after detailed deliberations observed that there are various non-compliance highlighted by Ministry's Regional Office and also since obtaining EC of 14.4 MTPA in March 2020, PP has not yet received Consent to Operate from State Pollution Control Board. In a haste of achieving production target, PP should not overlook the compliance of EC conditions. PP however, submitted the information during course of minutes which is reported to be committed for compliance, but the committee desired for concrete and tangible action for further consideration.

Further, the air pollution mitigation measures proposed and committed during earlier expansion are not yet installed and only timeline is being proposed. It was observed that adequate pollution mitigation measures in project are still lacking in terms of transportation, plantation, dust control and water pollution. Therefore, the EAC after detailed deliberation was of the view that proposal requires further examination. In view of this EAC desired, that PP has to first focus on compliance of EC conditions. PP shall further submit the details on the following points.

- (i) PP shall submit compliance of EC conditions which are still non-complied with proof/photographs. PP shall submit proper Action plan with Time Line*
- (ii) Revised capital estimate for environment protection measures submitted by PP is inadequate and prepared inappropriately. Therefore, documents required to be substantiated on ground measures. PP shall submit measures taken on ground and then submits the enhanced protection measures*

- (iii) PP shall submit one-month noise monitoring data conducted at night time and vibration monitoring data, data of treated effluent from ETP.
- (iv) PP shall submit the riverine/riparian ecosystem conservation and management plan.
- (v) 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.
- (vi) Plan for coal transportation from pithead to Amrapali Railway Siding through belt conveyer to be completed in 2 years with committed plan of actual status.
- (vii) Plan, design, alignment for diversion of stream and environment mitigation measures to be adopted along the diverted stream.
- (viii) PP shall submit Environmental Capital Expenditure by excluding Cost of rehabilitation. R&R cost should never be considered as Environmental expenditure.
- (ix) Environment Mitigation measures for the villages involved in R&R i.e. Manwatongri and Binglat till they are rehabilitated and other villages nearby.
- (x) Environment mitigation measures taken at Shivpur Railway siding and along the transportation till conveyor belt with silo loading is implemented.
- (xi) PP shall reply to concerns raised in PH specially on River water becoming dirty after CCL started work and Cracks being developed in houses due to blasting and pollution due to coal transportation.

The proposal is **deferred** in above lines

Agenda 8.9

JalagamVengalrao Opencast Project-II of 4 MTPA (Normative)/5 MTPA (peak) of M/s The Singareni Collieries Company Ltd in ML area 1409.81 ha located in village Kommepalli, District Khammam (Telangana)- Amendment in Environmental Clearance – reg.

[Online Proposal No. IA/TG/CMIN/196357/2021; File No. J-11015/268/2007-IA.II(M)]

8.9.1 The proposal is for Amendment in EC for Jalagam Vengalrao Opencast-II Project of 5 MTPA capacity in mine lease area of 1409.81 ha located in village Kommepalli, Mandal Sathupalli, District Khammam (Telangana).

8.9.2 The EAC during deliberations noted the following:

Earlier, the environment clearances to the project was obtained under EIA Notification, 2006 vide Ministry's letter No J-11015/268/2007-IA.II(M) dated 28.03.2010 for 4.0 (Peak_5.00) MTPA in mine lease area of 1409.81 ha.

Total mining lease area as per block allotment is 1409.81ha. Mining Plan was approved by the MoC, GoI vide O.M. 13016/14/2009-CA-II, dated 05th April, 2010. Mine Closure Plan was approved by MoC, GoI vide O.M. 13016/14/2009-CA-II, dated 10th February, 2016

788.22 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 776.20 ha of forest land was been obtained vide

MoEF&CC letter No.F.No.8-56/2014-FC, dated 30th May,2017 and 12.02 ha of forest land covers in 244.02 ha of forest land diverted for JVR OCP-I Vide letter No. F.No.8-129/2003-FC, dated 02nd February, 2005.

Ground Water Clearance was obtained vide Memo No. 4693/HgII (2)/2008 dated 01st November, 2008 from state ground water department.

Consent to Operate for the existing capacity was obtained from the State PCB on 03.01.2018 and is valid till 31st October, 2022.

Two cases have been admitted by National Green Tribunal, Southern Bench, Chennai.

Case No. O.A. 174 of 2020 (SZ), dt: 08.09.2020 - Basing on a complaint received from Sri Banothu Nandu Nayak, R/o Sathupalli in regard to environmental violations and damage caused to houses by SCCL in operation of JVR Opencast mines.

Present Status: NGT appointed a Joint Committee comprising of District Collector, Senior Officers from MoEF&CC (RO, Chennai), TSPCB and DMG. It was stated that MoEF&CC, Regional Office, Chennai will be the nodal agency for co-ordination. 1st meeting was convened by the Joint Committee with SCCL on 02.12.2020 through video conference.

Case No. O.A.No.20 of 2021(SZ), dt:27.01.2021 - Basing on a complaint received from Sri Oggu Srinivasa Reddy, R/o Sathupalli and another in regard to violation of environmental conditions by SCCL in operation of JVR OCP-II.

Present Status: Case has been registered by NGT and adjourned to 26.03.2021.

EC dated 28th March, 2010 has a specific condition No. 2(A) (viii) of EC “*No coal transportation shall be undertaken by road*”.

Earlier, keeping in view the delay in progress of railway line works, SCCL requested Ministry to extend the validity period of modification to enable transport of coal by road mode for a further period of two years. The proposal was considered by EAC in its 47th meeting held on 22nd August, 2019 and observed non-compliance of EC conditions. Ministry after deliberation on the recommendation of EAC sought clarification from the Project Proponent.

SCCL submitted the status of progress of railway line works vide Lr.No.CRP/ENV/A/405/698 dated 19th October, 2020, and requested to extend the validity period of modification to enable transport of coal by road mode up to March, 2022, considering the existing pandemic Covid19.

Ministry after examining the submission and request of SCCL and advised to apply for necessary amendment and subsequently apprise the EAC on status of compliance.

Accordingly, PP has submitted the proposal for extending the validity of modification to specific condition No.2(A) (viii) of the Environmental clearance to enable transport of coal by road mode up to March, 2022.

Transportation of coal has been proposed by Trucks/Dumpers from mine to pit head, from surface to siding (pit head CHP to RCHP, Kothagudem) by Road and from siding (RCHP Kothagudem) to customers by rail

8.9.3 *The EAC after deliberations and considering the advance status of implementation of railway line **recommends** the proposal for grant of amendment in Environment Clearance JalgamVengalrao Opencast Project-II of 4 MTPA (Normative)/5 MTPA (peak) of M/s The Singareni Collieries Company Ltd in ML area 1409.81 ha located in village Kommepalli, District Khammam (Telangana), as per EIA Notification, 2006 with all the condition stipulated in EC dated 28th March, 2010 shall remain the same and subject to additional conditions as mentioned below for environment safeguards:*

- (i) PP shall transport coal by road mode with covered tarpaulin only up to December 31st 2021*
- (ii) PP shall only transport the coal in 40-50 tonnes trucks/dumper.*
- (iii) State Pollution Control Board while granting CTO shall ensure that PP must follow all the norms of Ambient Air Quality.*
- (iv) 5 fog cannon shall be permanently installed to reduce the impact of road transportation.*
- (v) Mist type mobile water sprinkler arrangement shall be installed for dust suppression in areas like Loading operations, Crusher points, transfer points and CHPs etc.*
- (vi) Thick green belt around the mining area and along the transportation route (Road side) (50000 nos) shall be developed by planting native species.*
- (vii) CAAQMS to monitor ambient air quality parameters like PM10, PM2.5, SO_x, NO_x etc. shall be installed at locations in the population / habitation areas/ receptor villages.*
- (viii) PM10 Analyser shall be installed at a particular point on the road to monitor the fugitive dust emission from coal transfer activities*
- (ix) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.*
- (x) PP shall comply with the judgment/orders of the two NGT cases Case No. O.A. 174 of 2020 (SZ), dt: 08.09.2020 - Basing on a complaint received from Sri Banothu Nandu Nayak, R/o Sathupalli in regard to environmental violations and damage caused to houses by SCCL in operation of JVR Opencast mines. 2. Case No. O.A.No.20 of 2021(SZ) , dt:27.01.2021 - Basing on a complaint received from Sri Oggu Srinivasa Reddy, R/o Sathupalli and another in regard to violation of environmental conditions by SCCL in operation of JVR OCP-II.*

The meeting ended with thanks to the Chair.

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

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

(a) Statutory compliance

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

(b) Air quality monitoring and preservation

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM₁₀/PM_{2.5}) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the

Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.

- (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
- (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne 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-20012/1/2006-1A.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
- (iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow

- proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
- (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
 - (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
 - (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. 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 blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
 - (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
 - (i) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.
- (e) Mining Plan**
- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.

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

(f) Land reclamation

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/”post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
- (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
- (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

(g) Green Belt

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

(h) Public hearing and Human health issues

- (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & 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 OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(i) Corporate Environment Responsibility

- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- (ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (j) Miscellaneous**
- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.

- (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- (xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

Annexure-II

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

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

I. Statutory compliance:

- (i) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project
- (ii) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (iii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iv) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase 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 NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the SPCB
- ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher

level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.

- iv. Major approach roads shall be black topped and properly maintained.
- v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.
- vi. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- vii. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne 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 runoff
- viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
- x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.
- xii. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A reverian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

- i. Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in underground mining operations, operation of HEMM, etc. shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms/guidelines in this regard. Progress in usage of such accessories to be monitored. Adequate awareness programme for users to be conducted.
- ii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

V. Mining Plan

- i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.

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

VI. Land reclamation

- i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- ii. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.
- iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, alongwith 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&R Policy/ R&R Policy of the State Government, as applicable
- vii. The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly 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 shareholders /

- stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
 - iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
 - v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Annexure-III

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

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

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months.
- iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors,

loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board

- iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.
- v. Covered trucks shall be engaged for mineral transportation outside the washery upto 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-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
- iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
- iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.
- v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
- vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure

arrangement to avoid water pollution due to leachate from rejects and surface run off from reject dumping sites.

- vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEFCC and implemented.
- viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.
- ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.
- x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m³/tonne of raw coal.
- xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- xii. 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.
- xiii. The project proponent shall take all precautionary measures to ensure riverine/ riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government

IV. Noise and Vibration monitoring and prevention

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

V. Coal beneficiation

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

VI. Green Belt

- i. Three tier greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.

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

VII. Public hearing and Human health issues

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

VIII. Corporate Environment Responsibility

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

implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iv. 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.
- v. The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- vi. 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.
- 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 change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made
- xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

- xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Generic ToR for coal washery

- i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washery preferably through closed conveyer belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant alongwith 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 EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. alongwith 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, PM_{2.5}, SO_x and NO_x, 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 alongwith Action Plan.
- xiv. O.M.no.J-II0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
- xvi. Analysis of samples indicating the following be submitted:
 - Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
 - Characteristics and quantum of coal after washing.
 - Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
- xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
- xxii. Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986
- xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

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 may also be provided with explanatory note on the land use.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (vii) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (viii) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling 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 following table:

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

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xvi) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.

- (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.
- (xxii) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiii) Impact of blasting, noise and vibrations should be given.
- (xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Efforts be made for maximising 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 Landuse and Reclamation Area (ha)

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

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

* As a representative example

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

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

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

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

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

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

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

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

S.N	ML/Project Land use	Area under Surface Rights(ha)	Area Under Mining Rights (ha)	Area under Both (ha)

1.	Agricultural land			
2.	Forest Land			
3.	Grazing Land			
4.	Settlements			
5.	Others (specify)			

Area under Surface Rights

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

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (ix) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in

- both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
 - (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
 - (xvi) Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
 - (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
 - (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
 - (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
 - (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
 - (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
 - (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
 - (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
 - (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for

occupational health and safety of the personnel and manpower for the mine should be submitted.

- (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio-economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxvii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
- (xxviii) Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- (xxix) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xxxi) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xxxii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxiii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

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

Total /Project (ha)	ML Area	Total Forest Land (ha)	Date of FC	Extent of Forest Land	Balance for which FC is yet to be obtained	Status of appl. For diversion of forest land

		If more than one provide details of each FC			
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ANNEXURE-VII

GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT

- (i) An EIA-EMP Report would be prepared for a combined peak capacity ofMTPA 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

2/22/2021

Email

Email

Munna Kumar Shah

Re: final minutes of 8th EAC meeting

From : gpkundargi@gmail.com

Mon, Feb 22, 2021 04:49 PM

Subject : Re: final minutes of 8th EAC meeting

To : Munna Kumar Shah <munna.shah@gov.in>

Cc : lk.bokolia <lk.bokolia@nic.in>

Dear Munna Kumar ji

Thanks for mail sending corrected draft minute of 8th EAC meeting. I have gone through the draft minutes & they are fine with me. Draft Minutes are approved for further needful action.

Thank you
Kundargi G.P.

On Mon, 22 Feb, 2021, 4:30 pm Munna Kumar Shah, <munna.shah@gov.in> wrote:

Dear sir

The undersigned is directed to send the corrected MoM as discussed. May please approve the MoM for further uploading on PARIVESH Portal.

Thank you

Regards

Munna Kumar Shah
Scientist D

LIST OF PARTICIPANTS OF EAC (COAL) IN 8th MEETING OF HELD DURING 11th FEBRUARY, 2021 THROUGH VIDEO CONFERENCING

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