Minutes of the 47th meeting of the Expert Appraisal Committee held on 22nd August, 2019 for appraisal of coal mining projects at Indira Paryavaran Bhawan, Ministry of Environment, Forest and Climate Change, New Delhi-3

The 47th meeting of the Expert Appraisal Committee (EAC) for Coal mining projects was held on 22nd August, 2019 in the Ministry of Environment, Forest & Climate Change at Narmada Meeting Hall, Jal Wing, Ground Floor, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi to consider the proposals relating to coal mining sector. The following members were present:

1.	Dr. Navin Chandra	-	Chairman
2.	Dr. N. P. Shukla		Member
3.	Shri N.S.Mondal		Member (Representative of CEA)
4.	Shri Surmya D Vora		Member
5.	Shri G.P. Kundargi	-	Member
6.	Dr. S. K. Paliwal		Member (Representative of CPCB)
7.	Dr. Jai Krishna Pandey	-	Member
8.	Shri. N Mohan Karnat		Member
9.	Shri S. K. Srivastava	-	Member Secretary

Confirmation of minutes

There being no comments from any of the members of the Committee, minutes of the 45th meeting of the EAC held during 25th June, 2019 were confirmed in the presence of the members who had been present in the 47th meeting.

Details of the proposals considered during the meeting, deliberations made and the recommendations of the Committee are explained in the respective agenda items as under:-

Agenda No.47.1

Dhankasa UG Mining Project (Capacity 1 MTPA (Normative)/1.20 MTPA Peak Production in ML area 582.651 ha M/s Western Coalfields Limited, located in District Chhindwara, (Madhya Pradesh) - Environmental Clearance

[IA/MP/CMIN/72632/2008; F.No. J-11015/451/2008-IA.II(M)]

47.1.1 The proposal is for environmental clearance to Dhankasa UG coal mining project of capacity 1.0 MTPA (Normative)/1.25 MTPA (Peak) by M/s Western Coalfields Ltd in mine lease of 582.65 ha located in Pench Kanhan Coalfields, District Chhindwara (Madhya Pradesh).

47.1.2 Details of the proposal, as ascertained from the proposal documents and also as informed during the meeting, are reported to be as under:

(i) The project area is covered under Survey of India Topo Sheet No 55 N/3 (RF 1:50,000) and is bounded by the geographical coordinates ranging from 22°17'39" to 22°19'33" N and longitudes 78°59'04" E and 79°01'13" E.

(ii) Coal linkage of the project is proposed for MPPGCL use and for various Consumers

(iii) Joint Venture: There is no joint venture.

(iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.

(v) Employment generation: Total manpower proposed for this project is 490 nos.

(vi) The project is reported to be beneficial in terms of: It will bridge the gap (to the extent of the peak production capacity of the project) between demand & supply of non-coking coal for the power houses and other bulk consumers of western as well as southern part of the country.

(vii) Earlier, the ToR to the project was obtained vide Ministry's ToR letter No. J-11015/451/2008-IA.II(M) dated 11-12-2008 for Normative capacity of 1.0 MTPA and peak capacity of 1.25 MTPA in mine lease area of 582.651 ha.
(viii) Total mining lease area is 582.651 ha. Mining Plan (Including Mine Closure Plan) has been approved by the WCL Board vide dated 29-09-2016.
(ix) The land usage pattern of the project is as follows:

Pre-mining land use details
The total land involved in Dhankasa UG is 582.651 ha. The present proposal is for EC for Dhankasa UG mine project for normative capacity of 1.00 MTPA and peak capacity of 1.25 MTPA.
Details of changes in land use is provided below:

Pre-mining land use details

Sl. No.	Particulars	Government land (ha)	Tenancy land (ha)	Forest land (ha)	Total (ha)
1.	All Rights	1.463	85.903	206.927	294.293
2.	Surface Rights	-	33.520	-	33.520
3.	Mining Rights	13.882	62.042	178.914	254.838
	Total	15.345	181.465	385.841	582.651

Post Mining –
The land below which UG mining is proposed, would be adequately reclaimed if any damage is observed. The land over which surface infrastructure would be made, is proposed to dismantled at the closure of the mine and land reclaimed thereafter would be properly reclaimed.
As per approved Mine Closure Plan the activities to be done after the closure of the mine were:
- Dismantling of Residential and industrial structures.
- Subsidence management for 3 year
- Landscaping of cleared land for improving its aesthetics
- Plantation over cleared area obtained after dismantling and on other barren spaces.
- Post closures environmental monitoring for 3 years
- Supervision of the abandoned site.

(x) Total geological reserve reported in the mine lease area is 54.031 MT with 44.421 MT mineable reserves. Out of total mineable reserve of 44.421 MT, 19.00 MT are available for extraction. Percent of extraction is 43 %.
(xi) Two seams (Seam II & IV) with thickness ranging from 3.50 m – 4.75 m are workable (excluding intervening parting). Grade of coal is G-7, stripping ratio - Not applicable, Degree of gaseousness is Degree-I while gradient is 1 in 14.
(xii) Method of mining operations envisages Bord and Pillars with continuous miners
(xiii) Life of mine is 23 Years.
(xiv) The details of OB dumping (External and Internal) is not applicable as it is a underground mine
(xv) Quarry details, Final mine void details is not applicable as it is a underground mine.
(xvi) Transportation of coal has been proposed by conveyor belt upto surface, from surface to siding by tippers/dumpers and at sidings by payloaders.
(xvii) Reclamation details (External dump & internal dump)- Not applicable as it is underground mine, however Green belt in 10.00 ha area around infrastructure buildings, Roads and in safety zone has been developed

- Stage – I Forestry clearance of 385.841 ha has been obtained vide letter no. F.No.8-45/2017-FC dated 02-01-2018.

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

(xix) The ground water level has been reported to be varying between 6.90 m to 7.80 m during pre-monsoon and between 1.50 m to 2.10 m during post-monsoon (core zone). Total water requirement for the project is 952 KLD.
(xx) Application for grant of NOC for dewatering of Groundwater has been submitted to CGWA through online portal vide no: 21-4/844/MP/MIN/2019 dated 27-04-2019.
(xxi) Public hearing for the project of normative capacity of 1.00 MTPA and peak capacity of 1.20 MTPA in an area of 582.65 ha was conducted on 02.03.2009 at Dhankasa village, Amarwada Tehsil, Chhindwara, Madhya Pradesh. Major issues raised in the public hearing includes:

- Employment to local populace
- Welfare/CSR works like construction of School, temple, roads connecting Villages, playground, culverts, BSNL tower, drinking water facilities in surrounding villages etc.
- Plantation for air pollution control
- Tarpaulin covering of coal transportation trucks
- Environment Protection during coal mining (air, water pollution control measures)

Against the Public notice dated 04.07.2018, No comments/suggestions received.
(xxii) Consent to Operate – not applicable as its new project
(xxiii) River/Nallah flowing near or adjacent to the mine- Southerly flowing perennial Gunor River and Dhankasa Nallah flowing westerly is a tributary to Gunor River.
(xxiv) One season Baseline monitoring was carried out in summer 2005. Subsequently, as directed by EAC in its 44th meeting held in 24.04.2019, one month baseline data has been generated in May-June, 2019. The recorded values have been found to be within permissible limits.
(xxv) No court cases, violation cases are pending against the project of the PP pertaining to environment.
(xxvi) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. No excess production of coal from the sanctioned capacity has been realized.
(xxvii) The project involves 50 land losers, No village rehabilitation involves.
(xxviii) Total cost of the project is Rs. 458.066 crore. Cost of production is Rs.1545.67 /- per tonne., CSR cost is Rs 2 per tonne, R&R cost – Not applicable. Environment Management Cost is Rs. 1.18 Cr. (capital) has been provisioned.

47.1.3 The proposal was earlier considered by the EAC in its meeting held on 17-18 May, 2018 and on 24-25 April, 2019 wherein observations of the Committee were as below

(a) The proposal is for environmental clearance to Dhankasa Underground coal mining project Coal of 1.2 MTPA in a total area of 582.651 ha of M/s Western Coalfields Limited located in Pench Kanhan Coalfields, District Chhindwara (Madhya Pradesh).

(b) Out of the total project area of 582.651 ha, forest land involved is 385.841 ha. Stage-I forest clearance has been obtained vide letter dated 2nd January, 2018 for its diversion to non-forestry purposes.

(c) Mining Plan was approved by CIL Board vide letter dated 17th August, 2016. Mine closure plan is an integral part of the approved Mining Plan.

(d) Terms of reference for the project was granted on 11th December, 2008 and the public hearing was conducted by SPCB on 2nd March, 2009. The proposal for environmental clearance was first considered by the EAC in its meeting held on 28-29 October, 2009, wherein the Committee expressed concerns over the coal mine (one of 68 coal blocks/mines in Pench Kanhan Coalfield) located between the Pench and Satpura Tiger Reserves and thus requiring

clearance, if any, under the Forest (Conservation) Act, 1980 and/or the Wildlife (Protection) Act, 1972.

(e) Based on the report prepared by the WII Dehradun and subsequent recommendations of the Forest Advisory Committee, the decisions taken by the Ministry regarding EC & FC to coal mining projects in Pench-Kanhan Coalfield in District Chhindwara (MP) vide OM dated 17th June, 2011, included the following:-

(i) As per the boundary of the viable wildlife corridor between Pench and Satpura tiger Reserves identified by the WII, Dehradun, out of the total 68 coal blocks located in Pench-Kanhan Coalfield, ten coal blocks bearing number 55 (Rakhikol), 58 (Nandan-II), 50 (Bansi), 60 (Dahu North), 61 (Rakhinala), 62 (Dahu Extn), 63 (Koyalwari), 64 (Tandsi South), 65 (Tandsi North), 66 (Tambia), 67 (Tandsi-III) and 68 (Dhanwa) are located within the migratory corridor between Pench and Satpura tiger Reserves.

(ii) The minimum width of the corridor identified by the WII Dehradun is approx 3 km.

(iii) No approval under the Forest (Conservation) Act, 1980 or the Environment (Protection) Act, 1986 may be accorded for undertaking mining in any of the said ten coal blocks located within the above corridor.

(iv) In case mining is already being undertaken in any of the said ten coal blocks located within the migratory corridor, no approval under the Forest (Conservation) Act, 1980 or the Environment (Protection) Act, 1986, for renewal of mining lease may be accorded. The mining in these mines shall be closed after expiry of the current mining lease after reclamation of the mined over area. The operating mines may be analyzed and monitored for compliance of conditions having bearing with movement of wildlife.

(f) Having resolved that the Dhankasa coal mine is not located within the migratory corridor between Pench and Satpura Tiger Reserves, the proposal for environmental clearance was again considered by the EAC in its meeting held on 18-19 July, 2011 & 26-27 September, 2011. The Committee recommended the project for grant of EC in its meeting held on 26-27 September, 2011. However, there being no stage-I forest clearance for the forest land of 385.841 ha, the proposal was not taken forward and the project proponent were asked by the Ministry vide letter dated 8th June, 2012 to furnish the stage-I FC to process the matter further.

The Committee, after detailed deliberations, observed that the public hearing was held on 2nd March, 2009, and a long period has since been lapsed. Therefore, public comments/suggestions from the project affected people (PAP) may be invited by publishing the notice in local newspapers/ company website and providing 4 weeks' time for the public to submit their comments/suggestions for further course of action

47.1.4 The EAC during its meeting on 24-25 April, 2019 observed that the baseline data used for preparation of EIA/EMP report was collected during the year/period 2005, which is not in conformity with the extant norms/guidelines of the Ministry in this regard. The Committee also noted that no proposal was submitted to the concerned regulatory authority for abstraction of ground water.

The Committee, after detailed deliberations, insisted for collection of one month baseline data for preparation of an addendum to the EIA/EMP report, and also submission of the proposal for extraction of mine water and/or ground water.

47.1.5 During deliberations on the proposal, the Committee noted the following

The proposal is for environmental clearance to Dhankasa Underground coal mining project Coal of capacity 1.2 MTPA (peak) in an area of 582.651 ha of M/s Western Coalfields Limited located in Pench Kanhan Coalfields, District Chhindwara (Madhya Pradesh).

Out of the total project area of 582.651 ha, forest land involved is 385.841 ha. Stage-I forest clearance has been obtained vide letter dated 2nd January, 2018 for its diversion to non-forestry purposes.

Mining Plan was approved by CIL Board vide letter dated 17th August, 2016. Mine closure plan is an integral part of the approved Mining Plan.

Terms of reference for the project was granted on 11th December, 2008 and the public hearing was conducted by SPCB on 2nd March, 2009. The proposal for environmental clearance was first considered by the EAC in its meeting held on 28-29 October, 2009, wherein the Committee expressed concerns over the coal mine (one of 68 coal blocks/mines in Pench Kanhan Coalfield) located between the Pench and Satpura Tiger Reserves and thus requiring clearance, if any, under the Forest (Conservation) Act, 1980 and/or the Wildlife (Protection) Act, 1972.

In view of compliance of earlier the observations and recommendations of the EAC, public comments/suggestions were invited by publishing the notice in Local newspapers viz. Navbharat (English) and Divya Express (Hindi) on 4th July, 2018 as well as company's website for 4 weeks. No comments/suggestions from the public were received within the 4 weeks time.

In compliance of EAC's observation on 24-25 April, 2019, Project proponent has submitted a one month (from May-2019 to June-2019) baseline data (Ambient Air Quality, Water Quality and Noise Level). PM10, PM2.5, SO2 & NOx were monitored at five villages in core and buffer zone of Jamuniya UG mine. Heavy metals such as Arsenic, Lead, Nickle, Chromium and Cadmium in ambient air quality was also monitored. Water Quality was monitored at 4 location from open well, hand pump. Noise level was monitored at 10 locations. Application for obtaining NOC from Central Ground Water Authority has been made to Central Ground Water Authority on 27th April, 2019 vide Application No. 21-4/844/MP/MIN/2019.

47.1.6 *The EAC, after detailed deliberations, recommended for grant of environmental clearance to Dhankasa UG coal Mining Project of capacity 1 MTPA (Normative)/1.20 MTPA (Peak) of M/s Western Coalfields Limited in ML area 582.651 ha located in District Chhindwara, (MP), subject to compliance of the terms & conditions and environmental safeguards mentioned below:*

- *Production plan/scheduled as mentioned in the approved Mining Plan shall be adhered to.*
- *The project proponent shall obtain Consent to establish from the State Pollution Control Board for capacity of 1.20 MTPA prior to commencement of the increased production.*
- *Transportation of coal from face to coal heap shall be carried out by belt conveyor. Further, the coal transportation from coal heap to Coal Handling Plant shall be carried out through covered trucks.*
- *Mitigating measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- *Sufficient coal pillars shall be left un-extracted around the air shaft (within the subsidence influence area) to protect from any damage from subsidence, if any.*
- *Solid barrier shall be left below the roads falling within the block to avoid any damage to the roads and no depillaring operation shall be carried out below the township/colony.*
- *Depression due to subsidence resulting in water accumulating within the low lying areas shall be filled up or drained out by cutting drains.*
- *Regular monitoring of subsidence movement on the surface over and around the working area and impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings should be continued till movement cases completely. In case of observation of any high rate of subsidence movement, appropriate effective corrective measures should be taken to avoid loss of life and materials. Cracks should be effectively*

plugged with ballast and clay soil/suitable materials.

- *Garland Surface drains (Size, gradient and length) around the safety areas such as mine shaft and low lying areas and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rain fall and maximum discharge in the area adjoining the mine sites. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sufficient number of pumps of adequate capacity shall be deployed to pump out mine water during peak rain fall.*
- *Sufficient number of pumps of adequate capacity shall be deployed to pump out mine water during peak rain fall.*
- *The company shall obtain approval of CGWA for use of groundwater for mining operations at its enhanced capacity of 1.20 MTPA.*
- *Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.*
- *A third party assessment of EC compliance shall be undertaken once in three years through agency like ICFRI /NEERI/IIT or any other expert agency identified by the Ministry.*

Agenda No.47.2

Proposed 2x2 MTPA Coal Washery in an area of 8.195 ha of M/s CG Coal & Power Limited located at Village Batari, Tehsil Khatgora, District Korba (Chhattisgarh) - Environmental Clearance

[IA/CG/CMIN/25774/2014; F. No- J-11015/512/2014-IA.II (M)]

47.2.1 The proposal is for environmental clearance to the project for setting up coal washery (wet process) of 2 x 2 MTPA capacity by M/s CG Coal & Power Ltd in an area of 8.195 ha, located in village Batari, Tehsil Khatgora, District Korba (Chhattisgarh).

47.2.2 The proposal was earlier considered by the sectoral EAC in its meeting held on 24-25 April, 2019, wherein the Committee desired for information in respect of the following:-

- Carrying capacity of the road for the increased traffic due to transportation of Raw/washed coal from NH to Bilaspur Pali and 400 m stretch of village road.
- MoUs/agreements for linkage of washed coal to the potential consumers
- Land records and actual possession of land for the proposed washery
- Permission for withdrawal of groundwater from CGWB, if so required
- Traffic density study to be carried out and air pollution modeling due to movement of trucks
- Proper EMP to address the air quality concern and/or impact on nearby areas (to Kanya ashram)
- Disposal of washery rejects in conformity with the extant norms/guidelines in this regard.

47.2.3 In response to the above observations of EAC, para-wise replies submitted by the project proponent are as under:-

S. No.	Observations	Comments/Compliance
1	Carrying capacity of the road for the increased traffic due to transportation of Raw/washed coal from NH to Bilaspur Pali and 400 m stretch of village road.	• The existing road width of 400m stretch is 3.5 meter. Application submitted to PWD, Korba, Chhattisgarh in order to get desired information to strengthen road and estimate. • After proposed implementation the road

		widening, width of road will be 14.85 M and 40 Ton (max.) trucks can be easily plied. • Detailed information with budget given by PWD department are provided • Request letter for NOC to construct road from gram panchayat - panchayat given in Annexure • NOC letter from gram panchyat • The details of existing and proposed traffic load provided
2	MoUs/agreements for linkage of washed coal to the potential consumers	• Proposed coal washery is situated nearer to the pit head of the existing operational coal mines of SECL on Korba-Bilaspur-Pali Road and most of the successful bidders having FSA with SECL or procuring coal by road mode from SECL coal mines in spot e-auction, forward e-auction, exclusive e-auction, special e-auction, are transporting their coal through Korba – Bilaspur - Pali road. • Further, the company is hopeful for getting requisite raw coal from the aforesaid parties for washing. Presently, some of the prospecting job providers are reluctant and afraid to execute any kind of MOU, without physical existence /establishment of coal washery. • We assure to submit copies of MOU on receipt of EC MoEF&CC, New Delhi and after commissioning the proposed coal washery before commencement of operations
3	Land records and actual possession of land for the proposed washery	• The copy of lease deed dated 25th February, 2008 for 10.25 acre of land is provided • The copy of lease deed dated 2nd June, 2014 for 10 acre of land is provided • Possession letter of 10.25 acre on 3rd October, 2007 and 10 acre on 6th September, 2014. • Khasra No of 20.25 acre of land is provided
4	Permission for withdrawal of groundwater from CGWB, if so required	• Water requirement is 1300 KLD which will be sourced from Fulzar Anicut (Surface Water). • Water Allocation (Sanctioned) letter dated 6th February, 2018 obtained from Water Resources Department Chhattisgarh from drawl of 1300 m3/day is provided • No Ground water required for the proposed coal washery. Hence CGWB permission not required.
5	Traffic density study to be carried out and air pollution modeling due to	• The volume of transport due to the proposed activity and the impact on the surrounding

	movement of trucks.	area studied. • It is estimated that around 656 Trucks per day will be plying over the road. • AERMOD model was used for this study • The cumulative conc. levels (ambient + proposed incremental) revealed that the conc. Levels for PM, NOx and CO likely to be encountered in the operation of the project occurring at 0.5 to 2 km distance in SE direction with a concentration level of 57.14234 ug/m3 22.02824 ug/m3 and 396.415 ug/m3 respectively.
6	Proper EMP to address the air quality concern and/or impact on nearby areas (to Kanya ashram)	Mitigation measures proposed are as follows:- • Sensor based water sprinkling will be installed at loading, unloading, internal roads etc • Jet Sprinklers (automatic) to control fugitive emission will be there. • Retention wall of 25 feet height over 335 running common boundary will be constructed. • Arrangement of washing of wheels of the transportation vehicles. • Closed internal belt conveyors will be provided • Fixed water sprinklers for coal stockyard • Provision of Bag filters at coal crusher will be provided
7	Disposal of washery rejects in conformity with the extant norms/guidelines in this regard	• ~0.80 MTPA washery reject coal will be generated out of which 0.02 MTPA shall be used for land filling and road construction activities, whereas 0.78 MTPA will be sold to power plant/other user industries. • M/s. CG Coal & Power Ltd. have made MoU with DB Power Ltd for procurement/purchase of 8,00,000 tons of washery reject coal • The rejects will be transported by road through covered trucks up to user Industries and/or by covered truck up to railway siding and then loaded in wagons. • Thus, entire washery reject coal will be utilised in the power generation and there will not be any coal rejects storage or disposal required from the proposed coal washery.

47.2.4 During deliberations on the proposal, the EAC took note of the order dated 10th July, 2019, passed by Hon'ble NGT, Principal Bench, New Delhi in OA No.1038 of 2018 in the matter of News item published in the Asian Age authored by Sanjay Kaw titled 'CPCB to rank industrial units on pollution levels'.

Para 28 of the said order quotes-

'No further industrial activities or expansion be allowed with regard to 'red' and 'orange' category units till the said areas are brought within the prescribed parameters or till carrying capacity of area is assessed and new units or expansion is found viable having regard to the carrying capacity of the area and environmental norms.'

The Committee further noted that for utilization of washery rejects (0.8 MTPA) in the proposed power plant of M/s DB Power Ltd, the project proponent should explore for MoU with other potential consumers due to delay in its installation/commissioning, and also to utilize all the rejects for power generation rather than in proposed landfilling. The Committee also desired for further study in respect of impact on habitation/nearby villages (Village Batari) due to truck movement along approach road near washery. The Committee asked the project proponent to submit timelines for compliance of the conditions stipulated by Water Resources Department, Government of Chhattisgarh and source of water during lean period (mainly in summer season) of proposed water sources.

47.2.5 *The EAC, after deliberations and especially in view of the project site in Korba, Chhattisgarh (having CEPI score 57.57) covered under the said orders of NGT, preferred not to take the proposal forward for the present, but to seek advice of the Ministry for appropriate course of action in such cases. The Committee also opined that in case, such proposals are to be considered on merits, environmental conditions and other stringent measures would have to be looked into comprehensively in complete perspective and in consultation with CPCB.*

Meanwhile, the project proponent shall address observations of the EAC as stated in para 47.2.4 above. The proposal was, therefore, deferred

Agenda No.47.3

Siarmal Opencast coal mining project of 40 MTPA (Normative)/50 MTPA (peak) of M/s Mahanadi Coalfields Limited in mine lease area of 2475.47 ha located in District Sundargarh (Odisha) - Environmental Clearance

[IA/OR/CMIN/24164/2014; F.No. J-11015/230/2014-IA-II(M)]

47.3.1 The proposal is for environmental clearance to Siarmal Opencast coal mining project of capacity 50 MTPA of M/s Mahanadi Coalfields Ltd in mine lease area of 2290.45 ha located in Tehsil Himgir, District Sundargarh (Odisha).

47.3.2 The details of the project, as per the documents submitted by the project proponent, and also as informed during the meeting, are reported to be as under: -

i) Earlier, the ToR for Siarmal Opencast Coal Mining project of 40 MTPA (normative)/50 MTPA (peak) in a total area of 2475.47 ha (mine lease area 2185.47 ha) was granted vide letter dated 20th February, 2015 for preparation of EIA/EMP report along with the public hearing.
ii) Further, Proposal for validity extension and amendment in the said ToR due to change/increase in project area from 2475.47 ha to 2580.45 ha granted on 09.07.2018.
iii) Now the proposal is for grant of Environment Clearance for the Mining lease area of 2290.45 Ha
iv) Siarmal area is bounded between latitude(s) 22°01' 19" to 22° 03' 59.99" North and longitude (s) 83° 37' 09" to 83°42' 49.58" East respectively.
v) Joint Venture: There is no JV

vi) Coal Linkage: Basket Linkage
vii) Employment generated / to be generated: 3773 direct employment likely to be generated.
viii) Benefits of the project: (i) Improvement in physical and social infrastructure like roads, school building, provision of drinking water, community hall, plantation etc. (ii)Increase in employment potential (iii) Contribution to the Exchequer (both State and Central Govt.)(iv) Improvement of Electrical Power Generation and availability of electricity in rural areas (v) Overall economic growth of the country.
ix) The total project area is 2580.45 ha. Mining lease area as per the approved Mining Plan is 2290.45 ha with the land use details as under: -

Sl. No	Type of Land	Within ML area	Outside ML area	Total Area
1.	Agricultural	1382.408	0	1382.408
2.	Forest	349.709	0	349.709
3.	Waste land	126.216	0	126.216
4.	Grazing	131.789	0	131.789
5.	Surface water bodies	48.227	0	48.227
6.	Settlements	44.970	0	44.970
6.	Others	207.131	0	207.131
Total for mining lease area:		2290.45	0	2290.45

PRE-MINING

Sl. No	Item	Forest (ha)	Non-Forest (ha)	Total Area (ha)
1.	Quarry excavation	249.58	1296.74	1546.32
2.	External OB Dump	17.40	368.68	386.08
3.	Embankment	18.00	10.30	28.3
4.	Safety zone	3.93	14.662	18.592
5.	Infrastructure, Undisturbed Blasting Danger Zone incl future exp area	60.799	250.358	311.157
A	Mining lease area	349.709	1940.74	2290.45
6.	Residential colony	-	70	70
7.	Rehabilitation site	-	140	140
8.	Diversion of highway	-	28	28
9.	Rail link from project to Jharsuguda	-	52	52
B	Total outside mine lease area (6 to 9)	-	290	290
	Total Project Area	349.709	2230.74	2580.45

POST-MINING

Sl. No.	Land Use Category	Land use in Ha.				
		Partially filled Left out void / water body	Afforested / grass carpeting	Land to be converted into grassland / Agriculture	Undisturbed Built up area	Total

1.	Quarry excavation area	549.69	409.99	586.64	--	1546.32
2.	Safety zone	--	18.59	--	--	18.59
3.	OB dump (external)	--	386.08	--	--	386.08
4.	Embankment	-	18.0	--	10.3	28.3
5.	Infrastructure	--	8.00	--	34.82	42.82
6.	Blasting danger zone & other future exp area	--	74.41	--	193.93	268.34
	Total	549.69	915.07	586.64	239.05	2290.45

x) Total net geological reserve is 1895.43 MT, minable reserves 1618.21 MT and extractable reserve is 1547.82 MT. The percent of extraction would be 95.65%

xi) The coal grade is G11. The stripping ratio is 1.47 cum/tonne.

xii) There are 16 nos. of major coal seams with maximum thickness up to 27 m.

xiii) The total estimated water requirement is 10704 cum/day. The level of ground water ranges from 0.30 m to 8.42 m below ground level. The potable water requirement of 2204 cum/day will be met through the weir constructed over Basundhara river till Integrated Water Supply Scheme (IWSS) for the project is implemented.

xiv) The method of mining will be done by surface miner and OB removal by shovel dumper combination.

xv) There will be only two external OB dump with quantity of 184.72 Mm3 in an area of 386.08 ha with height of 82-85 m above the surface level. There will be only two internal dumps with quantity of 2007.79 Mm3 in an area of 996.63 ha with height up to ground level.

xvi) There will be mine void of 549.69 ha with a maximum depth 155 m post-closure. Total quarry area is 1546.32 ha. Backfilled quarry area of 996.63 ha shall be reclaimed with plantation/ grass carpeting.

xvii) The life of mine is 38 years.

xviii) Transportation: In pit: Part by dumper & part by in pit conveyor system; Surface to siding by Conveyor transport and Siding to loading through Pay loader/ silo to rail wagon by rapid loading system.

xix) The R&R is being carried out under the direction of “Claims Commission” set up by Hon’ble Supreme Court for the purpose. Total R&R cost is 378.04 Cr. There are about 2953 Project Affected Families (PAFs). Total land required for Rehabilitation site is 140 Ha. Resettlement colony will be provided with all infrastructure facilities like roads, dug wells, tube wells, play ground, schools, community center, dispensary, shopping center, etc

xx) Cost: Total capital cost of the project is Rs. 3756.36 Crores.

xxi) CSR Cost: Fund for CSR will be allocated based on 2% of the average net profit of the company for the three immediately preceding financial years or Rs. 2.00 per tonne of coal production of the previous year whichever is higher.

xxii) Water body: Project is bounded by Basundhara & Telendra nallah in the north and Chattarjhor in the East.

xxiii) Approvals: Application for issue of NOC for ground clearance has been applied to CGWA, GOI vide Application no. 21-4/ 2256/OR/MIN/2019 dt: 27th April, 2019

xxiv) Wildlife issues: There are no national Parks, wildlife sanctuary, biosphere reserves in the 10 km buffer zone.

xxv) Forestry issues: Total forest area involved 349.709 ha. Application for forest diversion of 349.709 ha has been made online vide proposal no. FP/OR/MIN/32796/2018.

xxvi) Total afforestation plan: Reclaimed external OB dump in 386.08 Ha, which will be rehandled back into quarry during mine closure. Internal dump in 996.63 Ha (Post Closure). 409.99 Ha will be afforested and the remaining 586.64 Ha is proposed to be converted into grass land/ Agriculture. Density of tree plantation proposed to be 2500 trees/ ha of plants. A void of 549.69 ha with depth of 155 is proposed to be converted into a water body.

xxvii) There are no court cases/violation pending with the project proponent.
xxviii) Baseline Data has been generated for the period of November, 2017 to February, 2018 and average values of all the parameters are well within permissible limit.
xxix) Public Hearing has been conducted on 3rd January, 2019
xxx) The Mining Plan & Mine Closure Plan of proposed Siarmal OCP has been approved by MCL board in its 198th meeting held on 31st January, 2018.

47.3.3 During deliberations on the proposal, the Committee noted the following: -

The proposal is for environmental clearance to Siarmal Opencast Coal mining project of capacity 50 MTPA (peak) of M/s Mahanadi Coalfields Ltd in an area of 2290.45 ha located in Tehsil Himgir District Sundargarh (Odisha).

Total project area of 2290.45 ha includes forest area of 349.709 ha, Application for forest diversion of 349.709 ha has been made online vide proposal no. FP/OR/MIN/32796/2018, is under process.

Earlier, ToR for the project in mine lease area of 2290.45 ha was granted on 9th August 2018 subject to compliance of terms and conditions as specified/notified in the standard ToR applicable for opencast coal mines. Validity of the said ToR was extended till 20th February, 2019, along with amendment therein due to the project area increased to 2580.45 ha vide letter dated 9th July, 2018. Now the proposal is for environmental clearance in an area of 2290.45 ha.

The Mining Plan & Mine Closure Plan of proposed Siarmal OCP has been approved by MCL board in its 198th meeting held on 31-01-2018 for rated capacity of 50 MTPA with total Mine Closure cost of Rs. 61474.4870 lakh compounded @ 5% annually for 38 years.

Public Hearing has been conducted on 3rd January, 2019. Advertisement regarding public hearing was published on 1st December, 2018 in The New Indian Express (English daily) and Dharitri (Odiya daily). The public hearing was chaired by Shri Bhaskar Chandra Turuk, Additional District Magistrate, Sundergarh in presence of Shri Niranjan Mallick (RO, SPCB, Jharsuguda).

Baseline Data was generated during the period of November, 2017 to February, 2018 and average values of all the parameters are well within permissible limit.

47.3.4 The Committee took note of the order dated 10th July, 2019, passed by Hon'ble NGT, Principal Bench, New Delhi in OA No.1038 of 2018 in the matter of News item published in the Asian Age authored by Sanjay Kaw titled 'CPCB to rank industrial units on pollution levels'.

Para 28 of the said order quotes-
'No further industrial activities or expansion be allowed with regard to 'red' and 'orange' category units till the said areas are brought within the prescribed parameters or till carrying capacity of area is assessed and new units or expansion is found viable having regard to the carrying capacity of the area and environmental norms.'

The Committee observed that baseline data for air quality should have been presented in range (Min-Max), rather than average values. Also, air quality modelling and the evaluation of impacts should be based on worst case scenario. It was also observed that certain specific conditions of the ToR were not complied with, which inter-alia includes revision of mining plan (condition no.vi), carrying capacity, etc.

47.3.5 *The EAC, after deliberations and especially in view of the project site in Ib Valley (having CEPI score 66.35) covered under the said orders of NGT, preferred not to take the proposal forward for the present, but to seek advice of the Ministry for appropriate course of action in such cases. The Committee also opined that in case, such proposals are to be considered on merits, environmental conditions and other stringent measures would have to be looked into comprehensively in complete perspective and in consultation with CPCB.*

Meanwhile, the project proponent shall address observations of the EAC as stated in para 47.3.4 above. The proposal was, therefore, deferred

Agenda No.47.4

Expansion of Marki Mangli-I Coal Mine from 0.30 MTPA to 0.333 MTPA (Normative) / 0.42 MTPA (Peak) of M/s Topworth Urja and Metals Ltd without change in Lease hold area, Mining Method - Environmental Clearance

[IA/MH/CMIN/96726/2005, F.No. J-11015/256/2006-IA.II(M)]

The project proponent sought for relief for not attending the EAC meeting. Therefore, the proposal was not taken up for consideration.

Agenda No.47.5

Himgir coal washery Project for (5 MTPA) in an area of 13.52 ha of M/s ACB (INDIA) Limited located in Tehsil Hemgir, District Sundargarh (Odisha) - Amendment in Environmental Clearance

[IA/OR/CMIN/82320/2009; F.No. J-11015/925/2007-IA-II(M)]

47.5.1 During deliberations, the EAC noted the following:-

The proposal is for amendment in environmental clearance dated 22nd June, 2009 granted by the Ministry in favour of M/s Aryan Coal Beneficiation Pvt Ltd to Himgir coal washery of capacity 5 MTPA in an area of 13.52 ha located in Tehsil Hemgir District Sundargarh (Odisha).

The proposal has been submitted by M/s ACB (India) Ltd for amendment in the said EC in respect of the following:-

Specific Condition No.(ii) - *'The proponent shall establish a closed conveyor system within 3 (three) years for transportation of washed coal between the Washery and the Railway Siding at Himgir and prior Forestry Clarence shall be obtained under the Provisions of the FC Act, 1980*.'

Specific Condition No.(iii) - *'The entire coal rejects shall be used in an FBC based TPP. The linked FBC based Thermal Power Plant shall be commissioned within two years of operation of the washery.'*

M/s ACB (India) Ltd has now requested for extending timelines for installation of closed conveyor system due to delay in Forest Clearance and acquiring of said forest land after Stage-2 Forest Clearance. Further, it is requested that company may be permitted to dispose coal rejects generated at washery for utilizations in Thermal power plants (TPP) and Boiler based industries other than previously linked FBC based TPP of M/s Aryan Ispat and Private Limited as it was not installed yet, and thus amendment in the EC accordingly.

The proposal was earlier considered by the EAC in its meeting held on 21st February, 2019, wherein the Committee had asked the project proponent for transfer of the said EC from M/s Aryan Coal Beneficiation Pvt Ltd to M/s ACB (India) Ltd.

The said EC dated 22nd June, 2009 from M/s Aryan Coal Beneficiation Private Limited to M/s ACB (India) Limited was transferred on 23rd April, 2019 by the Ministry.

47.5.2 *The EAC, noted that the proposed closed conveyor system for transportation of washery rejects and the FBC based thermal power plant for utilization of rejects, as stipulated in the said EC, were yet to be installed and/or commissioned. The washery still in operation, the Committee observed the same to be a serious non-compliance of the EC conditions.*

In view of the above, the proposal was not taken forward and the EAC desired that the Ministry may take appropriate action for the said non-compliance as per the extant norms/guidelines.

Agenda No.47.6

Jalgam Vengalrao 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 (Andhra Pradesh) - Amendment in Environmental Clearance

[IA/TG/CMIN/84096/2007; F.No.J-11015/268/2007-IA.II(M)]

47.6.1 During deliberations, the EAC noted the following

The proposal is for amendment in environmental clearance dated 28th March, 2010 granted by the Ministry in favour of M/s The Singareni Collieries Company Ltd (SCCL) to 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).

One of the specific conditions stipulated in the EC at para 2(A) (viii) quotes -
'No coal transportation shall be undertaken by road.'

Earlier, M/s SCCL requested for amendment in the EC to modify above condition and to permit coal transport by road to the linked customers till the railway line is completed. The EAC in its meeting held on 14th August, 2014 recommended the proposal stating that the railway line should come into operation within a period of three years and until that time, the coal may be transported by road with mechanically covered trucks. Any formal communication in this regard was, however, not received by the project proponent from this Ministry.

The project, however, could be commissioned only on 1st September, 2017 after diversion of forest land and obtaining other statutory permissions.

As the commencement of coal transport by rail mode will take another two years period, M/s SCCL has requested to extend validity period of modification already granted for a further period of two years. The coal production from the mine was started from the year 2017 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 2017-18 onwards, is as under.

Year	EC Capacity (MTPA)	Actual Production (MTPA)	Excess production beyond the EC sanctioned capacity (MTPA)
2017-18	5.0	0.75	Nil

2018-19	5.0	2.95	Nil

47.6.2 *The EAC, after deliberations, observed that the condition stipulated in the EC dated 28th March, 2010 prohibiting coal transportation by road, still stands in view of no approval for amendment in the said EC by the competent authority. The project has been in operation since 1st September, 2017 and coal transportation still continuing by road, the Committee observed the same to be a serios non-compliance of the EC conditions.*

In view of the above, the proposal was not taken forward and the EAC desired that the Ministry may take appropriate action for the said non-compliance as per the extant norms/guidelines.

Agenda No.47.7

Cluster-IV (Group of 5 mixed mines) Coal Mining Project from 3.706 MTPA to 9.55 MTPA of M/s Bharat Coking Coal Limited in Mine Lease area of 1123.79 ha in District Dhanbad, (Jharkhand) - For continuation of EC

[IA/JH/CMIN/109911/2019, F.No. J-11015/692/2007-IA-II(M)]

47.7.1 The proposal is for continuance of EC (beyond 16th July, 2019) granted by the Ministry to Cluster-IV (Group of 5 mixed mines) Coal Mining Expansion Project from 3.706 MTPA to 9.55 MTPA of M/s Bharat Coking Coal Limited in mine lease area of 1123.79 ha in District Dhanbad (Jharkhand).

47.7.2 During deliberations, the EAC noted the following:-

The project was granted environmental clearance by the Ministry vide letter dated 16th July, 2018, subject to compliance of certain terms and conditions, inter-alia including the following:-

"Environmental Clearance shall be valid for a period of one year from the date of issue of this letter. Further extension of the project shall be based on evaluation of the action taken on each of the observations of this Ministry's Regional Office, Ranchi during their visit on 22nd August, 2016".

The Ministry's Regional Office at Ranchi has conducted site inspection of the project site on 17-18th May, 2019 to monitor status of compliance of the conditions stipulated in environmental clearance dated 16th July, 2018, and submitted report on 22nd June, 2019. The project proponent has, however, not submitted any action taken report to the Regional Office on their observations.

47.7.3 *The EAC, after detailed deliberations and duly considering observations of the Ministry's Regional Office in their letter dated 22nd June, 2019, recommended for continuance of the project beyond 16th July, 2019 and validity of environmental clearance dated 16th July, 2018 for a period of 30 years or life of the mine, whichever is earlier, subject to the terms and conditions stipulated therein remaining the same.*

Agenda No.47.8

Pakri Barwadih Coal Mines Project for change in mining sequence and transportation of coal by road from Crusher Point to the Banadag Railway Siding of M/s National Thermal Power Corporation - Amendment in Environmental Clearance

[IA/JH/CMIN/82224/2018, F.No. J-11015/38/2007-IA.II(M)]

47.8.1 The proposal is for seeking extension of EC amendment vide letter dated 29th June, 2016 for a further period of one year on the same terms and conditions for extraction of balance coal reserves of 0.65 Mt from Eastern Quarry of Pakri Barwadih Coal Block, removal of overburden of 0.4 Mcum and disposal at identified location in de-coaled area.

47.8.2 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) Earlier, the Environment Clearance for Pakri Barwadih Coal Mine project (15 MTPA from West & East Quarry) was obtained under EIA Notification, 2006 vide Ministry's letter No.J-11015/692/2007-IA-II(M) dated 19th May, 2009 for 15 MTPA in mine lease area of 3319 ha and subsequently amendments dated 29.06.2016, 07.12.2017 and 14.08.2018.
(ii) Total mining lease area as per block allotment is 4695 ha. Mining Plan (Including Progressive Mine Closure Plan) for 15 MTPA (West and East Quarry) has been approved by Ministry of Coal on 26.08.2006 and Revised Mining Plan (including the NW area) for a rated capacity of 18 MTPA was approved by MoC vide letter dated 07.03.2016.
(iii) Transportation of coal has been proposed by dumpers within mine from surface to Banadag Railway Siding by 20T-40T dumpers through Service Road of NTPC and at sidings by Rail to various projects of NTPC.
(iv) Reclamation Plan covers an area of 4695 ha, which includes 1401 ha of undisturbed area, has out of which 1772 Ha has been proposed for green belt development.
(v) 1026.438 ha of forest land (for PB E & W) has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 1026.438 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter No.8-56/2009-FC dated 17th September, 2010.
(vi) Consent to operate (CTO) was obtained from the State Pollution Control Board vide ltr no. JSPCB/HO/RNC/CTO-3036797/2018/2054 and is valid till 31st December, 2023.
(vii) Three Nalla (Western Central and eastern) is flowing in North to South direction respectively. The nallah diversion studies has been carried out by CWPRS & will be diverted as per report & after approval of Water Resource Department of the State Government.

47.8.3 *The EAC, in the first instance, observed that the proposed extension of timelines as per the earlier amendment dated 29th June, 2016 in the said EC dated 19th May, 2009, would require revision of Mining Plan and its approval by the competent authority. The Committee however, after deliberations and in view of exposed coal seams and possibility of coal catching fire due to spontaneous heating, recommended further amendment in the EC only for extraction of balance coal reserves (0.65 MT) from Eastern Quarry, removal of overburden and its disposal at identified location within the mine lease area.*

Agenda No.47.9

Naini Coal Mining Project 10 MTPA, Washery 8.00 MTPA (Peak 9.00 MTPA) ha.in ML area 912.799 ha. M/s The Singareni Collieries Company Limited, located in, District Angul, (Odisha) - Terms of Reference

[IA/MP/CMIN/72632/2008; F.No. J-11015/451/2008-IA.II(M)]

47.9.1 The proposal is for ToR for Naini Coal Mine of 10 MTPA capacity in mine lease area of 912.799 ha. (783.275 ha is Forest Land and 129.524 ha is Non Forest Land) located in village Chhendipada, Tehsil Chhendipada, District Angul (Odisha).

47.9.2 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. 73 C/16 on R.F. 1:50000 and Special Topo Sheet Nos. L-11 and M-11 on the R:F 1: 10000 and is bounded by the geographical co-ordinates ranging from Latitudes 21°03'21" to 21°05'23" N and longitudes 84°52'56" to E 84°55'17" E.

(ii) Coal linkage of the project is proposed for STPP (Singareni Thermal power Project) situated at Jaipur, Telangana State.

(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, Permanent / Contractual employment to about 1523 persons (men on roll) will be provided from the project.

(vi) The project is reported to be beneficial in terms of socio-economics and improving living standards.

(vii) Earlier, Environment clearance to the project : Not applicable as it is a Green Field Project.

(viii) Total mining lease area as per block allotment is 912.799 ha. Mining Plan (Including Mine Closure Plan) has been approved by the MoC, GoI vide lr.no. 34011/14/2018-CPAM, dt.08.04.2019.

(ix) 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	112.762	-	112.762
2	Forest Land	783.275	-	783.275
3	Wasteland	-	-	-
4	Grazing Land	4.514	-	4.514
5	Surface Water Bodies	6.892	-	6.892
6	Settlements	3.591	-	3.591
7	Others (Specify)	0.881	-	0.881
8	Old Excavation Area (East Quarry)	-	-	-
9	Old Excavation Area (West Quarry)	-		-
10	Old OB Dumps	-	-	-
11	Roads & Mine Infrastructure	0.884	-	0.884
12	R & R Colony	-	-	-
13	Staff Colony	-	-	-
14	Green Belt	-	-	-
15	Balance Area	-	-	-
	Total Project Area =	912.799	-	912.799

*Lease for 912.799 ha of land is under process.

Post Closure Land Use Details (Area in ha)

S. No.	Land use		Land use (ha)				
		Plantation	Water Body	Public/ Company Use	Undisturbed	Forest Land (Returned)	Total
1.	External OB Dump	-	-	-	-		-
2.	Top Soil Dump	-	-	-	-		-
3.	Excavation						
	(i) Backfilled Area	11.314				468.232	479.54

							6
	(ii) Excavated Void		105.943			176.925 (Water body)	282.868
4.	Roads	0.833	-			40.06	40.893
5.	Built-up Area						
6.	Green Belt		-	-	-	28.006	28.006
7.	Undisturbed Area	-	-	-	-		-
8.	Safety Zone / Rationalization Area	5.082				40.857	45.939
9.	Diversion / Below River / Nala / Canal	-	4.560	-	-	14.489	19.049
10.	Water Body (Garland drains)		0.004			1.765	1.769
11.	Staff Colony	0	0	-	-		0
12.	Others/Embankment	1.788		-	-	12.941	14.729
	Total Area =	19.017	110.507	-	-	783.275	912.799

(x) Total geological reserve reported in the mine lease area is 455.18 MT with 378.64 MT mineable reserves. Out of total mineable reserve of 378.64 MT, 340.78 MT are available for extraction. Percent of extraction is 74.86 %.

(xi) 22 seams with thickness ranging from 0.9 m-16.40 m are workable. Grade of coal is in the range of G-4 to G14 (Average Grade is G-10). Stripping ratio 2.58 Cum of OB per 1 tonne of coal, while gradient is varying from 1 in 7 to 1 in 14.

(xii) Method of mining operations envisages is by Opencast method

(xiii) Life of mine is 38 years from 2018-19 (Including 2 years of construction period).

(xiv) The project has no external OB dumps. Temporarily OB will be accommodated in Coal Bearing area and subsequently re-handled during mining.

(xv) Total quarry area is 912.799 ha out of which backfilling will be done in 479.546 ha while final mine void will be created in an area of 282.868 ha with a depth of 210 m. Backfilled quarry area of 479.546 ha shall be reclaimed with plantation. Final mine void will be converted into water body.

(xvi) Transportation of coal has been proposed by Trucks / Dumpers in mine pit head, from surface to proposed siding by road and from the proposed railway siding to STPP is by rail.

(xvii) Reclamation Plan in an area of 912.799 ha, comprising of 479.546 ha of internal dump and 28.006 ha of green belt. The cumulative plantation area at Naini Coal Mine during Mining and Post closure stage is 593.787 ha.

(xviii) 783.275 ha of forest land have been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 783.275 ha of forest land for non-forestry purposes will be obtained and is under process now. Online application in Form-A for diversion of 783.275 Ha of forest land in Chhendipada RF was submitted to the Forest Department on 27.12.2017(Proposal no. FP/OR/MIN/30980/2017).

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

(xx) The ground water level has been reported to be varying between 2 m to 6 m below ground level in western parts and from 8 m-12 m below ground level in eastern parts during pre-monsoon and between 2.00 m to 12.20 m during post-monsoon. Total water requirement for the project is about 4000 KLD.

(xxi) Ground Water Clearance of the Naini Coal Mine is under process.

(xxii) Public hearing will be conducted. Appropriate action to address the issues raises during the Public Hearing will be taken care of.

(xxiii) Consent to Operate will be obtained after getting EC.

(xxiv) Three seasonal nallahs existing in the mine take area namely shiarimalia nallah, kudapos Nallah, Ullani nallah, are flowing within the boundary of the lease. These 3 nallahs will be diverted in consultation with the Water Resource Department of the State Government.
(xxv) Regular monitoring of ambient air quality will be monitored once the Project is commissioned.
(xxvi) No court cases, violation cases are pending against the project of the PP.
(xxvii) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. Not Applicable as it is a Green field project.
(xxviii) The project involves tentatively 670 project affected families & project displaced families. R&R of the PAFs/PDFs will be done as per prevailing Govt. Rules. Compensation to the land losers will be paid as per the directions of the State Govt.

- The capital required for sanction is tentatively works out to Rs.478.85 Crores up to the year of achieving rated capacity, i.e., 3rd year.
- Tentatively, about Rs. 200 Crores is phased beyond construction period for sustained operation of the project.
- Cost of production tentatively is Rs. 1036.03/- per tone and CSR cost is 2% of average net profits of the company made during last three years will be allocated for CSR at company level.
- Environment Management Cost:
  Direct cost is Rs. 20 Cr.
  Indirect cost is Rs. 10 Cr. &
  Revenue cost is Rs. 20 Lakhs/ Annum.

47.9.3 The Committee took note of the order dated 10th July, 2019, passed by Hon'ble NGT, Principal Bench, New Delhi in OA No.1038 of 2018 in the matter of News item published in the Asian Age authored by Sanjay Kaw titled 'CPCB to rank industrial units on pollution levels'.

Para 28 of the said order quotes-
'No further industrial activities or expansion be allowed with regard to 'red' and 'orange' category units till the said areas are brought within the prescribed parameters or till carrying capacity of area is assessed and new units or expansion is found viable having regard to the carrying capacity of the area and environmental norms.'

47.9.4 *The EAC, after deliberations and especially in view of the project site in Angul, Talcher (Odisha), covered under the said orders of NGT, preferred not to take the proposal forward for the present, but to seek advice of the Ministry for appropriate course of action in such cases. The Committee also opined that in case, such proposals are to be considered on merits, environmental conditions and other stringent measures would have to be looked into comprehensively in complete perspective and in consultation with CPCB. The proposal was, therefore, deferred.*

Agenda No.47.10

Modernization of Jamadoba Underground coal mine of 0.34 MTPA in ML area of 927.17 ha of M/s Tata Steel Limited at Jorapokhar, Puttiya Dungri village, Jharia Tehsil, Dhanbad (Jharkhand) - Amendment in Terms of Reference

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

47.10.1 The proposal is for amendment in ToR dated 30th November, 2017 for Modernization of Underground coal mining project of 0.34 MTPA capacity in mine lease area of 927.17 ha of M/s Tata Steel Limited located in village Jorapokhar, Dungri, Puttiya, Tehsil Jharia, District Dhanbad (Jharkhand).

47.10.2 Amendment in the ToR has been sought to revise the project details as under:-

(a) Para 3(ii) - Latitude and longitude of the project

	Latitude	Longitude
1.	23^0 41’ 53.03” N	86^0 22’ 09.05” E
2.	23^0 43’ 17.00” N	86^0 22’ 08.09” E
3.	23^0 43’ 35.09” N	86^0 22’ 16.05” E
4.	23^0 42’ 43.01” N	86^0 23’ 58.08” E
5.	23^0 41’ 04.06” N	86^0 24’ 46.04” E
6.	23^0 41’ 06.06” N	86^0 24’ 30.04” E
7.	23^0 41’ 22.00” N	86^0 23’ 08.08” E
8.	23^0 41’ 21.04” N	86^0 22’ 58.01” E

(b) Para 3(viii) - Land use details

Pre-mining land use in 'Ha'			Type	Land Use (Proposed)	Land Use (End of life)	Land Use (Post-closure)						
						Agricultural land	Plantation	Water body	Public / company use	Forest land (returnable)	Undisturbed	Total
Tenancy	Agricultural	$ Tata Steel has acquired the operating mine in 1918. Before that period this mine was operational under Indian Collieries Syndicate Limited. Thus, pre-mining land use plan is	Excavation Area	11.5	Nil	-	-	-	-	-	-	Nil
	Township		Backfilled Area	Nil	Nil	-	-	-	-	-	-	Nil
	Grazing		Excavated void	Nil	Nil	-	-	-	-	-	-	Nil
	Barren		Without plantation	Nil	Nil	-	-	-	-	-	-	Nil
	Water bodies		Top soil dump	2.15	Nil	-	-	-	-	-	-	Nil
	Road		External dump	10	Nil	-	-	-	-	-	-	Nil
	Community		Safety zone/ rationalisation area	Nil*	Nil*	-	-	-	-	-	-	Nil
	Inhabitated		Road Diversion	Nil	Nil	-	-	-	-	-	-	Nil
	Village		Diversion below river/nallah/ canal	Nil	Nil	-	-	-	-	-	-	Nil
Govt Non-forest	Agricultural		Road & Infrastructure Area	72.38	72.38	-	72.38	-	-	-	-	72.38
	Township		Garland drains	Nil	Nil	-	-	-	-	-	-	Nil
	Grazing/ Other		Embankment	Nil	Nil	-	-	-	-	-	-	Nil

	Road	unavailable.	Green belt	Nil	22.55	-	22.55	-	-	-	-	22.55
	Waterbody		Water reservoir near pit/ water body	Nil	1.1	-	-	1.1	-	-	-	1.1
	Other		UG entry	1.7	1.7	-	1.7	-	-	-	-	1.7
Forest	Reserve		Pit head power plant	Nil	Nil	-	-	-	-	-	-	Nil
	Protected		Resettlement	Nil	Nil	-	-	-	-	-	-	Nil
	C-J-B-J		Undisturbed/ Mining right for UG	829.44 **	829.44 **	692.48	3.25	81.26	52.45	-	-	829.44
Free hold			Others	Nil	Nil	-	-	-	-	-	-	Nil
Total				**927.17**	**927.17**	**692.48**	**99.88**	**82.36**	**52.45**	**-**	**-**	**927.17**

$ Present land use is as follows-
1. Land owned by Co. (a. Infrastructure mining/colony- 74.08 Ha, b. Open cast area- 23.65 Ha, c. Afforested land- 3.25 Ha);
2. Land owned by private owners (a. Agriculture- 692.48 Ha, Village- 40 Ha);
3. Govt Land (a. Forest- Nil, b. Road- 9.6 Ha, c. River/drain/ponds- 81.26 Ha)
4. Railway Land - 2.85 ha.
*All land under Safety Zone are distributed and used under Agriculture/Public/Private Infrastructure/Green/Plantation Zone use etc and hence not shown separately.
** Undisturbed land also includes Agricultural land (692.48 Ha) , railway land (2.85 Ha),Village (40 Ha), Water Body /Nala/River Canal (81.26 Ha), Road (9.6 Ha) and Plantation/Green Zone (3.25).

(c) Para 3(ix) to be read as

'Total geological reserve is 204 MT (Measured + Indicated + Inferred). Blocked reserves: 91.80 MT, Mineable reserve 41.68 MT, extractable reserve is 27.09 MT. Reserves already depleted: 22.21 MT, Balanced extractable reserves: 4.88 MT, Percent of extraction would be 20.29% on Net geological reserves.'

(d) Para 3(xvi) to be read as

'Total capital cost of the project is 19.42 Crores. Closure cost as per Escrow is Rs. 20.7191 Crores, CSR cost Rs. 4.53 Crores (FY20 budget for Jharia Division). Environment Management Cost Rs.1.73 Crores.'

47.10.3 *The EAC, after deliberations and in view of no major changes proposed in the said ToR dated 30th November, 2017, recommended the proposal for amendment in ToR as stated in para 47.10.2 above.*

Agenda No.47.11

Jagannath Washery of 10 MTPA of M/s Mahanadi Coalfields Ltd in an area of 29.94 ha located in village Hensmul, District Talcher (Odisha) - Amendment in Environmental Clearance

[IA/OR/CMIN/28013/2015; F.No. J-11015/203/2015-IA.II(M)]

47.11.1 The proposal is for amendment in environmental clearance dated 31st august, 2016 granted by the Ministry in favour of M/s Mahanadi Coalfields Limited to the Coal Washery of 10 MTPA in an area of 29.94 ha in village Hensmul, District Talcher (Odisha). The said EC was subsequently amended on 15th February, 2017, mainly in respect of specific conditions relating to raw coal transportation and development of green belt

47.11.2 The proposal was earlier considered by the sector EAC in its meeting held on 27th May, 2019, wherein the Committee insisted for comparative picture of the washing technologies finalized now and that envisaged earlier, and their impact on different environmental parameters. That would also include washery rejects generation, its utilization, mine water utilization, etc.

The Committee further desired for appraisal of the proposal accordingly even for ascertaining the requirement of fresh EIA studies and the EMP.

47.11.3 The Committee took note of the order dated 10th July, 2019, passed by Hon'ble NGT, Principal Bench, New Delhi in OA No.1038 of 2018 in the matter of News item published in the Asian Age authored by Sanjay Kaw titled 'CPCB to rank industrial units on pollution levels'.

Para 28 of the said order quotes-
'No further industrial activities or expansion be allowed with regard to 'red' and 'orange' category units till the said areas are brought within the prescribed parameters or till carrying capacity of area is assessed and new units or expansion is found viable having regard to the carrying capacity of the area and environmental norms.'

47.11.4 *The EAC, after deliberations and especially in view of the project site in Angul, Talcher (Odisha), covered under the said orders of NGT, preferred not to take the proposal forward for the present, but to seek advice of the Ministry for appropriate course of action in such cases. The Committee also opined that in case, such proposals are to be considered on merits, environmental conditions and other stringent measures would have to be looked into comprehensively in complete perspective and in consultation with CPCB. The proposal was, therefore, deferred.*

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ANNEXURE-1

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 ElA in case coal mine, TPP and other washeries are located within 10km radius. The ElA should also include mitigative measures needed to minimize adverse environmental impacts.
vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. 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 (PM_{10}, $PM_{2.5}$, SOx and NOx, noise, water (surface and groundwater), soil be submitted.
ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.
xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in ElA/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-ll0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.

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

xvi. Analysis of samples indicating the following be submitted:

Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
Characteristics and quantum of coal after washing.
Characteristics and quantum of coal rejects.

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

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

xix. Corporate Environment Responsibility:

a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.

xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.

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

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

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

***

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

(i) An EIA-EMP Report shall be prepared for..... MTPA rated capacity in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.

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

(iii) A toposheet specifying locations of the State, District and Project site should be provided.

(iv) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.

(v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note on the land use.

(vi) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.

(vii) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.

(viii) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-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.	Landuse	Within ML	Outside ML	Total

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

(xii) Break-up of lease/project area as per mining plan should be provided.

(xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.

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

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

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

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

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

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

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

(xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.
(xxii) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
(xxiii) Impact of blasting, noise and vibrations should be given.
(xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
(xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
(xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
(xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28^{o} 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.N.	YEAR*	Green Belt		External Dump		Backfilled Area		Others(Undisturbed Area/etc)		TOTAL	
1.	1st year										
2.	3rd year										
3.	5th year										
4.	10th year										
5.	15th year										
6.	20th year										
7.	25th year										
8.	30th year										
9.	34th year(end of mine life)										
10.	34- 37th Year (Post-mining)										

* As a representative example

(xxxi) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining 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 -3

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

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

ANNEXURE-4

GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT

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

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

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

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ANNEXURE-5

PARTICIPANTS IN 47th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 22nd August, 2019. ON COAL SECTOR PROJECTS.

Sl. No.	List of Participants Expert Appraisal Committee (Coal Mining)		Signature
1.	Dr. Navin Chandra	Chairman	Navinchandra
2.	Dr. N. P. Shukla	Member	
3.	Dr. Jai Krishna Pandey	Member	JKPandey 22/08/19
4.	Dr. Sharachchandra Lele	Member	
5.	Dr. G.P.Kundargi	Member	GPKudargi 22/8/19.
6.	Sh. N.S. Mondal	Member	
7.	Dr. R.K.Giri	Member	
8.	Dr. Manjari Srivastava	Member	
9.	Dr S.K.Paliwal	Member	22/8/2019.
10.	Dr. S.K.Gupta	Member	
11.	Shri N. Mohan Karnat	Member	22/8/2019
12.	Sh. S.D.Vora	Member	SDVora
13.	Shri S. K. Shrivastva	Member Secretary	

Subject: **Re: Draft MOM EAC Coal**
To: Munna Kumar Shah <munna.shah@gov.in>

Date: 09/20/19 03:28 PM
From: navin chandra <navinchandrarrl@yahoo.com>
Reply-To: navin chandra <navinchandrarrl@yahoo.com>

I have gone through the minutes of the meeting. The draft finalised by Dr. S, K. Shrivastava is in order and ready for uploading on the web site of the MOEF&CC.

Regards,

yours sincerely,

(NAVIN CHNDRA)

Dr. Navin Chandra,
Chairman, Coal Mining & Thermal Power,
MoEF&CC, GOI, New Delhi.
Ex-Director General MPCST, Bhopal,
Ex-Vice Chancellor, SSSUTM, Sehore (MP)
(Retd.) Director (Actg.), CSIR-AMPRI, Bhopal
Member, RC, CSIR-AMPRI, Bhopal.
Phone (Res.) 91-755-2454600
navinchandrarrl@yahoo.com, navinchandraampri@gmail.com