

Minutes of the 19th meeting of the EAC held on 26th September, 2017 for appraisal of Coal Mining projects.

A. The 19th meeting of the Expert Appraisal Committee (EAC) for Thermal & Coal mining projects was held on 26th September, 2017 in the Ministry to consider the proposals relating to coal mining sector. The lists of participants and the project proponents are at Annexure-I & II respectively.

B. Confirmation of minutes

There being no comments from any of the members of the Committee, minutes of the 17th meeting of the EAC held on 31st August, 2017 were confirmed.

C. 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 19.1

Garjanbahal OCP coal block of 10 MTPA (Normative)/13.0 MTPA (peak) in a total project area of 795.38 ha of M/s Mahanadi Coalfields Limited in District Sundargarh (Odisha) -
For further consideration of EC

19.1.1 The proposal is for environmental Clearance to Garjanbahal OCP coal block of 10 MTPA (Normative)/13.0 MTPA (peak) in a total area of 795.38 ha of M/s Mahanadi Coalfields Limited in District Sundargarh (Odisha).

19.1.2 The proposal was last considered by the Expert Appraisal Committee (EAC) in the Ministry for Thermal & Coal Mining Projects in its 6th meeting held on 27-28 February, 2017. During the meeting, the observations of the Committee were as under:-

- One season base line data for the pre-monsoon period to be collected with the Windrose based on IMD meteorological data.
- In view of the prevailing air quality values on the higher side, compliance status of EC conditions for the nearby Kulda Opencast coal mine of 10 MTPA to be submitted.

19.1.3 In response to the observations of EAC, the details submitted by the project proponent and/or as informed during the earlier meeting, are as under:-

(i) Baseline data for pre-monsoon period from 20th March 2017 to 10th June 2017 has been generated as per the wind-rose of IMD, Jharsuguda. The baseline data was generated by M/s CMPDIL. The average concentration levels (24 hrly) for PM₁₀, PM_{2.5}, SO₂ and NO_x is within permissible limit of the National Ambient Air Quality Standards (NAAQS).

(ii) The compliance status of EC conditions for the nearby Kulda Opencast coal mine of 10 MTPA **is as under:**

Sl. no.	Specific Conditions	Compliance
(i)	Topsoil should be stacked properly with proper slope at earmarked site(s) with adequate measures and should be used for reclamation and rehabilitation of mined out area.	2.08 lac cum top soil has been stacked separately. The top soil stored will subsequently be used for reclamation of back filled OB Dumps in the near future. In addition to this, a garden is being prepared using the topsoil. Please refer to figure no.1 and figure no.2 below.
(ii)	OB dumps should be stacked at earmarked site(s) and should not be kept alive for long. The total height of dumps should not exceed 90 mtrs, each stage should be preferably 15 mtr but should not exceed 20 mtrs. Overall slope should not exceed 28 degree. Concurrent backfilling should be started from fourth year of operation. Monitoring and management of rehabilitated area should continue till vegetation become self –sustaining. Compliance status to be submitted to MoEF on yearly basis.	<p>OB Dumps have been stacked at earmarked sites. At present there is only one External OB Dump carrying a volume of 30.93 Mm³ OB & one Internal dump of 4.77 Mm³ volume. The Maximum height of overburden dump is about 61 meter. Benches of adequate width have been provided.</p> <p>An area of 20.12 ha has been backfilled. The dumps are active. Grassing has been done over an area of 3 ha on external OB dumps. Please refer to figure no.3 below.</p>
(iii)	Catch drain, siltation pond of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral dumps. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted and maintained properly. Garland drains (size, gradient and length) and sump capacity should be designed keeping 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine site, sump capacity should also provide adequate retention period to allow proper settling of material.	<p>The total runoff generated over the OB Dump & coal stock is collected back in the mine sump inside the mine which acts as settling ponds. This water is reused for dust suppression of mine road, and fire-fighting of coal stock yards. The drains are being regularly de- silted and maintained. 4.8 km long Garland drain with 06 check dams has been constructed all along the mine boundary. A garland drain of 1000 m has been constructed to channelize runoff from the dump to groundwater recharge pit.</p> <p>Please refer to figure no.4 below.</p>
(iv)	Dimension of the retaining wall at toe of dumps and OB benches within the mine to check run –off and siltation should be based on the rainfall data.	In internal dumping the quarry sides/walls act as retaining wall. The run off from the OB benches are conveyed by the garland drain and the drain is properly desilted and maintained. Retaining

		walls will be constructed all along the OB dumps as soon as the dumping is complete. Please refer to figure no.4 below.
(v)	A detail decommissioning plan to be submitted to MoEF 5 years in advance of closure for approval	The life of the mine is 39 years. The mine closure plan will be submitted 5 years in advance of closure.
(vi)	A green belt of adequate width should be raised by planting the native species around ML area, CHP, roads, OB dumpsites etc. in consultation with DFO/Agriculture dept. The density should be around 2500plants/ha	350 trees have been planted during 2016-17. 1,35,558 number of trees have been planted in the safety zone. A total of 1,47,818 plants have been planted in an area of 61.97 ha till now. Expenditure made till now is Rs. 47.25 lacs. Please refer to figure no.5, figure no.6, figure no.7 and figure no.8 below.
(vii)	Regular monitoring of ground water level and quality should be carried out establishing a network of existing wells and constructing new piezometers . The monitoring should be done four times a year in Pre-monsoon(APRIL/May) Monsoon (AUGUST) Post monsoon (November) Winter(JANUARY) Data thus collected should be submitted to the Ministry of Env't. And Forest and Central Ground Water Board quarterly.	Ground water monitoring is being done regularly by the CMPDIL at required interval. The ground water level is being measured at two dug wells & 5 nos. of piezometers at the required frequency. The qualities of these well waters are also monitored monthly, & are being submitted along with this report itself.
(viii)	CHP should be provided with adequate no high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	96.824 % of coal was produced by Surface miner during the period April 2017 to July 2017. Only 3.176 % of coal is fed to CHP for sizing. It has been provided with 12 nos. of mist sprayers and 40 fog nozzles, additionally six fixed sprinklers in CHP ramp & 6 no's in CHP site have been installed. Instant water showering system is also provided at the exit of the CHP facility. Please refer to figure no.9, figure no.10 and figure no.11 below.
(ix)	Drill should be wet operated or dust extractors and controlled blasting should be practiced	96.824 % of coal produced was by blast-less technology using Surface miner. One departmental drill presently deployed has been equipped with wet drilling arrangement. For OB, controlled blasting is adopted by using non-electric detonators with 25 mm delay. Please refer to figure no.12 below.
(x)	Project should undertake sample survey to generate data on pre project community health status within a radius of 1km.	Pre health survey has been done. Post project health care and surveys of local community being taken on regular basis by sending our medical team to local villages surrounding the

		<p>mine.</p> <p>Since 1st October 2016, the details are as follows:</p> <table border="1"> <thead> <tr> <th>Type of camps</th> <th>Location</th> <th>Beneficiaries</th> <th>Number of camps</th> </tr> </thead> <tbody> <tr> <td>Village health camp</td> <td>Balinga and RR site, Kulapara.</td> <td>939</td> <td>2</td> </tr> <tr> <td>Hypertension camps</td> <td>Sardega</td> <td>153</td> <td>1</td> </tr> <tr> <td>Diabetes camp</td> <td>RR site</td> <td>135</td> <td>1</td> </tr> <tr> <td>Mega health camp(multi-speciality)</td> <td>Gopalpur</td> <td>307</td> <td>1</td> </tr> </tbody> </table>	Type of camps	Location	Beneficiaries	Number of camps	Village health camp	Balinga and RR site, Kulapara.	939	2	Hypertension camps	Sardega	153	1	Diabetes camp	RR site	135	1	Mega health camp(multi-speciality)	Gopalpur	307	1
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(xi)	Coal drills with dust extractor or should be wet operated	Coal seams are mostly extracted with blast-less technology using surface miners having water spraying arrangement for dust suppression. Around 96.824% of coal is extracted by blast-less technology. Please refer to figure no.12.																				
(xii)	A comprehensive R&R plan to be submitted to the MoEF as per the final package finalized in consultation with the State Government for Rehabilitation of project affected families within 3 months.	Complied.																				
(xiii)	Before commencing the work, the proponent should obtain the sanction of the power from the concerned authorities and submit the same to the Ministry.	Complied.																				
(xiv)	S.T.P should be installed for the colony. & ETP should also be provided for workshop and CHP waste water.	S.T.P. will be installed along with construction of full-fledged Colony for Kulda OCP which is under process. ETP with OGT has been provided for workshop and CHP waste water is directed to the settling pond. Please refer to figure no.15 below.																				
(xvi)	Consent to operate should be obtained from SPCB before starting mining activities.	Complied. Consent to Operate received from SPCB vide consent order no. 4615 dt. 27.03.17 Valid up to 31.03.2018.																				

B. General Conditions

	General Conditions	Compliance						
(i)	No change in mining technology and scope of working.	No change in technology and scope of work from current one will be made without approval of MoEF & CC. The mine is using Shovel Dumper technology for excavation of Overburden removal and Surface Miner with Pay loader & Tipper combination for Coal excavation.						
(ii)	No change in calendar plan.	<p>No change in the calendar plan including quantum of mineral coal and waste being produced is made.</p> <table border="1" data-bbox="898 701 1511 814"> <thead> <tr> <th data-bbox="898 701 1084 774">Year</th> <th data-bbox="1084 701 1263 774">Coal (Te)</th> <th data-bbox="1263 701 1511 774">OverBurden (Cu.M)</th> </tr> </thead> <tbody> <tr> <td data-bbox="898 774 1084 814">2016-17</td> <td data-bbox="1084 774 1263 814">99,97,527</td> <td data-bbox="1263 774 1511 814">53,04,545</td> </tr> </tbody> </table>	Year	Coal (Te)	OverBurden (Cu.M)	2016-17	99,97,527	53,04,545
Year	Coal (Te)	OverBurden (Cu.M)						
2016-17	99,97,527	53,04,545						
(iii)	5 ambient air quality monitoring station in core zone as well buffer zone for RPM, SPM, SO ₂ , No _x and CO monitoring. Location of stations should be decided based on meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with SPCB. Data on ambient air quality should be sent regularly to Ministry including Regional Office at Bhubaneswar and to the SPCB/CPCB once in six month.	Air quality is presently being monitored at 05 stations, viz near Farakbahal village, near Tumulia Village, Near Balinga for Industrial Monitoring & Karlikachhar Village, & Kushra Village for residential areas which are based on environmentally & ecologically sensitive location criteria in consultation with State Pollution Control Board.						
(iv)	Fugitive dust emission from all the sources should be controlled, regularly monitored and data recorded properly. Water spraying arrangement on haul road, wagon loading, dump trucks (loading and unloading) should be provided.	59 numbers of fixed point water sprinklers are provided along the haul road near CHP and weigh bridges. 2 numbers of 28 KL water tankers are deployed for water sprinkling on haul roads. 2nos. of 20KL water tankers are deployed on the overburden haul road & dumps. Dust suppression is being done on the CT road regularly by two contractual 12KL water tankers each. Instant water showering system is also provided at the exit of the CHP facility and at the entry of the mines. 3.5Kms of road inside the mine is already concreted. Two fixed sprinklers have been installed at Lalma top soil garden as well. Please refer to figure no.13 and figure no.14 below.						

(v)	Adequate measures should be taken for control of noise levels below 85 dB (A) in the work environment. Workers engaged in blasting & drilling operation, operation of HEMM etc., should be provided with ear plugs/muffs.	Adequate measure are being taken to control the noise level within the prescribe limits. Noise proof & AC Cabins are being provided and maintained in HEMMs. Ears plugs/ muffs are being provided to the workers engaged in blasting, drills and HEMM operation at regular interval. 26 numbers of ear muffs & 562 dust mask have been issued during 2016-17. Routine noise Farakbahal village and Balinga market respectively.
(vi)	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to confirm to the standards prescribed under GSR 422(E) dated 19.05.93 and 31.12.93 or as amended from time to time ,O&G trap to be installed before discharge of effluent.	The industrial waste water is being reused for dust suppression of mine road, and fire-fighting of coal stocks. ETP and O&G trap has been constructed and is in working condition.
(vii)	Acid mine water if any has to be treated and disposed of after confirming to the standard prescribed by the Competent authority	No Acid mine water is being generated.
(viii)	Personnel working in dusty area should wear protective respiratory devises and they should also be provided with adequate training & information on safety & health aspect. Occupational health surveillance programme of the workers should be undertaken periodically to observe any contractions due to exposures to coal dust and take corrective measures , if needed	Persons are provided with DGMS approved dust masks and provided with adequate training regularly and at every 5 years interval. Occupational health surveillance is regularly done. Initial medical exam and periodical medical exams are conducted at regular intervals by doctors trained as per ILO guidelines.
(ix)	Envt. Laboratory should be established with adequate number and type of pollution monitoring and analysis equipment in consultation with SPCB.	Environmental observations are being made by CMPDI (A subsidiary of CIL). It has its air and water analysis Laboratory, which is recognized by the CPCB.
(x)	A separate Environment Management Cell with suitable trained personnel should be set up under the control of a senior Executive, who will report directly to the Head of the Organisation.	Environment management cell has been established in Project as well as area and head quarter level. At the project the Environment Cell is headed by Project Officer and has a management trainee (Envt.) with specialised qualification in Environment. In Area the cell is headed by General Manager of the Area along with Staff Officer (Environment), Staff Officer (Civil), Area Finance Manager Etc. At Hq. level, the cell is headed by G.M. (Envt.) reporting to Director (Tech., P&P).

(xi)	Funds earmarked for Environmental protection measures should be kept in separate account & should not be diverted for other purpose. Year wise expenditure should be reported to Ministry and Regional Office located at Bhubaneswar.	Separate account is being maintained for environmental protection measures. The year wise expenditure is being reported to the Regional officer BBSR and to the ministry through Form V.
(xii)	The Regional Office of this Ministry located at Bhubaneswar shall monitor the compliance of the stipulated conditions. The project authority should extend full cooperation to the officer(s) of the Regional Office by furnishing requisite data/information/monitoring reports.	Being complied
(xiii)	A copy of clearance letter will be marked to the concerned Panchayat/Local NGO, if any, from whom any suggestions/representation has been received while processing the proposal.	Given to the Panchayats.
(xiv)	The project authority should inform to Regional Office at Bhubaneswar regarding date of final closure & final approval of project by concerned authority and date of start of land development work.	Complied
(xv)	State pollution Control Board should display a copy of clearance letter at the Regional Office, District Industry Centre and Collector's / Tahasildar's office for 30 days	Already complied
(xvi)	The project authority should advertise at least in two local newspaper widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded Environmental Clearance and a copy of the clearance letter is available with State Pollution Control Board and may also be seen at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar .	The advertisement has been done in ENGLISH in 'SAMBAD'- Sambalpur edition & in ODIYA in 'DHARITRI' – Sambalpur edition.

3	The Ministry or any other competent authority may stipulate any further condition for environmental protection.	If the Ministry or any other competent authority will impose any further conditions it will be strictly complied with.
4	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract the provisions of the Environmental (Protection) Act, 1986.	Conditions imposed will be strictly complied.
5	The above conditions will be enforced inter-alia, under the provision of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules.	All the relevant provisions stated under the provision of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 along with their amendments and Rules, are complied.

19.1.4 During deliberations, the EAC noted the following:-

The proposal is for EC to the Greenfield project of Garjanbahal Opencast Coal Mine of 10 MTPA (Normative)/13.0 MTPA (peak) in a total area of 795.38 ha of M/s Mahanadi Coalfields Limited in District Sundargarh (Odisha).

Total project area includes 88.90 ha of forest land within the mining lease area of 653.828 ha. Stage-I Forest clearance for the said forest land (including 1.665 ha for safety zone) has been obtained vide this Ministry's letter dated 11th September, 2017 for diversion of the forest land for non-forestry purposes.

The earlier EC for 10 MTPA in the mine lease area of 603.45 ha (includes 88.90 ha of forest land) was granted by the Ministry on 3rd May, 2005 in favour of M/s Mahanadi Coalfields Ltd based on the public hearing conducted on 29th December, 1999. However, the mining operations were not started due to delay in forest clearance. For the Kulda Opencast coal mine, the EC was granted on 24th December, 2002 for its capacity of 10 MTPA.

MCL Board has approved the project report on 16th September, 2014. Mining Plan and the Mine Closure Plan was approved by the Ministry of Coal on 18th July, 2014 & 27th July, 2016 respectively.

The ToR for the project was granted on 18th June, 2015 and the public hearing was conducted by the State Pollution Control Board on 6th April, 2016 in District Sundargarh (Odisha). Main issues raised during the public hearing include, environmental problems, employment, water sprinkling on the road, air quality, road conditions, drinking water facility etc.

The EIA/EMP report was found to be in compliance of the ToR issued for the project reflecting the present environmental concerns and the projected scenario for all the environmental components. Issues raised during the public hearing have been duly addressed by the project proponent.

The proposal was last considered by the EAC in its meeting held on 27-28 February, 2017. During the meeting, the Committee had asked for one baseline data for the pre-monsoon period and also the compliance status of EC conditions for the nearby Kulda Opencast coal mine of 10 MTPA. In response to the observations of the Committee, details submitted by the project proponent are as under:-

- The baseline data for air quality (in respect of PM₁₀, PM_{2.5}, SO₂ and NO_x) collected during 20th March-10th June, 2017 based on the wind-rose of IMD at Jharsuguda.
- Compliance status of the EC conditions as per the monitoring conducted by the project proponent.
- Compliance status of EC conditions forwarded by the Regional Office at Bhubaneswar vide their letter dated 25th September, 2017 based on the monitoring conducted on 8th June, 2017. The Regional Office has sought further information and action plans on a number of their observations, which is yet to be done.

The base line air quality values in respect of PM₁₀ & PM_{2.5} were still reported to be on the higher side, which are bound to increase further after the coal mining operations are in place. However, it was informed by the project proponent that the baseline concentrations would be significantly lowered after the proposed railway siding (at a distance of 3-4 km) expected to be commissioned by December, 2017. The predicted air quality values after commissioning of the railway siding are expected to be within the prescribed NAAQS.

19.1.5 *The EAC, after detailed deliberations, recommended the proposal for grant of EC to Garjanbahal Opencast coal mine project of 10 MTPA (Normative)/13.0 MTPA (peak) in a total area of 795.38 ha of M/s Mahanadi Coalfields Limited in District Sundargarh (Odisha), and the specific and general conditions as applicable, and the additional conditions as under:-*

- *No mining shall be carried out till the proposed railway siding is operational, which is reported to be commissioned by December, 2017.*
- *The baseline air quality has to be significantly improved and the incremental concentration due to the project shall be minimized to ensure predicted air quality within the prescribed standards.*
- *The action plan against each of the observations of the Regional Office (inspection carried out on 8th June, 2017) shall be submitted to them to verify their efficacy and adequacy for true compliance of the existing EC conditions. The action taken report after its endorsement by the Regional Office shall be sent to this Ministry.*
- *Standard Operating Procedures are required to be prepared and vetted by the company headquarters for adoption of environmental measures in course of various mining activities right from drilling, blasting to coal dispatch be submitted to EAC for monitoring.*
- *Transportation of coal should be carried out by covered trucks. Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- *Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.*
- *Controlled blasting techniques should be adopted to control ground vibration and fly rocks.*

- *Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- *Interlocking water spraying arrangement with surface miner cutting picks may be explored for introduction to help prevent generation of dust at source itself.*
- *Thick green belt of 30-45 m width to be provided to mitigate/check the dust pollution. A 3-tier avenue plantation should also be developed along vacant areas, storage yards, loading/transfer points, and also along internal roads/main approach roads*

Agenda 19.2

Environment Clearance for Durgapur Extension Deep OC Phase-II of M/s Western Coalfields Limited in District Chandrapur (Maharashtra) - For further consideration of EC (dovetailing the EC for Phase-I)

19.2.1 The proposal is for grant of environmental clearance to Durgapur Extension Deep OC Phase-II of 3 MTPA of M/s Western Coalfields Limited in a total area of 1622.50 ha located in District Chandrapur (Maharashtra), dovetailing the EC for Phase-I granted on 16th March, 2012.

19.2.2 The proposal was last considered in the 6th EAC meeting held on 27-28 Feb, 2017, wherein observations of the Committee were as under:-

The Committee, after detailed deliberations, observed that the proposal does involve increase in land area from 1186.54 ha to 1597.50 ha even if the production capacity remains at 3 MTPA. The Committee further opined that although the fresh public hearing may not be required but there is a need to examine the compliance status of earlier EC conditions. The proposal was, therefore, deferred.

19.2.3 In response to the observations of EAC, the details submitted by the project proponent and/or as informed during the earlier meeting, are as under:-

(i) The certificate of compliance against the existing EC conditions issued by Regional Office, MoEF&CC Nagpur vide its letter no. F-3-18/2012 (Env.) dated 07.09.2017. The Compliance report has since been submitted to MoEF&CC, New Delhi.

(ii) Action Taken Report to the Regional Office, MoEF&CC, Nagpur against the observation of MoEF&CC vis-à-vis partially complied conditions. The same is reproduced under in a tabulated form:

Conditions in EC	Action taken Report by PP
<p><u>Specific Condition no. XV:-</u></p> <p><i>Land use mapping of buffer zone based on satellite imagery is not being carried out.</i></p>	<p>The land use monitoring through satellite imagery of buffer zone in case of each project is being monitored in an integrated way in the coalfield.</p> <p>In case of subject project, the land use pattern of Wardha Valley Coalfield has been carried out in 2016 and the same has been uploaded on the Company Website also. The copy of this report is enclosed herewith for ready reference. It may be worthwhile to mention here that the coalfield wise map is prepared at 3 yearly interval & the previous report was prepared in 2013.</p>

<p><u>General Condition no. (IV):-</u></p> <p><i>PM2.5 need to be included in the monitoring. Also the emissions are being monitored only at 2 locations. Number of locations needs to be increased covering haul roads, active waste dump, mine working benches.</i></p>	<p>In this regard, it is submitted that PM 2.5 is being monitored at four locations in Durgapur OC covering 3 stations in habituated area and one station in core zone. The monitoring reports for Q.E. March 2017 & Q.E. June 2017 are enclosed for kind perusal.</p> <p>Regarding fugitive emission monitoring, it is submitted the two ambient stations are monitored at CHP & Check Post. However, the proposed locations viz. haul roads, active waste dump & mine working benches are work zone areas and the same are monitored under Coal Mine Statute.</p>
<p><u>General Condition no. (VI):-</u></p> <p><i>Noise levels are being monitored at 2 locations. Number of monitoring locations needs to be increased covering the working benches, nearby villages etc.</i></p>	<p>The suggestion for increasing the number of noise monitoring stations in nearby villages is being taken up from the subsequent quarter monitoring.</p>
<p><u>General Condition no. (XVI):-</u></p> <p><i>Advertisement has been made, however the clause of seven days was not followed.</i></p>	<p>Noted. Henceforth the clause of seven days will be strictly followed.</p>

19.2.4 During deliberations, the EAC noted the following:-

The proposal is for EC to project of Durgapur Extension Deep OC Phase-II (in Wardha Valley Coalfield) of 3 MTPA of M/s Western Coalfields Limited in mine lease area of 1622.50 ha located in District Chandrapur (Maharashtra) dovetailing the phase-I EC.

Based on the recommendations of EAC, the earlier EC was granted on 16th March, 2012 to Durgapur Opencast expansion project from 2.30 MTPA to 3 MTPA in mine lease area of 1186.54 ha (includes 257.77 ha of forest land for which FC was already available).

Total project area now proposed is 1622.50 ha, which includes 1186.54 ha of the existing land (includes 257.77 ha of forest land), additional area of 410.96 ha (includes 121.58 ha of forest land) and 25 ha for village rehabilitation. For diversion of the remaining forest land of 121.58 ha,

stage-I forest clearance has been granted on the project proponent has already obtained stage-I forest clearance. The increase in total project area from 1186.54 ha to 1622.50 ha with the mining capacity remaining the same, would result in sustainability of coal mining operations, assured supply of coal to the consumers and increase in the life of the mine ultimately.

Mining Plan for the project was approved by the WCL Board on 21st February, 2017. Mine closure plan is an integral part of mining plan.

The monitoring report on compliance status of the existing EC conditions issued by Regional Office, MoEF&CC Nagpur vide letter dated 7th September, 2017 was found to be satisfactory. Action Taken Report on each of their critical observations has been submitted to the Regional Office, MoEF&CC, Nagpur.

19.2.5 *The EAC, after detailed deliberations, recommended the project for grant of EC to Durgapur Extension Deep OC Phase-II of 3 MTPA of M/s Western Coalfields Limited in a total area of 1622.50 ha located in District Chandrapur (Maharashtra), subject to the specific and general conditions as applicable, and the additional conditions as under:-*

- *Standard Operating Procedures are required to be prepared and vetted by the company headquarters for adoption of environmental measures in course of various mining activities right from drilling, blasting to coal dispatch be submitted to EAC for monitoring.*
- *Transportation of coal should be carried out by covered trucks. Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- *Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.*
- *Controlled blasting techniques should be adopted to control ground vibration and fly rocks.*
- *Mitigative measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.*
- *Thick green belt of 30-45 m width to be provided to mitigate/check the dust pollution. A 3-tier avenue plantation should also be developed along vacant areas, storage yards, loading/transfer points, and also along internal roads/main approach roads*

Agenda 19.3

Baitarni West Opencast Coal Mine project of 15 MTPA in a project area of 1567 ha by M/s Odisha Mining Corporation Ltd located in North Central Part of Talcher Coalfields in District Angul (Odisha) - For ToR

19.3.1 The proposal is for Terms of Reference to Baitarni West Opencast Coal Mine project of 15 MTPA in a total project area of 1567 ha by M/s Odisha Mining Corporation Ltd located in North Central Part of Talcher Coalfields in District Angul (Odisha).

19.3.2 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) It is green field project for ToR.

- (ii) The latitude and longitude of the project are 21° 03' 15" and 21° 05' 22" (N) and 84° 50' 32" and 84° 51' 32" (E) respectively.
- (iii) Joint Venture: There is no joint venture.
- (iv) Coal Linkage: Block allotted for direct sale of coal through e-auction as per agreement with Nominated Authority.
- (v) Employment generated / to be generated: There will be 1752 direct employment opportunity
- (vi) Benefits of the project: The proposed project will result in Improvement in Physical Infrastructure, Improvement in Social Infrastructure, and Increase in employment potential, Contribution to the Exchequer (both State and Central Govt.)
- (vii) Total land area is 1567 ha. Mining lease area as per approved Mining Plan is 1194 ha. The land usage of the project will be as follows:

				Area in Ha
Sl. No.	Type of Land	Within ML area	Outside ML area	Total Area
1	Agricultural	1067.97	---	1067.97
2	Waste land	34.61	373.00	407.61
3	Forest Land	26.64	---	26.64
4	Grazing	50.80	---	50.80
5	Surface water bodies	13.98	---	13.98
6	Others	---	---	---
Total:		1194.00	373.00	1567.00

Pre-Mining:

Sl.	Particulars	Forest	Non-Forest	Total
A	Within Block Area			644.00
1	Mine Excavation	24.29	597.79	622.08
2	Land required for blasting danger zone (upto block boundary in the north, east and west and 300 m in the south)		21.92	21.92
B	Outside Block Area			550.00
1	Land required for blasting danger zone (upto block boundary in the north, east and west and 300 m in the south)	2.35	41.16	43.51
2	External dump (excluding dump area falling in the blasting danger zone).		211.13	211.13
3	Infrastructure including workshop, project office, CHP, Washery, MGR loop etc.		284.60	284.60
4	Rationalization of the boundaries		10.76	10.76
	Total Mine Lease Area(A+B)	26.64	1167.36	1194.00

C	Land required outside Mining lease area		373.00	373.00
1.	Residential colony	--	35.00	35.00
2.	Rehabilitation colony	--	338.00	338.00
	Total Area (A+B+C)	26.64	1540.36	1567.00

Post-closure land use (Core zone):

Sl. No.	Land Use during Mining	Land Use (Ha)				
		Plantation	Water Body	Public Use/Agriculture	Undisturbed built-up area	Total
1	External OB Dump	--	--	211.13	--	211.13
2	Top Soil Dump	Will be spread concurrently in the backfilled area				
3	Excavation	56.64	179.30	387.14	--	622.08
4	Built up area	56.92	--	--	227.68	284.60
5	Green Belt	15.24	--	--	60.95	76.19
	Total	127.80	179.30	598.27	288.63	1194.00

(viii) Total geological reserve is 492.77 MT. The mineable reserve 468.27 MT, extractable reserve is 468.27 MT. The per cent of extraction would be 95.03 %.

(ix) The coal grade is E to G. The stripping ratio is 1.53 Cum/tonne. The average Gradient is 1-7 degrees. There will be 14 seams with thickness ranging up to 0.15 m - 32.94 m.

(x) Total estimated water requirement is 3790 m³/day. The level of ground water ranges from 1.96 m to 10.91 m.

(xi) The Method of mining would be Opencast by Shovel – Dumper/Ripper-dozer in OB/parting. Surface miner-pay loader - tipper in coal.

(xii) There is one external OB dump with Quantity of 140.90 Mbcm in an area of 211.13 ha with height of 90 m and one internal dump with Quantity of 140.90 Mbcm in an area of 443.78 ha.

(xiii) The final mine void would be in 179.3 ha with depth upto 115 m and the total quarry area is 622.08 ha. Backfilled quarry area of 443.78 ha shall be reclaimed with plantation. A void of 179.3 ha with depth up to 115 m which is proposed to be converted into a water body.

(xiv) The life of mine is 37 years (including 2 year construction period).

(xv) Transportation: Coal transportation in pit through Surface Miner Dumpers, from Surface to Siding by belt conveyor and loading at siding by silo.

(xvi) There is R & R involved. There are 2100 (as per approved Mining Plan) PAFs.

(xvii) Cost: Total capital cost of the project is Rs. 3855 Crores. CSR Cost: 2% of the average net profit of the company for the three immediate preceding financial years or Rs.2.00 /t of coal production of the previous year whichever is higher. R&R Cost Rs. 512 Crore. Environmental Management Cost shall be provided in EIA/EMP.

(xviii) Water body: Kumbhia nullah flows from south-east (seasonal), Supai nullah flows (seasonal) in the core zone, Ganduru Nala flows at a distance of 1.2 km, Bainsajaria Nala flows at a distance of 1.5 km, Shagarhia Nala flows at a distance of 3.0 km, Singhda Jhor flows at a distance of 5.0 km, Aunli Nadi flows at a distance of 5.5 km, Mandalia Nala flows at a

distance of 9.5 km, Gundijeri Nala flows at a distance of 1.2 km

(xix) Approvals: Ground water clearance is not applicable. Mining plan has been approved vide letter No. 13016/76/2008-CA-I dated 07th October, 2009. Mine closure plan is under process.

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

(xxi) Forestry issues: Total forest area involved in the mining is 26.64 ha. Application for Stage –I FC has already been made.

(xxii) Total afforestation plan shall be implemented covering an area of 443.78 ha at the end of mining. Green Belt over an area of 15.24 ha. Density of tree plantation 2500 trees/ ha of plants.

(xxiii) There are no court cases/violation pending with the project proponent.

(xxiv) Public Hearing: Public consultation shall be carried out after preparation of draft EIA/EMP report.

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

The proposal is for ToR to the Baitarni West Opencast Coal Mine project of 15 MTPA of M/s Odisha Mining Corporation Ltd in a total area of 1567 ha (mine lease area of 1194 ha) located in North Central Part of Talcher Coalfields in District Angul (Odisha).

Total project area includes 26.64 ha of forest land. Application has been submitted on 28th August, 2017 for diversion of the said forest land for non-forestry purposes.

Mining Plan for the project was earlier approved by Ministry of Coal on 7th October, 2009 in the name of M/s Baitarni West Coal Company Ltd (Joint Venture of M/s Gujarat Power Corporation Ltd, Kerala State Electricity Board and Orissa Hydro Power Corporation). The same was transferred in the name of the present incumbent M/s Odisha Mining Corporation Ltd in pursuance of the allotment order dated 29th September, 2016 issued by O/o the Nominated Authority in the Ministry of Coal.

19.3.4 *The EAC, after detailed deliberations, recommended the proposal for grant of ToR to the Baitarni West Opencast Coal Mine project of 15 MTPA by M/s Odisha Mining Corporation Ltd in a total area of 1567 ha located in North Central Part of Talcher Coalfields in District Angul (Odisha), and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified/notified in the standard ToR applicable for opencast coal mines, along with the additional conditions as under:-.*

- *For proper baseline air quality assessment, adequate monitoring stations (4-5 nos) in the downwind areas need to be set up and included in the air quality modelling.*
- *Ecological restoration and mine reclamation plan to be prepared with local/native species found in the area.*
- *Wildlife Conservation Plan to be prepared and submitted to the concerned authority for obtaining the necessary approval, if any.*
- *In-pit belt conveyor should be installed from the pit bottom up to the silo loading point/rapid loading system.*
- *Proposed external dump of 211 ha should be reduced to minimum and involvement of coal bearing area to be minimized for external OB dumps.*

Agenda 19.4

Gourangdih ABC Opencast Coal Mine Project of 2.5 MTPA in a total project area of 356.575 ha by M/s West Bengal Mineral Development and Trading Corporation Limited (WBMDCL) located in District Paschim Bardhaman (West Bengal) - For TOR

19.4.1 The proposal is for terms of reference to Gourangdih ABC Opencast Coal Mine Project of 2.5 MTPA in a total area of 356.575 ha by M/s West Bengal Mineral Development And Trading Corporation Limited (WBMDCL) located in villages Panuria, Kantapahari, Jamgram, Shibdhawra, Banddhawra, Lalbandh, Gourangdih and Bhuiapara, Barabani CD Block, District Paschim Bardhaman, (West Bengal).

19.4.2 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) It is green field project for TOR. The coal block was previously allotted to Gourangdih Coal Ltd. (A JV of HEPL & JSW Steel Ltd.) and was considered in EAC meetings of January, February & March 2011 and TOR issues vide letter no. J-11015/12/2011-IA.II(M) dated 30.06.2011 (online proposal no. IA/WB/CMIN/7273/2010). However, after de-allotment of coal blocks after Supreme Court order, this is being submitted as a fresh case)

(ii) The latitude and longitude of the project are 23°48'30" to 23°49'45" N and 86°57'45" to 87°00'15" E respectively.

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

(iv) Coal Linkage: Mine allotted by Ministry of Coal vide allotment order no. F.No. 103/6/2016/NA dated 29.09.2016.

(v) Employment generated / to be generated: 494 Nos.

(vi) Benefits of the project: The proposed mine will provide much needed coal to the MSME sector of West Bengal in addition to providing employment opportunities and social & infrastructure development in the vicinity of the mine by virtue of CSR

(vii) The total land area is 356.575 ha. Mining lease area as per approved Mining Plan is 213.27 ha. The land usage of the project will be as follows:

Pre-Mining:

Land pattern	Area (ha)
Agricultural Land	48.43
Fallow land (Danga)	44.07
Degraded land (Old quarry area)	61.316
Built up area	60.86
Water body	15.44
Forest land (protected & jungle)	109.459
Non agricultural land for colony (outside core area)	5.00
Non agricultural land for Rehabilitation (outside core area)	12.00
Total	356.575

Post- Mining & core area:

Land use pattern	Total Area (ha)
Quarry area	214.00

External Dump	62.97
Infrastructure	9.5
Rehabilitation colony	12.0
Workers colony	5.0
Road	8.0
Others including safety zone	45.1
Total	356.57

(viii) The total geological reserve is 129.51 MT. The mineable reserve 68.37 MT, extractable reserve is 61.54 MT. The per cent of extraction would be 90 %.

(ix) The coal grade is C to G. The stripping ratio is 2.91 Cum/tonne. The average Gradient is 8 to 13 degree. There will be 8 seams with thickness ranging (i.e. Seams B-VI-1.46 m, B-VI-8.85 m, B-V- 9.89 m, B-IV- 7.92 m, B-III(T) - 4.92m, B-III(B)-7.33 m, B-II- 25.07 m, B-I- 2.52 m)

(x) The total estimated water requirement is 984 m³/day. The level of ground water ranges from 2 m to 12 m.

(xi) The Method of mining would be Opencast Mechanized.

(xii) There is three external OB dump with Quantity of 37.15 Mbcm in an area of 62.97 ha with height of 85 meter above the surface level and one internal dump with Quantity of 142.22 Mbcm in an area of 112.5 ha.

(xiii) The final mine void would be in 31.66 ha with depth 120 m in Gourangdih A, 210 m depth in Gourangdih C. and the Total quarry area is 214 ha. Backfilled quarry area of 182.34 ha shall be reclaimed with plantation. A void of total 31.66 ha of 195 m depth in Gourangdih C and 120 m in Gourangdih A, which is proposed to be converted into a water body

(xiv) The life of mine is 27 Years.

(xv) Transportation: Coal transportation in pit by dumper, Surface to Siding by trucks and loading at siding by trucks.

(xvi) There is R & R involved. There are 2040 PAFs.

(xvii) Cost: Total capital cost of the project is Rs. 621.71 Crores. CSR Cost 2% of the average annual profit of last three years of operation as per Companies Act 2013. R&R Cost is Rs. 1013.13 lakhs. Environmental Management Cost to be estimated.

(xviii) Water body: There is no major stream passing over the property. Ajoy River is located 3.5 km north of the block.

(xix) Approvals: Ground water clearance shall be obtained prior to commencement of mine. Board's approval obtained on 17th May, 2016. Mining plan has been approved on 28th June, 2011. Mine closure plan is an integral part of mining plan.

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

(xxi) Forestry issues: Total forest area involved is 109.459 ha. Application for Stage-I FC has been made vide online FP/WB/MIN/26869/2017 dated 12.07.2017.

(xxii) Total afforestation plan shall be implemented covering an area of 238.40 ha at the end of mining. Green Belt over an area of 45.2ha. Density of tree plantation 2500trees/ ha of plants.

(xxiii) There are no court cases/violation pending with the project proponent.

(xxiv) Public Consultation: Public consultation shall be carried out after preparation of draft EIA/EMP report.

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

The proposal is for ToR to the Gourangdih ABC Opencast Coal Mine project of 2.5 MTPA of

M/s West Bengal Mineral Development And Trading Corporation Limited (WBMDCL) in a total area of 356.575 ha (mine lease area 213.27 ha) located in District Paschim Bardhaman (West Bengal). Gourangdih block of 370 ha comprises three sub-blocks Gourangdih A (127.53 ha), Gourangdih B (90.83 ha) and Gourangdih C (151.64 ha).

Total project area includes 109.459 ha of forest land. Application for Stage-I FC has been made online FP/WB/MIN/26869/2017 dated 12.07.2017.

Mining Plan along with the Mine Closure Plan for the project was earlier approved by Ministry of Coal on 28th June, 2011 in the name of M/s Gourangduh Coal Ltd (Joint Venture of M/s HEPL and M/s JSW Steel Ltd). The same was transferred in the name of the present incumbent M/s West Bengal Mineral Development and Trading Corporation Ltd in pursuance of the allotment order dated 29th September, 2016 issued by O/o the Nominated Authority in the Ministry of Coal. The ToR for the project was also issued that time vide letter dated 30th June, 2011.

19.4.4 *The EAC, after detailed deliberations, recommended the proposal for grant of ToR to the Gourangdih ABC Opencast Coal Mine project of 2.5 MTPA of M/s West Bengal Mineral Development and Trading Corporation Limited (WBMDCL) in a total area of 356.575 ha located in District Paschim Bardhaman, (West Bengal), and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified/notified in the standard ToR applicable for opencast coal mines, along with the additional conditions as under:-.*

- *Mining operations shall be carried out at a distance from the periphery of the sub-block B on either side, as per the norms applicable, stipulated by the concerned regulatory authority and also per the safety regulations mandated with Director General of Mines Safety (DGMS).*
- *For proper baseline air quality assessment, adequate monitoring stations (4-5 nos) in the downwind areas need to be set up and included in the air quality modelling.*
- *Ecological restoration and mine reclamation plan to be prepared with local/native species found in the area.*
- *In-pit belt conveyor should be installed from the pit bottom up to the silo loading point/rapid loading system.*
- *Proposed external dump of 62.97 ha should be reduced to minimum and involvement of coal bearing area to be minimized for external OB dumps.*

Agenda 19.5

Madanpur South Opencast Coal Mine project of 5.4 MTPA in a total area of 713.952 ha of M/s APMDC located in villages Morga, Ketma (Hasdeo-Arand Coalfield), Tehsil Katghora in District Korba (Chhatisgarh) - For TOR

19.5.1 The proposal is for Terms of Reference to Madanpur South Coal Mine project of 5.4 MTPA in a total area of 713.952 ha of M/s APMDC located in villages Morga, Ketma (Hasdeo-Arand Coalfield), Tehsil Katghora in District Korba (Chhatisgarh) - For TOR

19.5.2 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) It is green field project for TOR.
- (ii) The latitude and longitude of the project are 22°45'19"N to 22°47'09"N and 82°38'02"E to 82°42'42"E respectively.
- (iii) Joint Venture:
- (iv) Coal Linkage: Madanpur South Coal Mine has been allocated by Ministry of Coal (MOC) to APMDC for sale of coal, under The Provisions of the coal mines (Special Provisions) Act' 2015.
- (v) Employment generated / to be generated: Total manpower requirement shall be 1034. Out of which, manpower of APMDC is 168 whereas manpower proposed to be deployed by MDO is 866.
- (vi) Benefits of the project: Increase the supply of coal to cater the need of India's increasing domestic demands, Will add to revenue generation of the District / State, Will reduce paralyzing power shortages hindering growth, foreign investment and productivity, Will generate additional employment, both direct and indirect, APMDC shall provide, school buildings, bus shelters, medical facilities and other amenities to local villages under the company's community development programme.
- (vii) The total land area is 713.952 ha. Mining lease area as per approved Mining Plan is 713.952 Ha. The land usage of the project will be as follows:

Pre-Mining:

Sl. No.	Land Type	Area (in ha)
1	Forest Land	
a	Protected Forest	490.902
b	Revenue Forest	169.358
	Total Forest Land	660.260
2	Non Forest Land	
a	Agricultural Land	53.408
b	Communal Land	0.284
	Total Non-Forest Land	53.692
	Grand Total	713.952

Post- Mining & core area:

Activity wise landuse	Area (in ha)
Mining	: 642.2918 ha
External OB dump	: Nil *
Infrastructure	: 28.0428 ha
Safety zone	: 43.6174 ha
Total ML area	: 713.952 ha.

* External OB dumps will be re-handled.

Green Belt Development: Green belt will be developed in safety zone area : 43.6174 ha

- (viii) The total geological reserve is 180.49 MT. The mineable reserve 158.921 MT, extractable reserve is 158.921 MT. The per cent of extraction would be 99 %.
- (ix) The coal grade is G8. The stripping ratio is 6.06 Cum/tonne.
- (x) Average Gradient: Seams lying in the Madanpur South Coal Block are almost flat with

maximum seam gradient of 5°. Seams are dipping from north to south. There will be Nine seams with thickness ranging upto 12.99 m.

(xi) The total estimated water requirement is 195 m³/day. The level of ground water ranges from 5 m to 10 m.

(xii) The Method of mining would be Opencast.

(xiii) There is one external OB dump with Quantity of 286.72 Mbcm in an area of 87.64 ha with height of 20 meter in one terrace and no internal dump.

(xiv) There will be no mine void, entire quarry void will be backfilled. Total quarry area 642.2918 ha. Backfilling not envisaged in first five years. However during the conceptual period, possibility of maximum backfilling will be worked out.

(xv) The life of mine is 33 Years.

(xvi) Transportation: The maximum transportation of ROM will be limited to 5.4 MT per annum only. The ROM coal having (-)100 mm size will be transported by 35 t capacity dumpers. Loaded coal from mines head shall be transported by dumpers up to Coal Handling Plant and unloaded to 4 nos. of underground hopper each having 60 cu.m. capacity. The rated capacity of belt conveyor for the CHP plant has been considered as 1200 tonnes per hour.

(xvii) There is R & R involved. There are 90 PAFs.

Cost: Total capital cost of the project is Rs. 2457.33 Crores. CSR Cost Minimum 2% of average project benefit of three consecutive years. R&R Cost shall be finalised after completion of detailed socio-economic survey. Environmental Management Cost to be worked out during EIA-EMP study.

(xviii) Water body: Bissar Nala flows adjoining towards North, Hasdeo river flows at a distance of 5 km E, Hasdeo Bango reservoir is at a distance of 5.5 km S, Gej Nadi flows at a distance of 10 km NW.

(xix) Approvals: Ground water clearance not. Application for mine plan has been submitted.

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

(xxi) Forestry issues: Total forest area involved 660.260 ha for mining. Application has been made for the Stage-I FC.

(xxii) Total afforestation plan: The waste dumped will be dumped in proposed external dump site within mine area and will subsequently re-handled & backfilled in the mined-out voids from 14th year onwards.. Green Belt over an area of 43.61 ha. Density of tree plantation 2500 trees/ha of plants.

(xxiii) There are no court cases/violation pending with the project proponent.

(xxiv) Public Consultation: Public consultation shall be carried out after preparation of draft EIA/EMP report.

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

The proposal is for ToR to the Madanpur South Coal Mine project of 5.4 MTPA of M/s APMDC in mine lease area of 713.952 ha located in villages Morga and Ketma (Hasdeo-Arand Coalfield), Tehsil Katghora in District Korba (Chhatisgarh).

Total project area includes 660.26 ha of forest land. Application for Stage-I FC has been made on 22nd August, 2017.

Mining Plan for the project was earlier approved by Ministry of Coal on 16th June, 2008 in the name of M/s Madanpur South Coal Company Ltd. Subsequent to the cancellation of the coal

block, the coal mine has been allocated to M/s The Andhra Pradesh Mineral Development Corporation Ltd by the O/o the Nominated Authority in the Ministry of Coal vide allotment order dated 29th September, 2016. Accordingly, the mining plan also stands transferred in the name of the present incumbent M/s The Andhra Pradesh Mineral Development Corporation Ltd as reflected in the said allotment order.

19.5.4 *The EAC, after detailed deliberations, recommended the proposal for grant of ToR to the Madanpur South Coal Mine project of 5.4 MTPA of M/s The Andhra Pradesh Mineral Development Corporation Ltd in mine lease area of 713.952 ha located in villages Morga and Ketma (Hasdeo-Arand Coalfield), Tehsil Katghora in District Korba (Chhatisgarh), and for preparation of EIA/EMP reports with public consultation subject to compliance of all conditions as specified/notified in the standard ToR applicable for opencast coal mines, along with the additional conditions as under:-.*

- *For proper baseline air quality assessment, adequate monitoring stations (4-5 nos) in the downwind areas need to be set up and included in the air quality modelling.*
- *Ecological restoration and mine reclamation plan to be prepared with local/native species found in the area.*
- *In-pit belt conveyor should be installed from the pit bottom up to the silo loading point/rapid loading system.*
- *Proposed external dump should be reduced to minimum and involvement of coal bearing area to be minimized for external OB dumps.*

Agenda 19.6

Barjora (North) Block Coal Mining Project (3 MTPA) in a total area of 260.14 ha of M/s The West Bengal Power Development Corporation Limited located in village and Tehsil Barjora, District Bankura (West Bengal) - For TOR

19.6.1 The proposal is for terms of reference to Barjora (North) Block Coal Mining Project of 3 MTPA of M/s The West Bengal Power Development Corporation Limited in a total area of 260.14 ha located in village and Tehsil Barjora, District Bankura (West Bengal).

19.6.2 Brief Background:

(i) M/s West Bengal Power Development Corporation Limited (WBPDCCL) has been allotted the Barjora (North) Coal Block by Ministry of Coal, Government of India vide allotment order No 103/7/2015/NA dated 31.03.2015.

(ii) Before de-allocation, mining operation was going on in the non-forest area till 31.03.15 by the prior allottee M/s DVC EMTA, who possessed the mining lease for the non forest area of the said block along with Environmental clearance (EC) No J-11015/312/2007-IA.II (M) dated 13.03.2008.

(iii) WBPDCCL has already obtained the mining lease for the non forest area from Govt. of West Bengal as directed in the allotment order.

(iv) As per Circular No 11-584/2014-FC (pt) dated 09.6.2015 of MoEF&CC and letter No. J11015/312/2007-IA- II (M) dated 12/08/2015, WBPDCCL has already initiated the process of DGPS survey of Forest Land and CA (Compensatory afforestation) land for online uploading in

the website of MoEF&CC for getting the Stage- I Forest Clearance. The procedure of DGPS survey is time consuming, therefore, obtaining of Stage –I FC is likely to be delayed.

(v) WBPDCCL has already obtained the Mining Lease for the non forest area from Dept of Commerce & Industries, Govt of West Bengal along with Consent to Establish (NOC) and Consent to Operate with validity up to 30.11.2016 for the said coal mine from West Bengal State Pollution Control Board by making application as directed in the allotment order.

(vi) Principal Secretary of Forest, Govt of West Bengal has also recommended our case for necessary action towards transfer of Environmental clearance (EC) for the non forest area of the mine vide letter no 662/EN/T-II-I/017/2016 dated 17.03.2016

(vii) Copy of Mining Lease, Consent to Establish (NOC) and Consent to Operate has been submitted.

The EC was granted to the project where total area was 927.513 ha. However, the present scenario is as under:

The total Project Area	927.5 ha
Project Proponent applied for total ML area	663.0 ha
Approval obtained for of ML area of	260.14 ha
Project proponent has mining right for	260.14 ha
There is no forest land involved in the Approved ML area.	

M/s WBPDCCL would like to commence mining operation in the non forest area of the said coal mine, as was being done by the prior allottee, since mining lease has been granted for the non forest area of the mine only. .

The proposal was considered by the Expert Appraisal Committee (EAC) in the Ministry for Thermal & Coal Mining Projects in 62nd EAC meeting held on 23-24 August, 2016. The EAC pointed out that in the light of the Notification dated 23rd March, 2015, it was not empowered to take up consideration of the proposal, and referred the matter back to the MoEFCC for appropriate action.

19.6.3 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) The proposal is for fresh TOR.
- (ii) The latitude and longitude of the project are 23°25'59.238"N to 23°27'42.094"N and 87°13'17.106"E to 87°15'26.268" E respectively.
- (iii) Joint Venture: There is no Joint Venture
- (iv) Coal Linkage : End Use Plants are as follows:
 1. STPS, Santaldih, Purulia district.
 2. KTPS, Mecheda, PurbaMedinipur district.
 3. BkTPP, Bakreswar, Birbhum district.
 4. BTPS, Tribeni, Hoogly district.
 5. SgTPP, Manigram, Murshidabad district
- (v) Employment generated / to be generated: **477 Nos.**
- (vi) Benefits of the project: The developments of mining in the area will provide direct and indirect employment opportunities, infrastructure development, communication and

development socio-economic infrastructure. The important benefits accruing from the project can thus be stated as - boost to local and regional economy, direct contribution to the state exchequer. Indirect employees are shopkeepers, mechanic, drivers, transporters etc. The lessee (proponent) will be responsible for providing better social infrastructure benefits such as drinking water, health care measures, educational facilities, promotion of culture and religious activities in surroundings.

(vii) The total block area is 800 ha. The total **Mining lease area** as per approved Mining Plan is **260.14 ha**. The land usage of the project will be as follows:

Pre-Mining:

Land-use -pre-mining		
Sl. No.	Land-use	Within ML Area (ha)
1	Mined out Voids	63.93
2	De-coaled waste filled Area	39.49
3	Soil & Sub soil Storage Area	5.86
4	Infrastructure areas	9.11
5	Other Built Up areas	5.61
6	Safety Zone	17.89
7	Coal Stack Yard	1.25
8	Office and VT Centre	3.50
9	Road	2.55
10	Access Trench	0.65
11	Water Body	1.67
	Sub Total	151.51
12	Unutilized Areas	108.63
	Total	260.14
Land-use –during mining		
Tenancy	Excavation Area	191.00
	Backfilled area	0
	Excavated Void	0
	Without Plantation	0
	Top Soil Dump	5.86
	External Dump	0
	Safety zone/Rationalization area	17.89
	Road Diversion	0
Government land (Non Forest)	Diversion/Below River/Nala/ Canal	0
	Road & Infrastructure area	26.9
	Garland Drains	2.25
	Embankment	0
	Green Belt	0
	Water Reservoir near pit/Water Body	0
Forest	UG Entry	0
	Pit Head Power Plant	0
	Resettlement	0
Free Hold	Undisturbed/Mining Right for UG	5.62
	Others(Magazine, ETP, Access Trench	10.62
	Grand total	260.14

Post- Mining:

Land-use –post- mining		
Tenancy	Excavation Area	0
	Backfilled area	156.47
	Excavated Void	34.53
	Without Plantation	0
	Top Soil Dump	5.86
	External Dump	0
	Safety zone/Rationalization area	17.89
	Road Diversion	0
	Diversion/Below River/Nala/ Canal	0
Government land (Non Forest)	Road & Infrastructure area	26.9
	Garland Drains	2.25
	Embankment	0
	Green Belt	0
	Water Reservoir near pit/Water Body	0
	UG Entry	0
Forest	Pit Head Power Plant	0
	Resettlement	0
	Undisturbed/Mining Right for UG	5.62
Free Hold	Others(Magazine, ETP, Access Trench	10.62
Grand total		260.14

(viii) Total geological reserve is **25.85** MT. The mineable reserve **18.60** MT, extractable reserve is **11.56** MT. The per cent of extraction would be **44.71** %.

(ix) The coal grade is G-9 to G-13. The stripping ratio is 1:5.69 Cum/tonne. The average Gradient 8°. There will be 9 seams with thickness as under:

Sl. No.	Seam Name	Thickness (m)			Depth range (m)
		Minimum	Maximum	Average	
1	Seam -IX	0.26	2.78	1.43	15.14-40.16
2	Seam -VIII	0.3	2.94	1.26	6.13-46.09
3	Seam -VII	0.55	4.72	2.11	9.00-76.38
4	Seam -VI	0.25	4.42	1.51	17.2-75.89
5	Seam -V	1.7	6.29	3.88	12.96-112.2
6	Seam -IV	0.20	1.30	0.67	
7	Seam – I / II / III	4.42	6.34	5.39	

(x) Total estimated water requirement is 1652 m3/day. The level of ground water ranges upto 35 m bgl.

(xi) The Method of mining would be Opencast.

(xii) There is no external OB dump. No waste will be dumped outside the leasehold area and from the very first day of development of this mine, internal dumping is envisaged and 3 internal dump with Quantity of 65.85 Mbcm in an area of 156.47 ha.

(xiii) The final mine void would be in 34.53 ha with depth Max.145m (before final mine

closure) and the total quarry area is 260.14ha. Backfilled quarry area of 84.81 ha shall be reclaimed with plantation. A void of 34.53 ha with depth 145 m which is proposed to be converted into a water body.

(xiv) The life of mine is 22 Years.

(xv) Transportation: Surface Miner for coal winning and Dozer-Shovel-Dumper combination for loading and transportation. Occasionally use of FEL is envisaged for coal loading directly from face.

(xvi) R & R: Rehabilitation and Resettlement have already been complied by prior allottee as per approved R & R Plan. However, if any left out families found within the leasehold area, WBPDCCL will implement approved R & R policy.

(xvii) Cost: Total capital cost of the project is Rs. 918.58 Crores. CSR Cost: Yet to be finalised. R&R Cost: Prior Allottee has already implemented R&R as per approved plan. However, is any further R&R is involved; WBPDCCL shall implement R&R as per new approved plan. Environmental Management Cost : Yet to be finalized.

(xviii) Water body: The main drainage of the area is controlled by the Damodar River which flows about 5 km north of the coalfield. Tartora nallah with a north-easterly flow forms the main drainage within the block with seasonal surface flow. However, Tartola nallah is not going to be affected in this proposed mining project.

(xix) Approvals: No ground water will be extracted for the project. However, as mine depth is more than ground water table, application for NOC from CGWA will be submitted. Board's approval obtained on 5th December, 2016. Mining plan has been approved on 4th September, 2017. Mine closure plan is an integral part of mining plan.

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

(xxi) Forestry issues: There are no forests involved in the mine lease area.

(xxii) Total afforestation plan shall be implemented covering an area of 84.81 ha at the end of mining. Green Belt over an area of 17.89 ha. Density of tree plantation 2500 trees/ ha of plants.

(xxiii) There are no court cases/violation pending with the project proponent.

(xxiv) Request for Public hearing exemption.

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

The proposal is for ToR to Barjora (North) Coal Mining Project of 3 MTPA of M/s The West Bengal Power Development Corporation Limited in a total area of 260.14 ha located in village and Tehsil Barjora, District Bankura (West Bengal).

Mining Plan for the project was earlier approved by Ministry of Coal on 24th August, 2006 in the name of M/s DVC-Emta Coal Mines Ltd. Subsequent to cancellation of the coal block, the same has been allocated to M/s The West Bengal Power Development Corporation Limited in pursuance of the allotment order dated 31st March, 2015 issued by O/o the Nominated Authority in the Ministry of Coal.

The earlier EC issued for the project on 13th March, 2008 in favour of the earlier allottee was supposed to be transferred to the fresh allottee in view of this Ministry's Notification dated 23rd March, 2015. However, the same could not be materialised due to no Stage-I forest clearance for the total forest land of 300 ha out of the total project area of 927.5 ha.

The scope of the project has since been revised and the project area is now reduced to 260.14

ha (not having any forest land) from the earlier of 927.5 ha. The mining plan has also been revised accordingly and the same has been approved by Ministry of Coal vide their letter dated 4th September, 2017.

It was informed that the field data collection for preparation of EIA/EMP report was earlier done by the project proponent during the period December, 2016 to February, 2017. The Committee agreed to consider the same in view of this Ministry's OM dated 28th August, 2017. In case of public consultation, the EAC after taking note of the merits of the case and provisions of this Ministry's Notification dated 23rd March, 2015 in this regard, desired for extending the benefits of transfer of EC in the instant case also. The Committee further desired that the Ministry may also like to take a view in this regard.

19.6.5 *The EAC, after detailed deliberations, recommended the proposal for grant of ToR to the Barjora (North) Coal Mining Project of 3 MTPA of M/s The West Bengal Power Development Corporation Limited in a total area of 260.14 ha located in village and Tehsil Barjora, District Bankura (West Bengal), and for preparation of EIA/EMP reports subject to compliance of all conditions as specified/notified in the standard ToR applicable for opencast coal mines, along with the additional conditions as under:-*

- *For proper baseline air quality assessment, adequate monitoring stations (4-5 nos) in the downwind areas need to be set up and included in the air quality modelling.*
- *Ecological restoration and mine reclamation plan to be prepared with local/native species found in the area.*
- *In-pit belt conveyor should be installed from the pit bottom up to the silo loading point/rapid loading system.*
- *Proposed external dump should be reduced to minimum and involvement of coal bearing area to be minimized for external OB dumps.*

Agenda 19.7

Murpar Expansion UG Mine (Phase-I) for a sanctioned EC capacity of 0.28 MTPA with increase in Land Area from 325 ha to 482.09 ha by M/s Western Coalfields Limited Located in Tehsil Chimur, District Chandrapur of (Maharashtra) - EC under 7(ii) of EIA Notification 2006

19.7.1 The proposal is for environmental Clearance to Murpar Expansion UG Mine (Phase-I) for a sanctioned EC capacity of 0.28 MTPA with increase in Land Area from 325 ha to 482.09 ha by M/s Western Coalfields Limited Located in Tehsil Chimur, District Chandrapur of (Maharashtra)- EC under 7(ii) of EIA Notification 2006.

19.7.2 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) The project was accorded EC vide letter no. J-11015/25/2001-IA.II (M) dated 15th November, 2002 for 0.28 MTPA for a total lease area of 325 ha.
- (ii) The proposal is for grant of Environmental clearance to the expansion project w.r.t. land area from 325 ha to 482.09 ha without change in production capacity i.e. 0.28 MTPA.
- (iii) The latitude and longitude of the project are 20^o 31' 40" N to 20^o 34' 49" N and 79^o 16'

00" E to 79° 19' 08" E respectively.

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

(v) Coal Linkage: Linked to Thermal Power Plants of MAHAGENCO & Miscellaneous consumers.

(vi) Employment generated / to be generated: Present manpower of the project is 426 Nos and additional manpower required is 227 Nos.

(vii) Benefits of the project: This project will bridge the gap (to the extent of the peak production capacity of the project) between demand & supply of non-coking coal for the power houses and other bulk consumers of western as well as southern part of the country.

(viii) The total land area will be 482.09 ha. Mining lease area as per approved Mining Plan is 482.09 ha. The land usage of the project will be as follows:

Pre-Mining:

Particular	Existing land Area (ha)	Additional Land Required (ha)	Total
Government land	5.00	52.25	57.25
Tenancy land	57.00	104.84	161.84
Forest land	248.00	0.00	248.00
Colony Land	15.0	0.00	15.0
Total Land	325.00	157.09	482.09

Post Mining: As only development of Seam-IX is proposed in approved scheme. There will not be any change in land use of additional 157.09 ha.

(ix) The total geological reserve is 9.75 MT in the Seam-IX in the area limited in Scheme for Murpar Expansion UG Mine (Phase-I). The mineable reserve 1.044 Mt (only development reserves of Seam-IX), extractable reserve is 1.044 Mt (only development reserves of Seam-IX). The per cent of extraction would be 10.70 %.

(x) The coal grade is GCV 4825 k Cal /kg (Grade G-9). The stripping is not applicable.

(xi) The average Gradient: The dip in the southern part of the area is about 4° gradient (1 in 15) and in the northern part the dip ranges between 2° to 6° (gradient 1 in 30 to 1 in 10) respectively.

(xii) Total 13 coal seams have been encountered in the proposed Murpar Expansion UG Block. The present proposal is only for production of coal by development of Seam-IX in expansion area (157.09 ha).

(xiii) Thickness ranging of the seam ranges from 2.68 m to 5.70 m (of Seam-IX in the area limited in Scheme for Murpar Expansion UG Mine (Phase-I))

(xiv) The total estimated water requirement is 650 m³/day. The level of ground water ranges from 0.5 m to 12.30 m.

(xv) The Method of mining would be underground (Board & Pillar Development work with LHDs).

(xvi) There is neither external OB dump nor internal OB dumps as the mine is underground.

(xvii) The seasonal data for ambient air quality has been documented and all results at all stations are within prescribed limits.

(xviii) The life of mine is 4 years for Phase-I of Murpar Expansion UG Mine.

(xix) Transportation: LHDs will win coal at coal faces and load onto the pony belt conveyors in

the districts. In districts, gate belt conveyors will receive coal from face belt conveyors and discharge onto another gate belt or onto trunk belt conveyors as per the requirement of mine for further transportation. Surface to Siding by dumper and loading at siding by Pay loaders.

(xx) There is no R & R involved.

Cost: Total capital cost of the project: Completion cost is Rs. 19.5825 crores as on 31.03.2006 and additional capital requirement is Rs 5.9588 Crores. CSR Cost: The fund for the CSR will be allocated based on 2% of the average net profit of the Company for the three immediate preceding financial years or Rs 2.00 per Tonne of Coal Production of the previous year whichever is higher. R&R Cost Nil. Environmental Management Cost : Capital cost Rs 12.91 Lakhs and Revenue- @ Rs 6/tonne.

(xxi) Water body: The drainage of the block is controlled by the southerly flowing tributaries of Gani nala, passing through the central part of the block. These tributaries join the Gani nala in the south of the block.

(xxii) Approvals: Application for grant of NOC for dewatering of Groundwater has been submitted to CGWB dated 21.03.2017. Board's approval obtained on 07.08.2017. Mine plan for Murpar Expansion UG Mine (Phase-I) along with Mine Closure Plan was approved on 07.08.2017. Mine closure plan is an integral part of mining plan.

Wildlife issues: The project is within eco sensitive-Zone of Tadoba-Andhari Tiger Reserve. Northern boundary of Buffer & Core Zone of Tadoba-Andhari Tiger Reserve is at a distance of approx. 5 kms & 13 kms respectively from the Murpar UG. There will be no impact on surface features since Murpar UG is an existing mine and the proposal for expansion in area is only for development of coal seam through the existing mine opening.

(xxiii) As the expansion project will be carried through the existing mine inclines and proposal does not have any impact on surface feature. There will be no incremental impact on Flora and Fauna of the area.

(xxiv) Forestry issues: Total 248 ha of forest land is involved in existing Murpar UG. The FC has been obtained vide F. no. 8-35/2000-FC dated 01/06/2001 for this forest land. There is no additional forest land required in phase-I of Murpar Expansion UG Mine.

(xxv) Total afforestation plan shall be implemented covering an area of 4 ha at the end of mining. Green Belt over an area of 4 ha. Density of tree plantation 2500 trees/ ha of plants.

(xxvi) There are no court cases/violation pending with the project proponent.

(xxvii) Public hearing has been already conducted for Murpar UG on 27/12/2011 at Project site of Murpar UG Mine (though the area has been changed).

19.7.3 EC compliance report: Certified compliance report from Regional Office of MoEF&CC located at Nagpur has been obtained vide letter no F.No:3-10/2002(ENV)/968 Dated 19/10/2016. Same has been deliberated in the EAC meeting.

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

The proposal is for EC to the Murpar Expansion UG Mine (Phase-I) for the sanctioned capacity of 0.28 MTPA with increase in land area from 325 ha to 482.09 ha by M/s Western Coalfields Limited Located in Tehsil Chimur, District Chandrapur (Maharashtra)

Total project area includes 248 ha of forest land for which forest clearance was already obtained on 1st June, 2001. There is no additional requirement of forest land for the proposed project

The monitoring report on compliance status of the existing EC conditions issued by Regional Office, MoEF&CC Nagpur vide letter dated 19th October, 2016 was found to be satisfactory. Non-compliance of the EC conditions was reported only in respect of administrative aspects, namely, providing copy of EC to concern Panchayats/local NGO and advertisement about the EC in the local newspapers. These conditions were later complied and reported to the Regional Office and the MoEF&CC. The same was duly taken note by the EAC.

The scheme for Murpar Expansion UG mine (phase-I) along with Mine Closure Plan was approved by functional directors of WCL on 7th August, 2017.

19.7.5 *The EAC, after detailed deliberations, was convinced with the submissions by the project proponent and to the grant of EC to the project 'Murpar Expansion UG Mine (Phase-I)' of capacity 0.28 MTPA with increase in land area from 325 ha to 482.09 ha by M/s Western Coalfields Limited Located in Tehsil Chimur, District Chandrapur of (Maharashtra). However, the Committee noted that the Mine Plan for the project stands approved by the functional directors of M/s WCL, but yet to be approved by the WCL Board which remains the competent authority for the needful. The project, although recommended for grant of EC on merits but deferred for want of Mining Plan approval by the Company Board.*

Agenda 19.8

Pakri Barwadih Coal Mine Project (15 MTPA) in an area of 3319.42 ha of M/s National Thermal Power Corporation Ltd located in Tehsil Barkagaon District Hazaribagh (Jharkhand) - EC Amendment

19.8.1 The proposal is for amendment in Environmental clearance of Pakri Barwadih Coal Mine Project (15 MTPA) in an area of 3319.42 ha of M/s National Thermal Power Corporation Ltd. (NTPC) Ltd. located in villages Barkagaon, Itij, Chiruadih, Urub, Chepa, Kalan, Nagri, Jugra, Sinduari, Churchu, Carahara, Sonbarsa, Pakri-Barwadih, Chepa-Khurd, Deora-Kalan, Lakura, Langatu, Keri, Dadikalan, Tehsil Barkagaon District Hazaribagh (Jharkhand)

19.8.2 EC was granted to the project vide letter No. J-11015/692/2007-IA.II (M) Dated 19.05.2009 & Amendment Letter No. J-11015/692/2007-IA-II (M) Dated 29.06.2016). Amendment is required in the Specific Conditions No.(iii), (v), (vi), (ix), (xii) and General Condition No.(ix) & (xiii).

S. No.	Conditions as per Environmental Clearance dated 19.05.2009	Amendment Proposed in EC
SPECIFIC CONDITIONS		
(iii)	The monolith found within the core zone shall not be disturbed by the mining operations and a minimum 500 m distance along with thick green belt would be maintained between the eastern quarry and the monolith. A road would be created upto the monolith a park created around it	The user agency would provide necessary fund to the State Government for construction of road up to the monolith and a park around it so that the monolith could be visited as for tourism purpose.

	so that the monolith could be visited.	
(v)	Topsoil should be stacked properly with proper slope at earmarked site(s) and should not be kept active and shall be used for reclamation and development of green belt.	“Earmarked Site(s)” <i>may be replaced with</i> “at suitable location in site(s)”
(vi)	A minimum of 500m shall be maintained and thick green belt developed between the habitation and OB dumps particularly that of Barkagaon.	“and OB dumps particularly that of Barkagaon” <i>may be replaced with</i> “of Barkagaon and OB dumps”
(ix)	The main haul road of 6 km within the core zone shall be metaled. A 3-tier avenue plantation shall be developed along the main approach roads and haul roads.	“Main haul road of 6 km” to be substituted by “approach road of 6 km along northern boundary of mining lease”. For development of 3-tier avenue plantation, northern sides of main approach road to be preferred in place of haul roads.
(xii)	A detailed R&R Plan for the life of the project comprising land losers, homestead losers and land and homestead losers, including tribals to be displaced from the project area shall be prepared and implemented in a stipulated time frame. Phase-I of the R&R comprising of 2221 PAPs shall be implemented within one year. The compensation shall be not less than that specified in the National R&R Policy. Provision shall also be made in the R&R Plan to take care of the land less labourers and the tribals. The total expenditure on R&R shall not be less than Rs. 700 crores, which includes land acquisition (Rs. 30 crores) and R&R (350 crores). Alternate livelihood and skill development programmes and schemes shall be implemented as part of R&R and CSR.	The following Para(s) stipulated as under condition (xix) may be replaced; “Phase-I of the R&R comprising of 2221 PAPs shall be implemented within one year.” <i>May be deleted and replaced by</i> “Project proponent will implement the approved R&R plan as per phased requirement of displacement” AND “The total expenditure on R&R shall not be less than Rs. 700 crores, which includes land acquisition (Rs. 30 crores) and R&R (350 crores)” <i>May be deleted and replaced by</i> “The total expenditure of R&R shall not be less than Rs.2976 Cr which includes private land acquisition (Rs.982Cr) and R&R (1492Cr)”
GENERAL CONDITIONS		
(ix)	Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	Following may also be incorporated; “the monitoring shall be done by NABL/MoEF&CC accredited laboratory”
(xiii)	The Regional Office of this Ministry located	“Bhopal” is to be modified as “Ranchi”

	at Bhopal shall monitor compliance of the stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	
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19.8.3 The EAC, after deliberations, recommended for amendment in the EC for specific & general conditions as under:

S No	Conditions as per Environmental Clearance dated 19 th May, 2009	Amendment Proposed in EC	EAC recommendations
SPECIFIC CONDITIONS			
(iii)	The monolith found within the core zone shall not be disturbed by the mining operations and a minimum 500m distance along with thick green belt would be maintained between the eastern quarry and the monolith. A road would be created upto the monolith a park created around it so that the monolith could be visited.	The user agency would provide necessary fund to the State Government for construction of road up to the monolith and a park around it so that the monolith could be visited as for tourism purpose.	<u>Agreed</u>
(v)	Topsoil should be stacked properly with proper slope at earmarked site(s) and should not be kept active and shall be used for reclamation and development of green belt.	“Earmarked Site(s)” may be replaced with “at suitable location in site(s)”	<u>Not agreed. PP has to get amendment from MOC and come back to the Ministry.</u>
(vi)	A minimum of 500m shall be maintained and thick green belt developed between the habitation and OB dumps particularly that of Barkagaon.	“and OB dumps particularly that of Barkagaon” may be replaced with “of Barkagaon and OB dumps”	<u>Agreed</u>
(ix)	The main haul road of 6 km within the core zone shall be metaled. A 3-tier avenue plantation shall be developed along the main approach roads and haul roads.	“Main haul road of 6 km” to be substituted by “approach road of 6 km along northern boundary of mining lease”. For development of 3-tier avenue plantation, northern sides of main	<u>Agreed</u>

		approach road to be preferred in place of haul roads.	
(xix)	A detailed R&R Plan for the life of the project comprising land losers, homestead losers and land and homestead losers, including tribals to be displaced from the project area shall be prepared and implemented in a stipulated time frame. Phase-I of the R&R comprising of 2221 PAPs shall be implemented within one year. The compensation shall be not less than that specified in the National R&R Policy. Provision shall also be made in the R&R Plan to take care of the land less labourers and the tribals. The total expenditure on R&R shall not be less than Rs. 700 crores, which includes land acquisition (Rs. 30 crores) and R&R (350 crores). Alternate livelihood and skill development programmes and schemes shall be implemented as part of R&R and CSR.	The following Para(s) stipulated as under condition (xix) may be replaced; “Phase-I of the R&R comprising of 2221 PAPs shall be implemented within one year.” <i>May be deleted and replaced by</i> “Project proponent will implement the approved R&R plan as per phased requirement of displacement” AND “The total expenditure on R&R shall not be less than Rs. 700 crores, which includes land acquisition (Rs. 30 crores) and R&R (350 crores)” <i>May be deleted and replaced by</i> “The total expenditure of R&R shall not be less than Rs.2976 Cr which includes private land acquisition (Rs.982Cr) and R&R (1492Cr)”	<u>Not agreed.</u> <u>PP to submit phase wise rehabilitation plan</u>
GENERAL CONDITIONS			
(ix)	Environmental laboratory shall be established with adequate number and type of pollution monitoring and analysis equipment in consultation with the State Pollution Control Board.	Following may also be incorporated; “the monitoring shall be done by NABL/MoEF&CC accredited laboratory”	<u>Agreed</u>
(xiii)	The Regional Office of this Ministry located at Bhopal shall monitor compliance of the	“Bhopal” is to be modified as “Ranchi”	<u>Agreed</u>

	stipulated conditions. The Project authorities shall extend full cooperation to the office(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.		
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All other terms and conditions stipulated in the EC dated 19th May, 2009, and EC amendment letter dated 29th June, 2016 shall remain unchanged.

Agenda 19.9

A. Discussion on any other item

Compliance of the directions of the National Green Tribunal (CZ) at Bhopal in OA No.117/2016

19.9.1 The Member Secretary informed the EAC about the directions of the National Green Tribunal (CZ) at Bhopal vide their order dated 23rd August & 30th August, 2017 in the matter of 'Rights Redemption Social Welfare Association of India Vs. Union of India & Ors' and to consider the same on priority in compliance of the said orders. The matter is related to pollution of Kanchan river due to coal mining operations (erosion of OB dump) by M/s J. P. Power Venture Ltd in a total area of 728.75 ha located in village Majhauri, Tehsil Devsar, District Singrauli (MP), and also the mining lease.

The Committee was also informed that the copy of the above said orders were not received till date. It is only after an informal communication through the project proponent, the Ministry came to know about the same and the matter was placed before the EAC in compliance of the directions.

19.9.2 The NGT vide order dated 23rd August, 2017 had observed and directed as under:-

'----- Before we proceed in the matter further from the perusal of the map Annexure R-3 submitted by the Respondent No.11 & 12 the salient facts that emerge are as follows :

That the boundary of the leased area at certain points runs at zero distance from the bank of the river Kanchan i.e river in the boundary of the lease.

The Kanchan river for a considerably long distance is incorporated and included within the leased area itself.

These two aspects need to be examined.'

19.9.3 Further, vide order dated 30th August, 2017, observations and directions of the NGT were as under:-

' ----- it was contended by the Learned Counsel for the Respondent No.11 and 12 that notwithstanding the fact that lease boundary of the mining lease of the Respondent No.11 and 12 runs along the boundary of the river Kanchan there is no infirmity in so far as the approval of

the mining lease and the mining operations by the MoEF and CC in this behalf. As has been stated by us in our order dated 23.08.2017 while raising the two questions we find that the evidence that has been brought on record shows that at some points from the OB dumps there has been found to be debris entering into the river Kanchan and that is why the two questions that has been raised by us assumes importance. Apart from the above in several cases that have been brought before this Tribunal cases of siting norms with regard to the mining leases of minor as well as major minerals have also been brought to our notice where distances from water bodies are required to be given which in our opinion are significant with regard to the pollution factors to be considered while considering the applications for grant of the renewal of the mining lease and permission of the same in order to grant the EC for the same.

In the light of these issues we would direct that the two questions which have been raised in our order of 23.08.2017 be referred to the EAC coal in order to seek their opinion on the same. For this purpose we would also direct that the team of members of EAC coal, MoEF to visit the site in particular and give their opinion as to whether the mining operations particularly dumping of over burden by the Respondent No.11 and 12 have any adverse impact on the Kanchan river as also whether the mining lease could be allowed to continue with its existing condition or with any modifications to the same. This in particular is relevant for our consideration in respect of the overburden dump site as the major issue before us is in respect of the erosion from the dump site into the river and pollution as a result of the same. For seeking the aforesaid opinion we would direct that the Registry send the copy of this order along with the set of the third file of this Tribunal to the EAC coal MoEF and CC.

The MoEF is directed to give their opinion as early as possible and preferably on or before the 16.10.2017 and while hearing considering the matter either during the spot inspection or otherwise. EAC member may grant opportunity of hearing to the Respondent No.11 & 12.'

19.9.4 The EAC, after careful examination of the directions, observed that demarcation of mine boundary and/or the mining lease, may not be its domain within the regulatory framework of the EIA Notification, 2006 under the Environment (Protection) Act, 1986. However, to address the pollution concerns of Kanchan river due to erosion of the OB dump for mining operations in the given area, and to comply with the orders of the NGT, the EAC desired for the site visit to be undertaken by 2-3 of its members during 5-10 October, 2017. The site inspection report shall be placed before the EAC for their deliberations vis-à-vis the orders of the NGT, before filing the affidavit before the Hon'ble Tribunal.

B. Standardization of EC conditions

The Committee was informed about the need for standardization of EC conditions separately for different type of projects which include Opencast Coal Mines, Underground Coal Mines and Coal Washeries. The draft EC conditions for each of such project were placed before the EAC for consideration. The Committee desired that the draft EC conditions may be circulated to all the members for comments for the present, which may be further deliberated in the next meeting of the EAC.

PARTICIPANTS IN 19th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 26st SEPTEMBER 2017 ON COAL SECTOR PROJECTS.

Sl. No.	List Of Participants Expert Appraisal Committee (Coal Mining)	
1.	Dr. Navin Chandra	Chairman
2.	Dr. Sharadchchandra Lele	Member
3.	Dr. Narmada Prasad Shukla	Member
4.	Shri S D Vora	Member
5.	Dr. J.K.Pandey	Member
6.	Prof Om Prakash	Member
7.	Dr. Manjari Srivastava	Member
8.	Shri S. K. Shrivastva	Member Secretary

PARTICIPANTS IN 19th EXPERT APPRAISAL COMMITTEE (EAC) (THERMAL & COAL MINING) MEETING HELD ON 26st SEPTEMBER, 2017 ON COAL SECTOR PROJECTS.

19.1 Garjanbahal OCP of M/s Mahanadi Coalfields Limited.

1. Shri O.P.Singh
2. Dr. A.K.Samantaray
3. Shri N.Kalla
4. Shri Raji Jashva
5. Shri. C.Jagadev
6. Shri Abhishek Kr
7. Shri Neeraj Kr.Singh
8. Shri S.K.Bhar
9. Shri R.C.Sahoo
10. Shri Jyotirmay Sinha

19.2 Durgapur Ext. Deep OC Phase-II of M/S Western Coalfields Limited.

1. Shri T.N.Jha
2. Shri K. Chakravarty
3. Shri U.S.Shah
4. Md. Noor Uddin
- 5 Shri Sandeep Sharma

19.3 Baitarni West Coal Mine of M/s Odisha Mining Corporation Limited.

1. Shri T.Ashok Kumar
2. Shri S.K Bhar
3. Shri R.C.Sahoo
4. Shri N.K.Singh
5. Shri Jyotirmay Sinha
6. Shri N.C.Mohanty
7. Shri K.C.Sarangh

19.4 Gourangdih ABC Coal Mine of M/s West Bengal Mineral Development And Trading Corporation Limited (WBMDCL)

1. Shri G.Palder
2. Shri Arun Acharya
3. Shri Marisha Sharma

19.5 Madanpur South Coal Mine of M/S APMDC

1. Shri H.D.Nagarajan
2. Shri A.Lakshman Rao
3. Shri Palash Banearjee

19.6 Barjora (North) Block Coal Mining of M/S West Bengal Power Development Corporation Limited

1. Shri Amalesh Kumar
2. Shri Priyant Kumar
3. Shri Nandini Chaudhary
4. Shri Rahul Singh
5. Shri Nilanjan Das
6. Shri Dipannila Das

19.7 Murpar UG Mine (Phase-I) of M/S Chhattisgarh Power and Coal Benificiation Limited

1. Shri T.N.Jha
2. Shri K. Chakravarty
3. Shri U.S.Shah
4. Md. Noor Uddin
- 5 Shri Sandeep Sharma

19.8 Pakri Barwadih Coal Mine Project of M/S (NTPC) Ltd.

1. Shri P. M Prasad
2. Shri R K Baderia
3. Shri Amudala Prathap
4. Shri Birendra Kumar
5. Shri Ravi S.Verma
6. Shri Ravi Verma

19.9 Discussion on any other item.

Generic ToR for coal washery

- i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washery preferably through closed conveyer belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant alongwith a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Repot should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. alongwith the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM₁₀, PM_{2.5}, SO_x and NO_x, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.
- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.

- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out alongwith Action Plan.
- xiv. O.M.no.J-II0I3/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
- xvi. Analysis of samples indicating the following be submitted:
 - Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
 - Characteristics and quantum of coal after washing.
 - Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
- xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
- xxii. Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986
- xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

- (i) An EIA-EMP Report shall be prepared for..... MTPA rated capacity in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
- (ii) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A toposheet specifying locations of the State, District and Project site should be provided.
- (iv) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.
- (v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area may also be provided with explanatory note on the land use.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (vii) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (viii) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion /modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.
- (x) Similarly if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.

- (xi) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

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

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

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xv) 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.
- (xvi) 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.

- (xvii) 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.
- (xviii) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xix) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- (xx) 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.
- (xxi) 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.
- (xxii) Impact of blasting, noise and vibrations should be given.
- (xxiii) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxiv) 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.
- (xxiv) 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.
- (xxv) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxvi) 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.
- (xxvii) 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.
- (xxviii) 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.	1 st year					
2.	3 rd year					
3.	5 th year					
4.	10 th year					
5.	15 th year					
6.	20 th year					
7.	25 th year					
8.	30 th year					
9.	34 th year(end of mine life)					

10.	34- 37 th Year (Post- mining)										
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* As a representative example

(xxix) 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					110

- (xxx) 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.
- (xxxi) 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.
- (xxxii) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- (xxxiii) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
- (xxxiv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxxv) 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.

- (xxxvi) 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.
- (xxxvii) 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.
- (xxxviii) 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.
- (xxxix) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xl) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xli) 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.
- (xlii) 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			

GENERIC TORs FOR AN UNDERGROUND COALMINE PROJECT

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

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

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

Area under Surface Rights

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

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

size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.

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

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

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

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

Total 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			

GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT

- (i) An EIA-EMP Report would be prepared for a combined peak capacity ofMTPA for OC-cum-UG project which consists of MTPA in an ML/project area of ha for OC and MTPA for UG in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification 2006.
- (ii) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum-underground mining.

27/09/2017

https://mail.gov.in/iwc_static/layout/shell.html?lang=en&3.0.1.2.0_15121607

Subject: **Re: Draft MOM of the 19th EAC held on 26th September, 2017**
To: Purushottam ramdas Sakhare <sakhare.pr@nic.in>,
Srivastava Additional Director <sk.smree66@nic.in>

Date: 09/27/17 02:28 PM
From: navin chandra <navinchandrarrl@yahoo.com>

27th September, 2017

Deqar Dr. Srivastava Ji,

I have gone through the Draft Minutes of the 19th EAC meeting held on 26th September 2017. The Minutes are in order and now the same can be uploaded on the web site.

Regards,

(NAVIN CHANDRA)

Dr. Navin Chandra,
Director General
M P Council of Science and Technology (MPCST),
Vigyan Bhawan, Nehru Nagar, Bhopal - 462003 (M.P.) India
Phone : 91-755- 2671800 (Office)
e-mail : dg@mpcost.nic.in
navinchandrarrl@yahoo.com, navinchandraampri@gmail.com

**19th EAC (THERMAL & COAL MINING PROJECTS) MEETING
SCHEDULED FOR 26th SEPTEMBER, 2017.**

AGENDA

**Venue: Narmada Conference Hall, Ground Floor, Jal Wing,
Indira Paryavaran Bhawan, Jorbagh, New Delhi-110003.**

[PI. check the MoEF website: http://environmentclearance.nic.in/Report/Default3.aspx](http://environmentclearance.nic.in/Report/Default3.aspx)

Important Note:

- i. Please send the information as per Annexure 1 by E-mail in word format and also a signed & scanned copy, to the Member-Secretary at sk.smree66@nic.in at least one week prior to the EAC meeting.**
- ii. Please send soft copies of all project-related documents that have been uploaded onto the MOEFCC website to EAC members by e-mail [indicating agenda item numbers] immediately upon receiving this communication, and send hard copies of the same documents [indicating agenda items] to all the EAC members, at least one week prior to the meeting and ensure the receipt of same.**
- iii. Non receipt of the project will lead to deferment of the project.**
- iv. Please also provide a hard copy of presentation to the EAC Members during the meeting.**
- v. The Project Proponent should carry the KML/Shape Files of the mine lease area at the time of presentation before EAC and to present on the details of mine lease online to show the present status of mine lease**
- vi. The KML/Shape files should be emailed on the below mentioned email addresses at least 10 days prior to the meeting**
- vii. The Project Proponent to show the transportation route of minerals on maps during presentation.**
- viii. Without this information, EAC has discretion to invite the proponent for the meeting.**
- ix. No consultant is permitted into the meeting who has no accreditation with Quality Council of India (QCI) /National Accreditation Board of Education and Training (NABET) as per the MoEF OM dated 2nd December, 2009**

COAL MINING PROJECTS

Time: 10.00 AM: Tuesday: 26th September, 2017

- 19.1 Garjanbahal OCP coal block of 10 MTPA (Normative)/13.0 MTPA (peak) in a total project area of 795.38 ha of M/s Mahanadi Coalfields Limited in District Sundargarh (Odisha) - For further consideration of EC
- 19.2 Environmental Clearance to Durgapur Extension Deep OC Phase-II of 3 MTPA of M/s Western Coalfields Limited in a total area of 1622.50 ha located in District Chandrapur (Maharashtra), dovetailing the EC for Phase-I granted on 16th March, 2012.- Further consideration of EC.

- 19.3 Baitarni West Opencast Coal Mine of 15 MTPA in a total project area of 1567 ha by M/s Odisha Mining Corporation Ltd located in North Central Part of Talcher Coalfields in District Angul (Odisha)- ForTOR
- 19.4 Gourangdih ABC Opencast Coal Mine Project of 2.5 MTPA in a total project area of 356.575 ha by M/s West Bengal Mineral Development And Trading Corporation Limited (WBMDCL) located in villages Panuria, Kantapahari, Jamgram, Shibdhawra, Banddhawra, Lalbandh, Gourangdih and Bhuiapara, Barabani CD Block, District Paschim Bardhaman, (West Bengal) - For TOR
- 19.5 Madanpur South Coal Mine project of 5.4 MTPA in a total project area of 713.952 ha of M/s APMDC located in villages Morga, Ketma (Hasdeo-Arand Coalfield), Tehsil Katghora in District Korba (Chhatisgarh) - For TOR
- 19.6 Barjora (North) Block Coal Mining Project (3 MTPA) in a total area of 260.14 ha M/s The West Bengal Power Development Corporation Limited located in village and Tehsil Barjora, District Bankura, (West Bengal) - For TOR
- 19.7 Murpar Expansion UG Mine (Phase-I) for a sanctioned EC capacity of 0.28 MTPA with increase in Land Area from 325 Ha. to 482.09 Ha by M/s Western Coalfields Limited Located in Tehsil Chimur, District Chandrapur of (Maharashtra)-EC under 7(ii) of EIA Notification, 2006
- 19.8 Pakri Barwadih Coal Mine Project (15 MTPA) in an area of 3319.42 ha of M/s National Thermal Power Corporation Ltd. (NTPC) Ltd. located in villages Barkagaon, Itij, Chiruadih, Urub, Chepa, Kalan, Nagri, Jugra, Sinduari, Churchu, Carahara, Sonbarsa, Pakri-Barwadih, Chepa-Khurd, Deora-Kalan, Lakura, Langatu, Keri, Dadikalan, Tehsil Barkagaon District Hazaribagh (Jharkhand)- EC Amendment
- 19.9 Discussion on any other item.
