

**MINUTES OF 10<sup>th</sup> MEETING OF THE EXPERT APPRAISAL COMMITTEE ( COAL)  
FOR ENVIRONMENTAL APPRAISAL OF COAL MINING PROJECTS HELD ON 22<sup>nd</sup>  
March, 2021.**

**Monday, 22<sup>nd</sup> March , 2021**

**Confirmation of the Minutes of 9<sup>th</sup> Meeting of the EAC (Coal) held on 26<sup>th</sup>February, 2021:** No comment was made from members of the committee on the minutes of the 9<sup>th</sup> meeting of the EAC held during 26<sup>th</sup> February, 2021 therefore the Minutes of the Meeting (MoM) of 9<sup>th</sup> EAC meeting was confirmed.

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

**Consideration of Proposals:** The 10<sup>th</sup> meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 22<sup>nd</sup> March, 2021 through video conferencing with support NIC team due to Covid-19 lockdown. The EAC considered proposals as per agenda adopted for the meeting. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

**Agenda No. 10.1**

**Expansion of Jalagam Vengala Rao Opencast Mine (I&II Amalgamation + Expansion + 26.39 ha area) from 4 / 5 MTPA (Normative/ Peak) to 10 MTPA (Peak) with setting up of coal washery of 4 MTPA capacity in ML Area 1953.46 ha by M/s Singareni Collieries Company Limited at village Kommepalli near Sathupalli town, Sathupallimandal, Khammam District, (Telanagana) - For Environment Clearance-reg.**

**[Online Proposal No. IA/TG/CMIN/171196/2019; J-11015/268/2007-IA.II(M)]**

**10.1.1** The proposal is for grant of Environment Clearance (EC) for Expansion of Jalagam Vengala Rao Opencast Mine (I&II Amalgamation + Expansion + 26.39 ha area) from 4 / 5 MTPA (Normative/ Peak) to 10 MTPA (Peak) with setting up of coal washery of 4 MTPA capacity in ML Area 1953.46 ha by M/s Singareni Collieries Company Limited at village Kommepalli near Sathupalli town, Sathupallimandal, Khammam District (Telangana).

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

- (i) The project area is covered under Survey of India Topo Sheet No. 65C/16 and is bounded by the geographical coordinates ranging from Latitudes 17°09'54.59"N to 17°13'01.70"N and longitudes 80°45'43.38"E to 80°49'20.86"E.
- (ii) Coal will be supplied to the major customers like Power houses, cement, Textiles, Paper, Railways and other Industries.
- (iii) Joint venture cartel has been formed - Not Applicable.

- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation, Permanent / Contractual employment to 706/800 persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of socio-economics and improving living standards.
- (vii) Earlier, the environment clearances to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/268/2007-IA.II(M) dated 28th March, 2010 for 4.0 (Peak - 5.0) MTPA in mine lease area of 1409.81 ha.
- (viii) Total mining lease area is 1910.09 ha. Mining Plan (Including Mine Closure Plan) has been approved by the Standing Committee of MoC, GoI in its meeting held on 11th February, 2019.
- (ix) The land usage pattern of the project is as follows:

**Pre-mining Land use details**

(Area in ha)

Sl. No.	Land owner ship	Land use	Within ML Area	Outside ML Area	Total
1	Tenancy/ Private	Agriculture	499.45	22.57	522.02
		Grazing	0.00		0.00
		Water Body	23.08		23.08
		Roads	7.38		7.38
		Villages	7.73		7.73
		Sub-Total	537.64	22.57	560.21
2	Govt. Land	Agriculture	192.29		192.29
		Grazing	3.75		3.75
		Water Body	14.21		14.21
		Roads	4.86		4.86
		Villages	0.62		0.62
		Waste Land		20.80	20.80
Sub-Total	215.73	20.80	236.53		
3	Forest Land	Reserve	1156.72		
		Sub-Total	1156.72		1156.72
Total			1910.09	43.37	1953.46

**Post Mining:**

Post Closure Land use status is furnished hereunder:

(Area in ha)

Sl. No.	Type	Total Area	Plantation	Water Body	Public / Company Use	Forest Land (Returned)
<b>Within ML Area</b>						
1	Excavation/ Quarry Area:	1030.87				
	(a) Backfilled Area	531.75	141.40			390.35
	(b) Excavated Void	499.12		95.56		
2	External Dump	507.05	314.96			192.09

3	Safety Zone /Rationalization area	177.69	65.71		15.00	96.98
4	Road & Infra-structure area	152.74	7.88		93.85	51.01
	(a) CHP & Coal Yard	22.33				22.33
	(b) Coal Washery	13.03	1.13		11.90	
	(c) Road Diversion	18.97	1.15		5.09	12.73
	(d) Magazine	6.94	1.45		5.49	
	(e) Railway Siding	43.15	1.74		41.41	
	(f) Mine Service Facilities	48.32	2.41		29.96	15.95
5	Garland Drains, Settling Ponds	26.78	0.46	13.26		13.06
6	Embankment	14.96	5.29			9.67
7	Water Reservoir near pit/ Water Body					403.56
	GRAND TOTAL	1910.09	535.70	108.82	108.85	1156.72

(x) Total geological reserves reported in the mine lease area are 309.55 MT with 291.97 MT extractable reserves. Percent of extraction is 94.32%. Balance extractable reserves are 230.63 MT as on 31st March, 2020.

(xi) Lease validity of all the mining leases with their extents.

Detail of mining lease and validity	Extent( ha)
JVR OCP-II ML granted vide G.O. Ms. No. 29, dt. 03th November, 2016, valid up to 13th Feb, 2047 (30 Yrs.)	1300.69
JVR OCP-I Exp. ML granted vide G.O. Ms. No. 115, dt. 13th May, 2008, valid up to 09th Nov, 2028 (20 Yrs).	136.50
JVR OC-I ML granted vide G.O. Ms. No. 51, dated 21st February, 2005, valid up to 22nd Mar, 2025 (20 Yrs)	383.05
LoI Obtained- Lease area to be obtained is non-coal bearing and will be utilized for Road & infrastructure area)	89.85
Total	1910.09

(xii) 6 seams with thickness ranging from 0.05 m – 8.60 m are workable. Grade of coal is G-9 (34.06%) and G12 (65.94%), stripping ratio 4.26 Cum of OB per 1 tonne of coal, while gradient is 1 in 1.25 to 1 in 11.

(xiii) Method of mining operations envisages by opencast method.

(xiv) Life of mine is 26 years from 2020-21.

(xv) The project has one external OB dumps in an area of 507.05 ha with 120 m height and 374.61 Mm<sup>3</sup> of OB (Hard OB 363.93 Mm<sup>3</sup> and Topsoil 10.68 Mm<sup>3</sup>).

(xvi) The project has two Internal OB dumps ((Void of JVR OC-I Exp. & Void of JVR OC-II) in total area of 531.75 ha with 827.72 Mm<sup>3</sup> (819.92 Mm<sup>3</sup> Hard OB & 7.8 Mm<sup>3</sup> Top Soil) of OB is envisaged in the project.

(xvii) Total quarry area is 1030.87 ha out of which backfilling will be done in 531.75 ha while two final mine voids will be created in an area of 499.12 ha (121.24 ha of JVR OC-I void and

377.88 ha of JVR OCP-II void) with a depth of 146 m in JVR OC-I & 363.45 m in JVR OCP-II. Backfilled quarry area of 531.75 ha shall be reclaimed with plantation. Final mine voids will be converted into water body.

- (xviii) Transportation of coal has been proposed as from quarry to pit head by Trucks/Dumpers, from surface to siding (pit head CHP, Sathupalli to RCHP, Kothagudem) by Road and from siding (RCHP Kothagudem) to customers by rail.
- (xix) After completion of proposed railway Line between Bhadrachalam Road and Sathupalli coal transportation is as follow.
  - From quarry to pit head by Trucks/Dumpers, from surface to siding (Railway siding, Sathupalli) by belt conveyor) and from siding (Railway siding, Sathupalli) to customers by rail.
- (xx) Reclamation Plan in an area of 1288.46 ha, comprising of 507.05 ha of external dump, 531.75 ha of internal dump and 162.29 ha of green belt. In addition to this, an area of 87.37 ha, included in the Infrastructure area etc has also been proposed for green belt development.
- (xxi) 1156.72 ha of forest land have been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 1156.72 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter Nos. F. No. 8-129/2003-FC, dated 02nd February, 2005 (JVR OCP-I 244.02 ha), F. No. 8- 56/2008-FC, dated 03rd July, 2012 (JVR OCP-I Expansion 136.50 ha) & F. No. 8-56/2014-FC, dated 30th May, 2017 (JVR OC-II 776.20 ha).
- (xxii) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xxiii) The ground water level has been reported to be varying between 3.48 m to 11.85 m during pre-monsoon and between 2.62 m to 10.15 m during post-monsoon. Total water requirement for the project is 3220 KLD.
- (xxiv) Ground Water Clearance was obtained vide Lr. No. 4693/Hg-II (2)/2008, dated 01st November, 2008 (JVR OCP II).
- (xxv) Public hearing for the project of 10 MTPA capacity in an area of 1953.46 ha was conducted on 14th February, 2020 at JVR Government college, Satupalli.
- (xxvi) Consent to Operate for the existing capacity was obtained from the State PCB on 03rd January, 2018 and is valid till 31st October, 2022.
- (xxvii) No River/nalla is flowing within the boundary of lease.
- (xxviii) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to State Pollution Control Board and also to MoEF & CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed the specific local conditions during the day of sampling.
- (xxix) Two cases are being pleaded in National Green Tribunal, Southern Bench, Chennai.

- (xxx) Case No-1: O.A. 174 of 2020 (SZ), dt: 08.09.2020 - Based on a complaint received from Sri Banothu Nandu Nayak, R/o Sathupalli in regard to environmental violations and damage caused to houses by SCCL in operation of JVR Opencast mines.
- (xxxi) Present Status: NGT appointed a Joint Committee comprising of District Collector, Senior Officers from MoEF&CC (RO, Chennai), TSPCB and DMG. It was stated that MoEF&CC, Regional Office, Chennai will be the nodal agency for co-ordination. 1st meeting was convened by the Joint Committee with SCCL on 02.12.2020 through video conference and next hearing is on 26.03.2021.
- (xxxii) Case No-2: O.A.No.20 of 2021(SZ) , dt:27.01.2021 - Based on a complaint received from Sri Oggu Srinivasa Reddy, R/o Sathupalli and another in regard to violation of environmental conditions by SCCL in operation of JVR OCP-II.
- (xxxiii) Present Status: Case has been registered by NGT and adjourned to 26.03.2021. Both the cases have to be concluded by the NGT
- (xxxiv) The Project does not involve violation of the EIA Notification, 2006 and amendment issued there under.
- (xxxv) The coal production from the mine was started from the year 2017 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations.
- (xxxvi) The project does not involve project affected families.
- (xxxvii) Total cost of the project is Rs. 55,322 lakhs. Cost of production is Rs. 1,090.49/- per tonne, CSR cost is 2% of average net profits of the company made during last three years at company level, R&R cost is Nil. Environment Management Cost is Rs. 13.70 crores.
- (xxxviii) Past Production details comparison with existing EC.

Year	EC capacity	Actual
2017-18	5.0	0.75
2018-19		2.96
2019-20		4.83

### 10.1.3 The EAC during deliberations noted the following:

- i. Standard Terms of Reference for the project was granted by Ministry on 21<sup>st</sup> May, 2019.
- ii. Earlier, the environment clearances to the project of JVR OC- II was granted by Ministry vide letter No. J-11015/268/2007-IA.II(M) dated 28<sup>th</sup> March, 2010 for 4.0 (Peak - 5.0) MTPA in mine lease area of 1409.81 ha. Further, Environment Clearance to Jalagam Vengal Rao Opencast - I Expansion Project of annual production of 2.50 MTPA to 5.00 MTPA in an ML area of 544.81 ha was granted by Ministry under Violation category on 1<sup>st</sup> February, 2021.
- iii. Certified Compliance of EC of JVR-OC II dated 21.11.2019. Partial compliances & non-compliances were highlighted in the report such as specific condition of iii, vii, xxii, xxi and

general condition of iv w.r.t. to Air quality. Further, PP has not implemented bag filters in CHP instead using only water sprinkler without any necessary amendment of EC conditions.

- iv. Public hearing for the project of 10 MTPA capacity in an area of 1953.46 ha was conducted on 14th February, 2020 at JVR Government college, Satupalli, Chaired by Sri N. Madhusudan, IAS, and Additional Collector Khammam District. Major issues raised in the public hearing include development of surrounding areas, infrastructure facilities employment of local, compensations for land, education and health, effects of air, noise, water, and road repairs etc. The concerns raised by public have been addressed in EIA-EMP report.
- v. Baseline data was collected during March 2018 - May 2018 (Summer season). Ambient Air Quality Monitoring reveals that the maximum and minimum concentration of PM10 varies from 80 to 138 ug/m<sup>3</sup> and PM2.5 varies 30.5 to 61.6 ug/m<sup>3</sup>. As per modelling incremental concentration for PM 10 is 6.66 and incremental concentration for PM 2.5 is 16.20 to 10.0 ug/m<sup>3</sup> to 13.6 ug/m<sup>3</sup>. Similarly, maximum and minimum concentration of Sox varies from 10 to 13.6 ug/m<sup>3</sup> and Nox varies 14.6 mg/m<sup>3</sup> to 21 ug/m<sup>3</sup>. As per modelling incremental concentration for Sox is 2.220 and incremental concentration for Nox is 5.05. The resultant concentration shall be within the prescribed standards.
- vi. The major noise-generating source from the proposed activity is working machinery blasting and plying of vehicles. Maximum value of Day Leq is 60.8 dB (A) at JVR OC-I Exp. PO Office (CN1) and minimum is 50.0 dB (A) at Chaudavaram (BN3). Maximum value of Night Leq is 49.8 dB (A) at JVR OC-I Exp. PO Office (CN1), and minimum is 40.8 dB (A) at Kistaram Village (BN2).
- vii. BOD levels were found to be more than 3 mg/l in all the surface water samples with confirmation of total Coliforms, faecal coliforms and E.Coli, which indicates that these water bodies are polluted due discharge of organic load/sewage from nearby areas. Further, pH concentration at Jenugupalli water tank is observed to be low and other 5 parameters are exceeding the norms.
- viii. Wildlife Conservation & Mitigation Plan for Schedule I species has been prepared for an amount of Rs. 2.57 Crores.
- ix. Out of total project area of 1910.09 ha, plantation will be done in phased manner in an area of 1288.86 ha by the end of the project, which includes plantation over the external dump, backfilling, safety zone/others and Infrastructure area etc.
- x. The committee also noted that two cases, as mentioned above, are admitted in NGT, Southern Bench, Chennai on account of environmental violations and damage caused to houses by SCCL in operation of JVR Opencast mines; and secondly due to violation of environmental conditions by SCCL in operation of JVR OCP-II.
- xi. It is also noted that disposal of washery rejects in OB dumping and PP informed that MoC has approved the Mine Plan considering this submission. The committee opined that it is waste of resources.

**10.1.4** *The EAC after detailed deliberations observed that the proposed project is of amalgamation of EC with additional area of 26.39 ha. The coal reserve of JVR-I will get exhausted by the end of this year and accordingly mine void of JVR-I will be used for dumping OB material. Accordingly, earlier, Mine Closure Plan of JVR-I has been changed. It was observed that surface quality of nearby water tank is poor and exceeding the norms. Also, it was noted that disposal of washery rejects from proposed new coal washery, in OB dump may have safety issue and leads to wastage of extracted resources. Certified Compliance report of JVR-OC II submitted by Ministry's Regional Office have various non-compliance based on site visit conducted in September, 2019. No certified compliance report of EC of JVR-OC I has been submitted by Project Proponent. Amendment of EC conditions of JVR-OC II regarding transportation by road till December 2021 is under consideration in the Ministry. Further, there are various issues which required further deliberations and suitable response. Therefore, after deliberation, the Committee recommend to defer the proposal for want of following information.*

- (i) PP shall submit Past Production details of both the said mines since inception of mine duly authenticated by departments of Mine and Geology Government of Telangana or from Coal Controller vis-à-vis CTO.*
- (ii) Fresh certified compliance report from Ministry's Regional Office shall be obtained and accordingly also submit action taken report of both the ECs (JVR- OC I and JVR OC II).*
- (iii) PP should submit details of control blasting with adequate safeguard for nearby people.*
- (iv) PP should conduct Noise and vibration monitoring in nearby habitation/villages during day and night for 1 month.*
- (v) PP should submit the point wise reply of Public Hearing with timeline and fund allotted. Proper response of public consultation with regard to pollution mitigation measures and demands of local people*
- (vi) Expenditure incurred for wildlife conservation, submitted during earlier ECs.*
- (vii) PP should submit Effectiveness report of road and vegetation checked by authority.*
- (viii) PP shall bring out the action plan for upgrading the skills of the local people already employed in the mines.*
- (ix) PP should submit the fund allocated for green belt development with proper timeline. PP should submit the detailed plan in tabular format (year-wise for life of mine) for afforestation and green belt development in and around the mining lease. PP should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years*
- (x) PP should submit the plan for installation of CAAQMS and its display system in the nearby habitations or at mine office.*
- (xi) Plan and allotted fund for maintenance and widening (if any) for road transportation (32 km) of coal till the commissioning of railway siding.*
- (xii) PP shall study the impact Assessment and its mitigation measures w.r.t. proposed road route on receptors for environment parameters as per Ambient Air Quality standards.*
- (xiii) Ministry shall form the EAC Subcommittee to conduct site visit to analyze the prevailing condition of the current scenario and implementation of measures approved by Ministry while granting EC dated 1<sup>st</sup> February, 2021 regarding Remediation plan and Natural and Community Resource Augmentation Plan*
- (xiv) PP shall propose air pollution mitigation measures for nearby villages of Kistaram and Siddaram.*

- (xv) Plan for utilization of washery rejects in FBC Power Plant/ Thermal Power Plant.
- (xvi) PP shall check the physical characteristics of OB material for extraction of sand for its further utilization in construction activity.

The proposal is **deferred** in above lines

### **Agenda No.10.2**

**Bhengari coal washery of 5.0 MTPA in an area of 17.48 ha of M/s Mahavir coal washery Private Limited located in village bhengari, Tehsil Gharghora, District Raigarh (Chhattisgarh) by M/s Mahavir Coal Washery Private Limited – For Reconsideration Environment Clearance – reg**

**[Online Proposal No. IA/CG/CMIN/27185/2015; File No J-11015/161/2015-IA.II(M)]**

**10.2.1** The proposal is for Environment Clearance for Bhengari coal washery of 5.0 MTPA in an area of 17.48 ha of M/s Mahavir Coal Washery Private Limited located in village bhengari, Tehsil Gharghora, District Raigarh (Chhattisgarh).

**10.2.2** The EAC during deliberations noted the following:

Earlier the proposal of EC was considered by EAC in its 3<sup>rd</sup> meeting held on 27<sup>th</sup> October, 2020. The EAC after deliberations deferred the proposal for further information. PP has submitted the compliance of observation of EAC with respect to following points:

Sr. No.	Observations of EAC	Compliance / Submission of Project Proponent
1.	Response from project proponent on the Hon'ble NGT order dated 27th February, 2020 and in reference to extra mitigation measures adopted for the proposed activity.	The Hon'ble NGT while considering its Committee report observed that operation of thermal power plants, coal washeries in Tamnar and Gharghoda blocks of Raigarh District including M/s Jindal Power Limited, M/s Jindal Power and Steel Limited, M/s TRN Energy Private Limited, M/s Mahavir Energy & Coal Benefaction Limited, M/s. Hindalco Industries Limited, M/s. Monet Energy Limited and SECL is contaminating air, water & land having adverse impact on the environment, habitants & health. The NGT is of the view that since there is potential for damage to the environment, any further expansion or new projects in the area should be allowed after thorough evaluation only and mechanism for remedial measures should be in place including oversight of measures for health mitigation. CPCB, based on relative pollution index, has revised classification of coal washeries from Red category to Orange vide its Report 2016. As per CPCB report, wet washeries are mainly water polluting industry generating effluents which are having inorganic SS & TDS. Air pollution due to PM emissions is also generated.



		Proposed 5.0 MTPA coal washery is a wet washery. Beneficiation will be carried out using Heavy Media Cyclone Technology integrated with 100% process waste water recycling system ensuring zero effluent discharge from the plant premises.																																		
2.	Confirmation of Wildlife Sanctuary / National Park within 10 km of project site.	DFO, Raigarh vide its letter dated 14 <sup>th</sup> January, 2021, has clarified that there is no Wildlife Sanctuary & National Park within 10 km radius the project site and no elephant corridor is passing through project area.																																		
3.	Plan for 100 % Rejects utilization shall be submitted to be utilized in FB boilers and accordingly MoU with power plants shall be submitted.	The proposed coal washery will generate 0.45 MTPA rejects. Letter of interest from M/s Inspire Industries Pvt Ltd. for supply of 5 lakh Tonne / year of rejects has been obtained. Efforts are being made to identify FBC plants for consumption of rejects. Rejects will be sold to prospective buyers following the guidelines of MoEF&CC or as stipulated by the regulatory agencies.																																		
4.	PP shall explore use of surface water from Kurket River which is at a distance of 3.6 km instead of using groundwater for proposed washery during operations / construction activity.	Kurket River Water Utilization Nearest surface water source is river Kurket, 3.6 km ESE (Aerial distance) from washery site. To bring water from the Kurket River to the washery site, about 7 km long pipeline will need to be laid, some part of which will pass through forest area. This would involve acquisition of forest land. The estimated cost of Rs. 15 Crores is quite high for a project of this size. To comply with TOR condition no. (x), a detailed hydrological study was carried out. NOC from CGWA has granted NOC for abstraction of 800 m <sup>3</sup> /day ground water vide letter no. CGWA/NOC/IND/ORIG/2017/2412 dated 31.01.2017.																																		
5.	The percentage of system loss in washery operation seems to be on higher side and shall be further optimized/reduced	The percentage of water loss in washery operation has been re-estimated. It is approx. 14% less than what was reported earlier. Revised figures are given below: <table border="1" data-bbox="587 1430 1399 1921"> <thead> <tr> <th colspan="2">Input</th> <th colspan="6">Output</th> </tr> <tr> <th>Type of Use</th> <th>Quantity</th> <th>System Loss / Consumption</th> <th>Wastewater Recovery</th> <th>Treatment Loss</th> <th>Treated Water</th> <th>Reuse</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Washery</td> <td rowspan="2">641</td> <td rowspan="2">329</td> <td rowspan="2">312</td> <td rowspan="2">32</td> <td rowspan="2">312</td> <td>Recycling</td> <td>110</td> </tr> <tr> <td>Green belt</td> <td>115</td> </tr> <tr> <td>Domestic</td> <td>54</td> <td>22</td> <td>32</td> <td></td> <td></td> <td>Dust Suppression</td> <td>87</td> </tr> </tbody> </table>	Input		Output						Type of Use	Quantity	System Loss / Consumption	Wastewater Recovery	Treatment Loss	Treated Water	Reuse	Quantity	Washery	641	329	312	32	312	Recycling	110	Green belt	115	Domestic	54	22	32			Dust Suppression	87
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			695	351	344	32	312		312
		<p>The revised estimate indicates that fresh water intake will get reduced by 105 m<sup>3</sup>/day to 695 m<sup>3</sup>/day.</p> <p>MCWPL efforts will be to reduce make-up water requirement to bare minimum level while operating the washery. Entire process wastewater will be treated and reused ensuring zero effluent discharge.</p>							
6.	Clarity on the ownership of Land for the project and whether there is no court case as raised in Public Hearing.	<p>Entire 17.48 hectare (43.16 acres) land is in the name of sister companies – M/s Mahavir Global Coal Ltd, M/s Mahavir Energy &amp; Coal Beneficiation Ltd. and M/s Mahavir Coal Washery Pvt. Ltd. Managing Director of these companies is the same.</p> <p>There is no court case against the project land either in the National Commission for Scheduled Tribes or any other court as was raised in the public hearing. The project land is of general category and is registered with SDM office, Gharghoda.</p>							
7.	Feasibility of proposed transportation route for raw coal and washed coal through road considering the presence of other industries. Plan for further reduction in fleet size of trucks for transportation of raw coal and product.	<p>Source of Coal - Robertson railway siding is used by SECL for dispatch of coal from Chhal, &amp; Baroud mines. The present position of coal transportation from the Chhal, Baroud, Bejari &amp; Jampali mines is as follows:</p> <p>These mines do not have direct rail connectivity.</p> <p>Nearest railway siding is Robertson about 59 km, 18 km &amp; 67 km from Baroud, Chhal, Jampali mines respectively.</p> <p>SECL has started loading 2 rakes per day of coal Baroud, Bijari &amp; Jampali mines from Korichhapar freight terminal, which will be increased to 5 - 6 rakes per day.</p> <p><b>TRANSPORTATION ROUTE</b></p> <p>Raw coal on behalf of the clients by road to washery from SECL mines, located in less than 29 km as adequate rakes are not available.</p> <ul style="list-style-type: none"> <li>• Maximum transportation of washed coal, middling &amp; rejects will be by rail, once own rail siding is established.</li> <li>• Nearby clients not connected to rail network will receive rejects by road. Till such time rail link is established, transportation will be by existing road network.</li> </ul> <p>To predict impact on air quality of additional traffic, entire load due to inward &amp; outward trucks movement at 5 MTPA throughout, was considered.</p> <p>Results revealed that maximum incremental concentrations of PM10, PM2.5, HC and NOx would be 0.005 ug/m<sup>3</sup>, 0.001 ug/m<sup>3</sup>, 0.86 ug/m<sup>3</sup> and 0.43 ug/m<sup>3</sup> respectively are likely to occur at 20 m from the centre of the road.</p> <p>This is the worst case scenario. The measures proposed would reduce traffic and the impact on air quality due to road traffic will be significantly less than the predicted one.</p>							

		MCWPL efforts would be to minimize road transportation. Maximum washed coal & rejects supply will be by rail from own railway siding [60% by rail & 40% by road].																																												
8.	Status of implementation of proposed railway siding shall be submitted	No development work at railway siding site has been started. Construction of the siding will be initiated only after grant of environmental clearance and other statutory approvals																																												
9.	Tree transplantation in the area of washery shall be explored instead of cutting the trees and accordingly number of trees for transplantation and plan of action shall be submitted. Development of greenbelt along the periphery of plan Premises shall be submitted with fixed timeline.	<p><b>Plantation Area &amp; Timeline</b></p> <p>The proposed project area is 17.48 ha. The plantation will be carried out in about 5.76 ha (33%).</p> <p>All along the boundary 10 m to 15 m width greenbelt will be developed.</p> <p>Adequate attention will be paid to the plantation of trees, their maintenance and protection</p> <p>About 14100 saplings will be planted in next 5 years</p> <p>About Rs. 20.5 Lakhs will be spent on greenbelt development.</p> <table border="1"> <thead> <tr> <th colspan="5">Greenbelt Development Plan</th> </tr> <tr> <th>Year</th> <th>Activity</th> <th>Area in Ha</th> <th>No. of Trees</th> <th>Amount (Rs)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">I</td> <td>Preparation of land; preparation of pits, filling with manures and water supply</td> <td>5.76</td> <td></td> <td>7,76,000/-</td> </tr> <tr> <td>Plant nursery / procurement of saplings through prior order</td> <td>@Rs.50 /- for each</td> <td>7,500</td> <td>3,75,000/-</td> </tr> <tr> <td>II</td> <td>Transplantation of saplings</td> <td>5.76</td> <td>4,600</td> <td>4,60,000/-</td> </tr> <tr> <td>III</td> <td>Gap filling, weeding, watering and protection measures</td> <td>5.76</td> <td>2,000</td> <td>2,88,000/-</td> </tr> <tr> <td>IV</td> <td>Routine maintenance</td> <td>5.76</td> <td></td> <td>1,00,000/-</td> </tr> <tr> <td>V</td> <td>Routine maintenance</td> <td>5.76</td> <td></td> <td>50,000/-</td> </tr> <tr> <td>Total</td> <td></td> <td>5.76</td> <td>4,600</td> <td>20,49,000/-</td> </tr> </tbody> </table>	Greenbelt Development Plan					Year	Activity	Area in Ha	No. of Trees	Amount (Rs)	I	Preparation of land; preparation of pits, filling with manures and water supply	5.76		7,76,000/-	Plant nursery / procurement of saplings through prior order	@Rs.50 /- for each	7,500	3,75,000/-	II	Transplantation of saplings	5.76	4,600	4,60,000/-	III	Gap filling, weeding, watering and protection measures	5.76	2,000	2,88,000/-	IV	Routine maintenance	5.76		1,00,000/-	V	Routine maintenance	5.76		50,000/-	Total		5.76	4,600	20,49,000/-
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10.	Plan / layout of washery shall be proposed as such that storage yard of raw coal and washed coal shall be not in pre-	<p>The pre-dominant wind direction is from North-East (NE) to South-West (SW).</p> <ul style="list-style-type: none"> <li>➤ The nearest village Bhengari is 0.7 km, E w.r.t. the project boundary i.e. the project site is not in the upwind direction w.r.t. village Bhengari.</li> <li>➤ Village Charmar falls in downwind direction, 1.7 km, SW w.r.t. the project boundary.</li> </ul>																																												

	dominant wind direction and near any villages. Accordingly, layout may be revised.	AAQ modelling results indicate that incremental concentrations due to plant operations including road transportation for PM10 & PM2.5 at village Charmar will be 4.20 mg/m <sup>3</sup> & 0.99 mg/m <sup>3</sup> respectively. Raw coal & washed coal storages do not fall in upwind direction w.r.t. Charmar village. Mitigation measures for air pollution described include installation of wind barrier along the storage yards.
11.	Ambient Air quality modelling for SO <sub>2</sub> and NO <sub>x</sub> shall also be carried out and impact of these shall be provided.	AAQ modelling to predict impact on air quality due to SO <sub>2</sub> and NO <sub>x</sub> emissions from additional trucks movement due to the project has been carried out. Results reveal that maximum incremental concentrations of NO <sub>x</sub> and SO <sub>2</sub> will be 0.43 ug/m <sup>3</sup> and 0.0002 ug/m <sup>3</sup> respectively and are likely to occur at 20 m from the centre of the road.
12.	Letter from PCCF stating the project area does not come under elephant corridor.	DFO, Raigarh has clarified that the project site does not fall under the notified elephant corridor and there is no Wildlife Sanctuary & National Park within 10 km radius vide letter No. 62/2020/Raigarh dated 14.01.2021.
13.	Fund allocated for Wildlife Conservation Plan shall be submitted	Wildlife Conservation Plan has been submitted to PCCF(WL), Raipur for approval. Proposed Rs. 20.00 lakhs for monitoring and conservation of wildlife in the study over a period of 5 years.
14.	Clarification may be provided about applicability of Chhattisgarh Minerals (Mining, Transportation & Storage) Rules, 2009 not allowing coal storage within 25 km radius from any coal mine wherein site is 13 km from SECL coal mine area.	Beneficiation of coal does not fall in the prohibited category defined in Chapter-4 Para 15 of the Chhattisgarh Minerals (Mining, Transportation & Storage) Rules, 2009. <i>"The Chhattisgarh Minerals (Mining, Transportation and Storage) Rules, 2009 and subsequent Amendment dated 05.04.2017 do not prohibit establishment of plant for beneficiation / crushing of any mineral / ore and / or its beneficiated products outside the lease area. But prior permission for storage / beneficiation / crushing plant in Form-7 from the District Collector of the concerned District shall be required under these Rules i. e. no person shall store for processing or any other purpose, or establish a plant for beneficiation / crushing of any mineral / ore and / or its beneficiated products outside the lease area, or other than the final destination, without obtaining a valid "storage permit" for the purpose of storage / beneficiation / crushing under the Rules."</i>

### 10.2.3 The EAC, during deliberations noted the following:

- i. The Committee noted that response of PP on NGT's verdict in the Garghoda and Tammar of areas of district Raigarh focuses on Committee report observations. PP mentioned about

thermal power plants, coal washeries in Tamnar and Gharghoda blocks of Raigarh District including M/s Jindal Power Limited, M/s Jindal Power and Steel Limited, M/s TRN Energy Private Limited, M/s Mahavir Energy & Coal Benefaction Limited, M/s. Hindalco Industries Limited, M/s. Monet Energy Limited and SECL are contributor air, water & land pollution. However, PP did not mention about carrying capacity of the area which is also highlighted in report.

- ii. No wastewater will be discharged outside the plant boundary. No adverse effect on agriculture land is likely to be there. Plantation will be carried out in and around the plant. Effective pollution control measures will be adopted.
- iii. Rejects of 0.45 MTPA has been proposed to sell to prospective buyers like bricks manufacturers, FBC power plants, but no tie up /confirmation is given.
- iv. The baseline data monitoring studies have been carried out for three months covering pre monsoon season (March- may, 2015). Fresh baseline data was generated for the period March – May, 2018. The ambient air quality was observed in the range of 20.3 -29.1 ug/m<sup>3</sup> for PM<sub>2.5</sub> 40.2 -74.1 ug/m<sup>3</sup> for PM<sub>10</sub>, SO<sub>2</sub> from 14.2-26.5 ug/m<sup>3</sup>, NO<sub>2</sub> from 16.5 – 29.2 ug/m<sup>3</sup> and 280-430 for CO. The results are within the Prescribed NAAQS standards after incorporating incremental pollution.
- v. Simply difficulty has been mentioned to take water from river and no technical background/justification or feasibility study conducted for using the Kurket River water for washery operations instead of ground water insisted for financial reason. On further deliberation on fresh water requirement, that fresh water intake will get reduced by 105 m<sup>3</sup>/day from value of 695 m<sup>3</sup>/day.
- vi. Land should be on the name of single entity though the Managing Director of the companies involved is same for regulatory for compliance purposes .
- vii. The incremental impact of road transportation on air quality has been reported to be very low, which needs to be rechecked considering the nearby industries/mining operations. Further it was noted that raw coal shall be sourced from nearby coal mines. Therefore, PP has to conduct fresh traffic impact assessment and accordingly propose the mitigation measures and shortest possible route.

**10.2.3** *The EAC after detailed deliberations observed that compliance submitted by PP on earlier observation are inadequate and there is no technical justification. PP needs to provide justification based on technical study/data and facts in view of certain restriction imposed by NGT. Values shown for impact (modelling result) of road transportation in terms of pollutants are very negligible and inaccurate. The committee also noted that there is no concrete plan for development of railway siding and PP has to first prepare DPR for railway siding. Therefore, EAC was of view that Ministry shall take necessary action on consultant i.e. M/s Vimta Labs for inconsistencies in collection and analysis of air quality data. In view of the incomplete and inadequate submission of information by PP, the EAC desired further deliberation would be required for compliance on below mentioned observations.*

- (i) As per the NGT's Committee recommendation, carrying capacity of the site area shall be carried out for suitability of the proposed project.
- (ii) PP shall submit Traffic impact assessment based on fresh data considering transportation activity of other companies.
- (iii) PP shall carry out feasibility study vis-à-vis with right of way w.r.t. Forest and technical justification for not using water from Kurket River.
- (iv) PP shall explore the usage of wastewater from nearby power plants for washery operations.
- (v) Impact of washery on nearby agricultural land and flora-fauna. Proper flora management plan needs to be prepared.
- (vi) Proper Air pollution mitigation measures at site with installation of Continuous Ambient Air Quality Station during operation of project.
- (vii) Adherence to the compliance to Issues raised during Public Consultation with the timeline and budgetary provision.
- (viii) Fund allotment for greenbelt is too less and more fund should be allotted for developing peripheral plantation.
- (ix) PP shall submit the action plan with timeline for development of railway siding.

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

### **Agenda No.10.3**

**Gevra Opencast coal mine from 45 MTPA to 49 MTPA of M/s South Eastern Coalfields Limited in mine lease area of 4184.486 ha in Villages Gevra, Mangaon, District Korba (Chhattisgarh) – For Reconsideration Amendment in Environment Clearance– reg.**

**[Online Proposal No. IA/CG/MIN/179634/2020; File No J-11015/85/2010-IA.II (M)]**

**10.3.1** The proposal is for amendment in EC for expansion Gevra Opencast coal mine from 45 MTPA to 49 MTPA of M/s South Eastern Coalfields Limited in mine lease area of 4184.486 ha in Villages Gevra, Mangaon, District Korba (Chhattisgarh).

**10.3.2** The present proposal was considered in 46<sup>th</sup> EAC held on 25th June 2019. EAC deferred the proposal and sought compliance of additional conditions.

<b>Sr. No.</b>	<b>Observations of EAC</b>	<b>Compliance / Submission of Project Proponent</b>
1.	The EAC, after deliberations noted the proposal is for expansion of production capacity so ideally project proponent should have applied in expansion category instead in amendment category	Fresh proposal vide no. IA/CG/CMIN/179634/2020 has been uploaded on 26.02.21 as per OM no. J-11015/224/2015-IA.II(M) dated 15.09.2017 under Expansion Category along with addendum EIA/EMP report.

2.	Further PP has submitted action plan based recommendation of above mentioned study. However, action plan is still not promising and needs to be submitted with stringent timelines.	<p>Action Plan with Budget and timeline has been provided based on the recommendations of the study reports.</p> <ul style="list-style-type: none"> <li>In view of the mining potential of the area and the pollution concerns capacity of the ecosystem a study to assess optimal mining operations with minimal impact on ecosystem services has been carried out by IIT, BHU, Varanasi.</li> <li>It is clearly indicated in the Study report on Eco system carrying capacity Submitted by IIT, BHU that <i>“at the current level of production of 45.00 MTPA at gevra, the environmental control measures adopted by the mine is adequate as per the study conducted. These control measures are sufficient to keep the environmental parameters- air, water, soil, and noise within the permissible limits.”</i></li> <li>If further expansion of the project has to be considered, the study report recommended some additional control measures in addition to existing control measures;</li> </ul>
3.	Further all the recommendation of both the study and action on observation of Ministry’s RO, Nagpur shall be commensurate with actionable points within certain timeframe	<ul style="list-style-type: none"> <li>RO, MoEFCC, Nagpur inspected Gevra OC on 24.08.2020 for issuance of Certified EC compliance report.</li> <li>Certified Compliance report sent by RO, Nagpur to MoEFCC, New Delhi vide letter no. F.No.3-28/2014(Env)/7115 Dtd: 04.09.2020.</li> <li><b>SUMMARY OF OBSERVATION:</b> <ul style="list-style-type: none"> <li>➤ Status of 05 no. partially complied conditions as per EC dated 21.02.18/28.03.19 Complied- 05 no. ; Not Complied: Nil</li> <li>➤ Status of 14 no. of additional EC conditions as per EC dated 04.06.20 Complied- 14 no. ; Not Complied: Nil</li> </ul> </li> </ul>
4.	EAC desired that one-month baseline data shall be collected.	One month <a href="#">Baseline data</a> for October 2020 has been generated and air quality impact modelling using AERMOD has been done.

During deliberations EAC desired further submission for additional control measures; accordingly PP submitted the details through email dated 23<sup>rd</sup> March, 2021. The detailed control measures are mentioned below:

Sl. No.	PARTICULARS	Specifications	Timeline	Cost	Remarks
1	Additional Control Measures to be adopted to bring down the PM <sub>10</sub> level below permissible limit at Hardi Bazar, Newsa & Rampur Village	Details enclosed as Annexure-1	April-May,21	190 lakhs	<i>Details enclosed as Annexure-1</i>
2.	Establishment of Sal Nursery at Gevra	Nursery for 25000 SAL saplings: Near Water Treatment Plant of Gevra	June-July 2021	10 Lakhs	The SAL Nursery will be ready by June 2021 that is month of getting SAL seeds. Preparatory works will start by April 2021. An area of about 02 acre is required, same is available.
3.	Installation of additional one Continuous Ambient Air Quality Monitoring System (CAAQMS)	One	Sept, 2021	120lakhs	One CAAQMS is in operation. Additional one will be installed near Laxman office as decided during joint inspection with RO CECB Korba
4.	Periodic Health Check-ups for surrounding villagers	Quarterly	Quarterly	Rs. 50 lakhs per annum (approx)	Occupational Health check-ups are being conducted regularly.  Health Camps & awareness programme is being conducted on regular basis for surrounding villagers. <i>Details enclosed as Annex II.</i>
5.	Installation of additional 02 Silos with Rapid Load out System under “ <b>First Mile Connectivity</b> ” program	Details given in Annexure-2	March,2023	1576.88 crores	Presently 04nos. Silos (1&2, 3&4-Capacity-30MTY) with rapid loading System for transportation of Coal through rail are in operation. Additional 02 nos. Silos (no. 5& 6 capacity 30MTY) with Rapid Load Out System (Capacity- 20 MTY) will be constructed under FMC project, which completely remove the coal transportation through road. <i>Details enclosed as Annex III.</i>



**Additional Measures To Be Adopted By Gevra OC To Bring Down The High Baseline Air Quality Values (PM<sub>10</sub>) At Hardi Bazar, Newsa Village, And Rampur Village Within Prescribed Standards.**

**Table 1: Type of dust control system and its efficiency**

Type of dust control system	Dust control efficiency (reference point 1,2,3)	Remarks
Fixed Sprinkler (50 nos. 20 m distance covering length of 1 Km)	50%	Fixed Sprinklers will be installed (as shown in figure below) to cater the dust generated by vehicle movement. (Only for Hardi Bazar)
Mist Blower (Fog Cannon) Cum Road Fogger 1 Nos.	More than 90%	The Fog Canon (Truck mounted) will cater the dust generated by vehicle movement in addition to other measures
Mobile sprinklers (3 nos. 9 KL each)	50%	Mobile sprinklers to cater remaining road passing through Hardi Bazar (Distance 2.30Km ) and other 2 villages
Mechanized Sweeping machine (one nos.)	90 % Cleaning Efficiency	Reduction of dust at source itself.

Now, with the moderate control efficiency of 50 % (as per Table 1) by the additional measures proposed at Hardi Bazar and other 2 villages, the dust load will be reduced to 50 % of share of baseline due to vehicular movement. Detailed calculation shown below:

**Table 2: Predicted final value of PM<sub>10</sub> after taking additional control measures proposed in Table 1 at all three villages**

Locations name	Current Baseline value (PM <sub>10</sub> ) in µg/m <sup>3</sup> -(98 percentile value)	Approximate Reduction in baseline due to additional control measures (in µg/m <sup>3</sup> )	Projected Baseline (PM <sub>10</sub> ) in µg/m <sup>3</sup>	Incremental value obtained through AERMOD modelling (in µg/m <sup>3</sup> )	Final tentative value of PM <sub>10</sub> (in µg/m <sup>3</sup> )
[1]	[2]	[3]=[2]*0.4*0.5	[4]=[2]-[3]	[5]	[6]=[4]+[5]

Hardi Bazar	113.30	22.66	90.64	6.99	97.63
Newsa Village	100.20	20.04	80.16	1.33	81.49
Rampur Village	104.20	20.84	83.36	2.89	86.25

**B. TIMELINE AND BUDGET FOR MEASURES PROPOSED IN PARA “A”**

No.	Proposed Additional Mitigation Measure	No.	Coverage	Budget (In Rs. Cr.)	Timeline	Budget head
1.	Mist Blower (Fog Cannon) Cum Road Fogger	One no. (covering all 03 village)	-Throw 40 Mtrs. in three shifts	0.6	April-May,21	Revenue (on hiring basis)
2	Mechanized Sweeping machine	One no. (covering all 03 village)	-Covering the road transport in three shifts	0.5	April-May,21	Revenue (on hiring basis)
4	Mobile Water Sprinkler (9KL)	3 nos.-1 each for each village	-Running in three shifts	0.45	April-May,21	Revenue (on hiring basis)
<b>TOTAL ADDITIONAL REVENUE BUDGET</b>				<b>1.55</b>	<b>Will be covered in operating revenue cost head</b>	
3	Fixed Water Sprinklers	50 nos.	-1km road at hardi bazar	0.35	Sep,21	Capital budget
<b>TOTAL ADDITIONAL CAPITAL BUDGET</b>				<b>0.35</b>	<b>Capital budget is available under head 1(j)-available 2.85 cr</b>	

**ADDITIONAL MEASURES TO REDUCE ROAD TRANSPORT IN AND AROUND GEVRA OCP-**

SECL is committed to reduce the road transport of coal to bare minimum level. SECL has implemented the “**FIRST MILE CONNECTIVITY**” programme under the aegis of Ministry of Coal to propose the total coal evacuation by mechanized means/rapid loading system through rail transport only.

In the program, two First Mile Connectivity Projects has been approved for Gevra OCP:

1. **RAPID RAIL LOAD OUT SYSTEM** – Capacity- 20 MTY

2. **CHP/SILO no. 5&6** – Capacity -30 MTY

Tendering process for above projects has been completed. Work Order have been issued on Oct,2020. The physical work is likely to be completed by March, 2023.

This is apart from the existing SILOs of Gevra OC (1&2 and 3&4) having total capacity of 30MTY. With the completion of first mile connectivity projects the total coal evacuation from Gevra would be transported through RAIL only.

The proposed capital for additional CHP/SILO/Inpit belts and rail connectivity is about Rs 1576.88 crores.

This would eliminate the road transport in and around Gevra OCP and ultimately drastic reduction in dust generation due to road transport.

<b>S. N O.</b>	<b>PARTICULARS</b>	<b>Amount in Rs. Lakhs</b>	<b>TIMELINE</b>
<b>1</b>	<b>CAPITAL FOR ANTI-POLLUTION MEASURE IN MINE &amp; INDUSTRIAL AREA</b>		
a)	Effluent treatment plant	1000	ETP / Oil & Grease trap (One number) of 210 KL capacity is in operation. Total Capital cost will be utilized by 2024
b)	Housing personnel	272.95	Capital Cost will be utilized by March 2024
c)	Settling tank for mine water disposal	200	The capital cost will be utilized by March 2024
d)	Other development measures in industrial site viz. drains, tree	542.3	The capital cost will be utilized by March 2024
e)	Garland drains	71.42	Work is in progress. Capital Cost will be utilized by March 2024
f)	Arboriculture/plantation in industrial area	7.14	Work is in progress. Capital Cost will be utilized by March 2023
g)	Barbed fencing for the project	107.14	Work is in progress. Capital Cost will be utilized by March 2022
h)	HEMM for Reclamation	9527.83	Work is in progress. Capital Cost will be utilized by March 2024
i)	Dust suppression arrangements	315.71	Work is in progress. Rs. 1.36 Cr. will be utilized by 2021 & the remaining Capital Cost will be utilized by March 2022
j)	Water sprinkling arrangement along approach road	285.71	Work is in progress. Rs. 75 lakhs will be utilized in 2022 & the remaining will be utilized by March 2025

<b>ADDITIONAL CONTROL MEASURES</b>			
	Fixed Water Sprinklers: 50nos at 1 km road of Hardi Bazar	35 ((Budget included under head 1(j) above	Sept 2021.
	<b>Sub-Total(1)</b>	12330.23	
<b>2</b>	<b>ENVIRONMENTAL CONTROL MEASURES IN TOWNSHIP</b>		<b>TIMELINE</b>
a)	Flora and fauna study	21.42	Completed
b)	Water drains in township	14.73	By March 2024
c)	Green belt in & around the mine	71.42	Work is in progress. Capital Cost will be utilized by March 2024
d)	Other development measures in colony viz. drains, tree	36.35	The capital cost will be utilized by March 2024
e)	STP	500	DETP (1 no.), 3 MLD capacity is in operation. Capital cost will be utilized by March 2024
f)	Sewage disposal arrangement in colony	76.58	By March 2024
g)	Horticulture and land development	59.29	By March 2024
h)	Rain Water Harvesting	17.14	completed
i)	Water Treatment Plant	740	WTP (1 no.) of 4.5 MLD is in operation Capital Cost will be utilized by March 2024
<b>ADDITIONAL HORTICULTURE MEASURE</b>			
	Establishment of Sal Nursery	10(Already included in 2(g) above	June-July 2021
	<b>Sub Total (2)</b>	<b>1536.95</b>	
3	Cost of EMP preparation	50	Completed
4	CAAQMS and Piezometers Cost	364.29	1 no. CAAQMS installed and running, Rs. 120 lakhs for additional 1 no. will be utilized by Sep, 2021.
	<b>Total capital from 3 to 4</b>	<b>414.28</b>	

Break-up of the Revised recurring cost of the EMPs

<b>B.</b>	<b>Different type of Revenue nature cost to be considered</b>	<b>Amount in Rs. Lakhs</b>
1	Environment Audit @ 0.60 lakhs/annum	0.6
2	Environment monitoring@10.00 lakhs/annum	10
3	Mine closure cost*	1000

4	Monitoring of CSR and RR Plan	2
5	Monitoring of land use through satellite surveillance	20
<b>ADDITIONAL CONTROL MEASURE</b>		
1	Mist Blower (Fog Cannon) cum road Fogger	60
2	Mechanized Sweeping machine	50
3	Mobile Water Sprinkler	45
4	Periodic Health Checkup	50
<b>ADDITIONAL BUDGET total</b>		<b>205</b>
<b>Total Revenue nature cost per annum</b>		<b>1237.6</b>

Further there are court cases pending with the project proponent as per the following details:-

1. Details of Court Case

S.No.	Case no.	Court	Case Details	Status as on 03.03.2021
1	1217/ 2007	Presently the case no. is 886/2015 and the case is at Chief Judicial Magistrate Korba.	Regional Office, Chhattisgarh Environment Conservation Board, Korba Vs CGM Dipka Extension Project Gevra Area SECL for coal production in excess of 10 MTPA consented capacity. The Criminal complaint was filed under Sec.15 &17 of EP Act and the year of violation was 2001-02 to 2004-05	Last 3 Hearing dates given were a) 03/11/20 b) 03/02/21 c) 25/02/21 And got Adjourned due to COVID-19. The next hearing is on 05/03/2021

Further Pointwise compliance of requirement of Ministry's OM dated 15<sup>th</sup> September, 2017 for exemption of Public Hearing are detailed as below:

No	O.M. CONDITION	Compliance
1	Predicted air quality parameters are within the prescribed norms	Complied.  Air quality impact prediction for incremental coal production (4 MTPA incremental for expansion from 45 to 49 MTPA) has been done. Additional control measures is being implemented to mitigate the incremental pollution load.

2.	Coal transportation is through conveyor system up to the silo and then loading to railway wagons, involving no transportation through roads.	Complied.  The incremental coal production will be transported through conveyor system up to the silo and then loading into the railway wagons.
3.	Coal mining is done through deployment of surface miners, replacing three dust generating operations of the conventional mining system namely drilling, blasting and crushing in one go.	Complied. <ul style="list-style-type: none"><li>• Coal production is by deployment of surface miners.</li><li>• Incremental production will also be done through deployment of surface miner.</li></ul>
4.	Public hearing already conducted for the total mine lease area involved and no more area is required for the proposed expansion.	Complied. <ul style="list-style-type: none"><li>• Public hearing has been conducted for the entire land area of 4184.486 Ha. on 22-08-2008.</li><li>• No additional land is required for proposed expansion.</li><li>• The major concerns raised in public hearing were regarding employment, supply of drinking water to affected villages, education and healthcare services to affected people. All concerns have been addressed</li><li>• As per directives given by EAC in its meeting dated 25.06.2019; Public notice for information of the stakeholders about the proposed expansion inviting comments and their redressal has been done on 05.12.2019 through state pollution control board in following newspapers Navabharath, Dainik Bhaskar and Times of India (Delhi)</li><li>• No comments/objections/remarks has been received from public in writings even after 30 days of paper publication regarding expansion of Gevra Open Cast from 45 MTPA to 49 MTPA.</li></ul>
5.	Compliance status of EC conditions monitored by the concerned Regional Office of this ministry is found to be satisfactory.	Complied. <ul style="list-style-type: none"><li>• RO, MoEFCC, Nagpur inspected Gevra OC on 24.08.2020 for issuance of Certified EC compliance report.</li><li>• Certified Compliance report sent by RO, Nagpur to MoEFCC, New Delhi vide letter no. F.No.3-28/2014(Env)/7115 Dtd: 04.09.2020.</li></ul> SUMMARY OF OBSERVATION: <ul style="list-style-type: none"><li>• Status of 05 no. partially complied conditions as per EC dated 21.02.18/28.03.19</li><li>• Complied- 05 no. ; Not Complied: Nil</li></ul>

		<ul style="list-style-type: none"> <li>• Status of 14 no. of additional EC conditions as per EC dated 04.06.20</li> <li>• Complied- 14 no. ; Not Complied: Nil</li> </ul>
6.	Other statutory requirements like Consent to Establish/Operate, Clearance from CGWA, approval of Mining Plan and the Mine Closure Plan, Mine Closure Status Report as applicable, Forest Clearance, etc are satisfactorily fulfilled.	<p>Complied.</p> <p>Details of the statutory requirements such as Consent to Operate, Forest Clearance, CGWA Clearance, approved Mining Plan and Mine Closure Plan for 45 MTPA etc are as below:</p> <ul style="list-style-type: none"> <li>• Consents to operate issued by Chhattisgarh Environment Conservation Board, Raipur for 45 MTPA, which is valid upto 28.02.22.</li> <li>• Hazardous waste authorization has been received on 02.11.20 valid up to 21.11.2025.</li> <li>• Clearance of ground water from CGWA has been obtained on 22.01.19 which is valid up to 31.03.21. Renewal application no. 21-4/630/CT/MIN/2017 (uploaded on 02.12.2020 is pending at CGWA.</li> <li>• Mine plan and Mine closure plan has been approved by the SECL Board on 10/11.10.2017.</li> <li>• Forest Clearances- Stage-1 Forest Clearance have been obtained for the entire forest land of 1016.412 ha involved in the project.</li> </ul>

- The project was accorded Environmental Clearance vide letter no. J-11015/85/2010-IA.II (M) dated 31.01.2014 for expansion from 35 MTPA to 40 MTPA under clause 7(ii) of EIA Notification, 2006 and subsequent OM J-11015/30/2004.IA.II(M) dated 19.12.2012.
- The project was further accorded amendment in the EC vide letter No. J-11015/85/2010-IA.II (M) dated 06.02.2015 for incremental difference in the production capacity from 40 MTPA to 41 MTPA in accordance to OM J-11015/30/2004.IA.II (M) dated 2.9.2014.
- On the basis of OM no. J-11015/224/2015-IA.II (M) dated 15.09.2107; a fresh application was submitted by PP for expansion of Gevra Opencast coalmine project from 41 MTPA to 49 MTPA without public hearing in mining lease area of 4184.486ha vide his letter no. SECL/BSP/Env/Gevra OC\_49/17/6772 dated 20.10.2017.
- The project was accorded EC for production capacity from 41 MTPA to 45 MTPA in an area of 4184.486 ha vide File no. J-11015/85/2010-IA.II (M)pt Dated: 21.02.2018 with validity upto 31.03.2019.
- As per approved EC of 45 MTPA, para no 4(i), the continuance of the project thereafter at the increased capacity shall be based on the evaluation of the proposed control measures and its impact on the ambient air quality by the EAC in later half of the FY 2018-19.
- Project has the potential to produce and dispatch 49 MTPA of coal within existing mining lease area of 4184.486 ha and same infrastructure.
- Compliance of EAC observations the present proposal has been made under Expansion category (Proposal No. IA/CG/CMIN/179634/2020 Dt: 26.02.2021) for expansion of EC of Gevra

Opencast coal mine from 45 to 49 MTPA under clause 7(ii) of EIA Notification 2006 & MoEFCC O.M. J-11015/224/2015-IA.II, dated 15/09/2017.

- Mining plan for 49 MTPA was approved by SECL Board in its 262nd meeting held on 10th/11th October 2017. Mine closure plan is an integral part of mining plan
- 1016.412 ha of forest land has been reported to be involved in the project. The status of diversion of forest land for non - forestry purposes is as under:-

Area (in ha)	Stage-1 /Final FC issued vide letter no. and date	Validity period of FC
100.898	vide MoEF Clearance F no.8-33/2005-FC dated 05.05.2008	Co-terminus with the mining lease or 20 years
46.198	vide MoEF Clearance F no.8-81/ 2006-FC dated 20-04-2015	Co-terminus with the mining lease
192.046	vide MoEF Clearance F no.8-77/2006 – FC, dated 20-04-2015	Co-terminus with the mining lease
564.885	vide MoEF Clearance F no.8-79/2006 – FC, dated 20-04-2015	Co-terminus with the mining lease
112.385	vide MoEF&CC Clearance F.No. 8-41/2017-FC dated 27.09.2017.	Co-terminus with the mining lease
1016.412	Total forest land for which Stage-1 Forestry Clearance obtained	

- Transportation of coal has been proposed from face to in-pit crusher is by trucks, from in-pit crusher to surface Ground bunker is by conveyor system, from Ground Bunker to Silos is by belt conveyor & finally from Silos to consumers: By Rail & MGR.
- Hasdeo river is the main drainage of the area flowing 08 kms from mine boundary. The study area includes a number of seasonal nallah and tributaries of Hasdeo river like Ahiran, Kholar nallah. Lilagar river also flows through the study area of project.

*10.3.4 The EAC found the response submitted by PP is satisfactory. The EAC after detailed deliberations on the submission of project proponent and in view of Ministry's OM dated 15<sup>th</sup> September, 2017 which allows 40% expansion in 2-3 stages with certain due diligence. It was desired that PP will fulfil all its obligation within stipulated timeframe and **recommends** the proposal for grant of Expansion in Environment Clearance for Gevra Opencast coal mine from 45 MTPA to 49 MTPA of M/s South Eastern Coalfields Limited in mine lease area of 4184.486 ha in District Korba (Chhattisgarh) for life of the mine or 30 years whichever is earlier, as per EIA Notification, 2006 and its amendment therein with all the condition stipulated in previous ECs dated 21<sup>st</sup> February, 2018 & 4<sup>th</sup> June, 2020, dated shall remain the same and subject to additional conditions as mentioned below for environment safeguards:*

- The project proponent shall obtain Consent to Establish/Operate from the State Pollution Control Boards for the proposed capacity of 49 MTPA prior to commencement.*
- PP shall complete all the mitigation measures for reduction of air pollution proposed during EAC meeting within 2 to 3 years.*



- (iii) *Third party monitoring by reputed institution for air quality shall be carried out at identified locations, both ambient and the process area, to arrive at impact of the proposed expansion at regular interval of 3 years*
- (iv) *Top soil should be stored separately at marked area and necessary vegetation shall be maintained to avoid any entrainment of dust*
- (v) *Progressive backfilling of mine and progressive reclamation of OB dump shall be done*
- (vi) *Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured*
- (vii) *10 additional long ranging Fog canon system shall be installed to reduce the impact of air pollution on haul road, OB dump, mining areas, CHP and Railway siding*
- (viii) *Persons of nearby villages shall be given training on livelihood and skill development to make them employable.*
- (ix) *Mining shall be carried out only by surface miners for the project (as proposed) and silo loading till railway siding through in-pit conveyor should be installed to avoid road transportation in 2 years*
- (x) *Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles*
- (xi) *Project proponent to plant additional 150,000 nos. of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer.*
- (xii) *Project Proponent shall obtain blasting permission from DGMS for conducting mining operation near villages and also explore deployment of rock breakers of suitable capacity in the project to avoid blasting very near to villages. There shall be no damages caused to habitation/structures due to blasting activity.*
- (xiii) *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEFCC.*
- (xiv) *Continuous air quality monitoring stations (2nos) should be made operation within six months of issue of this letter and the real time data so generated to be uploaded on company website and shared with SPCB. In addition, data should also be displayed digitally at entry and exist gate of mine lease area for public display.*
- (xv) *Quality of polluted water generated from the operations which include COD and acid mine drainage and metal contamination shall be monitored along with TDS, DO, TSS. The monitored data shall be uploaded on the website of the company as well as displayed at the site in public domain.*
- (xvi) *Thick Greenbelt of adequate 50 mts width at the final boundary or along the transportation route in the down wind direction of the project site shall be developed.*
- (xvii) *Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes,*

*habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.*

- (xviii) PP shall carry out monthly water monitoring quality of Hasdeo and Ahiran River and conduct Bio-assay test half yearly and further monitoring Ground water level.*
- (xix) The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours.*
- (xx) Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEFCC.*
- (xxi) PP should conduct epidemiology study to (analysis of the distribution, patterns and determinants of health and disease conditions in defined populations).*
- (xxii) PP shall plant additional 200 ha of Sal trees(only) and create a nursery of 10 ha to distribute the species freely in the region for redevelopment of Sal forest in the region.*
- (xxiii) PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.*
- (xxiv) All approach roads to mine and all other roads which are in regular use should be black topped. The maintenance of road shall be done by PP in collaboration with state government*
- (xxv) Compensation of the land acquired for the project shall be settled within one year as per R&R Policy.*
- (xxvi) Permanent Health care facilities of Hospital should be established within 5 km of project boundary for the local people.*
- (xxvii) PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms*
- (xxviii) Domestic water shall be provide to the residents/villages which are coming under the zone of influence of the project due to ground water extraction*
- (xxix) 2 nos of Water Harvesting Pond with adequate area and depth shall be development within 5 km of project area.*
- (xxx) PP shall submit the details of expenditure incurred for Wildlife conservation plan (earlier submitted) within six months to Ministry's Regional Office.*
- (xxxi) Adequate facility of drinking water, plantation and other social amenities should be provided to established R&R villages.*

#### **Agenda No. 10.4**

**Modernization by Change in Technology from 1.2 MTPA Dry to 1.2 MTPA Wet Type of Coal Washery by M/s Indermani Coal Beneficiation Private Limited at Village Beltara, Tehsil Bilha, District Bilaspur (Chhattisgarh) – For Amendment in Environment Clearance–reg.**

**[Online Proposal No. IA/CG/CMIN/201408/2021; -J-11015/265/2007-IA.II(M)]**

**10.4.1** The proposal is for amendment in Environmental Clearance dated 5<sup>th</sup> August, 2020 for Modernization by Change in Technology from 1.2 MTPA Dry to 1.2 MTPA Wet Type of Coal Washery by M/s Indermani Coal Beneficiation Private Limited at Village Beltara, Tehsil Bilha, District Bilaspur (Chhattisgarh).

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

- (i) The project area is covered under Survey of India Topo Sheet No: 64 J/3, J/4, J/7, J/8 and is bounded by the geographical coordinates ranging from 22°16'41.8 N"-22°16' 53.0 "N to 82° 16' 19.8 E"-82° 16' 32.8" E.
- (ii) Source: Raw coal of 1.2 MTPA will be sourced from (Dipka mine/ Gevra mine/ Kusmunda/Manikpur mines of Korba area, Raigarh area – M/s. South Eastern Coalfields Ltd (SECL).) through E-Auction and transported from the coal mines to the washery unit located at a distance of about 50 km by road involving about 270 trucks/day.
- (iii) No joint venture has been formed.
- (iv) The project site does not fall in the Critically Polluted Area (CPA), where MoEF&CC has imposed moratorium on grant of environment clearance vide its OM dated 13th January, 2010.
- (v) The existing manpower are 45 persons (Direct). After the modernization or change in technology, additional manpower requirement is Direct –20 and Indirect-25 persons.
- (vi) The project will improve the socio-economic status of the society in the region by generating direct and indirect employment opportunities. The project will contribute additional revenue to the State & Central exchequers in the form of taxes, cess, etc.
- (vii) M/s. Phil Minerals Beneficiation & Energy Pvt. Ltd was accorded EC from MoEF&CC vide letter no: 11015/265/2007-IA.II(M) dated 1st February, 2010 in an area of 6.08 ha in Beltara village, Bilha tehsil, Bilaspur district, Chhattisgarh state.
- (viii) EC was transferred to M/s. Indermani Coal Beneficiation Private Limited (M/s. ICBPL) vide letter no 11015/265/2007-IA. II(M) dated 5<sup>th</sup>August, 2020.
- (ix) Certified EC Compliance has been obtained from Regional Office – MoEF&CC vide F.No no: IRO-RPR/ENV/IND/01/2021/25 dated-24<sup>th</sup> February, 2021.
- (x) It is a brown field project in an area of 6.08 ha located at Beltara village, Bilha tehsil, Bilaspur district, Chhattisgarh state for change in technology. No additional land acquisition will be involved for the project.
- (xi) The land usage pattern of the project is as follows

<b>Sr. No.</b>	<b>Description</b>	<b>Existing 1.2 MTPA (in ha)</b>	<b>Proposed</b>
1	Land for washery	2.05	No change. Will remain same
2	Land for reject disposal area	1.00	
3	Land for greenbelt development	0.70	
4	Coal Storage	1.15	
5	Approach roads	0.50	
5	Land for raw water reservoir	0.06	
6	Land for fabrication / construction yard/others etc	0.624	
<b>Total</b>		<b>6.84</b>	

- (xii) Raw coal transported from the coal mines to the washery unit located at a distance of about 50 km by road involving about 270 trucks/day.
- (xiii) There is no wildlife sanctuary or national parks within 10 km radius study area. There are no Schedule-I species in the core area of the plant. However, there are 3 Schedule-I species reported in the buffer area which are Common Monitor Lizard, Peacock and Python in the buffer zone.
- (xiv) Total water requirement for 1.2 MTPA (Dry washery) is 38.0 KLD. The total water requirement after proposed change in technology (wet type) will be 240 KLD only.
- (xv) NOC for ground water abstraction 6325 KL per annum has already been obtained from Department of Water Resources, CGWA (Letter No. CGWA/NOC/IND/ORIG/2020/8852-Valid from 16.11.2020 and valid up to 15.11.2023). The existing water requirement is being met through ground water and the remaining water requirement is being met from existing rain water harvesting pond.
- (xvi) As the existing water requirement will not be sufficient for the proposed wet type technology, Water allocation for 1.2 MTPA (for proposed wet technology) will be applied to State Water Resource department.
- (xvii) Consent to Operate (Air (Prevention and Control of Pollution) Act) was issued by Chhattisgarh Environment Conservation Board (CECB), Raipur, Chhattisgarh vide Lr no: 1894/TS/CECB/2018 Dated 22.05.2018, valid upto 31.05.2021. Consent to Operate (Water (Prevention and Control of Pollution) Act) was issued by Chhattisgarh Environment Conservation Board (CECB), Raipur, Chhattisgarh vide Lr no: 1892/TS/CECB/2018 Dated 22.05.2018, valid upto 31.05.2021.
- (xviii) Regular monitoring of ambient air quality is being carried out at project site. The ambient air quality monitoring is carried out for study period in 9 locations from 1<sup>st</sup> December 2020 to 31<sup>st</sup> December 2020. PM<sub>10</sub>: 32.6-56.2 µg/m<sup>3</sup> ; PM<sub>2.5</sub>: 15.1-26.5 µg/m<sup>3</sup> ; SO<sub>2</sub>: 10.6-15.0 µg/m<sup>3</sup> ; NO<sub>2</sub>: 11.2-16.9 µg/m<sup>3</sup> ; CO: 157-263 µg/m<sup>3</sup>. The concentrations of PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, CO, NH<sub>3</sub>, Pb, BaP, As, Ni and C<sub>6</sub>H<sub>6</sub> are observed to be well within the NAAQ standards prescribed by Central Pollution Control Board (CPCB) for industrial and rural /residential zone.

- (xix) No court cases, violation cases are pending against the project.
- (xx) The project does not involve any violation of the EIA Notification, 2006 and amendment issued there under.
- (xxi) Cost of operating project with dry technology is about Rs. 4.5 Crores. Estimated cost for proposed modernisation will be about Rs. 10 Crores. A budget of about Rs.8 Lakhs per annum will also be earmarked for environmental protection including monitoring activities.

**10.4.3** The EAC during deliberations noted the following

- i. Earlier, Environment Clearance was granted by Ministry vide letter no: 11015/265/2007-IA.II (M) dated 1<sup>st</sup> February, 2010 to 1.2 MTPA Wet Type of Coal Washery in an area of 6.08 ha by M/s. Phil Minerals Beneficiation & Energy Pvt. Ltd Village Beltara, Tehsil Bilha, District Bilaspur (Chhattisgarh).
- ii. EC was transferred to M/s Indermani Coal Beneficiation Private Limited (M/s. ICBPL) vide letter no 11015/265/2007-IA. II(M) dated 5<sup>th</sup> August, 2020 with same terms & conditions.
- iii. Certified EC Compliance has been obtained from Regional Office – MoEF&CC vide F.No no: IRO-RPR/ENV/IND/01/2021/25 dated-24th February, 2021. It was observed that compliance of EC conditions by previous owner of washery seems to be incomplete in terms of 3-teir plantation, and monitoring of mercury in raw coal. EAC directed that project proponent shall comply with all the earlier conditions.
- iv. PP has proposed to install 1.2 MTPA Heavy Media Cyclone Technology (Wet Technology) from dry process and baseline monitoring was carried out by December, 2020 for a period of one month i.e. 1<sup>st</sup> December, 2020 to 31<sup>st</sup> December 2020.
- v. NOC for ground water abstraction 6325 KL per annum has already been obtained from Department of Water Resources, CGWA (Letter No. CGWA/NOC/IND/ORIG/2020/8852-Valid from 16.11.2020 and valid up to 15.11.2023). The existing water requirement is being met through ground water and the remaining water requirement is being met from existing rain water harvesting pond.
- vi. There is no wildlife sanctuary or national parks within 10 km radius study area. There are no Schedule-I species in the core area of the plant. However, there are 3 Schedule-I species reported in the buffer area which are Common Monitor Lizard, Peacock and Python in the buffer zone.
- vii. PP vide its letter dated 23<sup>rd</sup> March, 2021 has submitted Ash Analysis for dry and wet process with justification of technology after deliberation and as per direction of EAC. Further, the fresh water requirement has been reworked and reduced from 240 KLD to 170 KLD as desired by the EAC.
- viii. 0.40 MTPA coal rejects will be generated from the proposed coal washery plant which will be utilized in power plant.
- ix. There are 3 Schedule-I species reported in the buffer area which are Common Monitor Lizard, Peacock and Python in the buffer zone.

**10.4.4** *The EAC after deliberations observed that the instant proposal is for modernisation by change in Technology from dry process to wet process. The proponent was required to apply in*

Form# 1 in PARIVESH Portal for due diligence regarding requirement of Environment Impact Assessment (EIA) and Public Consultation as per 7(ii) clause of EIA Notification, 2006. However, PP has applied in Form# 2 on PARIVESH Portal and uploaded Form#1 in pdf format and submitted Pre-feasibility report and certified compliance report. In view of this, EAC observed after due-diligence that since the modernisation proposal is for improvement in air pollution without change in production capacity and area, there may not be requirement of EIA report and Public Consultation. Further, EAC **recommends** the proposal for amendment in Environment Clearance dated 1st February, 2010 and transferred dated 5<sup>th</sup> August, 2020 for Modernization by Change in Technology from 1.2 MTPA Dry to 1.2 MTPA Wet Type of Coal Washery by M/s Indermani Coal Beneficiation Private Limited at Village Beltara, Tehsil Bilha, District Bilaspur (Chhattisgarh) under clause 7(ii) of EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:

- (i) Compliance of existing EC for plantation shall be adhered within period of 6 months and action taken report shall be submitted to concerned RO, MoEF&CC.
- (ii) The maximum production from the coal washery at any given time shall not exceed the limit as prescribed in the EC.
- (iii) Total water requirement after proposed change in technology should not exceed 170 KLD. i.e 165 KLD for process and 5 KLD for Domestic purpose.
- (iv) Washery rejects 0.40 MTPA shall be utilized only in FBC Power Plant / Thermal Power Plant.
- (v) All other conditions stipulated in EC dated 1<sup>st</sup> February, 2010 and transferred EC dated 5<sup>th</sup> August, 2020 shall be complied.
- (vi) No Untreated waste water should not be discharged to the natural stream/water body.
- (vii) PP should install High efficiency centrifuge, belt press filter, high frequency screening, thickener to separate coal fines and maximize water recovery.
- (viii) Mitigating measures to be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers.
- (ix) PP to install continuous ambient air quality monitoring station at suitable location preferably one village side. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.
- (x) Adequate effectiveness of EMP should be analysed from the offset/hike of air pollution data from continuous monitoring stations and quarterly report shall be generated and submitted with 6 monthly compliance report to RO, MoEF&CC
- (xi) Project Proponent shall develop three Tier Green belt developments (atleast 50 mtrs width) in and around the periphery of washery within 3 years.
- (xii) Third party monitoring by reputed institute for air quality shall be carried out at identified locations, both ambient and the process area, to arrive the impact at regular interval of 3 years
- (xiii) Surface runoff from Storage yard of coal, reject dumps shall be stored in settling tank and later treated before any usage and quality shall be check frequently.
- (xiv) Road inside and at periphery of the washery plant shall be constructed of concrete only.
- (xv) Continuous monitoring of occupational safety and other health hazards, and the corrective actions need to be ensured.

- (xvi) *Transportation of rejects shall only be in 40 to 50 tonne trucks only if railway siding is not present at utilization points. If railway siding is available at FBC Power Plants/Thermal Power Plant, then no transportation shall be allowed by trucks.*
- (xvii) *Transport of raw coal, clean coal and middling shall be by rail/road (in 40-50 tonnes dumpers only)*
- (xviii) *Raw coal, washed coal and rejects shall be stored in covered silos or in dome shaped storage facility.*
- (xix) *PP shall install atleast 5 nos of fog mist sprayer in the premises to reduces air pollution.*
- (xx) *PP shall implement wind barrier of atleast 10 mtrs along the boundary mainly on North and South direction to mitigate air pollution in Belpara and Beltara villages respectively.*
- (xxi) *PP shall submit and implement Wild life conservation for schedule – 1 species*

### **Agenda No.10.5**

**P.V. Narasimha Rao Opencast Mine (Erstwhile Venkatapur Block-1) with Peak production capacity 2.50 MTPA (Peak 3.75 MTPA) in a mining lease area of 1071.3152 ha by M/s Singareni Collieries Company Limited near village & Mandal Venkatapur, District Mulugu (Telangana) - For Terms of Reference – reg.**

[Online Proposal No. IA/TG/CMIN/199832/2021; IA-J-11015/22/2021-IA-II(M)]

**10.5.1** The proposal is for Terms of Reference (ToR) for P.V. Narasimha Rao Opencast Mine (Erstwhile Venkatapur Block-1) with Peak production capacity 2.50 MTPA (Peak 3.75 MTPA) in a mining lease area of 1071.3152 ha by M/s Singareni Collieries Company Limited near village & Mandal Venkatapur, District Mulugu (Telangana).

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

- (i) The project area is covered under Survey of India Topo Sheet No. 56N/15, 56N/16, 65B/3, 65B/4 and is bounded by the geographical coordinates ranging from Latitudes N 18°14'53" to 18°17'3" & Longitudes E79°59'06" to 80°01'55"
- (ii) Coal linkage of the mine is proposed as per Fuel Supply Agreement of the Company.
- (iii) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (iv) Employment generation, departmental and contractual employment to 931 persons is provided from the project.
- (v) The project is reported to be beneficial in terms of socio-economic and improving living standards.
  - **Social:** Road transport, Communication, Housing, Power, Educational, Communication, Medical, Recreation and Business establishments will be developed.
  - **Economic:** Direct and Indirect employment opportunities to local people in contractual works like OB Off-loading, civil construction, coal transportation, supply of goods and provision of services to the project and other community services.
  - **Environmental:** Of the total project area of 1071.3152 ha, 467.4481 ha will be reclaimed

with plantation by the end of post closure stage. About 147.4336 ha will be converted in to water body which will augment ground water recharge.

- (vi) Total project area is 1071.3152 ha.
- (vii) Mining Lease to an extent of 616.38 ha was granted Vide GOMs No.151, dated: 29.05.2006 for a period of 20 years and valid from 24.11.2006 to 23.11.2026. Appending of non- coal bearing area of 454.935 ha falling outside, adjacent & adjoining the existing mining lease for ancillary activities- Vide GOMs No.17, dated: 27.11.2020-Letter of Intent.
- (viii) Mining Plan (including Progressive Mine Closure Plan) has been Approved by MoC vide Lr. No. 34011/8/2020-CPAM, dated 01.02.2021 for 2.50 MTPA (Peak-3.75 MTPA in project area of 1071.3152 ha with Opencast Mining with Shovel-Dumper Combination.
- (ix) The land usage pattern of the project is as follows:

Pre-mining land use details (Area in ha):

Sl. No.	Land use	Within ML Area (ha)	Outside ML Area (ha)	Total (ha)
1	Agricultural land	591.5822	0.00	591.5822
2	Forest land	431.8500	0.00	431.8500
3	Wasteland	-	0.00	-
4	Grazing land	-	0.00	-
5	Nallah	-	0.00	-
6	Settlements	-	0.00	-
	Water bodies	43.9400	0.00	43.9400
7	Roads	3.9430	0.00	3.9430
	<b>Total</b>	<b>1071.3152</b>	<b>0.00</b>	<b>1071.3152</b>

Post Mining Land Use Details (Area in ha):



Type	Land use (Proposed)	Land Use (End of Life)	Land Use (Post Closure)						Total
			Agricultural Land	Plantation	Water Body	Public/ Company Use	Forest Land (Returned)	Undisturbed	
Excavation Area	435.5030								
Backfilled Area		288.0694	29.8162	132.6899			125.5633		288.0694
Excavated Void		147.4336			11.3400		136.0936		147.4336
Without plantation									
Top Soil Dump									
External Dump (Including rationalization area)	294.4359	294.4359		294.4359					294.4359
Safety Zone	98.2011	98.2011	6.7788	40.1146		7.7864	43.5213		98.2011
Haul Road between quarries									
Road diversion									
Diversion/ below River/Nala/canal	2.9510	2.9510					2.9510		2.9510
Settling pond	2.3491	2.3491			2.3491				2.3491
Road & Infrastructure area	108.0524	108.0524	102.9551			5.0973			108.0524
Rationalization area									
Garland drains	8.4518	8.4518			5.8942		2.5576		8.4518
Embankment	4.4597	4.4597		0.2077			4.2520		4.4597
Green Belt									
Water Reservoir near pit									
UG entry									
Undisturbed/ Mining right for UG	116.9112	116.9112					116.9112		116.9112
Resettlement									
Pit head power plant									
Water harvesting									
Agricultural land									
<b>Total</b>	<b>1071.3152</b>	<b>1071.3152</b>	<b>139.5501</b>	<b>467.4481</b>	<b>19.5833</b>	<b>12.8837</b>	<b>431.85</b>	<b>0</b>	<b>1071.3152</b>

- (x) Total geological reserve reported in the mine take area is 65.57 MT with 42.56 MT minable coal reserve by opencast method. Out of total mineable reserve of 42.56 MT by opencast method, 40.43 MT are available for extraction. Percent of extraction is 95 %.
- (xi) 14 nos. of coal seams are present with thickness ranging from 0.07m (3C seam) to 5.12m (4A seam). All seams considered for extraction by opencast method from 30.0 m depth to 300 m depth. Grade of coal is G-8, stripping ratio is 1:15.07, while gradient is 1 in 2.7 to 1 in 3.2

- (xii) Method of mining operations envisages by Opencast Mining with Shovel-Dumper Combination.
  - (xiii) Life of mine is 19 years.
  - (xiv) The project has one external OB dumps with an area of 294.4359 ha with 120 m height and 174.535 Mm<sup>3</sup> of OB is envisaged in the project.
  - (xv) Total quarry area is 435.5030 ha, out of which backfilling will be done in 288.0694 ha while final mine void will be created in an area of 147.4336 ha with a depth of 300 m. Backfilled quarry area of 288.0694 ha shall be reclaimed with plantation. Final mine void will be converted into water body of volume of 170.344 Mm<sup>3</sup>
  - (xvi) Coal from quarry to Pit Head CHP by dumpers and to Uppal Wharf Loading point (Railway Siding-68 km) by Tippers and to customers by Rail.
  - (xvii) Reclamation Plan in an area of 467.4481 ha, comprising of 294.4359 ha of the external dump, 132.6899 ha of internal dump, 40.1146 ha of safety zone and 0.2077 ha embankment.
  - (xviii) 431.85 ha of forest land has been reported to be involved in the project. 431.85 ha diverted for UG mining vide F. No. 8-25/2000-FC, DT: 17th May 2005 for a period of co-terminus with mining lease. Online application was submitted to MoEF &CC for surface rights for 314.9388ha on 20.01.2021 (Proposal No: FP/TG/MIN/119966/2021). 116.9112 ha will remain with UG rights (Unexplored Area).
  - (xix) Any National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones II within 10 km boundary of the project: Nil
  - (xx) Ground water level varies from 2.65m to 11.13m during pre-monsoon season and 0.90m to 6.05m during post-monsoon season
- Total water requirement for the project is about 2,980 KLD.
- (xxi) Application for obtaining the approval of the State Ground Water Authority for Ground Water Clearance will be submitted after getting EC.
  - (xxii) Sudda Vagu (Seasonal) stream originating in the quarry area and diversion of the stream will be taken up and completed in 2nd year (Subjected to the diversion of FL for Surface rights). It will be designed as per recommendations of I & CAD, Government of Telangana.
  - (xxiii) Regular monitoring of ambient air quality will be carried out after getting EC
  - (xxiv) No court cases, violation cases are pending against the project.
  - (xxv) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under.
  - (xxvi) The project involves 196 project affected families (PAFs), PDFs-Nil. R&R of the PAPs will be done as per the provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act,2013 (LARR Act 2013).
  - (xxvii) Total Cost of the Project is Rs.42800 Lakhs. CSR cost is 2% of average net profits of the company made during last three years will be allocated for CSR at company level. Environment Management Cost is as follows;
    - a) Direct cost : Rs. 30.874Cr

b) Revenue cost : Rs. 7.39 Crs (Rs 29.75/t)

**10.5.3** The EAC during deliberations noted the following:

Earlier ToR was granted for KTK-9 UG Project for 2 MTPA in a project area of 366.08 Ha vide J-11015/125/2009.IA.II (M), dated 9<sup>th</sup> June 2009. But the project could not be commissioned due to withdrawal of budgetary support by Government as all UG Mines of SCCL were incurring huge losses.

No Objection Certificate was also obtained from ASI, New Delhi, vide Ir.no 11/3/WRG/2002-M/3970, dated 3rd January 2003, as KTK-9 Incline is located at a distance of 6 km from Ramappa Temple (Centrally Protected Monument).

431.85 ha diverted for UG mining vide F.No.8-25/2000-FC, dt: 17th May 2005 for a period of co-terminus with mining lease

Sudda Vagu (Seasonal) nallah originating in the quarry area and diversion of the nallah will be taken up and completed in 2nd year (Subjected to the diversion of FL for Surface rights). The nallah will be designed as per recommendations of I&CAD.

HT Lines - 132 kV HT & 33 kV HT lines of TS Transco, proposed diversion along the project boundary will be taken up and completed in 1st year of operation (i.e., 2021-22).

Baseline data has been generated during October 2019- December 2019 (Post-Monsoon Season) by EPTRI, a NABET accredited and CPCB recognized state laboratory.

**10.5.4** *The EAC, after detailed deliberation **recommends** the proposal for grant of Terms of Reference to P.V. Narasimha Rao Opencast Mine (Erstwhile Venkatapur Block-1) with Peak production capacity 2.50 MTPA (Peak 3.75 MTPA) in a mining lease area of 1071.3152 ha by M/s Singareni Collieries Company Limited near village & Mandal Venkatapur, District Mulugu (Telangana), with specific conditions as below and as defined in the Standard ToR under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto.*

- (i) *Public Consultation, including public hearing, shall be conducted through concerned SPCB in both the concerned district as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal.*
- (ii) *Cumulative Impact Assessment Study of the area shall be carried over by project proponent.*
- (iii) *Wind rose pattern in the area should be reviewed and accordingly location of AAQMS shall be planned by the collection of air quality data. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area.*
- (iv) *Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*
- (v) *Detailed Social Impact Assessment shall be prepared in villages for Rehabilitation and Re-settlement.*

- (vi) *Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA).*
- (vii) *Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report.*
- (viii) *PP shall be submitting R &R in respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programs prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government.*
- (ix) *No OB dumping shall be undertaken/proposed in the forest land, near the river and villages.*
- (x) *Inpit conveyor belt with silo loading should be proposed and installed for transportation of coal till railway siding.*
- (xi) *PP shall explore the possibilities of utilization of OB material for different purposes (in construction of roads, manufacture of artificial sand, aggregates, use for farmers etc.) and accordingly Plan shall be included in EIA/EMP Report.*
- (xii) *Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report.*
- (xiii) *PP shall provide an integrated mine production and mine reclamation plan of which the systematic and post mining land form management / land scape management of mining area, internal, and external dump area will be integral. Both internal and external dumps shall be regraded and reshaped to reduce its height as close to the original surface level as possible for better land use post mining activities.*
- (xiv) *PP shall provide the details of mining technology/methodology proposed to be adopted for coal mining operations and its associated environmental benefits of using from Climate Change perspective.*
- (xv) *PP shall propose progressive greenbelt yearwise and fund allotted for the same.*
- (xvi) *PP should clearly bring out that what is the specific diesel consumption ~ (Liters/Tonne of total excavation & mineral) and steps to be taken for reduction of the same. Year-wise target for reduction in the specific diesel consumption needs to be submitted.*
- (xvii) *PP should submit the detailed mineralogical and chemical composition of the mineral and percentage of free silica from a NABL/MoEF&CC accredited laboratory*
- (xviii) *PP should adopt proper mitigative measure for protection of Sudda Vagu (Seasonal) nallah*
- (xix) *Plan for development of 100 mts of tree plant (only Sal trees) shall be submitted*
- (xx) *PP shall explore transportation of coal to nearby power plant (KTPS) atleast upto 75 % to reduce the road transportation.*
- (xxi) *PP shall collect one-month baseline data of all environmental parameters and shall compare with the data of earlier data collected. Air pollution impact predication shall be conducted by considering the maximum values.*
- (xxii) *Fresh No objection certificate shall be obtained from ASI for Ramappa Temple.*

#### **Agenda No.10.6**

**Expansion of Cluster no. 2 group of mixed mines from 0.45 MTPA to 1.10 MTPA in combined ML Area of 1018 ha of M/s Eastern Coalfield Limited located in Tehsil Nirsa-Cum-Chirkunda District Dhanbad (Jharkhand) - For Extension of Validity of Existing Environment Clearance– reg.**

**[Online Proposal No. IA/JH/CMIN/196109/2021; J-11015/37/2011-IA.(M)]**

**10.6.1** The EAC during deliberations noted the following:

The proposal is for extension of validity of Environment Clearance of Cluster No. 2 (Group of mines of ECL in Raniganj Coalfield) Project of 1.10 MTPA capacity in mine lease area of 1018 ha of M/s Eastern Coalfields LTD located in Mugma Area, Tehsil Nirsa-Cum-Chirkunda District Dhanbad (Jharkhand).

Earlier, the environment clearance to the Cluster No. 02 was obtained under EIA Notification, 2006 vide Ministry's letter No J – 11015/37/2011 – IA – II (M) dated 16.01.2015 and Expansion in EC was granted on 16<sup>th</sup> June, 2016 for 1.10 MTPA in mine lease area of 1018.00 Ha. The details of production with life of the mine as earlier letter is as below:

Sl. No.	Name of Mine	Lease Area (Ha)	As per EC dated 16 <sup>th</sup> January, 2015	Life (Years)	Earlier Approved Expansion in EC Capacity (MTPA)	Life (Years)
1	Kumardhubi UG	667.0	0.1	20	0.10	18
2	Barmuri OC	59.0	0.23	10	0.50	6
3	Rajpura OC	292.0	0.12	5	0.50	6
		1018.0	0.45		1.10	

PP submitted that due to slippage of targeted production from the calendar plan, it is seen that even though 5 years have elapsed since grant of EC there are still reserves left in Barmuri and Rajpura OCPs totaling 1.03 MT and 1.16 MT, respectively. It is envisaged that the remaining reserves will be extracted over the next 4 years. The proposed for EC validity extension is tabulated below:

Sl. No.	Name of Mine	Lease Area (Ha)	As per EC dated 16 <sup>th</sup> January, 2015	Life (Years)	Earlier Approved Expansion in EC Capacity (MTPA)	Life (Years)	Proposed Extension in life of the mine	Remark (validity from the date of issue of letter)
1	Kumardhubi UG	667.0	0.1	20	0.10	18	18	No changes
2	Barmuri OC	59.0	0.23	10	0.50	6	10	Life validity extension by 4 years
3	Rajpura OC	292.0	0.12	5	0.50	6	10	
		1018.0	0.45		1.10			

As per Ministry's notification dated 29<sup>th</sup> April, 2015 regarding validity of environmental clearance and its extension, it states as below: -

(i) The "Validity of Environmental Clearance" is meant the period from which a prior environmental clearance is granted by the regulatory authority, or may be presumed by the

*applicant to have been granted under sub paragraph (iv) of paragraph 7 above, to the start of production operations by the project or activity, or completion of all construction operations in case of construction projects (item 8 of the Schedule), to which the application for prior environmental clearance refers. The prior environmental clearance granted for a project or activity shall be valid for a period of ten years in the case of River Valley projects (item 1(c) of the Schedule), project life as estimated by Expert Appraisal Committee or State Level Expert Appraisal Committee or District Level Expert Appraisal Committee subject to a maximum of thirty years for mining projects and seven years in the case of all other projects and activities.*

*(ii) Where the application for extension under sub-paragraph (ii) has been filed-*

*(a) within one month after the validity period of EC, such cases shall be referred to concerned Expert Appraisal Committee (EAC) or State Level Expert Appraisal Committee (SEAC) or District Level Expert Appraisal Committee and based on their recommendations, the delay shall be condoned at the level of the Joint Secretary in the Ministry of Environment, Forest and Climate Change or Member Secretary, SEIAA, as the case may be;*

*(b) more than one month after the validity period of EC but less than three months after such validity period, then, based on the recommendations of the EAC or the SEAC or the DEAC, the delay shall be condoned with the approval of the Minister in charge of Environment, Forest and Climate Change or Chairman, as the case may be:*

*Provided that no condonation for delay shall be granted for any application for extension filed 90 days after the validity period of EC.”*

Give details of actual coal production vis-à-vis sanctioned capacity since the inception of mine in following format: None of the mines within the cluster have exceeded individual EC capacity since grant of EC

Name of Project	EC sanctioned capacity (MTPA)	Year	Actual production (MTPA)	Excess production beyond the EC sanctioned capacity
Cluster No. 2 (Group of mines)	1.10 MTPA	2015 – 16	0.394	Nil
		2016 – 17	0.468	Nil
		2017 – 18	0.635	Nil
		2018 – 19	0.714	Nil
		2019 – 20	0.676	Nil

**10.6.4** *The EAC, after deliberations and considering Ministry’s notification dated 29<sup>th</sup> April, 2015 regarding validity of environmental clearance and its extension and since the project proponent has applied within time limit of said notification **recommends** the extension in validity of Environment Clearance to Expansion of Cluster no. 2 group of mixed mines from 0.45 MTPA to 1.10 MTPA in combined ML Area of 1018 ha of M/s Eastern Coalfield Limited located in Tehsil Nirsa-Cum-Chirkunda District Dhanbad (Jharkhand), for life of the mine (four years i.e. till 2025 as project proponent committed that evacuation of mineral will be completed in four years during presentation or 30 years whichever is earlier as per EIA Notification, 2006 with all the condition stipulated in EC*

dated 16<sup>th</sup> January, 2015 and 16<sup>th</sup> June, 2016 shall remain the same and subject to additional conditions as mentioned below for environment safeguards: -

- (i) The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
- (ii) Project proponent to plant 100,000 nos. of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer
- (iii) Fixed Automatic sprinkler system shall be installed in Crusher area, Haul Road. Further adequate pollution control mechanism shall be adopted in mobile crusher system
- (iv) Third party monitoring by reputed institute for air quality shall be carried out at identified locations, both ambient and the process area, to arrive at impact of the proposed changes. The report shall be submitted to Ministry's Regional Office in six months
- (v) Five 5 fog cannon system should be installed near mine operational area and at OB Dump.
- (vi) Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles

#### **Agenda No.10.7**

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

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

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

Earlier the proposal was considered by EAC in its 7<sup>th</sup> meeting held on 29<sup>th</sup> January, 2021 and sought additional information. PP submitted the compliance of observation of EAC and again taken to EAC in 8<sup>th</sup> meeting held on 11<sup>th</sup> February, 2021 for deliberation. EAC noted the reply of observation and accordingly detailed as below:

<b>Sr. No.</b>	<b>Observations of EAC</b>	<b>Compliance / Submission of Project Proponent</b>
1.	PP shall submit compliance of EC conditions, which are still non-complied with proof/photographs. PP shall submit proper Action plan with Time Line.	The compliance of EC conditions was submitted and deliberated during the preentation along with action plan indicating budget estimates & timeline for completion of activity.

2.	Revised capital estimate for Environment protection measures submitted by PP is inadequate and prepared in appropriately. Therefore, documents required to be substantiated on ground measures. PP shall submit measures taken on ground and then submit the enhanced protection measures.	The revised capital estimates showing the measures taken on ground and the enhanced protection measures has been prepared.
3.	PP shall submit one-month noise monitoring data conducted at nighttime and vibration monitoring data, data of treated effluent from ETP	The monitoring data, as directed is submitted: a) The one-month noise monitoring data conducted at night time is presented. b) The latest ground vibration monitoring data is presented. c) The monitoring data of treated effluent from ETP is presented .
4.	PP shall submit the riverine/ riparian ecosystem conservation and management plan.	The riparian ecosystem conservation and management plan is submitted.
5.	PP should show on a surface plan (5-year interval for life of mine) of suitable scale the area to be covered under afforestation & green belt clearly mentioning the latitude and longitude of the area to be covered during each 5 years.	As the proposed mine life is 4 years, the year wise plantation plan for 1st year, 4 <sup>th</sup> Year & 7th Year is submitted showing the area to be covered under afforestation & green belt mentioning the latitude and longitude of the area.
6	Plan for coal transportation from pithead to Amrapali Railway Siding through belt conveyer to be completed in 2 years with committed plan of actual status	The actual status of coal transportation from Amrapali Railway Siding through belt conveyer (within two years) is given below: a) The work order of construction of Amrapali CHP has been awarded to M/s Larsen & Turbo Ltd on 31.12.2020 for an estimated cost of Rs. 2,99,81,44,000/-. b) The work of construction of railway siding has been awarded to M/s RITES Ltd on 22.05.2017 for a cost of Rs. 41347.94 Lakhs. c) Application of diversion of Forestland has also been submitted to MoEF&CC on 12.10.2018 for construction of Amrapali Railway Siding. The proposal is under scrutiny at DFO (Chatra South). The commitment along with proposed plan & alignment of Amrapali Railway Siding is submitted.
7	Plan, design, alignment for diversion of stream and environment mitigation	The detailed diversion plan showing plan design & alignment of Dudhmatia stream along with



	measures to be adopted along the diverted stream.	specific environmental mitigative measures is provided.
8	PP shall submit Environmental Capital Expenditure by excluding Cost of rehabilitation. R&R cost should never be considered as Environmental expenditure.	The revised capital estimate showing the measures taken on ground and the enhanced protection measures excluding the R&R cost has been prepared and it is submitted.
9	Environment Mitigation measures for the villages involved in R&R i.e. Manwatongri and Binglat till they are rehabilitated and other villages nearby.	The existing & proposed environment mitigation measures for reduction of air pollution due to operation of mine in Manwatongri, Binglat & other nearby villages are submitted.
10	Environment mitigation measures taken at Shivpur Railway siding and along the transportation till conveyor belt with silo loading is implemented.	The details of existing & proposed environment mitigation measures taken at Shivpur Railway siding and along the transportation route are submitted .
11	PP shall reply to concerns raised in PH specially on River water becoming dirty after CCL started work and Cracks being developed in houses due to blasting and pollution due to coal transportation.	The action plan showing measures already taken on ground and the enhanced protection measures proposed for concerns raises in PH are submitted.

### 10.7.3 The EAC during deliberations noted the following

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

ToR was issued in respect of Amrapali Expansion OCP (Phase-I) (25 MTPA) vide MoEFCC letter no: J-11015/109/2013-IA-II (M) Dt. 20.05.2020

Environmental clearance (EC) for 14.40 MTPA normative in an area of 619.87 Ha. was granted 20.03.2020 as per EIA notification 2006.

Certified compliance report by Ministry's Regional Office dated 13th January, 2021 shows about 29 nos which is being complied but further action required and 26 nos of partial compliance and 38 nos. of completed out total 93 nos of EC conditions.

PP submitted the compliance on observation of RO, MoEFCC and EAC deliberated one by one with pictures. Further Action Plan was submitted with budget and timeline of completion as detailed below:

#### **Enhanced protection measures proposed at Amrapali OCP**

<b>Category</b>	<b>Activity</b>	<b>Details</b>	<b>Cost (in Rs. Lakhs)</b>	<b>Timeline/co mpletion</b>
<b>Air Pollutio n prevent ion measur es</b>	Wind Barriers along stock yard and downwind of project boundary	1200 m along mine boundary along Ursu Village	120	Sept 2021
	Wind Barriers along Coal Transportation road	Around 2000 m near Honhe village	240	Sept 2021
	Development of Green Belt along project boundary near Ursu village, Dudhmatia stream, OB Dump & coal transportation Roads	Total area proposed for plantation is 23.42 Ha	717.80	Monsoon 2021
	Plantation over External Dump			
	Green belt, Plantation on embankment along Barki river and reclamation of internal and external dumps	Total area proposed for plantation is 107.36 Ha	638.56	To be carried out in Monsoon season of 2022 -2024 as per the reclamation plan.
	Fixed sprinkling system on Haul Road	1300 m length along Coal transportation road side from coal stock	120	Oct-2021
<b>Air Pollutio n prevent ion measur es</b>	Fixed sprinkling system on Coal transportation road at Honhe Village	1000 m length	100	Dec-2021
	Fog Canon at Coal stock yard	2 numbers	80	October 2021
	PCC road	3.5 km Length and 10 m Width of road	900	December 2021

	Deployment of Road Sweeping Machines on CT Road	2 nos.	50 (yearly) 200 for 4 years (mine life)	October 2021
	Vehicle wheel washing system on CT Road	2 numbers on both ends of CTR	40	October 2021
	Continuous Air Quality monitoring systems	CAAQMS and Continuous PM10 Analyzer	125	PM10 installed at Shivpur Railway Siding  CAAQMS to be installed by Oct 2021.
<b>Total Cost of proposed Air Pollution prevention measures</b>			<b>3281.36</b>	

<b>Category</b>	<b>Activity</b>	<b>Details</b>	<b>Cost (in Rs. Lakhs)</b>	<b>Timeline / completion</b>
<b>Water Pollution &amp; Conservation Measures</b>	Construction of additional Check dams	1 Number of Check-dams on Honhe stream  4 Numbers of Check-dams on different Stream (2 number at Manwatongri, 1 number at Parsana Stream and 1 number at Naudiha Stream)	350	April 2021
	Sewage Treatment Plant at proposed colony	Proposed township will be provided with integrated sewage treatment plant.	200	March 2023
	Additional provision of Piezometers	Additional 05 no. of Piezometers have been proposed to monitor the ground water level.	40	May 2021

	Embankment along Barki River  (Present working of mine is about 600 metres from mine.)	Embankment will be provided along the Barki river and green belt will be developed. Present working of mine is about 600 metres from mine.	500	Mar-2023
<b>Water Pollution &amp; Conservation Measures</b>	Additional Rain Water Harvesting System	Roof top rain water harvesting system at 25 locations	45	December 2021
	Diversion of Dudhmatia stream	1500 m stream Diversion along the northern boundary of project	164.36	May 2021
	Additional Garland Drain	In between the OB dump and diverted stream of Length 500m	10	May 2021
	Stabilization of slope along Dudhmatiya stream using Jute netting , Guard wall with drains (along stream length 1500 m )	1.5 km length along Dudhmatiya stream	150	Oct-2021
<b>Total Cost of proposed Water Pollution &amp; Conservation Measures</b>			<b>1459.36</b>	
<b>Category</b>	<b>Activity</b>	<b>Details</b>	<b>Cost (in Rs. Lakhs)</b>	<b>Timeline/completion</b>
<b>Reclamation &amp; Biological Management</b>	Eco-restoration alongwith development of faunal habitat	Eco-restoration of 77.16 Ha of External dump	4236	Throughout the life of Mine
<b>Total Cost of Reclamation &amp; Biological Management</b>			<b>4236</b>	

<b>Total cost of Proposed Control Measures as per EIA/EMP</b>	<b>8976.72</b>	
<b>Proposed CER cost</b>	<b>300</b>	

### Riverine Conservation and Management Plan

<b>Activity</b>	<b>Details</b>	<b>Cost (Rs. Lakhs)</b>	<b>Timeline</b>
Construction of additional Check dams	1 Number of Check-dams on Honhe stream and 4 Numbers of Check-dams on different Stream(2 number at Manwatongri, 1 number at Parsana Stream and 1 number at Naudiha Stream)	350	Tender Floated. Work Order to be Issued. Tentative date of Completion: April 2021
Sewage Treatment Plant at proposed colony	Proposed township will be provided with integrated sewage treatment plant.	200	Construction work of colony has been started by NBCC. Tentative date of Completion: March 2023
Embankment along Barki River	Embankment will be provided along the Barki river and green belt will be developed.	500	Mar-2023
Additional Rain Water Harvesting System	Roof top rain water harvesting system at 25 locations	45	Scheme under preparation December 2021
Diversion of Dudhmatia stream	1500 m stream Diversion along the northern boundary of project	164.36	Approval awaited from GoJ May 2021
Additional Garland Drain	In between the OB dump and diverted stream of Length 500m	10	Scheme under preparation May 2021
Stabilisation of slope along Dudhmatiya stream using Jute netting & making of Guard wall with drains along stream of Length 1500 m and Height 3 m	1.5 km length & avg height of 8 meter along Dudhmatiya stream slope	110	Scheme under preparation Oct-2021

**Total Cost in Rs. Lakhs****1379.36 Lakhs**

During Monsoon-2021, 23.42 Ha of plantation will be raised over backfilled area, industrial infrastructure, road & green belts. During Monsoon-2022, 17.36 Ha. & during Monsoon-2023, 50 Ha of plantation will be raised over backfilled area, industrial infrastructure, road & green belts. Further yearwise reclamation plan has been submitted in the presentation

Easterly flowing Dudhmatia stream/ Binglat stream has been proposed for diversion along the northern boundary of the project. Currently, the course of existing Binglat stream is at least 60 m away from the present quarry. No obstruction has been created due to mining activity on the course of stream. De-siltation of stream bed is being carried out before Monsoon. In 2021, de-siltation and deepening of Dudhmatia stream has been carried out with an expenditure of Rs. 5.80 Lakhs

<b>Proposed Mitigation Measures</b>			
<b>Activity</b>	<b>Details</b>	<b>Cost (in Rs. Lakhs)</b>	<b>Timeline/completion</b>
Construction of additional Check dams	1 Number of Check-dams	75	April 2021
Diversion of Dudhmatia stream	1500 m stream Diversion along the northern boundary of project	164.36	May 2021
Additional Garland Drain	In between the OB dump and diverted stream of Length 500m	10	May 2021
Stabilization of slope along Dudhmatiyastream using Jute netting , Guard wall with drains (along stream length 1500 m )	1.5 km length along Dudhmatiya stream	150	Oct-2021

The actual status of coal transportation from Amrapali Railway Siding through belt conveyor (within two years) is given below:

1. The work order of construction of Amrapali CHP has been awarded to M/s Larsen & Turbo Ltd on 31.12.2020 for an estimated cost of Rs. 2,99,81,44,000/-.
2. The work of construction of railway siding has been awarded to M/s RITES Ltd on 22.05.2017 for a cost of Rs. 41,347.94 Lakhs.

3. Application of diversion of Forestland has also been submitted to MoEF&CC on 12.10.2018 for construction of Amrapali Railway Siding. The proposal is under scrutiny at DFO (Chatra South).

Environment Mitigation measures for the villages involved in R&R i.e. Manwatongri and Binglat till they are rehabilitated and other villages nearby. Additional Control Measures were submitted during the presentation.

The action plan for issued during Public Hearing shows measures taken on ground and the enhanced protection measures proposed for concerns raises in PH and Safeguards undertaken for minimising the impact of Blasting & Vibration are submitted in detail.

**10.7.4** *The EAC, after detailed deliberation on the submission/commitment of Project Proponent observed that PP has to strictly work as per timeline for compliance of EC conditions. There are many compliance conditions which still need to be implemented for environment protection. The Committee took a note that the PP has submitted the replies hurriedly without making detailed analysis. However, considering the commitment of PP and their seriousness to implement it, EAC recommends the proposal for grant of Environment Clearance upto 40% to Expansion of Amrapali Opencast Coal Mine project of 20.16 MTPA in project area of 619.87Ha of M/s Central Coalfields Limited located in Block Tandwa, District Chatra (Jharkhand), under the provisions of Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:*

- (i) *The project proponent shall obtain Consent to establish from the State Pollution Control Boards for the proposed peak capacity of 20.16 MTPA (Peak) prior to commencement of the increased production*
- (ii) *All the conditions stipulated in earlier ECs shall be complied within certain timelines.*
- (iii) *Further expansion shall be considered only after the completion of mitigation measures proposed by PP during EAC presentation based on recommendation of Ministry's Regional Office.*
- (iv) *All the 3 continuous air quality monitoring station should be made operation within 2 months from the date of issue of this letter and the real time data so generated to be uploaded on company website. In addition, data should also be displayed digitally at entry and exist gate of mine lease area for public display.*
- (v) *Adequate effectiveness of EMP should be analyzed from the offset/hike of air pollution data from continuous monitoring station and quarterly report shall be generated and submitted with 6 monthly compliance reports to RO, MoEF&CC.*
- (vi) *The PP shall complete all non-compliance/ partial compliance in one year and the action taken report shall be submitted to Regional Office of the MOEF&CC*
- (vii) *Quality of polluted water generated from the operations which include COD and acid mine drainage and metal contamination shall be monitored along with TDS,DO,TSS. The monitored data shall be uploaded on the website of the company as well as displayed at the site in public domain.*
- (viii) *PP shall submit a third party assessment of EC Compliance shall be undertaken once in three years through agency like ICFRI/ NEERI/IIT or any other expert agency identified by the Ministry to Ministry's Regional Office.*

- (ix) *Continuous Monitoring at Occupational safety and health hazards and the Corrective action need to be ensured.*
- (x) *Persons of nearby villages shall be given training on livelihood and skill development to make them employable.*
- (xi) *PP to plant 100,000 nos. of Sal trees only and develop nursery of 5 ha sal trees for free distribution in nearby areas.*
- (xii) *Mining shall be carried out only by surface miners for the project (as proposed) and silo loading till railway siding through in-pit conveyor should be installed to avoid road.*
- (xiii) *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEFCC.*
- (xiv) *PP should opt specific mitigative measures for the straightening of Dudhmatia stream Regular monitoring of the flow rate of Dudhmatia stream shall be carried out and record maintain*
- (xv) *PP should ensure that coal transportation from Amrapali Railway Siding through belt conveyor (within two years) from the grant of EC*
- (xvi) *PP should install 10 nos of fog cannon system in mine area and OB dump.*
- (xvii) *The company shall obtain approval of CGWA for use of groundwater for mining operations at its enhanced capacity of 20.16 MTPA (Peak)*
- (xviii) *Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles*
- (xix) *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEFCC.*
- (xx) *Commitment made during public consultation process shall be adhere to. The proposed amount earmarked for CER activities shall be considered as part of Environment Management Plan, which shall be accomplished within period of 5 years"*
- (xxi) *Project Proponent shall obtain blasting permission from DGMS for conducting mining operation near villages and also explore deployment of rock breakers of suitable capacity in the project to avoid blasting very near to villages. There shall be no damages caused to habitation/structures due to blasting activity.*
- (xxii) *In addition, the project proponent shall develop greenbelt outside the plant premises such as avenue plantation, plantation in vacant areas, social forestry etc.*
- (xxiii) *PP shall pay to farmers of agricultural land if there is any loss found by concerned District Commissioner as per extent rules or norms*



(xxiv) Persons of nearby villages shall be given training on livelihood and skill development to make them employable.

**Additional item deliberated by EAC with the permission of Chairman**

**Hingula Washery of 10 MTPA in an area of 27.65 ha of M/s Mahanadi Coalfields Limited located in District Angul (Odisha) – Reconsideration for Amendment in Environment Clearance – reg**

The proposal is for amendment in Environment Clearance for Hingula Washery Project of 10 MTPA capacity in mine lease area of 27.65 Ha of M/s Mahanadi Coalfields Limited located in village Danara, Tehsil Talcher, District Angul (Odisha).

2. The proposal was considered by the Expert Appraisal Committee (EAC) for Thermal & Coal Mining Sector in its 45<sup>th</sup> meeting held on 27<sup>th</sup> May, 2019, 48<sup>th</sup> meeting held on 3-4 October, 2019, 50<sup>th</sup> EAC meeting held on 15<sup>th</sup> November, 2019 and 7<sup>th</sup> EAC meeting held on 29<sup>th</sup> January, 2021. The Expert Appraisal Committee in its 7<sup>th</sup> EAC meeting held on 29<sup>th</sup> January, 2021 has recommended the project for grant of Amendment of Environment Clearance (EC) as per details mentioned below:

<b>S. No.</b>	<b>Point No. of EC granted</b>	<b>Existing Point</b>	<b>Modification proposed</b>
1.	Pt. No. 3(ii)	Equipment will be imported from South Africa	No overseas equipment to be imported as per present offer of the L-1 bidder.
2.	Pt. No. 3(iii)	Hingula Washery has been proposed to be set up on BOM basis for beneficiation of raw coal (non-coking coal of grade G-11 & Ash content ranging between (34.5-42.5 %)) of Hingula-II Expansion OCP (Phase-III).	Hingula Washery has been proposed to be set up on BOM basis for beneficiation of raw coal (non-coking coal of grade G-13 & Ash content ranging between (38.3-46.3%) of Hingula-II Expansion OCP (Phase-III) (15 MTPA).
3.	Pt. No. 3 (viii) – Employment Generated/ to be generated	Washery will be constructed on BOM concept; hence employment will be generated by BOM Operator. Around 173 (for operation of washery).	Washery will be constructed on BOM concept; hence employment will be generated by BOM Operator. Around 254 (for operation of washery).
4.	Pt. No. 3 (x) Land usage of the project	17 ha land is required for proposed Hingula Washery. 10 ha land is required for temporary storage for rejects. 17 + 10 = 27 ha land required for washery & rejects	17.65 ha land is required for proposed Hingula Washery site. 10 ha land is required for temporary storage for rejects. 17.65 + 10 = 27.65 Ha of land required for

		storage has already been acquired and is in possession of MCL. All the 27 Ha land is non coal bearing.	washery construction & rejects storage has already been acquired and is in possession of MCL. All the 27.65 Ha land is non-forest, non- agricultural, undeveloped and non coal bearing. Variation in land area (0.65 Ha) is due to error in measurement done earlier. After fresh measurement and calculation of land area 17.65 Ha is for washery site.
5.	Pt. No. 3(xi)	The coal grade is G-11	The coal grade is G-13.
6.	Pt. No. 3 (xii)	The total estimated water requirement is 1273 m <sup>3</sup> /hr at 0.09 m <sup>3</sup> /tonne of raw Coal.	Total estimated water requirement is 0.12 m <sup>3</sup> /tonne of raw Coal (on dry basis) as per the LoI issued to L-I bidder. Source of water for operation of the plant shall be Gandhi Sagar (Mine sump)/ Matti Quarry/ any other mine sump which is approximately at a distance of 3.0 Km from the site.
7.	Pt. No. 3 (xviii) – Cost	Total capital cost of the project is 321.96 Crores.	Total capital cost of the project is Rs. 424.42 Crores as per the LoI issued to L-I bidder.
8.	Pt. No. 3 (A) (iii)	Detailed note to be provided on utilisation of rejects if it is more than 80 % ash content.	The ash content in reject shall be 75.2% on air dried basis with monthly average ash % of 42.3% of raw coal on ADB. Policy for Disposal and Utilisation of Rejects produced from CIL Washeries (Existing & Future)” communicated by CIL vide CIL letter no. CIL/PMD/Ws/41/350 dated 24.07.2018

3. During processing of file, it came to light that PP during EAC meeting held on 15th November, 2019 has submitted that reject generated in the washery will be transported by belt conveyors at designated site for temporary storage outside washery complex. Therefore, additional conditions was suggested to be stipulated.

- *PP shall transport rejects of washery by belt conveyors at designated site for temporary storage*

Ministry desired the inputs from EAC regarding this and accordingly, it was to be considered by EAC

4. Further, PP vide its letter no. MCL/HQ/Director (Technical/Planning and Project) Office/2020-21/251-E dated 17<sup>th</sup> February, 2021 requested for modification in the minutes of 7<sup>th</sup> EAC meeting as per detail mentioned below

S. No.	Point No. of EC granted	Existing Point	Modification proposed	Correction sought in MoM or in final EC letter												
4.	Pt. No. 3 (x) Land usage of the project	17 ha land is required for proposed Hingula Washery. 10 ha land is required for temporary storage for rejects. 17 + 10 = 27 ha land required for washery & rejects storage has already been acquired and is in possession of MCL. All the 27 Ha land is non coal bearing.	17.65 ha land is required for proposed Hingula Washery site. 10 ha land is required for temporary storage for rejects. 17.65 + 10 = 27.65 Ha of land required for washery construction & rejects storage has already been acquired and is in possession of MCL. All the 27.65 Ha land is non-forest, non- agricultural, undeveloped and non coal bearing. Variation in land area (0.65 Ha) is due to error in measurement done earlier. After fresh measurement and calculation of land area 17.65 Ha is for washery site.	<p>17.65 Ha land is required for proposed Hingula Washery site. 10 Ha land is required for temporary storage for rejects. 17.65 + 10 = 27.65 Ha of land required for washery construction.</p> <p>Entire land is in the lease hold area of Balram OCP &amp; and is in possession of MCL. As per the mine plan/mine closure plan of Balram OCP (15.00 MTY) and its corrigendum approved by MCL Board in its 226<sup>th</sup> &amp; 227<sup>th</sup> on 12<sup>th</sup> August, 2020 and 20<sup>th</sup> October, 2020 respectively, the land use of the proposed Hingula Washery site is given below</p> <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Particulars</th> <th>Area as per the approved mine plan and mine closure plan</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Forest</td> <td>2.23 ha</td> </tr> <tr> <td>2</td> <td>Non-Forest</td> <td>15.42 ha</td> </tr> <tr> <td></td> <td>Total</td> <td>17.65</td> </tr> </tbody> </table> <p>The area for temporary reject storage site (10 Ha) for proposed washery has been proposed on backfilled area of Balram OCP. The forest land falling under washery site and the temporary reject storage site has already been diverted for mining purpose vide letter no. 8-143/89-FC dated 20<sup>th</sup> September, 1990.</p>	Sr. No.	Particulars	Area as per the approved mine plan and mine closure plan	1	Forest	2.23 ha	2	Non-Forest	15.42 ha		Total	17.65
Sr. No.	Particulars	Area as per the approved mine plan and mine closure plan														
1	Forest	2.23 ha														
2	Non-Forest	15.42 ha														
	Total	17.65														

				Tree felling permission DFO Angul has been accorded vide letter no. 3368 and 7197, dated 6 <sup>th</sup> July, 2007 and 20th October, 2014 respectively.
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5. *The EAC deliberated the above details **recommends** the changes proposed by project proponent and also additional conditions as suggested by Ministry as mentioned below with all other recommendation remaining the same.*

1. *PP shall transport rejects of washery by belt conveyors at designated site for temporary storage*
2. *PP shall obtain necessary clearance from Ministry's FC division for change in land use.*
3. *The number of trees to be felled shall be compensated with tree plantation in periphery of washery plant.*

**The meeting ended with thanks to the Chair.**

## Annexure-I

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

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

**(a) Statutory compliance**

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

**(b) Air quality monitoring and preservation**

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25<sup>th</sup> September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM<sub>10</sub>/PM<sub>2.5</sub>) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient

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

- (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
- (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

**(c) Water quality monitoring and preservation**

- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25<sup>th</sup> September, 2000 and as amended from time to time by the Central Pollution Control Board.
- (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-IA.11 (M) dated 27<sup>th</sup> May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
- (iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of

silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.

- (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
- (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
- (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A rivarine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

**(d) Noise and Vibration monitoring and prevention**

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

**(e) Mining Plan**

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

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

**(f) Land reclamation**

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

**(g) Green Belt**



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

**(h) Public hearing and Human health issues**

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

**(i) Corporate Environment Responsibility**

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

- (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- (v) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
- (j) Miscellaneous**
- (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- (iv) The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29<sup>th</sup> October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.

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

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

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

**I. Statutory compliance:**

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

**II. Air quality monitoring and preservation**

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO<sub>2</sub> and NO<sub>x</sub>. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the SPCB
- ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/ mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, loading/unloading and transfer points.

Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.

- iv. Major approach roads shall be black topped and properly maintained.
- v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.
- vi. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- vii. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- viii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

### III. **Water quality monitoring and preservation**

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
- iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.

- vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
- viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
- x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared, considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.
- xii. The project proponent shall take all precautionary measures to ensure reverian/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A reverian /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

#### **IV. Noise and Vibration monitoring and prevention**

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

#### **V. Mining Plan**

- i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- ii. No change in mining method i.e. UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).

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

## **VI. Land reclamation**

- i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- ii. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.
- iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3<sup>rd</sup> November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, alongwith fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- v. A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.
- vi. Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.
- vii. Native tree species shall be selected and planted over areas affected by subsidence.
- viii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

## **VII. Green Belt**

- i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study

area. Action plan, in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.

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

#### **VIII. Public hearing and Human health issues**

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

#### **IX. Corporate Environment Responsibility**

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



- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

**X. Miscellaneous**

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

- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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**Standard EC Conditions for Coal Washery Project**

**I. Statutory compliance:**

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

**II. Air quality monitoring and preservation**

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO<sub>2</sub> and NO<sub>x</sub>. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be

controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board

- iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.
- v. Covered trucks shall be engaged for mineral transportation outside the washery upto the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.
- vi. Facilities for parking of trucks carrying raw material from linked mine shall be created within the unit.
- vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having 'PUC' certificate from authorized pollution testing centres shall be deployed for washery operations.
- viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.
- ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.
- x. The temporary reject sites should appropriate planned and designed to avoid air and water pollution from such sites.

### III. **Water quality monitoring and preservation**

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
- iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
- iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.
- v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
- vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to

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

- vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEFCC and implemented.
- viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.
- ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.
- x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m<sup>3</sup>/tonne of raw coal.
- xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- xii. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- xiii. The project proponent shall take all precautionary measures to ensure riverine/ riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government

#### **IV. Noise and Vibration monitoring and prevention**

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

#### **V. Coal beneficiation**

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

#### **VI. Green Belt**

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

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

#### **VII. Public hearing and Human health issues**

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

#### **VIII. Corporate Environment Responsibility**

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

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

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

## **IX. Miscellaneous**

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall monitor the criteria pollutants level namely; PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- x. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made
- xi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

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

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**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 (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub> and NO<sub>x</sub>, 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-11013/25/2014-IA.I dated 11<sup>th</sup> 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.

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## **ANNEXURE-V**

### **GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC**

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

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

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

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

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub> and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xvi) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine

life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.

- (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
- (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.
- (xxii) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiii) Impact of blasting, noise and vibrations should be given.
- (xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Efforts be made for maximising progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void.--to reduce land degradation.
- (xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures

and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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

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

\* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

\* As a representative example

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

mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.

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

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

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

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

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

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



**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 (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub> and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the

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

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

progressive and final mine closure plan.

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

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

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

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4/5/2021

Email

**Email**

**Munna Kumar Shah**

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**Re: Minutes of 10th EAC meeting of coal mining sector held on 18.03.2021**

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**From :** gpkundargi@gmail.com

Sun, Apr 04, 2021 06:16 PM

**Subject :** Re: Minutes of 10th EAC meeting of coal mining sector held on 18.03.2021

**To :** lk.bokolia <lk.bokolia@nic.in>

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

Dear Lalit ji  
Minutes are fine wit me & approved.  
You may take further needful action.  
Thank you  
G P Kundargi

On Sat, 3 Apr, 2021, 2:35 pm lk.bokolia, <[lk.bokolia@nic.in](mailto:lk.bokolia@nic.in)> wrote:

Dear,

Please find attached the Minutes of 10th EAC meeting of coal mining sector held on 18.03.2021. Pl provide input if any by tomorrow morning.

with regards

Lalit Bokolia  
Director, MoEF&CC

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**LIST OF PARTICIPANTS OF EAC (COAL) IN 10<sup>th</sup> MEETING OF HELD DURING 22<sup>nd</sup> March, 2021 THROUGH VIDEO CONFERENCING**

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