

MINUTES OF 20th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 13-14 OCTOBER, 2021 THROUGH VIDEO CONFERENCE.

Wednesday 13th September, 2021

Confirmation of the Minutes of 19th Meeting of the EAC (Coal) held on 23rd September, 2021:
The minutes of the 19th meeting of the EAC held during 23rd September, 2021 was confirmed by the Chairman.

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 20th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 13th -14th October, 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. 20.1

Expansion of Bina Extn Project of Opencast mine from 9.0 MTPA to 10.5 MTPA (increase of 1.5 MTPA) in 1798 ha area of M/s Northern Coalfields Ltd located at Churidah village, Tehsil & district Singrauli (Madhya Pradesh) and Jamshila village, Dudhi tehsil & district Sonbhadra (Uttar Pradesh) – Environment Clearance- reg

[Online Proposal No. IA/UP/CMIN/212862/2021; File No. J-11015/49/2011-IA II (M)]

20.1.1 The proposal is for Environment Clearance Expansion of Bina Extn Project of Opencast mine from 9.0 MTPA to 10.5 MTPA (increase of 1.5 MTPA) in 1798 ha area of M/s Northern Coalfields Ltd located at Churidah village, tehsil & district Singrauli (Madhya Pradesh) and Jamshila village, Dudhi tehsil & district Sonbhadra (Uttar Pradesh)

20.1.2 The 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 No63-L /12 and L/16 is bounded by Latitude 24° 07' 56.24" to 24° 10' 28.10" North and Longitude 82° 43' 16.72" to 82° 46' 57.49" East.
- (ii) Bina (Extn.) OCP is linked to Anpara TPS & Obra TPS of M/s UPRVUNL, Renusagar TPS of M/s Hindalco Industries Ltd, etc. It also serves as a basket Linkage mine to meet the overall demand of NCL.
- (iii) Joint venture cartel has not been formed.

- (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) The total existing manpower as on 01.04.2021 is 1174.
- (vi) The project is reported to be beneficial in terms of (i) Environmental: Post mining enhancement of green cover; (ii) Economic: Increase in employment potential and contribution to the exchequer of the adjoining area; (iii) Social: Improvement in social infrastructure of the adjoining area.
- (vii) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/49/2011-IA.II (M) dated 06.08.2014 for 7.5MTPA. Also, the project has EC for 9.0 MTPA vide letter no.J-11015/49/2011-IA.II (M) dated 12.02.2021 under clause 7(ii) as per the MoEF&CC OM no. J-11015/224/2015-IA.II dated 15.09.2017.
- (viii) Total mining lease area as per block allotment is 1798.00 Ha. Extension Project Report incorporating Mining Plan (Including Progressive Mine Closure Plan) has been approved by the NCL Board in 231st meeting on 31 Aug. 2018.
- (ix) The land usage pattern of the project is as follows:

Pre-mining land use details

| S. No. | LAND USE | Within ML Area (Ha) | Outside ML area (Ha) | Total (Ha) |
|--------------|------------------------------------|---------------------|----------------------|-------------|
| 1 | Agricultural land(Tenancy Land) | 513 | Nil | 513 |
| 2 | Forest Land | 1087.825 | Nil | 1087.825 |
| 3 | Wasteland | 0 | Nil | 0 |
| 4 | Grazing land | 0 | Nil | 0 |
| 5 | Surface water bodies | 0 | Nil | 0 |
| 6 | Settlements | 0 | Nil | 0 |
| 7 | Others(Specify) Government land | 197.175 | | 197.175 |
| Total | | 1798 | Nil | 1798 |

Post-Mining:

| S. No. | Land use during Mining | Land Use (ha) | | | | | |
|--------|---------------------------------------|---|------------|------------|-----------|------------------|--------|
| | | Plantation | Water Body | Public Use | Void Area | Undisturbed Land | TOTAL |
| 1 | External OB dump | 50.40 | 0 | 0 | 0 | 0 | 50.40 |
| 2 | Top soil dump | Top soil will be completely used in reclamation of dumps. | | | | | |
| 3 | Excavation area (backfilled and void) | 663.00 | 0 | 0 | 151.00 | 0 | 814.00 |
| 4 | Roads (Including | 0 | 0 | 20.00 | 0 | 0 | 20.00 |

| | | | | | | | |
|--------------|---|----------------|----------|---------------|---------------|---------------|----------------|
| | Railways) | | | | | | |
| 4 | Build-up area | 163.00 | 0 | 267.00 | 0 | 0 | 430.00 |
| 5 | Green Belt | 187.63 | 0 | 0 | 0 | 0 | 187.63 |
| 6 | Undisturbed Area (Safety Zone & Others) | 0 | 0 | 0 | 0 | 295.97 | 295.97 |
| Total | | 1064.03 | 0 | 287.00 | 151.00 | 295.97 | 1798.00 |

- (x) Total geological reserve reported in the mine lease area 131.24 MT with 123.94MT mineable reserve with percent of extraction is 94.44%. The balance mineable coal left in Bina (Extn.) OCP as on 01.04.2021 is 27.777 MT.
- (xi) Three number of namely Purewa Top (4-8m), Purewa Bottom (9-13m), Turra (13-22m); seams. Grade of coal is G-10 (Average Grade), stripping ratio 5.04m³/t, while gradient is 2 to 4degree.
- (xii) Method of mining operations envisages by ‘combined mining system deploying dragline, shovel dumper combination and Surface Miner’ method.
- (xiii) The mining plan for Bina Extension OCP has been prepared for a rated capacity of 10.50 Mtpa. The balance life of the mine at proposed target rate of production would be 3 years from 01.04.2021.
- (xiv) The project has 7 no. external OB dumps in an area of 50.4 Ha with 60 m height and 8 Mm³ of OB. 2 no. of internal OB in an area of 663 ha with 625.04 Mm³ of OB is envisaged in the project.
- (xv) Total quarry area is 814.00 ha out of which backfilling will be done in 663 ha while final mine void will be created in an area of 151 ha. Backfilled quarry area of 663 ha shall be reclaimed with plantation. Final mine void will be converted into a water body.
- (xvi) Transportation of coal has been proposed by dumpers in mine pit head, from surface to SILO by Closed Conveyor Belt System and from SILO through automatic RLS (Rapid Loading System).
- (xvii) Reclamation Plan in an area of 1064.03 ha, comprising of 50.40 ha of external dump, 663.00 ha of internal dump, 187.63 ha of green belt and 163.00 ha is proposed in and around built up area.
- (xviii) The project involves 1087.825 ha of forest land, which includes 378.935 ha in the State of MP and 708.890 ha in UP. Stage-II forest clearance for total forest area of 400.545 ha (378.935 ha in MP and 21.610 ha in UP) has been obtained under the Forest (Conservation) Act, 1980 for diversion for non-forestry purposes. The remaining forest land of 687.280 ha was already acquired before the inception of the Forest (Conservation) Act, 1980.
- (xix) Please mention any National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project- No
- (xx) Wildlife management plan has been submitted to – NA.
- (xxi) The ground water level has been reported for the period May’18 to May’21, the water levels during Pre-Monsoon varies from 0.85 m.bgl (2021) – 21.50 m.bgl (2019), Monsoon varies from 0.25 m.bgl (2019) to 17.70 m.bgl (2018), Post-Monsoon it varies from 0.55 m.bgl (2020) – 18.70

m.bgl (2018). The total water requirement of project is 5754 m³/day.

- (xxii) Application no 21-4/1129/MP/MIN/2021 for obtaining the approval of the Central Ground Water Authority for ground water clearance for Bina OCP (for 9.0 MTPA), has been submitted on 11.05.2021. At present, the application is under process at CGWA, New Delhi.
- (xxiii) Public hearing for the project of 7.5 MTPA production capacity was conducted on 18.09.2012 (M.P. side) at Churki village (MP) and on 24.09.2012 (U.P. side) at Workers Recreation Centre, Bina Project, NCL. Major issues raised in the public hearing include R&R, community development work, forestation of fruit bearing trees, etc., Appropriate action to address the issues raised in the Public Hearing have already been taken and attached as Annexure-VI of Addendum EIA/EMP Report.
- (xxiv) Consent to Operate for 9.0 MTPA capacity obtained vide consent no.-AW-54249 dated 22-09-2021 (valid up to 31.03.2022) and vide Consent no. 122600(air) & 122618(water) dated 06.03.2021 (valid up to 31.12.2022) from UPPCB.
- (xxv) No River/ nalla is flowing near boundary of lease.
- (xxvi) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to MPPCB, UPPCB, CPCB and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- (xxvii) There was a Case filed by UPPCB against Bina OCP as Case No 1798/2014 in CJM Court Sonbhadra dated 6.6.2014. Complaint filed under section 15/16 of EPA 1986.
- (xxviii) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The production from the Bina Extn was started from the year 2006-2007. However, in 2012-13, there was excess production of 0.5 MTPA for which case has filed by UPPCB as case no. 1798/2014 in CJM Court Sonbhadra.
- (xxix) About 38 families had been affected due to opening of Bina Extn. OCP. All 38 affected families have already been rehabilitated. There is no further proposal for rehabilitation for enhanced production capacity of 10.50 MTPA. R&R of the PAPs has been done as per R&R Policy 2012 of Coal India Limited.
- (xxx) Total cost of the project is Rs. 535.96 Crore. Cost of production is Rs. 989.99 /- per tonne, CSR cost is as per CIL CSR policy w.e.f. 08.04.2021, the fund for the CSR should be allocated based on 2% of the average net profit of the company for the three immediate preceding financial years or Rs.2/-per ton of coal production of previous year. Environment Management Cost is Rs. 1965.59 lakhs.
- (xxxi) Consent to Operate for the existing capacity was obtained consent no.-AW-53122 dated 25-02-2021 from MPPCB and vide consent no. 122600(air) and 122618 (Water) dated 06.03.2021 from the UPPCB. (valid up to December 2022).
- (xxxii) Past Production details comparison with existing EC

| Year | EC Sanctioned Capacity(MTPA) | Actual Production (MTPA) | Excess production beyond the EC sanctioned capacity |
|------|------------------------------|--------------------------|---|
|------|------------------------------|--------------------------|---|

| | | | |
|-----------|-----|------|-----|
| 2006-2007 | 6 | 3.27 | NIL |
| 2007-2008 | 6 | 4.89 | NIL |
| 2008-2009 | 6 | 5.44 | NIL |
| 2009-2010 | 6 | 6 | NIL |
| 2010-2011 | 6 | 6 | NIL |
| 2011-2012 | 6 | 6 | NIL |
| 2012-2013 | 6 | 6.5 | 0.5 |
| 2013-2014 | 6 | 6 | NIL |
| 2014-2015 | 7.5 | 6.64 | NIL |
| 2015-2016 | 7.5 | 7.01 | NIL |
| 2016-2017 | 7.5 | 7.5 | NIL |
| 2017-2018 | 7.5 | 7.5 | NIL |
| 2018-2019 | 7.5 | 7.5 | NIL |
| 2019-2020 | 7.5 | 7.5 | NIL |
| 2020-2021 | 9.0 | 8.41 | NIL |

20.1.3 The EAC during deliberations noted the followings:

- (i) The proposal is for Expansion of Bina Extn Project of Opencast mine from 9.0 MTPA to 10.5 MTPA (increase of 1.5 MTPA) in 1798 ha area of M/s Northern Coalfields Ltd located at Churidah village, tehsil & District Singrauli (Madhya Pradesh) and Jamshila village, Dudhi tehsil & District Sonbhadra (Uttar Pradesh).
- (ii) NCL-Bina was started for 4.5 MTPA coal production on 14th August, 1974. First EC was obtained for enhance capacity of 6.0 MTPA vide letter no. J-11015/29/2004-IA-II(M) dated 2nd August, 2006. Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/49/2011-IA.II (M) dated 06.08.2014 for 7.5MTPA in total area of 1798 ha. Also, the project was granted EC for 9.0 MTPA vide letter no.J-11015/49/2011-IA.II (M) dated 12.02.2021 under clause 7(ii) as per the MoEF&CC OM no. J-11015/224/2015-IA.II dated 15.09.2017.
- (iii) The EAC observed that 31 MLD capacity of ETP is too large to handle the volume of mine water for its treatment and asked the PP to give the detailed water balance diagram. Also suggested PP for more plantation drive.
- (iv) It was also found that the production exceeded by 0.5 MTPA beyond the limit of sanctioned EC capacity of 6 MTPA in the year 2012-2013. Accordingly EAC suggested that Ministry may take appropriate view.
- (v) PP vide its letter dated 18th October, 2021 after EAC submitted the details of green belt development outside leasehold area as social afforestation to be executed by Bina Ext. OCP. It

has been submitted that during FY 2021-22 under CSR plantation of 16000 nos. of sapling has been done through Renukoot Forest Division over 20 Ha area at Bairpan Compartment No.1 Anpara Range, Sonbhadra (UP). further DFO (Renukoot Forest Division) has communicated the availability of 20 ha area at Bagainar (compartment No. 11) under Myorpur Range for plantation as per request of PP. Plantation will be carried out through Renukoot Forest Division in next monsoon (2022-23)

- (vi) Application for NOC for groundwater on NOCAP portal has been submitted vide application no. 21-4/1129 /MP /MIN / 2021 dated 11/05/2021. Queries raised by CGWB, NCR, Bhopal on 24/05/2021, 08/06/2021 and 05/07/2021 were replied within stipulated time. Application has been forwarded by RD, CGWB, Bhopal on 19.09.21 to CGWA Delhi. Presently the application is under scrutiny at CGWA, New Delhi.
- (vii) As per approved Mine Plan, it has been mentioned that Bina Extension OCP has been designed to produce 10.50 Mtpa (Peak) ROM Coal. The geological reserve of coal of Bina project is expected to be exhausted by 2023-24. The present closure plan is a conceptual type. Final decision of closure will be taken by the competent authority in appropriate time.

Status of conditions as stipulated in OM dated 15th September, 2017

| Sr. No. | Requirements as per the OM | Remarks of Project Proponent |
|---------|--|--|
| 1 | Predicted air quality parameters are within the prescribed norms | <p>The AQIP modelling has been carried out for incremental capacity of 1.5 Mtpa (i.e. from present capacity of 9.0 MTPA to capacity of 10.5 MTPA) using AERMOD (Version 9.4.0) software.</p> <ul style="list-style-type: none"> • The predicted incremental concentration in PM10 level with control measures due to increased production is varying from 1ug/m³ at a distance of 8.8 km in buffer zone and 19 ug/m³ within the core zone/mine lease area. • The predicted incremental concentration in PM2.5 level with control measures due to increased production is varying from 0 ug/m³ at a distance of 8.8 km in buffer zone and 3 ug/m³ within the core zone/mine lease area. • The total concentration of PM10 and PM2.5 are shown marginally high from prescribed limits because the present monitored concentration is high due to presence of no. of Thermal power plants and construction of four lane road in the vicinity. • The predicted concentration for SO₂ and NO_x levels are already found within permissible limit. • The additional control measures for additional proposed increased production with fund allocation and time frame are given in the presentation. |

| | | |
|---|---|---|
| 2 | Coal transportation is through conveyor system up to the silo and then loading to railway wagons, involving no transportation through road | <p>The present capacity of CHP with silo of Bina Extension OCP is 4.50 Mtpa.</p> <ul style="list-style-type: none"> • The CHP with silo (3 Mtpa) of adjacent Kakri OCP will be utilized for rail loading of coal (1.0 – 1.5 Mtpa) produced from Bina. • Remaining coal will be transported through railway wagons at Wharf-wall situated within the mine leasehold area |
| 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 | The additional proposed Coal production of 1.5 MTPA, is by deployment of one Surface Miner(4000 mm), which is already commissioned in May, 2021 and in operation. |
| 4 | Public hearing already conducted for the total mine lease area involved and no more area is required for the proposed expansion | The public hearing was conducted for 7.50 MTPA production capacity and mine lease area of 1798 Ha on 18.09.2012 at Churki village, PO-Jhingurdah, Tehsil - Waidhan, District Singrauli (MP), by MPPCB and on 24.09.2012 (U.P. side) at Workers Recreation Centre, Bina Project, PO-Bina, Tehsil-Dudhi, District Sonbhadra (UP) by UPPCB. No additional land is required for expansion to 10.5 Mtpa |
| 5 | Compliance status of EC conditions monitored by the concerned Regional Office of this ministry is found to be satisfactory | <p>The Mine was inspected by the Regional Office of MoEF&CC, Lucknow, UP on 19-06-2021. Certified compliance report was given vide letter no.- IV/ENV/Mine58/574/2021 dated 12-07-2021</p> <p>Various non-compliance has been highlighted by IRO-Lucknow such as PP has not obtained NOC from Central Ground Water Authority, third party assessment report of EC compliance was not submitted, no action plan/timeline for avenue plantation, plantation in vacant areas, social forestry, site specific conservation activity. Also increase in Respirable Particulate Matter with respect to permissible limits was observed in samples of air quality monitoring and accordingly its mitigation measures is required. During site visit monitoring sensor of PM2.5 was not found working. Housekeeping has to be improvised around silo area for effective environment management</p> <p>scientific study report from IIT-BHU for flyash utilization/dumping/mixing in the OB of the running/active</p> |

| | | |
|--|---|--|
| | | mines of NLC is not submitted. |
| | Other statutory requirements like Consent to Establish/Operate, Clearance from CGWA, approval of Mining Plan and Mine Closure Plan, Mine Closure Status Report as applicable, Forest Clearance, etc. are satisfactorily fulfilled | <ul style="list-style-type: none"> • Consent to Establish for 9.0 MTPA capacity obtained vide Consent no. 49799 dated 10-04- 2019 from MPPCB and vide Consent no.121725 dated 25-02-2021 from UPPCB. • Consent to Operate for 9.0 MTPA capacity obtained vide consent no.-AW-54249 dated 22- 09-2021 (valid upto 31.03.2022) and vide Consent no. 122600(air) & 122618(water) dated 06.03.2021 (valid upto 31.12.2022) from UPPCB. • Application for NOC from CGWA has been submitted vide application No. 21- 4/1129/MP/MIN/2021 dated 11-05- 2021. At present, the application is under process at CGWA, Delhi. • Mining Plan and the Mine Closure Plan for 10.5 Mtpa approved by NCL Board on 31-08-2018. • Forest Clearance: No additional Forest Land involved |

Against EAC observation on oversized capacity of ETP, PP submitted vide letter dated 14th October, 2021 and provided the detail of ETP Effluent Treatment Plant (ETP – 31.2 MLD Capacity), which has been designed for estimated peak flow of 1300 m³/hr considering monsoon season; i.e. 31.2 MLD (= 24 Hours x 1300 m³/hr).

20.1.4 The EAC, after detailed deliberation observed that instant proposal is expansion under 7(ii) clause of EIA Notification, 2006. As per Ministry's OM dated 15th September, 2017 increase in production capacity upto 40% in 2-3 phases without public hearing after the due diligence and subject to fulfilment of certain requirements therein can be considered. Earlier Ministry has granted expansion to PP from 7.5 MTPA to 9.0 MTPA (20%). Now PP has submitted for further expansion of 20% i.e. from 9.0 MTPA to 10.5 MTPA. PP was asked to go for more plantation by exploring more areas than PP further informed that DFO (Renukoot Forest Division) has communicated the availability of 20 ha area at Bagainar (Compartment Myorpur Range for plantation as per our request. Further, it was observed that PP needs to work on compliance of EC conditions rigorously wherein Ministry's IRO has highlighted certain non-compliances. It was also found that the height of the external OB dump was 60 and internal OB dump was 90 m so EAC suggested PP to reduce the height of internal OB dump by 30 m and used it for backfilling of the voids. The Committee also emphasized for early permission of groundwater extraction from CGWA and it should be subject to CTO by SPCB. Also, EAC opined to implement the action plan of SPCB/CPCB prepared for Critically Polluted Areas (CPAs) since the project lies in Singrauli which has been declared as CPA and moratorium was imposed.

EAC noted that the production exceeded by 0.5 MTPA beyond the limit of sanctioned EC capacity of 6 MTPA in the year 2012-2013, which however oversights during the last EC taken by PP. Accordingly,

EAC suggested that Ministry may take appropriate action.

*Further, based on documents and facts submitted by PP, EAC **recommends** the proposal for Expansion of Bina Extn Project of Opencast mine from 9.0 MTPA to 10.5 MTPA (increase of 1.5 MTPA) in 1798 ha area of M/s Northern Coalfields Ltd located at Churidah village, tehsil & district Singrauli (Madhya Pradesh) and Jamshila village, Dudhi tehsil & district Sonbhadra (Uttar Pradesh) under EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:*

- (i) PP shall comply all the conditions stipulated by Ministry's EC vide its letter no. J-11015/29/2004-IA-II(M) dated 2nd August, 2006, No. J-11015/49/2011-IA.II (M) dated 6th August, 2014 and 12th February, 2021 and complete the non-compliance within 3 months as highlighted in Certified Compliance Report by Ministry IRO vide its letter dated 12th July, 2021. Action taken report in this regard to be submitted to IRO within 3 months.*
- (ii) PP shall obtain No Objection Certificate from Central Ground Water Authority and submit it Ministry's Regional Office. No CTO shall be granted by SPCB till NOC from CGWA is obtained.*
- (iii) PP to implement the Action Plan as framed by SPCB/CPCB for specific project that falls under Singrauli as critically polluted area and implement in time bound manner.*
- (iv) 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. No road transportation shall be conducted.*
- (v) PP to install 1 more continuous ambient air quality monitoring stations at suitable locations preferably village side and with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- (vi) PP shall install fixed fog cannon (mist spayer) all along the haul road till CHP, Railway siding and OB Dump area and accordingly sufficient number of fog cannons (not less than 10 nos.) with 40 mts jet length shall be installed within 6 months. It should be ensured that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB*
- (vii) PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.*
- (viii) PP shall plant 200 ha of Sal trees(only) and 200 ha of fruit bearing trees and create a nursery of 10 ha (within 2 years) to distribute the species freely in the region for redevelopment of Sal forest in the region.*
- (ix) Project proponent to plant 150,000 trees with three Tier Green belt developments (of 50 mtrs width) along the periphery of the mine habitation/villages (Kohroul Village at 1.3 km distance, Kakri STP at distant of 1.5 km, Karwari and Audi Village) within 2 years. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer. Third party monitoring by reputed institued for air quality (including heavy metal analysis) 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

- (x) PP shall submit Final Mine Closure Plan as per guidelines of MoC within 3 months to Ministry's IRO Lucknow*
- (xi) PP shall install sand segregation plant for suitable capacity to extract sand and construction aggregate within 2 years of issue of this letter.*
- (xii) PP to develop an ECO park with separate area of 5 ha for medicinal and herbal species within two years.*
- (xiii) PP to install solar lights along the road used for transportation of coal to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year and submit its report to IRO-Lucknow.*
- (xiv) PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages located within the study area of 10 km radius buffer zone within two years of issue of this letter.*
- (xv) PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
- (xvi) PP to take proper care of health of R& R villages and a 24X 7 helpline call facility should be provided to such area and also to nearby villages for assisting any medical aid and ambulance facility.*
- (xvii) Top soil should be stored separately at marked area and necessary vegetation shall be maintained to avoid any entrainment of dust*
- (xviii) Progressive backfilling of mine and progressive reclamation of OB dump shall be done*
- (xix) Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles*
- (xx) 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.*
- (xxi) PP shall carry out monthly water monitoring quality of River bodies located within 5 Km radius and conduct Bio-assay test half yearly and further monitoring Ground water level.*
- (xxii) PP should conduct epidemiology study to (analysis of the distribution, patterns and determinants of health and disease conditions in defined populations).*
- (xxiii) 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*
- (xxiv) Compensation of the land acquired for the project shall be settled within one year as per R&R Policy.*
- (xxv) PP shall construct new multispeciality (100 beds) hospital in the 10 km of the project area within 2 years for local people of issue of this letter.*
- (xxvi) 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*

- (xxvii) 2 nos of new Water Harvesting Pond with adequate area and depth shall be development within 5 km of project area.
- (xxviii) 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.
- (xxix) Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.
- (xxx) 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
- (xxxi) 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.

Agenda No. 20.2

Expansion of Amadand Opencast Coal Mine from 2.15 to 4.0 MTPA in an area of 1443.02 ha of M/s South Eastern Coalfield Limited located in Tehsil Kotma, Annuppur (Madhya Pradesh) - For Environment Clearance- reg

[Online Proposal No. IA/MP/CMIN/9049/2002; File No. J-11015/46/2002-IA.II(M)]

20.2.1 The proposal is for Environmental Clearance to Expansion of Amadand Opencast Coal Mine from 2.15 to 4.0 MTPA of M/s South Eastern Coalfield Limited located in Tehsil Kotma, Annuppur, Madhya Pradesh.

20.2.2 Details of the proposal, as ascertained from the proposal documents and as revealed from the

discussions held during the meeting, are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No 64-I/4 and is bounded by the geographical coordinates ranging from latitude 23007'28" to 23009'46" N and longitude 82002'04" to 82004'53" E
- (ii) Coal linkage of the project is proposed for use for various Thermal Power Stations.
- (iii) No Joint venture cartel has been formed.
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation, - employment to 1511 persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of fulfilling the demand of nation's electricity and other coal-based industries, apart from earning revenue for the government. Opportunity of employment for the project affected villagers and allied industries.
- (vii) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/46/2002-IA. II(M) dated 18.03.2015 for 2.15MTPA for an area of 884.71ha.
- (viii) Terms of Reference granted on 22.12.2017 -No. J-11015/96/2017-IA. II (M)
- (ix) Mining lease area is 1382.22 ha. (Total area 1443.02 ha) Mining Plan (Including Progressive Mine Closure Plan) has been approved by the CIL Board on 05.03.2016.
- (x) The land usage pattern of the project is as follows:

Pre-mining land use details (Area in ha)

| S. No. | Land Use | Within ML Area (ha) | Outside ML Area (ha) | Total area (ha) |
|--------|-----------------------------|------------------------------------|----------------------|-----------------|
| 1. | Agricultural Land | 1303.84 | 0 | 1303.84 |
| 2. | Forest Land | 0 | 0 | 0 |
| 3 | Surface water bodies | 13.46 (9.38 Tenancy+4.08 Govt.) | 0 | 13.46 |
| 4 | Others (specify) Govt. land | 64.92 | 60.80 | 125.72 |
| | Total | 1382.22 | 60.80 | 1443.02 |

Post Mining Land Use Details (Area in ha)

| S. No. | Land use during Mining | Land Use (ha) | | | | |
|--------|------------------------|---------------|------------|------------|-------------|--------|
| | | Plantation | Water Body | Public Use | Undisturbed | Total |
| 1. | External OB Dump | 376.70 | 0 | 0 | 0 | 376.70 |
| 2. | Top soil Dump | 0 | 0 | 0 | 0 | 0 |
| 3. | Excavation | 464.62 | 250.41 | 0 | 0 | 715.03 |
| 4. | Roads | | | 15.61 | | 15.61 |
| 5. | Built up area | 23.53 | 0 | 196.15 | | 219.68 |
| 6. | Green Belt | 116.00 | 0 | 0 | 0 | 116.00 |

| | | | | | | |
|----|------------------|--------|--------|--------|---|---------|
| 7. | Undisturbed Area | | 0 | 0 | 0 | 0 |
| | Total | 980.85 | 250.41 | 211.76 | 0 | 1443.02 |

- (xi) Total geological reserve reported in the mine lease area is 160.57 MT with 59.495 MT mineable reserve as on 01.04.2021. Out of total mineable reserve of 59.495 MT, 59.495MT are available for extraction. Percent of extraction is 100%.
- (xii) 15 seams with thickness ranging from 0.5 m to 4.0 m are workable. Grade of coal is G-8, stripping ratio is 10.85cum/tonne, while gradient is 1 in28
- (xiii) Method of mining operations envisages by open cast method.
- (xiv) Life of mine is 19 years.
- (xv) The project has 1 external OB dump in an area of 376.70 ha with 120 m height and 238.02Mm³ of OB. 1 internal OB in an area of 464.62ha with approximately 526.38Mm³ of OB is envisaged in the project.
- (xvi) Total quarry area is 715.03 ha out of which backfilling will be done in 464.62 ha while final mine void will be created in an area of 250.41 ha with a depth of 60.00 m. Backfilled quarry area of 464.62 ha shall be reclaimed with plantation. Final mine void will be converted to water body.
- (xvii) Transportation of coal has been proposed from face to siding by trucks/tippers.
After 5 years:
- The Transportation of coal from face to surface by in-pit belt conveyor and surface belt conveyor up to Amadand siding.
 - Coal from railway siding will be loaded into railway wagons with the help of Rapid loading system.
 - To local consumers by trucks /tippers.
- (xviii) Reclamation Plan in an area of 980.85ha, comprising of 464.62 ha of external dump, 376.70 ha of internal dump and 116.00 ha of green belt. In addition to this an area of 23.53 ha has been proposed for plantation.
- (xix) No forest land has been reported to be involved in the project.
- (xx) No National Park, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xxi) Wildlife conservation plan for schedule – I species has been submitted to CWLW, Bhopal through CCF, Shahdol (MP)
- (xxii) The ground water level has been reported to be varying between 7.00m to 12.30m during pre- monsoon and between 3.00m to 7.32m during post-monsoon. Total water requirement for the project is 778 KLD.
- (xxiii) Ground water clearance obtained on 11.10.2002 and fresh application for obtaining the approval of the Central Ground Water Authority for NoC has been submitted on 30th December, 2017. Revised application submitted on 18.12.2020.
- (xxiv) Public hearing for the project of 4.0 MTPA capacity in an area of 1443.02 ha was conducted on 12.12.201 at Gram panchayat Bhavan Nimha, Tahsil Kotma, under the Chairmanship of

Additional District Collector, Anuppur. Major issues raised in the public hearing include employment, land compensation, R&R, air, water pollution, blasting, road, CSR work etc.

Appropriate action to address the issues raised in the Public Hearing have already been taken/proposed to be taken are annexed as Annexure 1

- (xxv) Consent to Operate for the existing capacity was obtained from the State PCB on 13.05.2021 and is valid till 30.06.2022
- (xxvi) No river /nalla is flowing within boundary of lease.
- (xxvii) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to State PCB. and also, to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits except few aberrations which can be attributed to the specific local conditions during the day of sampling.
- (xxviii) No court cases, violation cases are pending against the project of the PP, except employment /appointment related cases at Hon'ble High Court of MP, Jabalpur.
- (xxix) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mine was started from the year 2009-10 onwards. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations. The coal production, realized from the project, from 2009-10 onwards, is as under

| S. No. | Financial year | Sanctioned capacity as per EC | Actual Production | Excess Production Beyond EC |
|--------|----------------|-------------------------------|-------------------|-----------------------------|
| 1 | 2009-10 | 1.15 | 0.130325 | 0 |
| 2 | 2010-11 | 1.15 | 0.475975 | 0 |
| 3 | 2011-12 | 1.15 | 0.630822 | 0 |
| 4 | 2012-13 | 1.15 | 1.149923 | 0 |
| 5 | 2013-14 | 1.15 | 1.149985 | 0 |
| 6 | 2014-15 | 2.15 | 1.149973 | 0 |
| 7 | 2015-16 | 2.15 | 2.052095 | 0 |
| 8 | 2016-17 | 2.15 | 2.150000 | 0 |
| 9 | 2017-18 | 2.15 | 1.939133 | 0 |
| 10 | 2018-19 | 2.15 | 1.900550 | 0 |
| 11 | 2019-20 | 2.15 | 1.643169 | 0 |
| 12 | 2020-21 | 2.15 | 1.275526 | 0 |

- (xxx) The project involves 1100 project affected families. R&R of the PAPs will be done as per applicable and CIL R&R policies.
- (xxxi) Total cost of the project is Rs.869.44 lakhs. Cost of production is Rs 1120.68 per tonne (at 85% production level) CSR cost is 2% of the average net profit of the company for the three immediate preceding financial years or Rs. 2.00 per tonne of coal, whichever is higher. R&R

cost is Rs 78.21. crores. Environment Management Cost is Rs.101.99 crore.

19.2.3 The EAC during deliberations noted the following:

- The proposal is for Environmental Clearance of Expansion of Amadand Opencast Coal Mine from 2.15 to 4.0 MTPA in an area of 1443.03 ha of M/s South Eastern Coalfield Limited located in Tehsil Kotma, Anuppur, Madhya Pradesh.
- ECs for the existing mines 2.15 MTPA was granted vide No. J-11015/46/2002-IA-II (M) dated 18.03.2015
- Terms of Reference was granted on 22nd December, 2017 for a period of 3 years. Further as Ministry's notification dated 17th February, 2020, validity of ToR was increased to 4 years.
- Though the proposal was filed for expansion from 2.15 to 5.40 MTPA however, EMP of the project was prepared for 4.0 MTPA and EAC opined accordingly opined to consider EC upto 4.0 MTPA production capacity.
- No forest land is involved however there is presence of Sloth Bear (*Melursus ursinus*) – a schedule I species in Buffer zone of the project. A sloth bear conservation plan has been prepared by DFO Anuppur and forwarded for further approval from CWLW, Bhopal through CCF Shahdol. The conservation plan activities will be carried out in buffer zone of the project with state forest department as the implementing agency.
- Wild life conservation plan & Mitigative measures for schedule-I species has been prepared by DFO Anuppur and forwarded for further approval from APCCF, Bhopal (CWLW) through CCF Shahdol.
- Main issues raised during public hearing were regarding depletion of ground water level, air pollution due to vehicle, development of cracks in house of Gram Panchayat Nimha, frequent accident on the colonies road, employment issue, compensation of land oustee, coal being transported in open trucks, safety zone shown in the presentation by the management is only on the plan, not on the site, fertility of land has decreased,
- Certified Compliance Report from Ministry IRO-Bhopal was submitted vide File No. 3-22/2015(Env)/1111 dated 19th August, 2021. Most of the conditions are compiled as per the report.
- One seasonal Nallah named Banki Nallah is located to the east of the block and flows from North to South, but no diversion is proposed.

Air Quality:

- The base line data was collected in post monsoon season i.e October to December, 2020. No. of Sampling location monitored: 09. The result indicates that the maximum and minimum values of PM₁₀ are in the range of 91.8 µg/m³ to 38.7 µg/m³, whereas the PM_{2.5} are in the range of 54.5 µg/m³ to 21.8 µg/m³. The SO₂ concentrations within the study area are in the range of 33.3 µg/m³ to 6.5 µg/m³ and the NO_x are in the range of 26.9 µg/m³ to 5.2 µg/m³. The incremental increase in the values were projected to be 35.58 µg/m³ for PM₁₀, 10.86 µg/m³ for PM_{2.5}, 0.01 µg/m³ for SO₂, and 34.24 µg/m³ for NO_x. The value of total GLC is 127.38 µg/m³ for PM₁₀, 65.36 µg/m³ for PM_{2.5}, 33.31 µg/m³ for SO₂ and

49.84 for NO_x. The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards and found to be within permissible limit except PM₁₀ on which PP has to make extra efforts.

Surface Water Quality:

No. of Sampling location monitored are 10 number. Pond water located at Kuhka village and Malga Village. River Water from Kewai river Son river. Nallah water: Bhedwa Nallah Banki Nallah, Bhedwa & Banki Nallah confluence Point. The results indicate that the maximum and minimum values of DO ranges between 7.1 mg/l to 5.4 mg/l, hardness ranged between 216 mg/l to 52 mg/l, BOD ranged between 12.3 mg/l to 2.4 mg/l, TDS ranged between 345 mg/l to 132 mg/l, Faecal Coliform ranged between 28 MPN/100 ml to 12 MPN/100 ml and Nitrate ranged between 13.3 mg/l to 6.3 mg/l

- Mine Plan of the instant project has been approved by M/s CIL in Minutes of 325th CIL Board Meeting held on 5th March, 2016 and letter issued on 30th March, 2016. The Mine Closure Plan of Amadand OC Project (4.0mty) has already been prepared as a part of Revised Project Report of Amadand OC project (4.0mty) and approved on 05.03.2016 based on the prevailing guidelines and the present report is a Revised Mine Closure Plan as per the “Guidelines for preparation of Mining plan for the coal and lignite blocks” issued by MoC, GoI on 16.12.2019 and an OM of MoC dated 29.05.2020

19.2.4 *The EAC, after deliberations noted that PP has achieved production which is well below to the granted capacity of EC. EAC also suggested to address properly the issues raised in public hearing and demands to local development have not been adequately responded. The plantation also was inadequate as only 5000 sapling reported in 2020-21 which is very less in number. Though the application was filed for 5.4 MTPA production but EIA and EMP is prepared for 4.0 MTPA so EAC decided to consider 4.0 MTPA production capacity. EAC also observed an external OB dump located near the boundary of the project site and found that no plantation is being done on it. So EAC suggested that its western and southern boundary shall be planted initially.*

The socio economic study mentioned in EIA report was not properly conducted regarding its implication status and consultant was not able to explain the shift from census 2011 and current scenario. Noise level data is also not properly recorded particularly during blasting period, being one of issue in public hearing. The conservation plan for Sloth bear is provided by PP in consent with DFO but it should also be written in English for convenience to EAC.

Further, it was observed that there is conflict raised by forest department on wildlife corridor, so a clarification needs to be provided by PP w.r.t the presence of wild life corridor existence. In view of above, EAC desired further information on below mentioned observations:

- PP shall clarify category of allotment of land whether it is under CBA Act since it is mentioned*

in EIA that 740.63 ha land will be more acquired and 702 ha is under LA Act. If not then PP shall furnish Letter of Intent (LoI) from concerned State Government.

- (ii) PP shall submit EMP budget excluding CSR budget and R&R money and accordingly revise it.*
- (iii) PP shall submit letter from PCCF that mine does not fall under corridors of any National Park and Wildlife Sanctuary and does not involve any violation of forest area and wild sanctuary with certified map showing distance of nearest sanctuary.*
- (iv) PP shall submit the comparison of baseline data and air quality impact based on peak value since baseline data collected in 2017 and in 2020 varies.*
- (v) PP shall submit the time bound action plan to be provided by PP for developing SAL nursery.*
- (vi) Measure to install a blasting monitoring station near the periphery of the villages.*
- (vii) The socio –economic study to be conducted with actual survey report and a comparative assessment to be provided from the census data of 2011-part B to be provided in EIA/ EMP report also economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data of 2011 part A to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.*
- (viii) PP shall submit the recommendation IRR study and action plan*
- (ix) PP shall submit action plan for implementation of sand segregation plant to extract sand and aggregate (since quantity of OB is higher) to reduce agricultural land degradation.*

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

Agenda No. 20.3

Ghogha-Surka Lignite Mine (2.25 MTPA in 1355 ha), Khadsaliya-I Lignite Mine (1 MTPA in 711.42 ha) and Khadsaliya- II Lignite Mine (0.75 MTPA in 914.14 ha) of M/s Gujrat Power Corporation Limited located in District Bhavnagar (Gujarat) - For Extension of Amendment in Environmental Clearance - reg

[Online proposal No. IA/GJ/CMIN/224531/2021 File No. J-11015/202/2010-IA. II (M)]

20.3.1 The proposal is for extension of amendment in Environmental Clearance of Ghogha –Surka Lignite Mine (2.25 MTPA in 1355 ha), Khadsaliya-I Lignite Mine (1 MTPA in 711.42 ha) and Khadsaliya- II Lignite Mine (0.75 MTPA in 914.14 ha) of M/s Gujrat Power Corporation Limited located in District Bhavnagar (Gujarat)

20.3.2 The EAC during deliberations noted the following

The proposal is for extension in amendment in environment clearance granted by the Ministry vide its letter dated 24th December, 2014 to in favour of M/s Gujarat Power Corporation Limited for Ghogha

Surka Lignite Mine of 2.25 MTPA in project area of 1355 ha and Khadsaliya-I (1 MTPA in 711.42.47 ha) & Khadsaliya-II Lignite Mine (0.75 MTPA in 914.14.92 ha) located in District Bhavanagar (Gujarat).

One of the specific conditions (xx) stipulated therein is as under:-

'Lignite transportation from mine pits to lignite stack yard from where lignite after necessary blending shall be transported to adjacent pithead TPP by closed conveyor system has been envisaged.'

First amendment in Environment Clearance was granted by Ministry vide its letter dated 20th December, 2018 with revised specific condition as mentioned below:

'Lignite from the stack yard of Ghogha-Surkha Mine to the Padwa Power Plant, may be transported by black topped road of 2.7 km for a period of 15 months i.e. upto June 2019. Meanwhile closed conveyor system shall be made operational for transportation of lignite after the stipulated period. For other mines namely Khadsaliya-I and Khadsaliya-II , the said condition shall continue

Further, amendment was granted by Ministry vide its letter dated 19th October, 2020 for a further period upto 30th June, 2021 as proposed by project proponent due to delay in acquisition of land surface right for Govt. land and also due to Covid.

PP has now requested for further extension through amendment in EC since looking to the delay in commissioning of Pipe Conveyor System and readiness of Coal Handling Plant system at receiving end majorly due to second surge of Covid-19, which again had led to pandemic situation which was beyond the control of Project proponent, Mine Developer cum Operator (MOO) and their EPC contractor and supplier.

It is expected that procedural activities for obtaining consent / permission from concerned authorities and no-load trial will be completed by the mid of August 2021 and the Coal Handling system at receiving end by October/ November, 2021. However, if there is no rise in Covid-19 cases again, full load commissioning of entire Pipe Conveyor System shall be completed by the end of December, 2021 as proposed by PP.

20.3.3 *The EAC, after deliberations **recommends** the proposal for extension in amendment in Environment Clearance to Ghogha Surkha Opencast Lignite Mine (2.25 MTPA in 1355 ha) Khadsaliya- I Lignite Mine (1 MTPA in 711.42 ha) and Khadsaliya – II Lignite Mine (0.75 MTPA in 914.14 ha) of M/s Gujarat power Corporation Limited located in District Bhavnagar (Gujarat) for a further period upto 31st Dec, 2021 to comply to implement the closed conveyor system for 100% reduction of coal transportation by roadways under the provisions of EIA Notification, 2006 and its amendments therein. All other conditions stipulated in EC dated 24th December 2014, 20th December, 2018 and 19th October, 2020 shall remain unchanged with following additional specific conditions to*

be followed:

- (i) PP shall seek Certified Compliance Report from Ministry IRO-Gandhinagar for checking the status of compliance of EC conditions by March, 2022.
- (ii) PP shall develop water harvesting pond near the villages of suitable area as suggested by Gram Panchayat.
- (iii) PP shall submit expenditure incurred for Wildlife Conservation Plan (if any) for schedule I species to IRO-Gandhinagar within three months.
- (iv) PP shall submit action plan for sand/aggregate segregation plant to be recovered from OB Dump and install the facility within 2 years.

Agenda No. 20.4

Naini Opencast Coal Mine Project of capacity 10 MTPA and Coal Washery capacity 8 MTPA (Peak 9 MTPA) in mine lease area of 912.799 ha of M/s The Singareni Collieries Company Limited located in village Chhendipada, Tehsil Chhendipada, District Angul (Odisha) – For Environment Clearance – reg.

[Online Proposal No. IA/OR/CMIN/102794/2019/ F.No. IA-J-11015/49/2019-IA-II(M)]

20.4.1 The proposal is for consideration of Environmental Clearance of Naini Opencast Coal Mine Project of capacity 10 MTPA and Coal Washery capacity 8 MTPA (Peak 9 MTPA) in mine lease area of 912.799 ha of M/s The Singareni Collieries Company Limited located in village Chhendipada, Tehsil Chhendipada, District Angul (Odisha).

20.4.2 The EAC during deliberations noted the following:

Earlier, the project was deliberated on 12th EAC meeting held during 25th May, 2021 for grant of Environmental Clearance wherein EAC desired certain information from the PP and deferred the proposal. PP has now submitted the compliance of observation of EAC and provided additional information which are enlisted below:

| S. No. | Observation of EAC | Reply by PP |
|--------|---|--|
| 1 | PP shall submit specific response/reply on additional ToR conditions at sl. no. vi, vii, viii and xi relating to details on top soil management, compensatory grazing land, & creation of water ponds, safety zone for water streams, and integrated hydrology study based on primary data. | Three seasonal nallahs (streams), namely, Shiarimalia Nallah, Kudaposi Nallah and Ullani Nallah flowing across the Naini coal block are proposed to be diverted outside the mine boundary facilitating extraction of |

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| <p>ToR Condition No. (vi): Safe distance of about 100-150 mts should be kept from Goudhani Nallah to prevent water pollution which ultimately merges with Tikara river at around 12 km.</p> <p>ToR Condition No.(vii): Mechanism to preserve top soil of about 7.61 Mm³ in temporary storage dump yards and spread over the finished decks of dumps in later stage.</p> <p>ToR Condition No. (viii): Water body of about 0.238 ha should be proposed to be created in the nearby villages and alternate mechanism for 4.514 ha of grazing should be proposed.</p> <p>ToR Condition No. d xi: An integrated hydrological study would be carried out</p> | <p>coal reserves. About 173.35 Mt of coal reserves are locked up below these nallahs. In this connection, a study has been conducted through an expert agency, M/s ASK Reprographics, Bhubaneswar, to assess the proposed changes in drainage network, catchment area while designing the diversion channels for 3 Nallahs.</p> <p>During the process of preservation, different legume seeds like Stylosanthes hamata, Saesbania grandiflora and other grasses like Saccharum munja added with short rotation crops like Bamboo etc., will be sown / broadcasted on the top soil dump for improving the soil nutrient status by fixing the atmospheric Nitrogen. It also adds lot of organic matter to the top soil which will ameliorate the microbial activity. Because of these activities, the top soil preserved will be fertile with microbial activity till its use in reclamation of dumps. In order to prevent top soil erosion, a toe wall (14.53 km) along with a garland drain (7.18 km) will be maintained all around the dump at a cost of Rs. 100 Lakhs.</p> <p>SCCL authorities requested the Collector & District Magistrate, Angul, Odisha for allotting the land towards development of 0.238 ha water body and 4.514 ha grazing land vide ref. no. Naini Area/GMO/5/2019/442, Dt.16.12.2019 Accordingly, the Collector directed the Tahasildar, Chhendipada for identification of necessary land for establishment of the above facilities vide ref. no.2861, dt.24.12.2019 SCCL will develop extra space for water storage in the form of water body and grazing land soon after the land is handed over by the Govt. authorities.</p> <p>M/s Sujalam Consultants, Nagpur (a NABET</p> |
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| | of the impact of coal mining on the base flows in the downstream of the mine area. | accredited agency) was entrusted by EPTRI, Hyderabad to carry out hydro geological study of the project area including surroundings as per GEC 2015. |
| 2 | PP shall submit high level techno-economic feasibility study for implementing in-pit conveyor system till railway siding | <p>SCCL is operating some of the opencast mines through in-pit crushing and conveying technology. In the present proposal also the issue has been thoroughly discussed and belt conveying has been proposed from the box-cut up to CHP.</p> <p>However, belt conveyor could not be proposed from the in-pit up to surface due to the following reasons: Land for OB dumping has been optimized by dumping OB initially on the coal bearing area and then re-handling at a later stage after 15 years thereby avoiding the external dump area to the tune of 283.71 ha. If in-pit conveyor system is proposed, re-handling quantity of OB will increase.</p> |
| 3 | PP shall submit the technical details and report to avoid of diversion of three streams to the extent possible. The report should also cover the impact on catchment area diverted by affecting the river/stream hydrology with total length of diversion versus coal extraction. It should also cover environmental safety and management measures. | <p>Three seasonal nallahs existing in the proposed mining area namely Shiarimalia nallah, Kudaposi Nallah, Ullani nallah, are flowing over the project/quarry area from SW-NE direction. Shiarimalia nallah, Kudaposi Nallahs are joining into Gaudini Nallah at the northern boundary of the project. The Ullani Nallah is joining into the Gaudini nallah downstream of the project area. These 3 nallahs will be diverted in consultation with the Water Resource Department of the State Government of Odisha. Therefore, it is proposed to divert the above 3 nallahs along the periphery of the project. The contamination of water in the diverted portion of nallahs will be reduced drastically as the mine discharge water is passed through settling ponds before discharging to the Gauduni nallah. The catchment area of these nallahs located outside the project area will not be affected since the water from the upstream catchment area will be channelized through the diverted nallahs as per the hydrology of the area</p> |

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|---|---|--|
| 4 | PP shall conduct air quality modeling considering mining activity, rehandling of OB dump, washery operations and accordingly submit with linkage of environment mitigation measures. | The source of emissions from the proposed mining, re-handling of OB and coal washery operations will be from active mine pit and its activities like drilling, blasting, hauling, loading/unloading and due to coal crushing in the coal handling plant were consider. The emissions will be mainly Particulate Matter (PM). The predicted GLCs of PM10 & PM2.5, SOx & Nox at all locations are well within the prescribed limits. |
| 5 | PP shall clarify the capacity of washery since EIA report mentions washery capacity of 8 MTPA only whereas PP is proposing for 9 MTPA (Peak) capacity | The capacity of the coal washery proposed is 8.00 MTPA with a peak capacity of 9.00 MTPA. The EIA report has been prepared considering the peak capacity only. However, at some places like on the cover page, the peak capacity was not mentioned which resulted in ambiguity. Hence, the washery capacity is also proposed for a peak capacity of 9.00 MTPA |
| 6 | PP shall submit ground water resource estimation as per GEC 2015 methodology by collecting primary Hydrological data and accordingly submit the mitigation measures and impact on ground water and surface during pre, during and post mining activity. | <p>Impacts during pre, during and post mining activity.</p> <p>Pre-mining:</p> <ul style="list-style-type: none"> • During the course of mining, the natural drainage system will be altered. • The Gauduni nalla forming the northern boundary of the block flows from south –west to north – east. This is the main drainage in the mining lease area. Kudaposi nalla flows from south to north across the project area. Two more seasonal nallas viz., Shiarimalia and Ullani nala flow across the block towards north and join the Gauduni nalla. All these are seasonal nallas of 3rd and 4th order. • It is proposed to divert these nallahs along the southern boundary of ML and drain into the existing Gauduni nalla. These three nallahs are planned to be diverted in consultation with the Water Resources Department of the State |

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| | | <p>Government.</p> <ul style="list-style-type: none"> • As these nallahs even after diversion will meet Gauduni nalla only and hence they will not change the hydrology of this area significantly. • Garland drains are also proposed along the quarry and OB dumps to prevent any runoff from the ML area. These garland drains in turn will be connected to Gauduni nallah. <p>During mining:</p> <ul style="list-style-type: none"> • Due to mining operations, the local drainage system will be altered and the flow path gets re-adjusted, as such, there will be no reduction in the total quantity of the flow in this area. • The impact of mining on local ground water regime depends on the mine • parameters like depth, rate of expansion, ground water recharge and hydraulic parameters of the aquifers intercepted in the quarry. • During the development, the aquifers lying at shallow depth shall be affected • while the deeper aquifers will first get recharged due to accumulation of rainwater in the mine pit but will be gradually dewatered with increasing depth of the mine. However, the mine water discharged into the local drainage will act as constant source of recharge and will improve the water level in downstream side of the mine. • The peak water requirement for Naini coal mine and the pit head coal washery together is about 4000 m³/day, which is planned to be fulfilled with the rainwater and the mine seepage collected in the mine pit for industrial purpose. • Based on hydro-geological studies, the |
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| | | <p>mine seepage in Naini Coal mine is anticipated to be about 1.54 MCM by the end of mining.</p> <ul style="list-style-type: none"> • Impact of mine dewatering (radius of influence) is anticipated within a radius about 1595 m and 645 m respectively from the centre and surface edge of the quarry at the end of mining. <p>Post-mining:</p> <ul style="list-style-type: none"> • After the cessation of mining, the groundwater level will slowly recoup and attain normalcy. Thus, the impact on groundwater system is anticipated as a temporary phenomenon. • It is anticipated that the abandoned mine will behave as a groundwater reservoir and will considerably improve recharge system and storage in the area. • The area is categorised as “SAFE” in ground water development point of view by the CGWB. <p>Mitigation measures:</p> <ul style="list-style-type: none"> • The run off that can be harvested through the 4 rainwater harvesting structures by constructing 4 check dams on Gauduni nalla is about 0.21 MCM/year, while 3.18 MCM/year rain water will be stored in the abandoned mine pit, which will adequately compensate the mine seepage at the end of mining. • Regular de-silting of water tanks in the surrounding villages will be taken up for increasing the storage capacity and to augment recharge of ground water. • Nalla diversion and construction of garland drains are suggested to divert rainwater from entering the ML area and the mine pit. • Recycling and reuse of the mine discharge is proposed to minimize |
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| | | <p>consumption of fresh water.</p> <ul style="list-style-type: none"> Monitoring of ground water levels is planned using the existing 27 observation wells in study area and 10 proposed piezometers (3 within ML area and 7 in the close proximity). Quality of Ground and Surface water will also be monitored on quarterly basis in core and buffer areas. |
| 7 | PP shall submit proper flow chart of mass balance with the comparison of washery technology and justification for adopting the jig & drum technology. | The flow chart of flow chart of mass balance is provided by PP |
| 8 | PP shall submit Point wise response of issues raised during PH with allotted fund and timeline particularly with commitment of bridge construction, and creation of water pond for providing water for villages to meet the demands for drinking and irrigation. | Summary of issues raised in the public hearing of Naini Coal Mine held on 20.01.2021 along with commitments and compliances, timelines and Budgetary provision by the Project Proponent is furnished |
| 9 | PP shall submit the details of predicted air quality data in concurrence with annual average concentration. | The predicted incremental values for annual average are not added to the one-month baseline data (collected during June -July, 2021) and Baseline data collected during December, 2019 to February, 2020 due to non-availability of annual average concentrations (the present observations being less than 104 measurements in a year). |
| 10 | Plan of action for implementation railway siding at Naini Coal block with timeline (3-4 years) and fund allotted. | <p>It is proposed to transport coal from Naini Project, Angul, Odisha through Rail up to STPP, Jaipur, Telangana State by Rail.</p> <p>□ MCRL plans to construct 68 Km common Rail Corridor between AngulBalaram-Putagadia-Jarapada at a cost of Rs. 1700 Crores covering Naini coal block of SCCL and also the coal bocks of NALCO, OMC & others. Final approval of DPR by East Coast Railway has been accorded on 31.01.2018.</p> <p>□ At present, Phase-I work for laying track between Angul to Balaram for a stretch of 14 km is under progress and expected to be</p> |

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| | | <p>completed in June 2022.</p> <p>□ In Phase-II, laying of track from Balaram- Putagadia-Jarapada and a stretch upto Tentoloi were planned for which, survey was completed, Rail line alignment Plan and Land Schedules have been prepared. Land acquisition for NFL (Pvt. & Govt.) is under process, forest land diversion proposal (Stage-I) is under process and likely to be completed in 2022.</p> <p>□ Construction of balance 54 Km railway line will take about 3 years after land acquisition and the entire 68 Km Railway corridor will be commissioned by 2025.</p> <p>□ SCCL hired IRCON International Ltd as a consultant on 17.04.2020 for preparation of FSR & DPR for Naini Railway siding of 7 Km beyond Tentoloi Station of MCRL railway corridor.</p> <p>□ IRCON has completed the survey, prepared the FSR/DPR and submitted to East Coast Railway for in-principle approval on 01.01.2021. Approval has been accorded on 25.03.2021.</p> <p>□ Naini Railway Siding is expected to be completed in Year 2025 in parallel to MCRL corridor.</p> <p>□ Initially for 4-5 years, coal will be transported up to Gopal Prasad Railway Siding, which is a part of Phase-I construction. Coal transport road and Gopal Prasad Railway Siding is shown in the enclosed plan</p> |
| 11 | PP shall submit the design details of fog cannon/mist sprayer for controlling of fugitive dust and basis of choosing the number of fog cannon. | Opencast mines and Coal Handling Plants (CHPs) of SCCL are equipped with dust suppression systems including fog canons. The details of the dust suppression systems presently under operation at various CHPs and OCPs of SCCL was provided by PP |
| 12 | PP shall collect One-month baseline data of environment parameters including monitoring of water streams and river for further deliberation. | One-month baseline environmental data was collected during June- July, 2021 in the study area of the project. Baseline data was generated for parameters covering air, water (surface and |

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| | | ground water), soil quality and noise levels and to determine the quality of the prevailing environmental settings. |
| 13 | PP shall submit the plan of action for washery reject utilization and MoUs with FBC power plants. | SCCL had to yet explore the possibility of supplying coal washery rejects to any of the nearby thermal power plants. |
| 14 | PP shall submit the details of habitation along the transportation route of coal and its impact on people living.. | Traffic impact assessment study was conducted as a part of the EIA studies in accordance with ToR condition to understand and assess the impact on infrastructure & village for coal transportation by the road till railway line is laid. |
| 15 | Status of Stage-1 Forest Clearance from Ministry's Forest Division | Stage-1 Forest Clearance was obtained from MoEF&CC for diversion of 783.275 ha. of forest land for the project vide letter no. 8-01/2020-FC on 28.07.2021. |

- The proposal is for Environmental Clearance “of Naini Opencast Coal Mine Project of capacity 10 MTPA and Coal Washery capacity 8 MTPA (Peak 9 MTPA) of M/s The Singareni Collieries Company Limited in mine lease area of 912.799 ha located in village Chhendipada, Tehsil Chhendipada, District Angul (Odisha).
- The Project Proponent had yet to explore the possibility of supplying coal washery rejects to any of the nearby thermal power plants.
- The conveyor belt will be installed form box cut to CHP and not from In-Pit to CHP due to technical viability issue.
- Three seasonal nallahs (streams), namely, Shiarimalia Nallah, Kudaposi Nallah and Ullani Nallah flowing across the Naini coal block are merging with Gauduni nallah. These three seasonal nallahs are proposed to be diverted outside the mine boundary facilitating extraction of coal reserves to the tune of 173.35 Mt locked up beneath the nallahs
- The proposed washery is of 8 MTPA/ 9 MTPA (normative / Peak) production capacity.

20.4.4 EAC after deliberations observed that the PP had submitted the detail reply of the ADS raised during EAC meeting held on 25.05.2021 but few points still address like MoU of washery reject with power plants, identification land for grazing and water body in consent with District Collectorate. A safe distance of 30 m has been recommended by the expert agency appointed by PP i.e M/s Ask Reprographics, Bhubaneshwar. In this regard, EAC asked PP and consultant to take proper measures with safe guard conserving the cross section of the river bank in respect to the mine boundary. It was observed that growing SAL trees were proposed by PP on the external dumps, The EAC suggested PP that the slope dump to be maintained below 28 degrees and as the SAL trees will not be growing at higher slope. Also it was recommended to initially go for soil binder, improve the soil quality before plantation and other plants can also be chosen with scientific design. Mahanadi Coal Railway

Limited (MCRL) had Plan to construct 68 km common Rail Corridor between Angul-Balaram-Putagadia-Jarapada at a cost of Rs.1700 Crores covering Naini coal block of SCCL and also the coal blocks of NALCO, OMC & others. At present, Phase-I work for laying track between Angul to Balaram for a stretch of 14Km is under progress and expected to be completed in Dec'2. Naini Railway Siding is expected to be completed in Year 2025 parallel to MCRL corridor. Initially for 4-5 years, coal will be transported up to Gopal Prasad Railway Siding, which is a part of Phase-I construction. So it was finally found that 4-5 years is required for implementation instead of 3-4 years.

*Further, based on documents and facts submitted by PP, EAC **recommends** the issuance of standard EC to Naini Opencast Coal Mine Project of capacity 10 MTPA and Coal Washery capacity 8 MTPA (Peak 9 MTPA) of M/s The Singareni Collieries Company Limited in mine lease area of 912.799 ha located in village Chhendipada, Tehsil Chhendipada, District Angul (Odisha), under the provisions of EIA Notification, 2006 and its amendments therein with following specific condition for environmental safeguards:*

- (i) The project proponent shall obtain Consent to Establish/Operate from the State Pollution Control Boards for the proposed capacity mentioned in EC prior to commencement.*
- (ii) The maximum production or peak production at any given time shall not exceed the limit as prescribed in the EC*
- (iii) PP to comply all the commitment with time bound action plan mentioned in the reply presented in this EAC meeting of ADS raised during EAC meeting held on 25.05.2021*
- (iv) PP to develop an ECO park and SAL nursery (20 ha), also a time bound action plan to be followed i.e. within 3 years. PP to develop Dense and multi stored plantation of about 28 ha will be developed on the bund and also in the vacant area between the proposed bund and Gouduni nallah in order to prevent the siltation.*
- (v) PP shall plant 200 ha of Sal trees(only) for redevelopment of Sal forest in the region*
- (vi) Permission from State Water Resource Department shall be taken before commencement of any diversion activity of Three nallahs, namely, Shiarimalia nallah, Kudaposi Nallah, Ullani nallah.*
- (vii) Tree plantation in safety zone shall be completed within six months and update should be submitted to Ministry's Regional Office*
- (viii) Mining shall be carried out only by surface miners for the project only and silo loading through in-pit conveyor should be installed to avoid road transportation in 3 years*
- (ix) Transportation of coal from Mine to CHP be done by Close conveyor system and from Coal Handling Plant shall be through mechanized covered trucks for 3 years. No transportation by trucks after 3 years and proposed railway siding should be constructed without any delay.*
- (x) PP shall obtain No Objection Certificate from Central Ground Water Authority within three months and submit it Ministry's Regional Office*
- (xi) Third party monitoring by reputed institution for air quality (including heavy metal analysis) 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

- (xii) PP to install solar lights along the road used for transportation of coal to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.*
- (xiii) PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages located within the study area of 10 km radius buffer zone within two years*
- (xiv) PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.*
- (xv) PP to take proper care of health of R& R villages and a 24X 7 helpline call facility should be provided to such area and also to nearby villages for assisting any medical aid and ambulance facility.*
- (xvi) PP to develop an artificial pond (10 ha) and grazing land of 5 ha in nearby areas for water conservation by seeking consent with District collectorate and if land is not allotted in one year than PP has to buy the land themselves and develop the pond (10 ha).*
- (xvii) PP to fulfill the commitment done in public hearing within the time bound action plan proposed by PP.*
- (xviii) PP to install a continuous ambient air quality monitoring stations at suitable locations preferably village side and with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.*
- (xix) PP shall ensure that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB*
- (xx) PP to install not less than 10 nos. of additional Fog canon (mist sprayer) having 100 mts water jet/throw length to reduce the impact of air pollution at dust generating sources mainly on haul road, OB dumping areas within 1 year.*
- (xxi) PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.*
- (xxii) Project proponent to plant 150,000 trees with three Tier Green belt developments (of 50 mtrs width) along the periphery of the mine habitation/villages and transportation route till railway siding is commissioned to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer. The saplings should be planted with the grant of EC in the initial year so that survival of the plants and trees can be taken care of in future.*
- (xxiii) Top soil should be stored separately at marked area and necessary vegetation shall be maintained to avoid any entrainment of dust.*
- (xxiv) PP shall install sand/aggregate segregation plant for suitable capacity to extract sand and construction aggregate within 2 years of issue of this letter.*
- (xxv) Progressive backfilling of mine and progressive reclamation of OB dump shall be done*

- (xxvi) *Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles.*
- (xxvii) *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.*
- (xxviii) *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.*
- (xxix) *PP shall carry out monthly water monitoring quality of River bodies located within 5 Km radius and conduct Bio-assay test half yearly and further monitoring Ground water level.*
- (xxx) *PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority*
- (xxxi) *PP should conduct epidemiology study to (analysis of the distribution, patterns and determinants of health and disease conditions in defined populations).*
- (xxxii) *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*
- (xxxiii) *Compensation of the land acquired for the project shall be settled within one year as per R&R Policy.*
- (xxxiv) *Permanent Health care facilities of Hospital should be established within 5 km of project boundary for the local people.*
- (xxxv) *PP shall pay to farmers of agricultural land if there is any loss due to pollution/damages due to blasting activity found by concerned District Commissioner as per extent rules or norms*
- (xxxvi) *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.*
- (xxxvii) *Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- (xxxviii) *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

- (xxxix) PP shall explore to utilize the 100 % rejects generated from Washery to nearby FBC or power plant to reduce the transportation at longer distance as per Ministry's notification regarding rejects. MoU for 100% utilization of rejects shall be submitted to Ministry's Regional Office within six months of issue of this letter. And the Status to be up dated in six monthly compliance report submitted to the Pollution board/ Ministry's Regional Office*
- (xl) PP shall comply 33 % of the green belt plantation with trees within the plant boundary and also in adjoining area and plan of action to be submitted to Regional office of Ministry within six months. Accordingly, three Tier Green belt developments (of 50 mtrs width) in and around the periphery of washery within 3 years. The saplings should be planted with the grant of EC in the initial year so that survival of the plants and trees can be taken care of in future.*
- (xli) PP shall only use conveyer belt to transport coal from mine pit to washery. No Truck transportation shall be done.*
- (xlii) Quantity of stored coal and rejects should not exceed more than 2 months of total capacity*
- (xlili) Raw coal, washed coal and rejects shall be stored in covered silos or in dome shaped storage with wind shields/ wind breaking walls. Fixed type high pressure sprinkler shall be installed in this storage yards.*
- (xliv) 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.*
- (xlv) PP should install High efficiency centrifuge, belt press filter, high frequency screening, thickener to separate coal fines and maximize water recovery.*
- (xlvi) The total industrial water demand (peak) in operation phase shall be met by utilizing mine water to minimize the usage of ground water.*
- (xlvii) Road inside and at periphery of the washery plant shall be constructed of concrete only.*

Agenda No. 20.5

Expansion of coal washery with change in technology from 0.96 MTPA (Dry Type) to 2.5 MTPA (wet type) in existing area of 10.6 Ha at village Tenda Newapara, Tehsil Ghardhoda, district Raigarh, Chhattisgarh by M/s Phil Coal Beneficiation Pvt Ltd - For Terms of Reference - reg

[Online Proposal No. IA/CG/CMIN/230341/2021; File No. J-11015/418/2015-IA-II(M)]

20.5.1 The proposal is for Terms of Reference of Expansion of coal washery with change in technology from 0.96 MTPA (Dry Type) to 2.5 MTPA (wet type) in existing area of 10.6 Ha at village Tenda Newapara, Tehsil Ghardhoda, District Raigarh, Chhattisgarh by M/s Phil Coal Beneficiation Pvt Ltd.

20.5.2 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. 64 J/4 and is bounded by the geographical coordinates ranging from 22° 9'14.94"N to 22° 9'21.90"N and 83°15'26.25"E to 83°15'42.74"E
- (ii) 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.
- (iii) Employment generation, 50 nos. direct & 150 no. indirect employment will be provided from the project.
- (iv) The project is reported to be beneficial in terms of the management's commitment to uplift the standards of living of the villagers in consultation with local gram panchayat & a need based study will be carried out to assess the needs of locals.
- (v) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 & its amendment from SEIAA – Chhatisshgarh vide letter no. 1092/SEIAA-CG/EC/Coal Wash/RGH/80/09 Raipur dated 7th August 2014 for 0.96 MTPA Dry type coal washery in an area of 10.06 Ha.
- (vi) The land usage pattern of the project is as follows:

| S.No. | Land Use | Area (in Ha.) |
|-------|---|---------------|
| 1. | Main Plant Area (Existing & Expansion) | 2.00 |
| 2. | Raw Coal Storage Yard (Existing & Expansion) | 1.30 |
| 3. | Washed Coal Storage Yard (Existing & Expansion) | 1.00 |
| 4. | Rejects storage (Existing & Expansion) | 0.80 |
| 5. | Water Storage and Rainwater Harvesting | 0.35 |
| 6. | Internal Roads | 0.40 |
| 7. | Green Belt | 3.34 |
| 8. | Truck Parking area | 0.40 |
| 9. | Other Misc. area | 0.47 |
| | TOTAL | 10.06 |

- (vii) The ROM coal from SECL mines mainly from Deepka, Gevra, Kusmunda and other SECL mines will be transported by Road / Rail. Washed coal and Washery rejects will be transported to parties through Road / Rail only. Rail transportation is being served from Railway Siding at Kharsia (34.0 Kms. – by road) and same will be used for present proposal also.
- (viii) Greenbelt will be developed in an area of 3.34 Ha.
- (ix) No forest land is involved
- (x) National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the

project

- (xi) No schedule – I species is present within 10 Kms. radius of the plant site.
- (xii) Consent to Operate for the existing capacity was obtained from the Chhattisgarh Environment Conservation Board (CECB) vide no. 5735/TS/CECB/2018 Atal Nagar dt. 16.10.2018 and same is valid till 31st October 2021.
- (xiii) No River/nalla is flowing through the plant site. Kurket River – 3.6 Kms. & Barkha Nallah – 1.7 Kms. are present within 10 Kms. radius of the plant site. are present within 10 Kms. radius of the plant site. No River / Stream passes through the proposed project site.
- (xiv) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to CECB 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.
- (xv) No court cases, violation cases are pending against the project of the PP.
- (xvi) No R & R is required, as no habitation exists in the proposed plant site.
- (xvii) Total cost of the project is Rs. 20.0 Crores. Cost of production is Rs. 100 /- per tonne., CSR cost is Rs. 40 Lakhs, Environment Management Cost is Rs. 50 Lakhs.

20.5.3 The EAC during deliberations noted the following:

- The proposal is for Terms of Reference of Expansion of coal washery with change in technology from 0.96 MTPA (Dry Type) to 2.5 MTPA (wet type) in existing area of 10.6 Ha at village Tenda Newapara, Tehsil Ghardhoda, District Raigarh, Chhattisgarh by M/s Phil Coal Beneficiation Pvt Ltd.
- The project not only propose the expansion in production from 0.96 to 2.5 MTPA but also involve the change in technology for dry type to wet type but there is no change in the area of the land, it remains same i.e. 10.06 Ha
- No forest land is involved in the project area as proposed.
- Greenbelt will be developed in an area of 3.34 Ha.
- Rejects generated will be given FBC Power Plant of M/s. Prakash Industries Ltd.
- Kurket River – 3.6 Kms. & Barkha Nallah – 1.7 Kms. are flowing within 10 Km. radius of the Plant
- Nearest habitaion is at Tenda Nawapara, at a distance of 0.6 Km. (SW) Km from the plant
- Water required for existing plant is 33 KLD mainly for domestic purpose and greenbelt development and same is sourced form Ground Water source. Water required for proposed expansion will be 425 KLD, which consists of mainly for process and domestic purpose and will be sourced form Ground water.

20.5.4 *The EAC after deliberations observed that the instant proposal of expansion in coal washery. EAC desired that PP should come with proper site layout and also had mandatorily recommended PP to acquire more land if required. The adequacy of land for compliance of EC conditions was also assessed. EAC also found the plantation carried out by PP in existing site was not at all satisfactory.*

*EAC asked mandatorily to opt for more plantation not only within mine site also in nearby areas. With this in background, EAC **recommends** the proposal for Terms of Reference Expansion of coal washery with change in technology from 0.96 MTPA (Dry Type) to 2.5 MTPA (wet type) in existing area of 10.6 Ha at village Tenda Newapara, Tehsil Ghardhoda, district Raigarh, Chhattisgarh by M/s Phil Coal Beneficiation Pvt Ltd, and specific conditions as below and as defined in the Standard ToR issued by this Ministry for such projects/activities under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto:*

- (i) Certified Compliance Report of EC granted by SEIAA shall be submitted through Ministry's IRO Raipur.*
- (ii) Public Consultation, including public hearing, shall be conducted through concerned SPCB as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal should be need/requirement based of local people.*
- (iii) The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data of 2011-part B to be provided in EIA/ EMP report also economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data of 2011 part A to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.*
- (iv) PP shall furnish details of 33 % of the green belt plantation with trees within the plant boundary and also in adjoining area and plan of action to be submitted to Regional office of Ministry within six months. Accordingly, three Tier Green belt developments (of 50 mtrs width) in with time bound action plan in EIA/EMP report*
- (v) PP shall propose not to use ground water for washery operation since Kurket River – 3.6 Kms. & Barkha Nallah – 1.7 Kms is nearby. Permission for using surface water shall be submitted during submission of EC proposal.*
- (vi) PP shall submit detailed mitigation plan since the site is surrounded by forest to combat the pollution.*
- (vii) PP should submit the real time aerial footage and video of the Coal Washery made through drone*
- (viii) A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road.*
- (ix) PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.*
- (x) PP should submit the complete water balance cycle need to be submitted considering only mine water usage for washery operations. In addition to this PP should submit a detailed plan for rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.*

- (xi) PP shall submit clarification from PCCF that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.
- (xii) For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area.
- (xiii) Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.
- (xiv) Cumulative Impact Assessment Study of the area shall be carried over by project proponent considering the project being in proximity of other coal washeries
- (xv) Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
- (xvi) Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report Sulphur content.
- (xvii) The parameters Arsenic, Lead and Silica shall also be analyzed in ambient air quality.
- (xviii) The washing technology so chosen should conform to 'Zero Liquid Discharge'.
- (xix) PP shall submit details of implementation of laying conveyor belt for transportation of coal from nearest mine to the washery.
- (xx) PP shall provide the plan for reduction of number of trucks for transportation of coal and fleet to be redesigned.
- (xxi) PP shall work on the layout and siting of washery so that coal storage area, crushing units and rejects storage area shall not be near the villages or cause any pollution to agricultural land.

Agenda No. 20.6

Expansion of coal washery from 2.5 MTPA to 5.0 MTPA (Heavy media wet type) in existing area of 9.93 Ha by M/s Phil Coal Beneficiation Pvt Ltd at village Ghutku, Tehsil Takhtpur, district Bilaspur, Chhattisgarh - For Terms of Reference- reg

[Online Proposal No. IA/CG/CMIN/230179/2021; File No. J-11015/418/2015-IA-II(M)]

20.6.1 The proposal is for Terms of Reference of Expansion of Expansion of coal washery from 2.5 MTPA to 5.0 MTPA (wet type) in existing area of 9.93 Ha by M/s Phil Coal Beneficiation Pvt Ltd. at village Ghutku, Tehsil Takhtpur, District Bilaspur (Chhattisgarh)

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

- (i) The project area is covered under Survey of India Topo Sheet No. 64 J/4 and is bounded by the geographical coordinates ranging from 22° 9'13.05"N to 22° 9'27.15"N and 82° 5'30.05"E to 82°

5'36.87"E

- (ii) 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.
- (iii) Employment generation, 50 nos. direct & 150 no. indirect employment will be provided from the project.
- (iv) The project is reported to be beneficial in terms of the management's commitment to uplift the standards of living of the villagers in consultation with local gram panchayat & a need based study will be carried out to assess the needs of locals.
- (v) Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 & its amendment vide Ministry's letter No. F.No. J-11015/418/2015-IA.II (M) dt. 31st July 2017, 16th April 2018 (EC Amend.) & 21st June 2019 (EC Amend.) for 2.5 MTPA Wet type coal washery in an area of 9.93 Ha.
- (vi) The land usage pattern of the project is as follows:

| S.No. | Land Use | Area (in Ha.) |
|-------|---|---------------|
| 1. | Main Plant Area (Existing & Expansion) | 1.65 |
| 2. | Raw Coal Storage Yard (Existing & Expansion) | 0.81 |
| 3. | Washed Coal Storage Yard (Existing & Expansion) | 0.61 |
| 4. | Rejects storage (Existing & Expansion) | 0.40 |
| 5. | Water Storage and Rainwater Harvesting | 0.32 |
| | Internal Roads | 0.40 |
| 6. | Green Belt | 3.34 |
| 7. | Railway siding | 2.00 |
| 8. | Truck parking area | 0.40 |

- (vii) The ROM coal from SECL mines mainly from Deepka, Gevra, Kusmunda and other SECL mines will be transported by Road / Rail. Washed coal and Washery rejects will be transported to parties through Road / Rail only. Company is having own Railway siding served from Ghutku Railway Station in the existing plant and same will be utilized for proposed expansion also.
- (viii) Greenbelt will be developed in an area of 3.34 Ha.
- (ix) No forest land is involved in the project area
- (x) National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project
- (xi) No schedule – I species is present within 10 Kms. radius of the plant site.
- (xii) The ground water level has been reported to be varying between 2.26 m bgl to 16.52 m bgl during pre- monsoon and between 0.11 m bgl to 10.33 m bgl during post-monsoon. Total water requirement for the project is 855. KLD.
- (xiii) NOC for 855 KLD Ground water abstraction has been obtained from CGWA.

- (xiv) Consent to Operate for the existing capacity was obtained from the Chhattisgarh Environment Conservation Board (CECB) on 1st June 2019 vide letter no. 1136/TS/CECB/2019 and is valid till 30th April 2022.
- (xv) No River/nalla is flowing through the plant site. Unnamed canal is passing adjacent to the plant site on eastern side, Arpa river – 2.0 Kms., Kurung Right Bank Canal – 6.0 Kms., Ghongha Nadi – 7.5Kms., Gokena Nallah – 2.5Kms. are present within 10 Kms. radius of the plant site. No River / Stream passes through the proposed project site.
- (xvi) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is submitted to CECB 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.
- (xvii) Total cost of the project is Rs. 20.0 Crores. Cost of production is Rs. 100 /- per tonne., CSR cost is Rs. 40 Lakhs, Environment Management Cost is Rs. 50 Lakhs.
- (xviii) No court cases, violation cases are pending against the project of the PP.

20.6.3 The EAC during deliberations noted the following:

- The proposal is for Terms of Reference of Expansion of Expansion of coal washery from 2.5 MTPA to 5.0 MTPA (wet type) in existing area of 9.93 Ha by M/s Phil Coal Beneficiation Pvt Ltd. at village Ghutku, Tehsil Takhtpur, District Bilaspur (Chhattisgarh)
- Earlier, EC obtained for existing 2.5 MTPA Wet type coal washery from MoEF&CC, New Delhi vide F.No. J-11015/418/2015-IA.II (M) dt. 31st July 2017. EC Amendment has been granted by Ministry on 16th April 2018 & 21st June 2019.
- No forest land is involved in the project area.
- Unnamed canal passing adjacent to the plant site, Arpa river (2.0 Kms.), Gokenha Nallah (2.5 Kms.), Ghongha Nadi (7.5 Kms.) & Kurung Right Bank Canal (6.0 Kms) are flowing within 10 Km. radius of the Plant.
- Company is having its own railway siding adjacent to the plant site, serving from Ghutku RS at distance at 0.65 Km. from the plant site
- Rejects generated will be given FBC Power Plant of M/s. M/s. ACB Power Pvt. Ltd.

20.6.4 The EAC after deliberations observed the instant proposal is for expansion in production capacity. It was observed inadequate area for 5 MTPA production is provided while comparing to other project by same PP proposed for 2.5 MTPA. PP was advised to acquiring additional land for placing better infrastructure with environmental requirements. EAC found that the plantation carried out by PP in existing site was not at all satisfactory. EAC asked mandatorily to opt for more plantation not only within mine site also in nearby areas. It was found by the EAC that a pond is located near the plant boundary so EAC had asked the PP to take the pond within the boundary to explore the possibility of water management.

*The EAC **recommends** the proposal for Terms of Reference to Expansion of coal washery from 2.5 MTPA to 5.0 MTPA (Heavy media wet type) in existing area of 9.93 Ha at village Ghutku, Tehsil*

Takhtpur, district Bilaspur, Chhattisgarh by M/s Phil Coal Beneficiation Pvt Ltd, and specific conditions as below and as defined in the Standard ToR issued by this Ministry for such projects/activities under the provisions of the Environment Impact Assessment Notification, 2006 and subsequent amendments/circulars thereto

- (i) PP shall submit Certified Compliance Report of EC granted by Ministry through Ministry's IRO Raipur.*
- (ii) Public Consultation, including public hearing, shall be conducted through concerned SPCB as per the provisions/procedure contained in the EIA Notification, 2006 for information of the stakeholders about the present coal mining operations inviting comments and their redressal should be need/requirement based of local people.*
- (iii) PP shall prepare EIA-EMP with detailed land use plan for washery infrastructure and furnish details of 33 % of the green belt plantation with trees within the plant boundary and also in adjoining area. Accordingly, three Tier Green belt developments all along the boundary in with time bound action plan in EIA/EMP report*
- (iv) PP shall propose not to use ground water for washery operation since Arpa river (2.0 Kms.), Gokenha Nallah (2.5 Kms.), Ghongha Nadi (7.5 Kms.) & Kurung Right Bank Canal (6.0 Kms) is nearby. Permission for using surface water shall be submitted during submission of EC proposal.*
- (v) PP should submit the real time aerial footage and video of the Coal Washery made through drone*
- (vi) Since PP had sought permission for road transportation so expansion in project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report*
- (vii) PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs.*
- (viii) PP shall propose to develop two water harvesting pond of 15 days storage capacity of washery operations.*
- (ix) The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data of 2011-part B to be provided in EIA/ EMP report also economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data of 2011 part A to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.*
- (x) A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road.*
- (xi) PP should submit the complete water balance cycle need to be submitted considering only mine water usage for washery operations. In addition to this PP should submit a detailed plan for*

rain water harvesting measures to be taken. The PP should submit the year wise target for reduction in consumption of the ground water by developing alternative source of water through rain water harvesting measures. The capital and recurring expenditure to be incurred needs to be submitted.

- (xii) PP shall submit clarification from PCCF that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.*
- (xiii) For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area.*
- (xiv) Project proponent to prepare Environmental Cost Benefit Analysis for the project in EIA/EMP Report.*
- (xv) Cumulative Impact Assessment Study of the area shall be carried over by project proponent considering the project being in proximity of other coal washeries*
- (xvi) Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted*
- (xvii) Heavy metals including other parameters in surface water quality shall be analyzed and provided in EIA Report Sulphur content.*
- (xviii) The parameters Arsenic, Lead and Silica shall also be analyzed in ambient air quality.*
- (xix) The washing technology so chosen should conform to 'Zero Liquid Discharge'.*
- (xx) PP shall submit details of implementation of laying conveyor belt for transportation of coal from nearest mine to the washery.*
- (xxi) PP shall provide the plan for reduction of number of trucks for transportation of coal and fleet to be redesigned.*
- (xxii) PP shall work on the layout and siting of washery so that coal storage area, crushing units and rejects storage area shall not be near the villages or cause any pollution to agricultural land.*
- (xxiii) PP shall submit details of implementation of laying conveyor belt for transportation of coal from washery to railway siding.*

Agenda No. 20.7

Expansion of Kanchan Opencast coal mine from 0.65 / 0.75 MTPA (Normative/Peak) to 2.0 MTPA (Peak) in an area of 749.31 ha by M/s South Eastern Coalfields Limited located in village Ghulghuli, Gahiratola, Lehangi, Karnapura, Chhuihai, Dhanwahi, Parsel at Tehsil Nowrozabad & Karkeli, District Umari (Madhya Pradesh) – For Environment Clearance – reg.

[Online Proposal No. IA/MP/CMIN/212327/2018; J-11015/574/2007-IA(M)]

20.7.1 The proposal is for Environmental Clearance of Expansion of Kanchan Opencast coal mine from 0.65 MTPA to 2.0 MTPA (Peak) in an area of 749.31 ha by M/s South Eastern Coalfields Limited

located in village Ghulghuli, Gahiratola, Lehangi, Karnapura, Chhuihai, Dhanwahi, Parsel at Tehsil Nowrozabad & Karkeli, District Umaria (Madhya Pradesh).

20.7.2 The EAC during deliberations noted the following:

Earlier, the project was deliberated on 15th EAC meeting held during 06th July, 2021 for grant of Environmental Clearance wherein EAC desired certain information from the PP and deferred the proposal. PP has now submitted the compliance of observation of EAC and provided additional information which are enlisted below:

| S. No. | Observation of EAC | Reply by PP | | | | | | | | | | | | | | | | | | | | | | | | |
|---------|---|---|------------|---------------|--------------------------|-----------|---|---------|------|------------|---|----------|-------|------------|---|-----------|------|------------|---|--------|------|------------|---|----------|-------|------------|
| 1 | PP shall submit approved Mine Plan including Mine Closure plan for 2.7 MTPA instead of 2.0 MTPA as per letter dated 22nd December, 2014 (Mining plan is only approved for 2.0 MTPA) | As per the letter dated 22 nd December 2014 the mining plan including Mine closure Plan for Kanchan OC Project (0.65-2.0 MTPA) of Johilla area which has been approved for 2.0 MTPA The PP had asked EAC to consider the project for 2.0 MTPA | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | PP shall provide monetary provisions for Wildlife Conservation Plan for 2.7 MTPA instead of 2.0 MTPA. | Monetary provision for wildlife Conservation Plan for 2.0 MTPA is already provided. The project may be considered for 2.0 MTPA | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | As suggested by EAC, water conservation and augmentation methods including creation of water ponds, rainwater harvesting structure, check dams, etc, may be identified for providing the water for irrigation for nearby villages. A time bound Plan to be prepared in this regard in consultation of local panchayat and district administration. Accordingly, PP shall submit revised EMP and related expenditure without including R&R compensation and compensation in lieu of job to land. | <div>For water conservation and augmentation, various works has been identified for creation of water bodies for providing water for irrigation purpose to nearby villages. A time bound plan including map showing location of water bodies in consultation with local panchayat and district administration is furnished by PP.</div> <table><tr><th>Sl. No.</th><th>Pond Villages</th><th>Volume (m³)</th><th>Time line</th></tr><tr><td>1</td><td>Lehangi</td><td>9000</td><td>30.06.2022</td></tr><tr><td>2</td><td>Chhuihai</td><td>18000</td><td>30.06.2022</td></tr><tr><td>3</td><td>Karanpura</td><td>7350</td><td>30.09.2022</td></tr><tr><td>4</td><td>Dagdua</td><td>3600</td><td>30.09.2022</td></tr><tr><td>5</td><td>Nausemar</td><td>43350</td><td>31.12.2022</td></tr></table> <div>The additional cost incurred for the creation of irrigation facilities is 1.59 Cr. Accordingly the revised EMP of 27.55 crores is provided by the PP</div> | Sl. No. | Pond Villages | Volume (m ³) | Time line | 1 | Lehangi | 9000 | 30.06.2022 | 2 | Chhuihai | 18000 | 30.06.2022 | 3 | Karanpura | 7350 | 30.09.2022 | 4 | Dagdua | 3600 | 30.09.2022 | 5 | Nausemar | 43350 | 31.12.2022 |
| Sl. No. | Pond Villages | Volume (m ³) | Time line | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Lehangi | 9000 | 30.06.2022 | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Chhuihai | 18000 | 30.06.2022 | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Karanpura | 7350 | 30.09.2022 | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Dagdua | 3600 | 30.09.2022 | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | Nausemar | 43350 | 31.12.2022 | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | In lieu of proposed diversion land, PP shall propose an alternate land of about 6 | An alternate land of 6.0 ha in Dagdaua village at east side of the mine, for grazing purpose | | | | | | | | | | | | | | | | | | | | | | | | |

| | ha for grazing purpose for domestic animals for communities. | has been identified and proposed for domestic animals for communities. The land has been already acquired by SECL. | | | | | | | | | |
|--------|--|--|--------|------------|-------------------|----|-------------------------------------|--|----|------------------------|---|
| | | <table> <tr> <th>Sl No.</th><th>Particular</th><th>Location</th></tr> <tr> <td>1.</td><td>Gazing land-Dagdua Village-6Ha</td><td>East side of the mine 2 KM away</td></tr> </table> | Sl No. | Particular | Location | 1. | Gazing land-Dagdua Village-6Ha | East side of the mine 2 KM away | | | |
| Sl No. | Particular | Location | | | | | | | | | |
| 1. | Gazing land-Dagdua Village-6Ha | East side of the mine 2 KM away | | | | | | | | | |
| 5 | Clarity on usage of forest land prior to grant of Forest clearance as noted by Ministry's IRO. | <ul style="list-style-type: none"> The land was acquired under CBA(A&D) Act 1957 in year 2002 as Revenue land. 6.081 ha land was identified as CJJ-BJJ (Revenue Forest land), and application was submitted. Same was processed and stage-1 Forest Clearance was granted. In the proposal Penal NPV and Penal CA had been imposed as per the existing guidelines of MoEFCC. An amount of Rs 3806706.00 was deposited in CAMPA and compliance was submitted. Final clearance Stage 2 was granted by MoEF&CC on 25.03.2021 vide letter no. 6-MPC053/2018-BHO/258. | | | | | | | | | |
| 6 | Permission for diversion of water stream from State Water resources department | Permission for diversion of water stream from MP state Water Resources Department has been received vide letter no. 1308 Dtd. 19.07.2021 | | | | | | | | | |
| 7 | Plan for three tier plantation in safety zone with timeline along the transportation route i.e from Vindhya CHP to Nowrazabad railway siding (15 km) and around the Mine lease boundary and further study the habitation along with road within 100 mtrs from each side. | <p>Plan for three tier plantation in safety zone and along the transportation route has been prepared Brief of the same is presented below:</p> <table> <tr> <th>Sl No.</th><th>Plantation</th><th>Budget & Timeline</th></tr> <tr> <td>1.</td><td>Along the Coal Transportation route</td><td>Budget: Rs 80 Lakhs, Year 2022-23 and completed by 2023-24</td></tr> <tr> <td>2.</td><td>Along the Mine Boundry</td><td>Expected expenditure of Rs13 Cr. Work starting in year 2022-23 and completed by</td></tr> </table> | Sl No. | Plantation | Budget & Timeline | 1. | Along the Coal Transportation route | Budget: Rs 80 Lakhs, Year 2022-23 and completed by 2023-24 | 2. | Along the Mine Boundry | Expected expenditure of Rs13 Cr. Work starting in year 2022-23 and completed by |
| Sl No. | Plantation | Budget & Timeline | | | | | | | | | |
| 1. | Along the Coal Transportation route | Budget: Rs 80 Lakhs, Year 2022-23 and completed by 2023-24 | | | | | | | | | |
| 2. | Along the Mine Boundry | Expected expenditure of Rs13 Cr. Work starting in year 2022-23 and completed by | | | | | | | | | |

| | | | | |
|----|--|---|--|---------|
| | | | | 2024-25 |
| 8 | Permission from CGWA for extraction ground water based on earlier EC. | NOC for ground water extraction from CGWA obtained vide letter no. CGWA/NOC/MIN/ORIG/2021/12244 on dated 07.07.2021 which is valid up to 06.07.2023 | | |
| 9 | PP shall conduct detailed hydrogeological investigations considering the proposed diversion of three water stream joining Gorchet river since in EIA report it has been mentioned that no detailed study for aquifer parameter evaluation have been carried out in the present mine block. | Detailed hydrogeological investigations have been made considering the proposed diversion of three water stream joining Gorchet river | | |
| 10 | PP shall clarify any action taken or justification in view of production exceeding beyond permission in the year of 2008-09. | SECL is a Public Sector Undertaking (PSU) which produces coal for the nation and to cater the coal demand of the Thermal Power Plants. Production beyond permission in the year 2008-2009 was due to consideration of the demand of that period. However, no production exceeds beyond permission thereafter. | | |
| 11 | Action taken report with line to non-compliance to observation made by Regional Office in their certified compliance report. | <p>As per the EC compliance Report of Regional Office vide letter no.3-3/2017(Env)/231 dated 23.03.2021 the compliance status is as follows</p> <ul style="list-style-type: none"> • Total conditions - 40 • Complied ----- 26 • compliance in progress- 3 • agreed to comply----- 1 • compliance not applicable. -1 • partly complied ----- 9 <p>As per addendum compliance report submitted by IRO, MoEFCC, Bhopal to MoEFCC vide letter no.FileNo.3-3/2017(Env)/510 Dated 06/07/2021, the status of 9 partly complied conditions is as follows</p> <ul style="list-style-type: none"> • Complied - 5 • compliance in progress -3 • partly complied -1 | | |

| | | |
|----|---|--|
| 12 | Plan for transportation of coal through closed belt, if feasible. | <ul style="list-style-type: none"> • As the mine capacity for Kanchan OCP is low, it'll not be feasible to provide closed conveyor belt for transportation of coal. • The cost for laying conveyor belt is about Rs. 20 Crores per KM. The tentative cost for providing 12.7 KMs conveyor belt to Nowrozabad Siding is 254 Crores. The installation of conveyor belt also involves acquisition of land which is capital intensive. • The total capital cost of Kanchan OCP is Rs 371.04 Crores and hence considering the total capital involved in conveyor belt (as given above), it is not feasible to plan coal transportation with closed conveyor belt. • However, following mitigation measures will be taken/continued to maintain the air quality parameters within the standards. <ul style="list-style-type: none"> ➤ Three tier plantations along the transportation road will be implemented. ➤ Proper loading of trucks to prevent spillage of coal. ➤ Covering of trucks with tarpaulin while transporting coal. ➤ Providing screens at the coal transportation road. ➤ Confirming the PUC certificates for coal tippers being deployed for coal transportation. |
|----|---|--|

20.7.3 The EAC during deliberations noted the following:

- Though the proposal was applied for Environment Clearance for Expansion of Kanchan Opencast coal mine from 0.65 / 0.75 MTPA (Normative/Peak) to 2.0/2.70 MTPA (Normative/Peak) in an area of 749.31 ha by M/s South Eastern Coalfields Limited located in village Ghulghuli, Gahiratola, Lehangi, Karnapura, Chhuihai, Dhanwahi, Parsel at Tehsil Nowrozabad & Karkeli, District Umari (Madhya Pradesh) but since Mine plan is approved for 2.0 MTPA, PP had asked to consider the proposal for 2.0 MTPA against 2.7 MTPA (as per the TOR) so the project is of 2.0 MTPA
- Earlier, the environment clearance to the project was obtained under EIA Notification, 2006

vide Ministry's letter No. J-11015/574/2007-IA.II(M) dated 29.03.2010 for 0.65 MTPA (Normative)/0.75MTPA (Peak) in mine lease area of 203.93 ha.

- Final clearance Stage 2 was granted by MoEF&CC on 25.03.2021 vide letter no. 6 PC053/2018-BHO/258.
- NOC for ground water extraction from CGWA obtained vide letter no. CGWA/NOC/MIN/ORIG/2021/12244 on dated 07.07.2021 which is valid up to 06.07.2023
- Permission for diversion of water stream from MP state Water Resources Department has been received vide letter no. 1308 Dtd. 19.07.2021

*20.7.4 The EAC after deliberations observed that the PP had submitted the detailed reply of the ADS. Finding that no water body has been developed by PP in past, EAC recommended to develop pond near the grazing land and for purpose of water augmentation. EAC emphasized to carry out the health survey for nearby villages as same has not been done by PP and propose to communicate the Health Surveillance Department for the same. PP also requested EAC to allow road transportation and it is not feasible to installation of closed conveyor belt. EAC asked mandatorily to widen up the roads form mine site to Railway siding Nowrozabad with plantation along the road sides and to come up with action plan to install conveyor belt in future. EAC finally **recommends** the issuance of standard EC to Expansion of Kanchan Opencast coal mine from 0.65 MTPA to 2.0 in an area of 749.31 ha by M/s South Eastern Coalfields Limited located in village Ghulghuli, Gahiratola, Lehangi, Karnapura, Chhuihai, Dhanwahi, Parsel at Tehsil Nowrozabad & Karkeli, District Umaria (Madhya Pradesh), under the provisions of EIA Notification, 2006 and its amendments therein with following specific condition for environmental safeguards:*

- The project proponent shall obtain Consent to Establish/Operate from the State Pollution Control Boards for the proposed capacity mentioned in EC prior to commencement.*
- PP shall comply all the non-compliance and partial compliance highlighted by Ministry's IRO in its certified compliance report within 1 years and report to be sent to IRO.*
- Third party monitoring by reputed instituted for air quality (including heavy metal analysis) 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*
- PP shall plant minimum 150 ha of Sal trees(only) and other native specifies and create a nursery of 10 ha (within 2 years) to distribute the species freely in the region for redevelopment of Sal forest in the region*
- PP shall submit the fund allotted for Wildlife conservation plan to Forest Department within six months of issue of this letter.*
- Tree Plantation on the embankment proposed along the southern boundary and banks of Lahangi Nala of the eastern boundary shall be done.*
- PP to install solar lights along the road used for transportation of coal to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one*

year.

- (viii) PP shall widen up the proposed road from mine site to Nowrozabad Railway siding with atleast 10 mtrs width within 1 year and also provide 10 m height wind shield
- (ix) PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages located within the study area of 10 km radius buffer zone within two years
- (x) PP to also develop pucca roads by seeking consent from the panchayat with widening of roads especially roads inter linking the villages within the study area of 10 km radius buffer zone.
- (xi) PP to take proper care of health of R& R villages and a 24X 7 helpline call facility should be provided to such area and also to nearby villages for assisting any medical aid and ambulance facility.
- (xii) PP shall develop an artificial pond of atleast 2 ha near the grazing land of 6 Ha as proposed at Dugdua village. In addition, PP to develop and maintain two new ponds which should be created in consultation with gram panchayat within one year.
- (xiii) PP to desilt and deepen ponds in villages as proposed with respective volumes i.e Lehangi- 9000 cum, Chhuihai- 18000 cum, Karanpura- 7350 cum, Dagdua- 3600 cum and Nausemar- 43350 cum and these shall be completed before December , 2022.
- (xiv) PP to fulfill the commitment done in public hearing within the time bound action plan proposed by PP.
- (xv) PP to install 1 continuous ambient air quality monitoring stations at suitable locations preferably village side and with consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display.
- (xvi) PP shall ensure that air pollution level confirm to the standards prescribed by the MOEFCC/CPCB
- (xvii) PP to replace the existing water sprinkler within three years with Fog cannon mist sprayer as these sprinklers create mud puddles. Also 10 nos. of additional Fog canon (mist sprayer) shall be installed to reduce the impact of air pollution at dust generating sources such as haul road, CHP within 1 year.
- (xviii) PP should Install Wind breaker/shield arrangement along the railway siding for reducing the dust propagation in upwind direction.
- (xix) PP shall install sand/aggregate segregation plant for suitable capacity to extract sand and construction aggregate within 2 years of issue of this letter.
- (xx) Project proponent to plant 150,000 trees with three Tier Green belt developments (of 50 mtrs width) along the periphery of the mine habitation/villages and transportation route. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer. The saplings should be planted with the grant of EC in the initial year so that survival of the plants and trees can be taken care of in future.
- (xxi) Top soil should be stored separately at marked area and necessary vegetation shall be maintained to avoid any entrainment of dust.

- (xxii) Progressive backfilling of mine and progressive reclamation of OB dump shall be done*
- (xxiii) Active OB Dump should not be kept barren/open and should be covered by temporary grass to avoid air born of particles.*
- (xxiv) 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.*
- (xxv) Mining shall be carried out only by surface miners for the project and adequate width and height of toe wall shall be provided all along with OB Dump.*
- (xxvi) PP shall carry out monthly water monitoring quality of River bodies located within 5 Km radius and conduct Bio-assay test half yearly and further monitoring Ground water level.*
- (xxvii) PP should conduct epidemiology study to (analysis of the distribution, patterns and determinants of health and disease conditions in defined populations).*
- (xxviii) 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.*
- (xxix) Compensation of the land acquired for the project shall be settled within one year as per R&R Policy.*
- (xxx) Permanent Health care facilities of Hospital should be established within 5 km of project boundary for the local people.*
- (xxxi) PP shall pay to farmers of agricultural land if there is any loss due to pollution/damange due to blasting activity found by concerned District Commissioner as per extent rules or norms*
- (xxxii) 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.*
- (xxxiii) Persons of nearby villages shall be given training on livelihood and skill development to make them employable with its proper records.*
- (xxxiv) 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 hour*
- (xxxv) PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on*

routine basis. Any non- compliance or infringement should be reported to the concerned authority.

(xxxvi) 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

Agenda No. 20.8

Lignite Mine-1 of 10.5 MTPA in Mine Lease Area of 3635.4 ha and extraction of Minerals like Silica Sand 4,00,000 TPA, Ball Clay 3,50,000 TPA and Fire Clay 4,00,000 TPA of M/s Neyveli Lignite Corporation Limited in District Cuddalore (Tamil Nadu) – For amendment in Environment Clearance – reg.

[Online Proposal No. IA/TN/CMIN/206615/2021; J-11015/01/2012-IA-II (M)]

20.8.1 The proposal is for amendment in Environmental Clearance of Lignite Mine-1 of 10.5 MTPA in Mine Lease Area of 3635.4 ha and extraction of Minerals like Silica Sand 4,00,000 TPA, Ball Clay 3,50,000 TPA and Fire Clay 4,00,000 TPA of M/s Neyveli Lignite Corporation Limited in District Cuddalore (Tamil Nadu)

20.8.2 The EAC during deliberations noted the following:

Earlier, the project was deliberated on 12th EAC meeting held during 04th May, 2021 for grant amendment in Environmental Clearance and The EAC after detailed deliberation agreed with objective of the amendment in EC to extract minerals from overburden material which is value addition from the waste. Further, EAC desired certain information in the best interest of implementation of the project vis-à-vis environment management. In view of above, EAC sought further clarification on below mentioned points from project proponent.

| S. No. | Observation of EAC | Reply by PP |
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| 1 | PP shall collect one-month baseline environment data for proposing mitigation measures. | Baseline monitoring studies have been carried out for one month during the period: 15 th May, 2021 to 15 th June, 2021. The environmental |

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| | | attributes such as ambient air quality, water quality, noise, soil & socio economic status of the study area have been carried out. Mitigation measures are also provided. |
| 2 | Assessment of Impact on ambient atmosphere due to re-handling of OB Dump and/or in lignite bed of this materials or minerals. | <p>Air impact assessment has been carried out using Air Modeling tools – AERMOD.</p> <p>The cumulative incremental concentrations along with additional concentrations of the proposed Mine-I along with associated minor minerals project activity will be within the limits with additional air pollution control measures proposed to be adopted for the activity.</p> |
| 3 | PP shall provide the details of final mine void in case of backfilling is not proposed and thereby, as applicable, revise its Mine Plan and Mine Closure Plan from Ministry of Coal. | <p>Mining plan approval for associated mineral issued by Tamilnadu Government on 12.01.2021 vide Letter No: RC No 8390/MM&/2018.</p> <p>The final void area (253.48 ha) will be maintained same as in existing Environmental Clearance / Mining plan as suggested during meeting. It is assured that backfilling of overburden will be carried out in such a way to maintain same final void as in existing Mining plan / EC.</p> <p>The recovered mineral volume (13.79 Mm³) for the life of Mine is meager when comparing with balance overburden to be excavated (365 Mm³). It is only 3.78% Hence post mining land use and final void will be maintained as per existing EC & mining plan.</p> <p>The land disturbed due to excavation is brought back to useful purposes by refilling the void area by dumping the excavated soil and afforesting the area converting into agricultural field, orchard and creation of ponds.</p> <p>As suggested, final void of Mine is not altered. The same final void as in existing Mining plan & EC will be maintained by very slightly adjusting backfilling height. No change in Lignite Mining plan, final void, final land use and no change in lease area. Mining plan for minor minerals was prepared and submitted to Tamil Nadu</p> |

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| | | Government. |
| 4 | Details of additional environmental measures proposed to be taken in case of transit and permanent storage and transportation of these minerals. This shall include mitigations measures during transportation/offloading at end user customers. The final place of storage/handling of minerals should be identified with documentary proof. | <p>The storage area is proposed with coordinates and location on google map along with the dimensions by the PP. The minor minerals will be stacked for four days and will be transported to the end users.</p> <p>Area: 78 m X 165 m = 1.3 ha, No. of days of storage: 4 days requirement, Maximum height of dump/storage: 3 mtrs.</p> <p>Mitigation measures like covering the trucks with tarpaulin to minimize the fugitive dust emission, installation of fog cannon, Avenue trees plantation etc will be followed by PP</p> |
| 5 | Plan to optimize the fleet size by considering 35-40 tonnes dumpers/trucks and accordingly submit the impact and mitigation measures and further explore deployment of battery operated trucks for transportation of minerals. | <p>The modelling exercise has been carried out considering internal haul road with a length of 2.49 km and external transportation route till Pondicherry respectively. With the present level of traffic and additional trucks due to the proposed project during operational phase is estimated to be 870 PCU/day.</p> <p>Fleet size has been optimized as suggested considering 35-40 tonnes dumpers/trucks. Detailed traffic assessment has been carried out taking the two scenarios covering internal and external transportation routes. Mitigation measures proposed in the transportation route Length of the haul road from OB dump to minor mineral stock yard will be 2.49 km</p> |
| 6 | PP shall submit Certified Compliance Report from Ministry's Regional Office. | Certified EC compliance obtained from Regional office, MoEF&CC and the copy of the same is furnished by PP |
| 7 | PP shall submit the economic and environmental benefit of this project | Minerals are in high demand, minerals produced from Mine-I will not only contribute economic benefits to the state and central Govt. in the form of taxes (CGST/SGST/VAT etc), Royalty to state Govt, contribution to DMF, NMET etc but also socio economic development in and around the region. As NLCIL is Govt. of India owned company, operational profit will go to Government |

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| | | <p>Social Benefits:</p> <p>Other than providing economic benefits to the Govt., The demands for these minerals viz. Silica Sand, Ball Clay & fire clay are raising, the raw materials produced from the project will led to the growth of allied manufacturing and service sector industries and further led to the growth of employment generation in the surrounding regions. Employment for many unskilled and semi-skilled workers will be drawn from the local labour force which is a primary benefit to the community. The skilled workers may come from other parts of the country. Since the concerned industries will require skills of various types to operate a range of activities from extraction to processing and downstream value-addition. The workers recruited locally will be upskilled and their improved skills will not only improve the work at their hand but also in the context of similar jobs elsewhere.</p> <p>Environmental Benefits of the project: As we observe the demand for minor minerals is continuously rising with the growth of population. The production and supply of these minerals are not uniform. Due to uncertainties and inadequateness in supply, the selling rate of these materials varies significantly. It is also known that illegal and uncontrolled extraction of these minerals has an adverse environmental impact. Due to the increasing demand, the pressure on supply of the materials is also raising and hence the opening of new mines for these minerals will be necessary. Extraction of minor minerals like Silica Sand, Ball Clay and Fire Clay from the Overburden (OB) will be helping not only to the demand supply gap but also to the environment. Since the demands for the above minerals are rising every day, there are high chances of opening up of new mines to meet the demand supply gap which can be detrimental to the environment. Instead of opening up of new mines, the proposal will help to utilize</p> |
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| | | the available minor minerals present in the overburden, which will have negligible or very minor impact on the environment. As the demands for these materials are rising, this proposal will fulfill the demands in more sustainable way than opening up of new mines. If the useful minerals are not segregated from overburden, it would be ever waste in dump yard. |
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EAC noted the followings

- The proposal is for amendment in Environmental Clearance of Lignite Mine-1 of 10.5 MTPA in Mine Lease Area of 3635.4 ha and extraction of Minerals like Silica Sand 4,00,000 TPA, Ball Clay 3,50,000 TPA and Fire Clay 4,00,000 TPA of M/s Neyveli Lignite Corporation Limited in District Cuddalore (Tamil Nadu).
- Environmental Clearance from MOEF&CC was obtained on 02.09.2015 for area expansion of Lignite Mine-I from 3178.4 ha to 3635.4 ha for 10.5 MTPA Lignite Production capacity under EIA 2006 vide F.No. J-11015/01/2012-IA.II(M) dated 02.09.2015.
- Commissioner office of Geology and Mining, Govt. of Tamil Nadu, has recommended the Mining Plan of Mine-I and has accorded approval for the Mining of Silica Sand, Ball Clay and Fire Clay over an area of 489.136 ha vide Rc.No.8390/MM7/2018, dated 12.01.2021
- PP has requested for amendment in EC to include Silica Sand, Ball Clay and Fire Clay as associated products from Overburden material along with the existing Lignite mining.
- This is in the perspective of conservation of these valuable raw materials, which otherwise would go as waste to the dump yard. These associated minerals are having good demand from glass, ceramic and refractory industries.
- It has been proposed that instead of backfilling as Overburden, 13.79 MCM of associated mineral is stacked as raw mineral for utilization. Hence, there is no/negligible increase of pollution is anticipated. Increase of final void/waterbody by 27.57 Ha.
- The EAC found that Mining Plan for minor minerals were not approved by Ministry of Coal.

20.8.4 *The EAC, after deliberations observed that proposal requires with details of recovery of sand/aggregate from stone crushers, storage, transportation, etc. which form the part of mine plan. PP however, has submitted the mine plan from the Geology and Mining department, Govt. of Tamil Nadu but revised mine plan from Ministry of Coal is warranted as coal block allotted by them.*

PP should submit the Revised Mine Plan approved by Ministry of Coal. Accordingly, proposal is deferred.

Agenda No. 20.9

Expansion of Parsa East and Kanta Basan Opencast Coal Mine from 10 MTPA to 15 MTPA and

Pit Head Coal Washery from 10 MTPA to 15 MTPA of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd. in total ML area of 2682.856 ha located in Hasdeo-Arand Coalfields in District Sarguja (Chhattisgarh)- For Amendment in Environment Clearance – reg.

[Online Proposal No. IA/CG/CMIN/22290/2014; File No. J-11015/03/2008-IA-11(M)]

20.9.1 The proposal is for amendment of condition in Environmental Clearance of Expansion of Parsa East and Kanta Basan Opencast Coal Mine from 10 MTPA to 15 MTPA and Pit Head Coal Washery from 10 MTPA to 15 MTPA of M/s Rajasthan Rajya Vidyut Utpadan Nigam Ltd. in total ML area of 2682.856 ha located in Hasdeo-Arand Coalfields in District Sarguja (Chhattisgarh)

The said EC stipulates one of the specific conditions no. 4(ix) as *Transportation of raw coal, washed coal and the rejects shall be through rail.*

20.9.2 The EAC during deliberations noted the following:

- i. Earlier, the environment clearance to the project was obtained under EIA Notification, 2006 vide Ministry's letter No. J-11015/120/2014-IA-II(M) dated 10th August 2018 for 15 MTPA in mine lease area of 2682.856 ha.
- ii. First EC Amendment was granted by Ministry vide its letter dated 24th July, 2019 for a period of one years or formulation of the approval of comprehensive guidelines on disposal of washery rejects by the Ministry of Coal, whichever is earlier.
- iii. It has submitted by PP that application to Chhattisgarh Environment Conservation Board (CECB) for the amendment of condition no. 8 of Consent to Operate (CTO) regarding permission for Road transportation of rejects as per amended Environmental Clearance was submitted vide letter dated 5th August 2019.
- iv. However, due to various reasons including covid situation, CTO amendment application remained inconclusive. Consequently, road transportation of rejects could not commence owing to pending amendment in condition no. 8 of CTO and subsequently, one-year period of amended EC dated 24th July 2019 expired. Meanwhile, the disposal of rejects remained restricted, only to 2/3 thermal power plants which are connected to Indian Railway network. But the offtake of rejects by said power plants is very limited, due to low Calorific value (CV).
- v. It has further submitted that considering the limited usability of rejects and higher transportation cost due to longer railway route, the timely disposal of approved quantity of rejects is not feasible unless rejects are dispatched and utilized in greater number of plants through road.

In view of above, Project proponent has requested for amendment in Environment Clearance for further

period.

PP submitted the details regarding limitation of not implementing the conditions. Considering the limited use-ability of rejects and higher transportation cost due to longer railway route, the timely disposal of approved quantity of rejects is not feasible unless rejects are dispatched and utilized in more number of plants after appropriate blending with high GCV coal. But dispatch of rejects to any other prospective user plant is possible only by road transportation. Consequent to above, PP are unable to ensure seamless disposal of rejects to any nearby power plant which can use rejects through blending and there is no feasibility of rail transport from PEKB mine. Needless to mention that it might result in accumulation of rejects at pit head washery of the mine and lead to environmental issue, if stock is not liquidated in time

Ministry vide its letter dated 11th August, 2020, issued **Show cause** notice to PP and the **reply** to cause show was submitted vide letter dated 8th September, 2020. Further clarification was sought on the reply of PP vide letter dated 30th September, 2021 and the matter is under examination in Ministry.

20.9.3 *The EAC, after deliberations found that PP has requested the transportation of washery rejects by roads and not by rail as PEKB mine is located in the Surguja District of Chhattisgarh, where no industry is available to feed the washery rejects. Therefore, rejects have to sell to plants located in Bilaspur, Raipur, Raigarh Districts of Chhattisgarh. EAC enquired that whether the list of power plants shortlisted by PP will vary with distances from the mine site. In response, PP replied that feeding to power various plants will vary. In this context EAC suggested to seek MoU from the power plants to freeze the road distances/route. As agreed by PP, EAC asked to transport the 60% of the rejects via rail and only 40% of the reject by the roads.*

The traffic study and air modelling shall be conducted for rejects transported by road from the site as per commitment made by PP during deliberation i.e 40%. . Also the fleet size of 200 trucks assuming 30 T dumpers seems to be on lower side. The committee expressed concerns over long distance of transportation of rejects through road and desired PP to restrict rejects consumers to only 100 km. Though the traffic study and the air modelling has been done on higher side but after confirmation of route of power plants PP needs to focus the traffic study in terms of traffic accommodation and mitigation of air pollution on the suggested route with safety measures. Accordingly, EAC sought additional observation and desired to be submitted in detail in next meeting. Following are the observations:

- (i) PP to seek MoU with the power plants for reject management and accordingly designed/modify the traffic study suggesting environmental safety measure for road transportation. The traffic study should be conducted with actual amount of reject to be transported for the respective routes and with the compensatory action plan against the greenhouse gases likely to be released during transportation.*
- (ii) PP shall submit quantity of reject to be transported on each proposed Power Plants with its fleet size and respective road distance and likely impacts.*

- (iii) *EAC asked for submitting undertaking to mandatorily to transport the 60% of the rejects via rail and only 40% of the reject will be transported by the roads as agreed bt PP.*
- (iv) *PP to restrict rejects consumers to only 100 km and accordingly propose the users.*
- (v) *PP shall study the presence of habitation/villages (100 mtrs along both side of road) through the proposed route and propose mitigation measures.*
- (vi) *PP shall submit the clarification/response raised in the representation received by EAC.*

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

The meeting ended with thanks to the Chair.

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

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

(a) Statutory compliance

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

(b) Air quality monitoring and preservation

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to

- ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
 - (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
 - (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
 - (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
 - (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (c) Water quality monitoring and preservation**
- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
 - (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-1A.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
 - (iii) Regular monitoring of ground water level and quality shall be carried out in and

- around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
 - (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
 - (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate sizes 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 need to be provided.
 - (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purpose viz. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
 - (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the

- presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.
- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.
- (d) Noise and Vibration monitoring and prevention**
- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
- (i) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.
- (e) Mining Plan**
- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
- (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.
- (f) Land reclamation**
- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote

- Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
 - (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/“post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
 - (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Effort 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 top soil 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 & 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 plans submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- (v) The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.
- (i) Corporate Environment Responsibility**
- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- (ii) The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to

- bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
 - (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
 - (v) Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
 - (j) Miscellaneous**
 - (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
 - (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
 - (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
 - (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
 - (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
 - (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OM No. Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining

- projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area’.
- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
 - (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
 - (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
 - (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
 - (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
 - (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
 - (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
 - (xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

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. (in case of the presence of schedule-I species in the study area)
- (v) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- (vi) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vii) Solid waste/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the

SPCB

- ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/ mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
- iv. Major approach roads shall be black topped and properly maintained.
- v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.
- vi. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- vii. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- viii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.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 reversion/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A reversion /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

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

V. Mining Plan

- i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- ii. No change in mining method i.e. UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- iii. Mining shall be carried out as per the approved mining plan (including mine closure plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- iv. Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.
- v. No mining activity shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.
- vi. Efforts should be made to reduce energy and fuel consumption by

conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

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

VII. Green Belt

- i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. Action plan, in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife

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

VIII. Public hearing and Human health issues

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

IX. Corporate Environment Responsibility

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

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

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

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the

State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

- iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board
- iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.
- v. Covered trucks shall be engaged for mineral transportation outside the washery upto the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.
- vi. Facilities for parking of trucks carrying raw material from linked mine shall be created within the unit.
- vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having 'PUC' certificate from authorized pollution testing centres shall be deployed for washery operations.
- viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.
- ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.
- x. The temporary reject sites should appropriately planned and designed to avoid air and water pollution from such sites.

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from

- time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
 - iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
 - iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the riverfront side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.
 - v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
 - vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface run off from reject dumping sites.
 - vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEFCC and implemented.
 - viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.
 - ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.
 - x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m³/tonne of raw coal.
 - xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.

- xii. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- xiii. The project proponent shall take all precautionary measures to ensure riverine/ riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government

IV. Noise and Vibration monitoring and prevention

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

V. Coal beneficiation

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

VI. Green Belt

- i. Three tier greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.
- ii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.

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

VIII. Corporate Environment Responsibility

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

- action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iv. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- v. The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- vi. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vii. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- viii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- xi. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in

- the maximum quantum of raw material feed per annum against the approved washery capacity shall be made
- xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
 - xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
 - xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
 - xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Generic ToR for coal washery

- i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washery preferably through closed conveyer belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant along with a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Report 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. along with the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM10, PM2.5, SOx and NOx, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.

- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transported 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 conveyor belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.
- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.
- xiv. O.M.no.J-II013/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
- xvi. Analysis of samples indicating the following be submitted:
 - Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
 - Characteristics and quantum of coal after washing.
 - Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.

- b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
 - xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
 - xxii. Wastewater /effluent should conform to the effluent standards as prescribed under Environment (Protection) Act, 1986
 - xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

ANNEXURE-V

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

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

- undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion /modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.
 - (x) Similarly if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.
 - (xi) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

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

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

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats,

- other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xvi) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
 - (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
 - (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
 - (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
 - (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
 - (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users in the upstream and downstream of the project site, should be given.

- (xxii) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiii) Impact of blasting, noise and vibrations should be given.
- (xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Efforts be made for maximising progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void.--to reduce land degradation.
- (xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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

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

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

| | | | | | | | | | | | |
|-----|---|--|--|--|--|--|--|--|--|--|--|
| 10. | 34- 37 th Year (Post -mining) | | | | | | | | | | |
|-----|---|--|--|--|--|--|--|--|--|--|--|

* As a representative example

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

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

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

(xxxii) Flow chart of water balance should be provided. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be done.

(xxxiii) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower in the mine should be given.

(xxxiv) Risk Assessment and Disaster Preparedness and Management Plan should be provided.

(xxxv) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.

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

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

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

| TOTAL ML/PROJECT AREA (ha) | TOTAL FORESTLAND (ha) | Date of FC | Extent of forestland | Balance area for which FC is yet to be obtained | Status of appl for. diversion of forest land |
|----------------------------------|-----------------------------|---|-------------------------|--|---|
| | | 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 minelife should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.

- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
- (xvi) Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use

- of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
- (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
 - (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
 - (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
 - (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
 - (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
 - (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
 - (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
 - (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
 - (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
 - (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL

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

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

| Total ML /Project Area | Total Forest | Date of FC | Extent of Forest | Balance area for which FC is | Status of appl. For diversion |
|---------------------------|-----------------|------------|---------------------|------------------------------------|-------------------------------------|
|---------------------------|-----------------|------------|---------------------|------------------------------------|-------------------------------------|

| (ha) | Land (ha) | | Land | yet to be obtained | of forest land |
|------|-----------|---|------|-----------------------|----------------|
| | | If more than one provide details of each FC | | | |

**GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND
COALMINEPROJECT**

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

**LIST OF PARTICIPANTS OF EAC (COAL) IN 19th MEETING OF HELD DURING
23rd SEPTEMBER, 2021 THROUGH VIDEO CONFERENCING**

| | | | | |
|-----|--|---|------------------|-------------|
| 1. | Shri G.P Kundargi | | | DAY- |
| | | - | Chairman | P |
| 2. | Dr. N. P. Shukla | - | Member | P |
| 3. | Shri Suramya Dolarray Vora, IFS (Retd) | - | Member | P |
| 4. | Dr. Umesh Jagannathrao Kahalekar | - | Member | A |
| 5. | Shri K.B. Biswas | - | Member | P |
| 6. | Dr. Nandini.N | - | Member | P |
| 7. | Dr. Unmesh Patnaik | - | Member | P |
| 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. Nazimuddin Representative of Central Pollution Control Board | - | Member | A |
| 14. | Shri Lalit Bokolia, Director, MoEFCC | - | Member Secretary | P |