

**GOVERNMENT OF INDIA**  
**MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE**  
**(IMPACT ASSESSMENT DIVISION)**  
**(COAL MINING SECTOR)**

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**SUMMARY RECORD OF 54<sup>th</sup> MEETING OF THE EXPERT APPRAISAL COMMITTEE THROUGH VIDEO CONFERENCING FOR ENVIRONMENTAL APPRAISAL OF COAL MINING PROJECTS CONSTITUTED UNDER THE EIA NOTIFICATION, 2006, HELD ON 17<sup>th</sup> APRIL, 2020.**

The 54<sup>th</sup> meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 17<sup>th</sup> April, 2020 through video conferencing with support NIC team due to Covid-19 lockdown. The following members were present:

|         |   |   |                  |
|---------|---|---|------------------|
| 1.      | Dr. Navin Chandra                         | - | Chairman         |
| 2.      | Dr. N. P. Shukla                          | - | Member           |
| 3.      | Shri. S. D. Vora                          | - | Member           |
| 4.      | Dr. J.K. Pandey                           | - | Member           |
| 5.      | Shri G.P. Kundargi                        | - | Member           |
| 6.      | Shri S.K Paliwal                          | - | Member           |
| 7.      | Shri Manoj Kumar Gangeya Director, MoEFCC | - | Member Secretary |
| MoEF&CC |   |   |                  |
| 8.      | Shri Munna Kumar Shah, Scientist 'D'      | - | MoEFCC           |

**Confirmation of Minutes of 53<sup>rd</sup> meeting of EAC**

No comment was made from any member of the Committee on the minutes of the 53<sup>rd</sup> meeting of the EAC held on during 20<sup>th</sup> February, 2020, therefore the Minutes of the Meeting (MoM) was confirmed in the presence of the members who were present in the 54<sup>th</sup> meeting of the EAC(coal mining).

**Agenda No. 54.1**

**Prakasham Khani Opencast Coal Mine (Amalgamation of Manuguru OC II Expansion & Manuguru OC IV Extension) of 9.75 MTPA capacity in mine lease area of 2402.40 ha. (2214.84 ha is Forest Land and 187.56 ha is Non Forest Land) located in Village & Mandal Manuguru, District Bhadradi Kothagudem (Telangana) - For Environmental Clearance – reg**

**[Proposal No. IA/TG/CMIN/117465/2019; F.No. J-11015/78/2013-IA-II(M)]**

**54.1.1** The proposal is for Environment Clearance for Prakasham Khani Opencast Coal Mine (Amalgamation of Manuguru OC II Expansion & Manuguru OC IV Extension) of 9.75 MTPA capacity in mine lease area of 2402.40 ha. (2214.84 ha is Forest Land and 187.56 ha is Non Forest Land) located in Village & Mandal Manuguru, District Bhadradi Kothagudem, (Telangana)

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

- (i) The Mine take area is covered under Survey of India Topo Sheet No. 65C/9 & 65C/13 and is bounded by the geographical co-ordinates ranging from Latitudes 17°55'36.81" N to 17°58'54.87" N & Longitudes 80°44'16.41" E to 80°48'48.34" E.
- (ii) Coal linkage of the mine is proposed as per Fuel Supply Agreement of the Company.
- (iii) Joint venture cartel has been formed - Not Applicable.
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation, Permanent / Contractual employment to about 1458 permanent and 710 contractual (men on roll) are provided from the project.
- (vi) The project is reported to be beneficial in terms of socio-economic and improving living standards.
- (vii) Earlier, Environment clearance to the Mine :
  - For Manuguru OC II Extension mine, EC was granted for a Capacity of 4.00 (Peak\_5.00) Mty in the year 2008 for an area of 3205.76 ha Lr. No. J-11015/144/2007-IA.II(M), dated 31.07.2008. Further in the year 2014, EC was granted for an enhanced capacity of 6.25 Mty vide Lr.No. J-11015/78/2013-IA-II(M), dated 21.02.2014.
  - For Manuguru OC IV Extension mine, EC was granted for a capacity of 3.00 (Peak-3.5 Mty) for an area of 734.60 ha vide Lr. J-11015/286/2010-IA.II(M), dated 10.12.2014.
- (viii) Prakasham Khani OC Mine is covered under 7 mining leases.
  - 921.00 ha is covered in 1st Renewal of Manuguru Mining Lease (2186 ha) granted vide G.O.Ms. No. 217, dated. 12.08.2008.
  - 125.90 ha is covered in 1st Renewal of Manuguru Extn. Addl. Mining Lease (125.90 ha) granted vide G.O.Ms. No. 259, dated. 23.09.2008.
  - 198.22 ha is covered in OC - II Manuguru (Phase - III Balance) Mining Lease (198.22 ha) granted vide G.O.Ms. No. 63, dated. 06.03.1999.
  - 75 ha is covered in OCP - III Manuguru Mining Lease (75 ha) granted vide G.O.Ms. No. 91, dated. 24.03.2005.
  - 175.69 ha is covered in Manuguru OCP - II Expansion Mining Lease (175.69 ha) granted vide G.O.Ms. No. 238, dated. 27.08.2008.
  - 384.31 ha is covered in Manuguru OCP-IV Extn. Mining Lease (384.31 ha) granted vide G.O.Ms. No. 13, dated. 18.05.2016.
  - 288.74 ha is covered in Manuguru OC II Expn. Phase II ML (288.74 ha) vide G.O.Ms. No. 5, dated. 12.04.2019.
- (ix) Mining Plan (Including Mine Closure Plan) was approved by MoC vide Lr.No. 38011/6/2019-PCA, dated.07.10.2019.
- (x) The land usage pattern of the project is as follows:

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

| Land owner ship             | Land use              | Extent (ha) |
|-----------------------------|-----------------------|-------------|
| <b>Tenancy/Private Land</b> | Agricultural          | 25.498      |
|                             | Township & Structures | --          |
|                             | Grazing               |             |
|                             | Plantation            |             |

|  |                  |                 |
|--|------------------|-----------------|
|  | Barren           |                 |
|  | Roads            |                 |
|  | Water bodies     |                 |
|  | Village          |                 |
|  | <b>Sub Total</b> | <b>25.498</b>   |
| <b>Government Land<br/>(Non- Forest)</b> | Agriculture Land | 126.745         |
|  | Township         | 35.317          |
|  | Grazing /other   |                 |
|  | Plantation       |                 |
|  | Barren           |                 |
|  | Roads            |                 |
|  | Water bodies     |                 |
|  | Village          |                 |
|  | <b>Sub Total</b> | <b>162.062</b>  |
| Forest                                   |                  | <b>2214.840</b> |
| Free Hold                                |                  | --              |
| <b>Grand Total</b>                       |                  | <b>2402.400</b> |

**Post Closure Land Use Details (Area in ha)**

| Type                                  | Total Area      | Plantation     | Water Body   | Public/ Company Use | Forest Land (Return)           |
|---------------------------------------|-----------------|----------------|--------------|---------------------|--------------------------------|
| Excavation Area                       | <b>1495.476</b> |                |              |                     |                                |
| Backfilled Area                       | 783.119         | 30.585         |              |                     | 752.534                        |
| Excavated Void                        | 712.357         |                | 0.193        |                     | 712.164<br>(Water Body)        |
| External Dump                         | <b>504.341</b>  | 107.576        |              |                     | 396.765                        |
| Safety Zone / Rationalization area    | <b>179.743</b>  | 15.042         | 3.594        | 3.332               | 157.775<br>(30.625-Water Body) |
| Diversion/ below River / Nallah/canal | <b>22.085</b>   |                |              |                     | 22.085                         |
| Road & Infrastructure area            | <b>137.976</b>  | 23.278         |              | 52.98               | 61.718                         |
| Embankment                            | <b>33.334</b>   |                |              |                     | 33.334                         |
| Green Belt                            | <b>28.116</b>   | 2.043          |              |                     | 26.073                         |
| Water Reservoir near pit/Water body   | <b>1.329</b>    |                |              |                     | 1.329                          |
| <b>Total</b>                          | <b>2402.400</b> | <b>178.524</b> | <b>3.787</b> | <b>56.312</b>       | <b>2163.777</b>                |

- (xi) Total geological reserve reported in the mine lease area is 402.01 Mt with 309.35 Mt mineable reserves. Out of total mineable reserve of 309.35 Mt, 290.55 Mt are extractable, out of which 193.80 Mt were already extracted by UG and OC mining till the base date and 96.75 Mt are available for extraction by OC Mining. Percent of extraction is 72.27 %.
- (xii) 15 seams viz., 1 Seam, H1 Seam, B1 Seam, B2 Seam, H2 Seam, B3 Seam, H3 Seam, H4 TOP, H4 Bottom., T S Top, TS Bottom, TS (Comb), Index, SS1 Seam SS2 Seam are workable. Grade of coal is in the range of G-4 to G-12. Stripping ratio is 7.19 Cum of OB per 1 tonne of coal and gradient is varying from 1 in 5.5 to 1 in 7.5.
- (xiii) Method of mining operations envisaged is by opencast method.
- (xiv) Life of mine is 11 years from 2019-20.

- (xv) The Prakasham Khani OC Mine has 3 external OB dumps with an area of 504.341 ha with maximum height of 120 m & 437.22 Mm<sup>3</sup> of OB.
- (xvi) Total quarry area is 1495.476 ha out of which backfilling will be done in 783.119 ha and 712.357 ha will be left as water body with a depth of 270 m. Backfilled quarry area of 783.119 ha will be reclaimed with plantation.
- (xvii) Transportation of coal has been proposed by Trucks / Dumpers up to in pit crusher, from where it will be transported to Kondapuram CHP through series of belts from MNG OC-II Exp. to Kondapuram CHP railway siding to end users is by rail. In case of MNG OC-IV Ext., coal will be transported from surface to Kondapuram CHP railway siding for a short distance by trucks and by pit head delivery.
- (xviii) Reclamation Plan in an area of 1516.199 ha, comprising of 504.301 ha of the external dump, 783.119 ha of internal dump, 28.116 ha of green belt & 200.623 ha included in the safety zone/rationalization area, Infrastructure & Embankment etc., has also been proposed for green belt development.
- (xix) 2214.84 ha of forest land has involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 2214.84 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter Nos.
  - 828.16 ha covered in F.No. 8-73/2005-FC, dated. 10.07.2008 (Corrigendum dated 06.11.2009) (1161 ha),
  - 286.25 ha covered in F.No. 8-8/96-FC, dated 10.10.1997(286.25 ha),
  - 75.00 ha covered in F.No. 8-37/2001-FC, dated 31.12.2003 (75.00 ha),
  - 125.90 ha covered in F.No. 8-56/2004-FC, dated 14.07.2008 (125.920 ha)
  - 175.69 ha covered in F.No. 8-7/2008-FC, dated 30.12.2008 (175.69 ha),
  - 4.68 ha covered in F.No. 8-71/2009-FC, dated 06.01.2016 (10.50 ha)
  - 430.42 ha covered in F.No. 8-79/2013-FC, dated 24.04.2017 (430.42 ha),
  - 288.74 ha covered in F.No. 8-70/2014-FC, dated 02.11.2018 (367.03 ha).
- (xx) National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones within 10 km boundary of the project: Eco-Sensitive Zone of Kinnerasani Wild Life Sanctuary is at a distance of 2.0 Km.
- (xxi) The ground water level has been reported to be varying between 1.0 m to 8.45 m during pre-monsoon period and 0.45 m to 4.6 m during post-monsoon period. Total water requirement for the mine is about 6508 KLD.
- (xxii) Ground Water Clearance was issued by the State Government vide Memo No.5789/Hg.II(2)/07, dated 15.10.2007 for Manuguru OC II Extension & vide Memo No.907/T/SCCL/2010, dated 17.09.2012 for Manuguru OC IV Extension.
- (xxiii) Public hearing was conducted for MNG OC II & MNG OC IV on 28.08.2007& 25.07.2012 respectively. However, Public hearing is exempted for the present proposal i.e. Prakasham Khani OC Mine of 9.75 MTPA capacity.
- (xxiv) Consent to Operate for the existing capacity was obtained from the State PCB for Manuguru Opencast – II Exp. was obtained on 20.05.2016 and is valid till 30.06.2020. Consent to operate (CTO) for Manuguru Opencast – IV Exp. was obtained from the State Pollution Control Board on 11.08.2016 and is valid till 30.06.2021.
- (xxv) Gorrepeta Vagu, an ephemeral tributary of Godavari River, is flowing across the boundary of the mining lease. The Vagu will be diverted along the boundary of the mine.

- (xxvi) Regular monitoring of ambient air quality is being carried out on fortnight basis. The documented report is being submitted to State Pollution Control Board and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits.
- (xxvii) No court cases, violation cases are pending against the project.
- (xxviii) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. The coal production from the mines was started from the year 2014 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 2014 onwards is furnished at point no.xxxi.
- (xxix) The project does not involve any R&R.
- (xxx) Total cost of the Manuguru OC II Expansion project is Rs. 992.96 Crores as per FR of May, 2007 & Total cost of the Manuguru OC IV Extension project Rs. 480.67 Crores as per FR of Jan' 2010. The cost of production for the Manuguru OC II Extension mine as on Jan.' 2020 is Rs.1919 per tonne & for the Manuguru OC IV Extension mine as on Jan.' 2020 is Rs.1587 per tonne.
- CSR cost is 2% of average net profits of the company made during last three years are being allocated for CSR at company level. Environment Management Cost is-
    - i) Direct cost : Rs 16.24 Crores
    - ii) Indirect cost : Rs 144.70 Crores
    - iii) Revenue cost : Rs 25.90 Per Tonne
- (xxxi) Consent to Operate for the existing capacity was obtained from the State PCB for Manuguru Opencast – II Exp. was obtained on 20.05.2016 and is valid till 30.06.2020.
- (xxxii) Consent to operate (CTO) for Manuguru Opencast – IV Exp. was obtained from the State Pollution Control Board on 11.08.2016 and is valid till 30.06.2021.
- (xxxiii) Past Production details comparison with existing EC:

| <b>MNG OC – IV Ext.</b> |                            |                                  |                          |
|-------------------------|----------------------------|----------------------------------|--------------------------|
| <i>Year</i>             | <i>EC Capacity in MTPA</i> | <i>Actual Production in MTPA</i> | <i>Excess Production</i> |
| 2014-15                 | 3.50                       | 3.33                             | Nil                      |
| 2015-16                 | 3.50                       | 3.50                             | Nil                      |
| 2016-17                 | 3.50                       | 3.50                             | Nil                      |
| 2017-18                 | 3.50                       | 1.73                             | Nil                      |
| 2018-19                 | 3.50                       | 1.30                             | Nil                      |

| <b>MNG OC – II Exp.</b> |                            |                                  |                          |
|-------------------------|----------------------------|----------------------------------|--------------------------|
| <i>Year</i>             | <i>EC Capacity in MTPA</i> | <i>Actual Production in MTPA</i> | <i>Excess Production</i> |
| 2014-15                 | 6.25                       | 4.68                             | Nil                      |
| 2015-16                 | 6.25                       | 5.50                             | Nil                      |
| 2016-17                 | 6.25                       | 5.24                             | Nil                      |
| 2017-18                 | 6.25                       | 3.52                             | Nil                      |
| 2018-19                 | 6.25                       | 3.89                             | Nil                      |

**54.1.3** During deliberations on the proposal, the Committee noted the following: -

The proposal is for environmental clearance for Prakasham Khani Opencast Coal Mine (Amalgamation of Manuguru OC II Expansion & Manuguru OC IV Extension) of 9.75 MTPA capacity in mine lease area of 2402.40 ha. (2214.84 ha is Forest Land and 187.56 ha is Non Forest Land) located in Village & Mandal Manuguru, District Bhadrachalam, (Telangana)

- The Terms of Reference was granted by Ministry on 17th December, 2019 with an exemption of conducting Public Hearing.
- Earlier, Environment Clearance(EC) to the Mine :
  - For Manuguru OC II Extension mine, EC was granted for a Capacity of 4.00 (Peak\_5.00) Mtpa in the year 2008 for an area of 3205.76 ha Lr. No. J-11015/144/2007-IA.II(M), dated 31.07.2008. Further in the year 2014, EC was granted for an enhanced capacity of 6.25 Mtpa vide Lr.No. J-11015/78/2013-IA-II(M), dated 21.02.2014.
  - For Manuguru OC IV Extension mine, EC was granted for a capacity of 3.00 (Peak-3.5 Mtpa) for an area of 734.60 ha vide Lr. J-11015/286/2010-IA.II(M), dated 10.12.2014.
- Mining Plan (Including Mine Closure Plan) was approved by MoC vide Lr.No. 38011/6/2019-PCA, dated.07.10.2019.
- 2214.84 ha of forest land has involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 2214.84 ha of forest land for non-forestry purposes.
- Diversion of nallah named Gorripeta Vagu is involved in the project which is connected to Godavari River in the downstream.
- Schedule I species are found in the area of mining project. Kinnerasani Sanctuary is at a distance of 7 km from mine and ESZ is 2 km away from the mine from South West direction. Wild life conservation plan has been prepared by forest department and demaded Rs.156.27 Lakhs, vide Lr. No. RC.No.906/2010/M4, dt.14.06.2018 for implementation of wild life conservation plan.
- The baseline data encompassing air, water, noise, soil, ecology & biodiversity and socioeconomic has been generated from March - May, 2018 in Post monsoon season. Predicting air quality modelling is done by AERMOD.
- Compliance of EC conditions are certified by Regional Office, Chennai vide its Letter dated 25<sup>th</sup> October, 2019 for Manuguru OC IV and Letter dated 17<sup>th</sup> October, 2019 for Manuguru OC II. The Committee deliberated the compliance status

**54.1.4** The EAC after deliberation suggested to improve the quality of content first in the EIA/EMP report for example it is reported that pH ranging from 7.3 to 8.5 found in surface water is acidic in nature. Also, sought clarification of land details and availability of forest clearance for said land involved in the project. Further, if the mining is in operation then PP must have obtained Stage-II FC. EAC insisted for detailed view on land and desired that the PP should check .kml file, and Stage II FC in the next sitting. Certified compliance reports non-compliances of EC conditions wherein PP has not installed conveyor belt from pit head to CHP and still the operations is going

on by trucks/dumpers. This is non-compliance of EC conditions and no commitment for early compliance has been given in the meeting. EAC desired that all non-compliance highlighted in certified compliance in EC conditions of Manuguru II & IV should be complied with strict timelines. Also, following observations were made to the PP.

- PP should upload correct information on PARIVESH portal as CTO of PK OC Extension (for 4 / 5 MTPA is uploaded instead of Manuguru OC II & IV).
- EAC desired for detailed River protection plans as the said nallah may be the tributary of Godavari river.
- Timeline of completion of diversion of nallah.
- Details of projected OB Dumping Plan and its removal. Also, height of OB dump is proposed to be 120 m feasibility and stability study needs to be ascertained.
- Greenbelt development is mentioned only 28 ha. No progressive reclamation and greenbelt development are projected by PP.
- Water balance with quantity of water at each block shall be provided.
- Chemical Analysis of silica shall be conducted in Ambient Air Quality.
- Permission of CGWA for the expansion capacity for Manuguru II (i.e. 5 to 6.5 MTPA)
- Mechanism for treating stored mine water shall be developed to avoid any ground and surface water contamination

The proposal was **deferred** for want of above compliance.

#### **Agenda No. 54.2**

**Kerendari ‘A’ Coal Mining Project of 6 MTPA peak capacity in mine lease area of 654 ha of M/s NTPC Limited located in villages Pandu, Tarhessa, Kabed, Pagar, Basaria and Lochar, Tehsil-Kerendari, District-Hazaribagh (Jharkhand) in North Karanpura Coalfields - For Amendment in Environmental Clearance – reg**

**[Online Proposal No. IA/JH/CMIN/145477/2020; F.No. J-11015/120/2007-IA.II(M)]**

**54.2.1** The proposal is for amendment in environmental clearance for Kerendari ‘A’ Coal Mining Project of 6 MTPA peak capacity in mine lease area of 654 ha of M/s NTPC Limited located in villages Pandu, Tarhessa, Kabed, Pagar, Basaria and Lochar, Tehsil-Kerendari, District-Hazaribagh (Jharkhand) in North Karanpura Coalfields.

**54.2.2** 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) Earlier, the Environment Clearance (EC) to the project was accorded by Ministry’s vide letter No.: J-11015/133/2007-IA.II (M) dated 31.03.2010 and later re-validated on 28.10.2015 for 6 MTPA in mine lease area of 654 Ha.
- (ii) Total mining lease area as per block allotment is 654 Ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by Ministry of Coal (Mining Plan

- approval accorded vide letter No.: 13016/29/2003-CA-I, Dtd.: 04.08.2008 and Mine closure Plan approval accorded vide Letter No.: 34011-10-2011-CPAM, Dtd.: 11.11.2013).
- (iii) Stage-II approval under the Forest (Conservation) Act, 1980 for diversion of 243.32 Ha of forest land for non-forestry purposes has been obtained vide MOEF&CC letter No.: F.No.8-53/2011-FC Dated 28.08.2019.
  - (iv) Application for obtaining the approval of the Central Ground Water Authority for permission to dewater ground water for Mining Industry has been submitted on 01.05.2017. Approval of the Central Ground Water Authority obtained on 10.06.2019.
  - (v) Baldeori Nala is flowing in the South-central part of the coal block and this is to be diverted along the common boundary of Chatti Bariyatu and Kerendari-A Coal Block. Study in this regard has been carried out by Central Water and Power Research Station (CWPRS), Pune and clearance for diversion of this nala has been obtained from Chief Engineer, Water Resources department, Govt of Jharkhand, Ranchi. Basaria Nala flows towards South in North Eastern and Eastern Boundary of the coal block. An embankment of 30 Mtr width will be constructed during operation of the Mine.
  - (vi) Consent to Operate (CTO) was obtained from the Jharkhand State Pollution Control Board on 28.12.2019 and is valid till 30.06.2020 and online application submitted for renewal 13.03.2020 and the same is under process with JSPCB.
  - (vii) Transportation of coal has been proposed by Dumper in mine pit head, from surface to siding by Conveyor and at sidings by Direct loading on Wagon through SILO. However, current proposal is for transportation of coal from mine end to railway siding by road Using trucks/tippers for an interim period of 2 years

#### **54.2.3 The EAC during deliberations noted the following:-**

Environment Clearance (EC) to the project Kerendari 'A' Coal Mining Project of 6 MTPA peak capacity in mine lease area of 654 ha was accorded by Ministry's vide letter No.: J-11015/133/2007-IA.II (M) dated 31.03.2010 to M/s NTPC Limited.

Hon'ble Supreme Court of India vide Judgement dated 25th August, 2014 read with orders dated 24th September, 2014 has cancelled the allocation of 204 coal blocks which include the North Karanpura Coal Fields.

Subsequent to cancellation of coal blocks in pursuance of the order of Hon'ble Supreme Court, the said coal mine was allocated again to M/s NTPC Limited vide vesting order No. 103/29/2015/NA dated 8<sup>th</sup> September, 2015 issued by the Nominated Authority in the Ministry of Coal.

Ministry has issued a notification dated 23<sup>rd</sup> March, 2015 to facilitate transfer of ECs in such cases without referring to the sectoral EAC. Pursuant to the said Notification, Ministry has transferred/revalidated EC to M/s NTPC Limited on 28.10.2015 with certain terms & conditions therein.

The present proposal is for amendment in specific condition no. 2A (xi) & 2A (xiv) of EC as represented below :-

*2A (xi) Raw coal from CHP shall be transported by closed conveyors to the railway siding proposed at village Khadamdari and thereafter by rail to the linked Tanda/Barh STPP. The conveyor cum rail corridor consisting of a stretch of 13.1 km of rail and 10.5 km of overhead*



*closed conveyors and extend upto unloading part at the Railway Siding with Silo Loading facilities and from there to linked Barh STPS/Tanda by rail. There will be no road transportation of coal.*

*2A (xiv) Company's Railway siding at village Khadambari shall be established within 3 years from date of grant of environmental clearance.*

PP has requested for Change in location of railway siding from earlier proposed at village Khadamdari to present location at Shivpur and Temporary permission for transportation of coal by road from mine to Shivpur siding and thereafter to linked Tanda/Barh STPP by rail for a period of 2 years from October, 2020 to September 2022 or till the dedicated conveyor system becomes operational, whichever is earlier.

**54.2.4** *The Committee, after deliberations, observed that given the time limit of 3 years for coal transportation through pipe conveyor and wagon loading through SILO, the proposal should have been submitted within that period only. Further the EAC observed that such proposals has become a regular practice of project proponents seeking amendment for road transportation and incomplete work of implementation of closed conveyor belt and yet PP does not accept the failure to implement the important environment condition prior to commissioning of mines. It is ascertained that PP did not followed the condition stipulated in the EC dated 31.03.2010 and 28<sup>th</sup> October, 2015 and prohibiting coal transportation by road, still stands in view of no approval for amendment in the said EC by the competent authority. Project proponent was supposed to seek amendment in EC for further extension of 3 years, is not within the timeline prescribed in EC conditions. Also, permission of CGWA for groundwater extraction is not yet taken. **Therefore, the Committee observed that this is serious non-compliance of the EC conditions.***

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

*The proposal was accordingly **returned** in its present form.*

### **Agenda No.54.3**

**Expansion of Cluster VII Coal Mining Project from 8.16 MTPA to 11.42 MTPA in mine lease area of 2127.70 ha of M/s Bharat Coking Coal Limited, located in Jharia Coalfields, District Dhanbad (Jharkhand) – Amendment in Environment Clearance – reg.**

**[Online Proposal No. IA/JH/CMIN/142279/2020; J-11015/238/2010-IA-II(M)]**

**54.3.1** The EAC, during deliberations noted the following: -

The proposal is for amendment in environmental clearance to Expansion of Cluster VII Coal Mining Project from 8.16 MTPA to 11.42 MTPA in mine lease area of 2127.70 ha of M/s Bharat Coking Coal Limited, located in Jharia Coalfields, District Dhanbad (Jharkhand)

Ministry has granted environmental clearance dated 12<sup>th</sup> October, 2018 to Expansion of Cluster VII Coal Mining Project from 8.16 MTPA to 11.42 MTPA in mine lease area of 2127.70 ha of M/s Bharat Coking Coal Limited, located in Jharia Coalfields, District Dhanbad (Jharkhand)

Cluster VII Coal Mining Project consist of 10 mines (5 Open cast namely Amalgamated Dhansar-Industry Colliery, Ena, Amalgamated East Bhuggatdih Simlabahl, Rajapur and Kusunda; 1 UG namely Bhutgoria and 4 Closed Underground mines namely Alkusa, Hurriladih, Burragarh and Kustore).

Environment Clearance was granted based on Cluster concept with a condition to implement Jharia Master Plan for dealing with Fire, Subsidence and Rehabilitation.

PP has requested amendment in EC condition i.e. Generic condition 4.1 (a) (ii) “No change in mining method, calendar programme and scope of work shall be made without obtaining prior approval of Ministry of Environment, Forest and Climate change”.

PP has requested for amendment for Approval of Revision of Calendar Program/Production Schedule of Cluster VII i.e. increase in production capacity at Rajapur/South Jharia OC mine from 1.69 to 2.56 MTPA with the overall production capacity remains same and without any change in mine lease area.

Following submission/justification has been provided for the said amendment

- During operation at Rajapur/South Jharia OC mine, it was observed that fire excavation rate needs to be enhanced for further spread of fire.
- Mining Plan along with Mine Closure Plan of Rajapur/South Jharia OC, (the mine undergoing change in peak production capacity for fire dealing), has been approved in 358th BCCL Board meeting held on 19.12.2019.
- The proposal is for approval of revision in Production Schedule in compliance of EC condition, no change in EC condition is requested.

#### Existing Production Scenario and Proposed Production Scenario

| Sl.No | Proposed Mines                            | Type of Mine | Leasehold Area (in Ha) | Balance Life of Mine (in years) | Peak Production Capacity (in MTPA) | Proposed prod. (MTPA)                          |         |         |         |         |
|-------|---|--------------|------------------------|---------------------------------|------------------------------------|--|---------|---------|---------|---------|
|       |   |              |                        |                                 |                                    | 2018-19  | 2019-20 | 2020-21 | 2021-22 | 2022-23 |
| 1     | Amalgamated Dhansar-Industry Colliery     | OC           | 276.62                 | 30                              | 2.07                               | 1.5  | 2.00    | 2.00    | 2.00    | 1.6     |
| 2     | Ena OC                                    | OC           | 216.00                 | 25                              | 3.00                               | 2.0  | 3.00    | 3.00    | 3.00    | 2.00    |
| 3     | Amalgamated East Bhuggatdih Simlabahal OC | OC           | 420.75                 | 15                              | 2.30                               | 1.0  | 2.3     | 2.3     | 2.3     | 1.76    |
| 4     | Rajapur/S-Jharia OCP                      | OC           | 207.48                 | 17                              | 1.69                               | 1.69   | 1.69    | 1.69    | 1.69    | 1.69    |
| 5     | Kusunda OC                                | OC           | 247.70                 | 23                              | 2.00                               | 2.0  | 2.0     | 2.0     | 2.0     | 2.0     |
| 6     | Bhutgoria UG to be re-opened              | UG           | 131.67                 | 23                              | 0.36                               | 0  | 0.2     | 0.36    | 0.36    | 0.36    |
| 7     | Alkusa UG                                 | UG           | 101.77                 |                                 |                                    | Inoperative till fire dealing at Kusunda       |         |         |         |         |
| 8     | Hurriladih UG                             | UG           | 127.17                 |                                 |                                    | Inoperative till fire dealing at AEBS Colliery |         |         |         |         |
| 9     | Burragarh UG                              | UG           | 147.83                 |                                 |                                    | Inoperative till fire dealing at AEBS Colliery |         |         |         |         |
| 10    | Kustore UG                                | UG           | 250.71                 |                                 |                                    | Inoperative till fire dealing at Kusunda       |         |         |         |         |
|       |   | 9.33         | 2127.70                |                                 | 11.42                              | 8.19   | 11.19   | 11.35   | 11.35   | 9.41    |

*Proposed production schedule (with revised Mining Plan)*

| S.No. | Name of Mine                              | Type of Mine | Leasehold Area (in Ha) | Balance Life of Mine (in years) | Peak Production Capacity (in MTPA) | Production Schedule (As per Peak Capacity)     |              |              |             |             |
|-------|---|--------------|------------------------|---------------------------------|------------------------------------|--|--------------|--------------|-------------|-------------|
|       |   |              |                        |                                 |                                    | Year-I   | Year-II      | Year-III     | Year-IV     | Year-V      |
| 1.    | Amalgamated Dhansar-Industry Colliery     | OC           | 276.62                 | 30                              | 2.07                               | 2.00   | 2.00         | 2.00         | 1.60        | 1.60        |
| 2.    | Ena OC                                    | OC           | 216.00                 | 25                              | 3.00                               | 3.00   | 3.00         | 3.00         | 2.00        | 2.00        |
| 3.    | Amalgamated East Bhuggatdih Simlabahal OC | OC           | 420.75                 | 15                              | 2.30                               | 1.00   | 1.30         | 1.43         | 1.43        | 1.43        |
| 4.    | Rajapur/S-Jharia OCP                      | OC           | 207.48                 | 10                              | 2.56                               | 2.56   | 2.56         | 2.30         | 1.50        | 1.50        |
| 5.    | Kusunda OC                                | OC           | 247.70                 | 23                              | 2.00                               | 2.00   | 2.00         | 2.00         | 2.00        | 2.00        |
| 6.    | Bhutgoria UG (to be reopened)             | UG           | 131.67                 | 23                              | 0.36                               | 0.20   | 0.36         | 0.36         | 0.36        | 0.36        |
| 7.    | Alkusa UG                                 | UG           | 101.77                 |                                 |                                    | Inoperative till fire dealing at Kusunda       |              |              |             |             |
| 8.    | Huriladih UG                              | UG           | 127.17                 |                                 |                                    | Inoperative till fire dealing at AEBS Colliery |              |              |             |             |
| 9.    | Burragarh UG                              | UG           | 147.83                 |                                 |                                    | Inoperative till fire dealing at AEBS Colliery |              |              |             |             |
| 10.   | Kustore UG                                | UG           | 250.71                 |                                 |                                    | Inoperative till fire dealing at Kusunda       |              |              |             |             |
|       | <b>Total</b>                              |              | <b>2127.70</b>         |                                 | <b>11.42*</b>                      | <b>10.76</b>                                   | <b>11.22</b> | <b>11.09</b> | <b>8.89</b> | <b>8.89</b> |

#### a) Benefits of Proposal

- Excavation of fiery coal thus, conserving the national mineral and limited non-renewable natural resource.
- Domestic production of Coking Coal, avoiding their import thus conserving Forex reserve.
- Development of ancillary industries around the Cluster thus bringing about holistic development.
- Creation of Social infrastructure like schools, hospitals, etc.
- Sharing benefits of growth with society through CSR activities as per existing CSR Policy of Coal India Limited.

**54.3.2** The EAC after deliberation, observed that PP has submitted Approved Mining Plan along with the Mine Closure Plan of Rajapur/South Jharia OC on Parivesh Portal. PP's letter dated 4th January 2020 regarding Certified copy of minutes of 358th Board meeting held on 19th December, 2019 encloses the approved mine plan with a normative capacity of 1.97 MTPA. However, proposes to increase the capacity to 2.56 MTPA with the overall production capacity remaining same and in same mine lease area. The proposal of 2.56 MTPA has not valid approved mine plan. It was desired that PP submits the Approved Mine Plan of desired peak capacity.

The proposed was **deferred** accordingly on above lines.

#### **Agenda No.54.4**

**Jitpur Underground Colliery (0.6 (Normative) / 0.7 (Peak) MTPA in an ML area of 163.69 Ha of M/s Steel Authority of India Ltd. located Jitpur in District Dhanbad (Jharkhand) – For Terms of Reference – reg.**

**[Online Proposal No. IA/JH/CMIN/142338/2020; IA-J-11015/4/2020-IA-II(M)]**

**54.4.1** The proposal is for Terms of References of Jitpur Underground Colliery (0.7 MTPA in an ML area of 163.69 Ha of M/s Steel Authority of India Ltd. located Jitpur in District Dhanbad (Jharkhand).

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

- (i) Latitude and Longitude of the project: Latitudes 23°42'32'' to 23°43'14'' N and Longitude 86°23'05'' to 86°24'14'' E
- (ii) If a Joint venture, the names & addresses of the JV partners including their share:  
NA
- (iii) Details of coal linkage: Captive Steel Plant
- (iv) Whether the project is in the Critically Polluted Area (CPA): No
- (v) Cost of the project: 222.69 Crs
- (vi) Employment generated/to be generated: 347 Nos
- (vii) Benefits of the project: The project will further improve the living condition of the people. The project will generate direct as well as indirect employment. The income thus generated will thus improve the beneficiaries living conditions.
- (viii) Whether new or expansion project. If expansion: Jitpur underground mine operational prior to nationalization and production being done on the basis of CTO issued by JSPCB. Now, ToR proposal submitted for 0.7 MTPA peak capacity for obtaining EC.
- (ix) No. and Date of the ToR /and revised ToR, if any, letter issued by the MoEF (if this is a case for EC): Earlier ToR granted vide letter No. J-11015/66/2015-IA-II (M) dated 29.05.2015
- (x) No. and Date of the EC and the revised EC letter issued by the MoEF (if this is a case for reconsideration. If so, what specific reconsideration(s) being sought by the proponent): -- No previous EC available.
- (xi) If the project was considered in EAC, Pl. give dates of the meeting (s):-- 9<sup>th</sup> & 10<sup>th</sup> April, 2015 for ToR in respect of Jitpur Colliery
- (xii) Type of Mine: (Open cast/Underground/mixed): Underground
- (xiii) Capacity of the mine applied for: 0.7 MTPA
- (xiv) ML Area
  - i. As per block allotment: 163.69 Ha
  - ii. As per approved mine plan: The Mining Plan also under preparation for entire lease hold area i.e 163.69ha.
- (xv) Date of approval of mine plan, mine closure plan, status & date: Under preparation by M/s MECON, Ranchi
- (xvi) Date of Board's approval: Shall be obtained at the time of submission of MP & MCP
- (xvii) Date of Ground water clearance: Shall be obtained
- (xviii) Date of mine closure approval: Shall be obtained
- (xix) Any river/Nallha flowing near or adjacent to the proposed mine. If yes, please give details. The Drainage pattern over the proposed area is from North to South, all the rain water is being drained out through two drains over east and west of the property and connected to Kari jore, which goes to Damodar River. The jore is on the dip side boundary of the property.
- (xx) Geological Reserve: 19.33 MT

(xxi) TECHNICAL DETAILS

- a) Total geological reserve: 19.33 MT
- b) Mineable reserve: 16.59 MT
- c) Extractable reserve: 8.09 MT
- d) Per cent (%) of extraction: 49-50%
- e) Range of ground water level: 3.12 m to 9.87m
- f) Total estimated water requirement: 1510 KLD ( Domestic: 1110 KLD;  
Industrial: 400 KLD)

(xxii) Details of Seams:

- a) No of seams: XVA, XIV, XII
- b) Thickness of seams to be worked on: 0.9m to 10.36m
- c) Grade of coal: W-III
- d) Stripping ratio: NA (Underground)
- e) Category of gaseousness: Degree III
- f) Average gradient: 1 in 6.0 to 1 in 7.5
- g) Maximum thickness of seams: 10.36m

(xxiii) Method of mining: Underground (Long wall mining in conjunction with hydraulic sand stowing)

(xxiv) Life of mine: 23 years

(xxv) Whether ambient air quality seasonal data has been documented. If so, from which season to which season and whether the results are within the prescribed limits. Other than monsoon. Environmental data collected and submitted to JSPCB and necessary measures are being taken to keep the ambient air quality within prescribed limit.

(xxvi) Details of Land usage

Pre-mining:

| S.N. | LANDUSE                   | Within ML Area<br>(ha) | Outside ML Area<br>(ha) | TOTAL  |
|------|---------------------------|------------------------|-------------------------|--------|
| 1.   | Agricultural land         | 21.34                  | Nil                     | 21.34  |
| 2.   | Forest land               | Nil                    | Nil                     | Nil    |
| 3.   | Wasteland                 | 37.08                  | Nil                     | 37.08  |
| 4.   | Grazing land              | Nil                    | Nil                     | Nil    |
| 5.   | Surface water bodies      | 2.30                   | Nil                     | 2.30   |
| 6.   | Settlements               | 30.01                  | Nil                     | 30.01  |
| 7.   | Others<br>(specify)       | 5.49                   |                         | 5.49   |
|      | • Mining Area             | 54.30                  |                         | 54.30  |
|      | • Railway Area            | 12.12                  |                         | 12.12  |
|      | • Other<br>Infrastructure | 1.05                   |                         | 1.05   |
|      | • Lawn Area               |                        |                         |        |
|      | <b>TOTAL</b>              | 163.69                 | Nil                     | 163.69 |

Post- Mining: As this project is an underground mine, hence virtually no land degradation will take place.

(xxvii) Details of Forest issues: No forest area available within the lease hold.

- a) Total forest area involved (in ha) for mining
- b) Status of Forest Clearance
- c) Is there any National Park, eco-sensitive Zones, within 10 km radius? If so, give the details.
- d) If the project is within 10 KM of radius of the wild life sanctuary, whether the Wild Life Management Plan has been prepared and approved. If so, pl give the status, date of approval with the budgetary provision.
- e) Extent of forest land in the project (including safety zone and all types of forest land) (in ha)
- f) Total forest land for which Stage-1 FC is available (give area in ha), provide breakup of this area in following format: Not Applicable

(xxviii) Cost of the project :

- a) Total capital Cost: 222.69 Crs
- b) Cost of Production: Rs.7000 / T
- c) Sale Price: Captive Use
- d) CSR cost: to be incurred as per the guidelines of CSR scheme
- e) R&R Cost: There is no R&R involved.
- f) No of PAFs: There are no PAFs
- g) Environmental Management cost: Capital provisions for Environmental Control measures which include pollution control arrangements, technical and biological reclamation etc. for the project will be finalized during the preparation of EIA-EMP report.

(xxix) Details of transportation of coal: Through Aerial ropeway. Mines to Chasnalla washery.

(xxx) Details of reclamation: Not Applicable (As it is an Underground Mine)

- a. Green belt ( in ha) : The plantation carried out in the available space within lease hold.

(xxxi) Legal Issues: Any court cases pending: No

(xxxii) Any violation cases pending. If so, please provide a list with details as below:

(xxxiii) Give details of actual coal production vis-à-vis sanctioned capacity since the inception of mine in following format :

| FY      | Actual Production | NO EC Available | FY      | Actual Production | NO EC Available |
|---------|-------------------|-----------------|---------|-------------------|-----------------|
| 1970-71 | 173215            | NO EC           | 1995-96 | 129348            | NO EC           |
| 1971-72 | 290174            | NO EC           | 1996-97 | 134681            | NO EC           |
| 1972-73 | 396634            | NO EC           | 1997-98 | 148683            | NO EC           |
| 1973-74 | 354076            | NO EC           | 1998-99 | 154906            | NO EC           |
| 1974-75 | 407839            | NO EC           | 1999-00 | 137980            | NO EC           |
| 1975-76 | 409850            | NO EC           | 2000-01 | 126720            | NO EC           |
| 1976-77 | 327518            | NO EC           | 2001-02 | 128088            | NO EC           |
| 1977-78 | 227320            | NO EC           | 2002-03 | 127300            | NO EC           |
| 1978-79 | 177726            | NO EC           | 2003-04 | 143131            | NO EC           |
| 1979-80 | 146804            | NO EC           | 2004-05 | 163000            | NO EC           |
| 1980-81 | 133771            | NO EC           | 2005-06 | 107324            | NO EC           |
| 1981-82 | 155089            | NO EC           | 2006-07 | 99087             | NO EC           |

|         |        |       |         |        |       |
|---------|--------|-------|---------|--------|-------|
| 1982-83 | 143286 | NO EC | 2007-08 | 64489  | NO EC |
| 1983-84 | 140787 | NO EC | 2008-09 | 113652 | NO EC |
| 1984-85 | 131917 | NO EC | 2009-10 | 109602 | NO EC |
| 1985-86 | 153109 | NO EC | 2010-11 | 83956  | NO EC |
| 1986-87 | 122050 | NO EC | 2011-12 | 50663  | NO EC |
| 1987-88 | 107636 | NO EC | 2012-13 | 32224  | NO EC |
| 1988-89 | 148629 | NO EC | 2013-14 | 56275  | NO EC |
| 1989-90 | 133590 | NO EC | 2014-15 | 91591  | NO EC |
| 1990-91 | 111427 | NO EC | 2015-16 | 74621  | NO EC |
| 1991-92 | 146811 | NO EC | 2016-17 | 85150  | NO EC |
| 1992-93 | 147155 | NO EC | 2017-18 | 93269  | NO EC |
| 1993-94 | 128492 | NO EC | 2018-19 | 91616  | NO EC |
| 1994-95 | 131115 | NO EC |         |        |       |

**54.4.3** During deliberation EAC noted the following: -

The proposal is for ToR for expansion of Jitpur Underground Colliery normative 0.6 MTPA/ 0.7 MTPA Peak in an ML area of 163.69 Ha of M/s Steel Authority of India Ltd. located Jitpur in District Dhanbad (Jharkhand).

Earlier ToR to the project granted vide letter No. J-11015/66/2015-IA-II (M) dated **29.05.2015** or normative 0.6 MTPA/ 0.7 MTPA Peak. However, EIA/EMP study report could not be submitted to the Ministry for appraisal before the ToR got expired on 28<sup>th</sup> May, 2019 due to delay in mine boundary certification by CMPDIL. Now, Mine boundary certification has been completed by CMPDIL, Ranchi.

Project does not have Environmental clearance for coal mine under Ministry's 1994 and 2006 notification.

*54.4.4 The Committee also noted that TOR to the project was granted on 29.05.2015, however, the validity of ToR has expired. The EAC, after deliberations observed that project involved violation of EIA Notification, 2006 of the Ministry.*

*The Committee also noted that since PP has earlier applied in the Ministry and the proposal may be forwarded to the Violation Sector for appraisal under the provisions of the Violation Notification dated 14.03.2017 and was desired that Ministry may take appropriate action due to violation involved and further.*

*The project was not taken forward and **returned** as it is.*

#### **Agenda No. 54.5**

**Capacity enhancement of KJSL coal washery from 1.6 MTPA to 4.1 MTPA with an extension of land use from 16.45 ha to 20.64 ha within the existing plant premises at Village-Dhatura, Tehsil- Pali, District- Korba, State-Chhattisgarh**

**[Online Proposal No. IA/CG/CMIN/141453/2020; IA-J-11015/9/2020-IA-II(M)]**

As the proposal has been granted Standard ToR as per Ministry's Notification dated 17<sup>th</sup> February 2020, project proponent was called for the EAC meeting and therefore proposal was not deliberated in this meeting.

**Agenda No. 54.6**

**Piparwar UG (Phase-I) of 0.87MTPA in project area of 464.69Ha of M/s Central Coalfields Limited located in Block: Tandwa, District Chatra (Jharkhand) – Terms of Reference –reg.**

**[Online Proposal No. IA/JH/CMIN/148473/2020; IA-J-11015/10/2020-IA-II(M)]**

**54.6.1** The proposal is for Terms of Reference for Piparwar UG (Phase-I) of 0.87 MTPA in project area of 464.69 Ha of M/s Central Coalfields Limited located in Block Tandwa, District Chatra (Jharkhand).

**54.6.2** The details of the project, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under: -

- (i) The project area is covered under Survey of India Topo Sheet No: 73 E/1 and 73E/2 and is bounded by the geographical coordinates ranging from 230 42' 38" N and 230 44' 45" N latitude 850 01' 34" E and 850 03' 15" E Longitude.
- (ii) Coal linkage of the project is proposed for generation of Energy Sector for various customers through Basket linkage. The coal produced from the proposed underground will be sent to existing Bachra Siding through truck transport. The approximate distance of Bachra siding from the proposed project may be around 8.0km.
- (iii) No Joint Linkage.
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC vide its OM dated 13th January 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation: The project has given a boost to the economy of the area by providing primary and secondary employment to local people. It will provide employment to 635 persons.
- (vi) The project is reported to be beneficial in terms of improvements in Physical Infrastructure; Improvements in Social Infrastructure; Increase in Employment Potential; Contribution to the Exchequer; Meet energy and steel sector requirement; Productive utilization of existing manpower of project.
- (vii) This is a new project, no prior EC has been issued for this project.
- (viii) PR of Piparwar UG (Phase-I) for 0.87 MTPA has been approved by CCL Board on 25.09.2017.
- (ix) The land usage pattern of the project is as follows:  
Pre-mining land use details:

| Type of land          | Area of land (Ha) |
|-----------------------|-------------------|
| Notified -Forest land | 128.14            |
| Jungle-Jhari          | 37.81             |



|         |        |
|---------|--------|
| GM land | 108.32 |
| Tenancy | 185.79 |
| GMA     | 4.63   |
| Total   | 464.69 |

| Sr No | Particulars             | Area (Ha) |
|-------|-------------------------|-----------|
| 1     | Underground mining area | 403.56    |
| 2     | Infrastructure          | 61.13     |
| 3     | Sump                    |           |
| Total |                         | 464.69    |

- (x) Total net geological reserve within the proposed project area is 17.53 MTe. The mineable reserve is 14.92 MT, extractable reserve is 8.83 MT. The per cent of extraction would be 59.18 %.
- (xi) 01 seams with thickness ranging from 0.74 m – 8.42 m are workable. Grade of coal is Grade G4 & G6, while gradient is 1 in 10 to 1 in 40.
- (xii) The method of mining would be underground mining with Board and Pillar Method with Continuous Miner.
- (xiii) The balance life of mine is 14 years.
- (xiv) Proposed project is underground mining. No external dumping will be created.
- (xv) Total Area of proposed UG working is 403.56 Ha.
- (xvi) Transportation of coal: From face to surface by belt conveyor system. From surface to Bachra siding by Tipping trucks.
- (xvii) Total Forest land (NF+ GMK JJ) within the project area is 165.95 Ha. The details are as follows. 128.14 ha of notified/protected forest land comes under already diverted forest land of 186.50 ha in favour of Piparwar OCP. Details of diversion of 186.50 ha is as under-

| S.no | Forest Proposal                  | Area   | MoEF&CC file no with date of Stage-II FC |
|------|----------------------------------|--------|--|
| 1    | Piparwar Coal Project of CCL     | 13.11  | 8-172/89-FC dated 02.12.1992             |
| 2    | Piparwar Opencast Project of CCL | 43.30  | 8-172/89-FC dated 03.01.1995             |
| 3    | Piparwar Project of CCL          | 28.22  | 8-48/98-FC dated 21.09.2001              |
| 4    | Piparwar Opencast Mining         | 101.87 | 8-54/2003-FC dated 13.01.2004            |
|      | Total Area                       | 186.50 |  |

Forest Application for 37.81 ha submitted on 09.03.2020 vide FP/JH/MIN/4495/2020

- (xviii) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xix) The ground water level has been reported to be varying between 4.96 m to 7.51 m during pre-monsoon and between 3.01m to 5.01m during post-monsoon.
- (xx) Application for obtaining the approval of the Central Ground Water Authority to be applied.
- (xxi) The drainage of the area is mainly controlled by the Damodar River and its tributaries. The project is bounded by Damodar river in the South-East and diverted Bentina in South west direction.
- (xxii) Regular monitoring of ambient air quality of buffer zone of proposed project is being carried out on fortnightly basis. 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.

(xxiii) No court cases, violation cases are pending against the project of the PP.

(xxiv) No R&R is involved in this project.

(xxv) Total cost of the project is Rs. 335.32 crore. Environment Management Cost is Approximately Rs. 451.59 lakhs.

#### **54.6.4** During deliberation EAC noted the following :-

The proposal is for Terms of Reference for Piparwar UG (Phase-I) of 0.87MTPA in project area of 464.69 Ha of M/s Central Coalfields Limited located in Block Tandwa, District Chatra (Jharkhand).

The proposed underground mine is a part of area under mining operation of Piparwar Opencast Mining. However, it was submitted by PP the Opencast mine operation is going to be exhausted and Mine Reclamation/Closure Report will be submitted.

A revised Project Report of Piparwar UG (Phase-I) (0.87 MTPA and 464.69 Ha) involving only Piparwar block was approved in CCL Board meeting held on 25.09.2017. Piparwar UGP (Phase-I) is proposed below existing quarries of Piparwar OC – part of Quarry I which is de-coaled, and backfilled & de-coaled Quarry-II.

Project Area includes 165.95 ha of forest land wherein PP has already obtained Stage-II for 128.14 ha of notified/protected forest land. Forest Application for 37.81 ha submitted on 09.03.2020 vide FP/JH/MIN/4495/2020. Piparwar OCP consist of 186.5 ha of forest land and Stage-II FC has been obtained.

Damodar River is the boundary in the South-East of the mine.

It is proposed to transport coal from mine to existing Bachra Siding which is at a distance of approx. 08 km by covered tipping trucks.

**54.6.5** *During deliberation EAC observed that since the proposed project is located in already existing in mine lease area of Piparwar OCP, it cannot be presented as greenfield. The project can be termed as brownfield project involving modernisation/or change in mining method. Considering above facts, EAC recommended the proposal for grant of terms of references to Piparwar UG (Phase-I) of 0.87 MTPA in project area of 464.69 Ha of M/s Central Coalfields Limited located in Block Tandwa, District Chatra (Jharkhand), 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) EAC sub-committee shall visit the site and recommended the additional conditions to PP for protecting river Damodar and overall environment management of the mine.*
- (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.*

- (iii) Stage-I clearance for the entire forestland involved the project shall be obtained before making an application for the environmental clearance*
- (iv) PP shall submit the compliance of Mine Closure Plan and further reclamation status/process conducted in Mine Closure Report.*
- (v) Stability test of top soil as UG is below existing quarries of Piparwar OC – part of Quarry I which is de-coaled, and backfilled.*
- (vi) Cumulative impact of all the existing industrial activities in the study area and also those in the pipeline/proposed, shall be studied to arrive at a comprehensive picture and planning of adequate environmental safeguards.*
- (vii) Detailed subsidence prediction study to be carried out and incorporated in the reports.*
- (viii) Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ will be planned by the collection of air quality data.*
- (ix) Permission for ground water withdrawal shall be obtained from Central Ground Water Authority (CGWA), if applicable.*
- (x) Fund allocation for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/2017-IA.III dated 1st May, 2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.*
- (xi) A certified report on the updated status of compliance of conditions stipulated in the earlier environmental clearance from the concerned Regional Office of the MoEF&CC.*
- (xii) Details of court cases and the compliance status (if any)*
- (xiii) 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*

#### **Agenda No. 54.7**

**Surkha (N) Lignite Mining Project of 5.00 MTPA capacity in mine lease area of 3672 ha of M/s. GMDC located in village Surkha, Tehsil Ghogha, District Bhavnagar (Gujarat) – Exemption of Public Hearing – Amendment in Terms of References – reg.**

**[Online Proposal No. IA/GJ/MIN/105267/2019; IA/GJ/CMIN/105280/2019]**

**54.7.1** The proposal is for ToR amendment of Surkha (N) Lignite Mining Project of 5.00 MTPA capacity in mine lease area of 3672 ha of M/s. GMDC located in village Surkha, Tehsil Ghogha, District Bhavnagar (Gujarat) for exemption of conducting Public Hearing.

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

- (i) Earlier, the environment clearance to the project was obtained under EIA Notification vide Ministry's letter No. J-11015/234/2006-IA. II (M) dated 7<sup>th</sup> May 2007 for 3 MTPA in mine lease area of 3672 ha.
- (ii) Total mining lease area as per block allotment is 3672 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the MOC on 09/05/2016

- (iii) Earlier Public hearing was conducted on 12.07.2013 for the same project under the compliance of earlier TOR granted in the year 2012 for the same capacity expansion from 3 MTPA to 5 MTPA.
- (iv) Copy of Public Hearing Proceedings was forwarded by Gujarat Pollution Control Board – Gandhinagar to MOEFCC – New Delhi videos No. GPCB/PH /2013-14/BAV-16/154219 Dated 22 July 2013.
- (v) Application for EC Appraisal online submitted on 19 March 2015.
- (vi) Presentation for EC Appraisal for the same capacity expansion was presented in front of Honourable EAC Coal on 9th April 2015 but application could not be considered further by EAC Coal because on non-approval of mine plan

**54.7.3** The EAC during deliberations noted the following: -

The proposal is for ToR amendment of Surkha (N) Lignite Mining Project of 5.00 MTPA capacity in mine lease area of 3672 ha of M/s. GMDC located in village Surkha, Tehsil Ghogha, District Bhavnagar (Gujarat) for exemption of conducting Public Hearing. Standard ToR has been granted by Ministry on 9<sup>th</sup> August, 2019.

Earlier PP was granted ToR in the year 2012 for the same capacity expansion from 3 MTPA to 5 MTPA and accordingly conducted PH on 12<sup>th</sup> September, 2013. Further EIA/EMP Report was submitted to EAC, however proposal was not considered as there was no approved Mine Plan for expansion capacity.

Ministry's OM dated 29<sup>th</sup> August, 2017 regarding validity of ToR for EIA/EMP Studies for projects requiring Environmental Clearance "Public consultation shall be conducted during the validity of the ToRs. The public consultation conducted after the expiry of ToRs shall not be accepted by the Regulating Authority"

"In case the proposal for Environmental Clearance along with EIA/EMP reports based on the ToRs prescribed, is not submitted within the validity period of ToRs, and/or not complying with the above conditions, the process shall be started de novo. The already collected baseline data may be re-used, provided it is not more than 3 years old and duly recommended by EAC/SEAC in their due diligence."

Accordingly, the earlier ToR is not applicable now for the present proposal as the validity is expired.

**54.7.4** *The EAC after deliberations observed since earlier PH was conducted in 2013 and there may be significant changes in the demographic / socio-economic and environmental conditions in the area. Also, the validity of previous ToR granted in 2012 has expired. It has been decided that PP shall conduct Public Hearing for the said project as per ToR granted by the Ministry on 9<sup>th</sup> August, 2019.*

*The proposal was accordingly **returned**.*

## **Agenda 54.8**

**Suliyari Coal Mining Project of 5.0 MTPA of M/s Andhra Pradesh Mineral Development Corporation Limited in mine lease area of 1298 ha located in Singrauli Coalfields, Tehsil Sarai, District Singrauli (Madhya Pradesh) – Consideration of Environmental Clearance – reg.**

**[Online Proposal No. IA/MP/CMIN/73904/2018; F.No. J-11015/35/2018-IA.II (M)]**

**54.8.1** During deliberations on the proposal, the Committee noted the following: -

The proposal is for environmental clearance for Suliyari Coal Mining Project of 5.0 MTPA capacity of M/s Andhra Pradesh Mineral Development Corporation Limited in mine lease area of 1298 ha located in village(s) Aamdand, Amraikhoh, Bajaudi, Belwar, Dongari, Dhirauli, Jhalari, Majhaulipath and Seerswah, Tehsil Sarai, District Singrauli (Madhya Pradesh). ToR for the proposal was granted by Ministry on 3<sup>rd</sup> July, 2018.

Earlier the proposal was considered by EAC in its 51<sup>st</sup> meeting held on 5<sup>th</sup> December, 2019 and noted the following details.

The EAC found there are various deficiencies in the proposal and the project is immature for submission and various statutory approvals are still pending. Also, PP has not submitted complete Form#2 on the Ministry website for appraisal. The EAC, during deliberations noted that the project details mentioned in the EIA report were not consistent with that presented during the meeting. The EAC, after detailed deliberations **decided to return the proposal in its present form**, and have asked for clarification/inputs, in respect of the following:-

- (i) Form#2 on Parivesh should be filled with all details and correct information.
- (ii) Stage-I FC for forest land of 259.239 ha for diversion of non-forestry activity shall be submitted.
- (iii) Permission for diversion of Hurdul Nallah including other natural drains shall be submitted from concerned statutory authorities before undertaking diversion activity.
- (iv) Mining Lease or Letter of Intent for the project area shall be submitted by PP from concerned state government authorities.
- (v) Clarification and confirmation from District Forest Officer that no presence of Tiger/or any wildlife corridor were found in the said area of coal mine/forest area considering Sanjay National Park.
- (vi) Permission for diversion of road and power transmission line shall be submitted.
- (vii) EIA report shall include correct figures on details of Project displaced families or Project displaced person. Break up of R&R and CSR shall also be included.
- (viii) Impact and Mitigation measures of transportation of coal by road from coal mine to desired destination (linked railway siding or linked Power Plant) shall be included in EIA Report.
- (ix) Compliance of issues raised during Public Hearing shall be submitted with certain timeline and allocation.

- (x) Status of construction of railway siding and traffic impact assessment study for road transportation of coal
- (xi) Social Impact Assessment Study for the proposed displacement of Tribals/SC/ST.
- (xii) Impact of mine drainage and diversion of nallah based on quality and quantity (inflow of river) on Gopad river and further on Son river shall be studied in detail.
- (xiii) Details of hazardous waste generation (if any) during mining operations and further handling/disposal shall be provided in details.
- (xiv) Impact on villages due to mining activity present in core zone (not proposed to be displaced) shall be provided.
- (xv) The activities and fund provisions for CER shall be made as per the guidelines issued by the ministry regarding CER on 1st May, 2018.

The proposal was accordingly **returned** in its present form.

**54.8.2** EAC noted following details with respect to compliance of above observation.

| Sr. No. | Observations of EAC   | Compliance / Submission of Project Proponent   |
|---------|---|--|
| 1       | Form#2 on Parivesh should be filled with all details and correct information  | Updated Form-II re-submitted on 06.04.2020.  |
| 2       | Stage-I FC for forest land of 259.239 ha for diversion of non-forestry activity shall be submitted.   | <p>The Forest Diversion Proposal has been approved by Madhya Pradesh Govt. and recommended to MoEF&amp;CC, Govt. of India vide letter no. FP/MP/MIN/28619/2017/376 dated 25/01/2020.</p> <p>MoEF&amp;CC has recommended regional office of MoEF&amp;CC for site inspection vide F. No.8-02/2020-FC dated 04th March 2020.</p>  |
| 3       | Permission for diversion of Hurdul Nallah including other natural drains shall be submitted from concerned statutory authorities before undertaking diversion activity. | <p>Water Resource Department, Singrauli (Madhya Pradesh) vide their letter no. 36225 dated 05.06.2014 had given a conditional NoC for diversion of Hurdul nala for alignment passing outside the mine lease area.</p> <p>However, during Mining Plan approval, Ministry of Coal directed to change the route of nala diversion since the area was passing through the coal bearing area of adjoining coal block. New route of the nala is proposed to be passed through backfilled area as nala diversion is required in 6th year of mining operation.</p> <p>APMDC had applied for NoC for diversion of Hurdul nala for new alignment vide letter no. APMDC/COAL/SUL/L.A./2019-20/321 dated 15-11-2019.</p> |

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|   |   | Water Resource Department, Singrauli (Madhya Pradesh) vide their letter no. 3827/Technical/Singrauli/2019-20 dated 16.12.2019 has given a conditional NoC for diversion of Hurdul nala.  |
| 4 | Mining Lease or Letter of Intent for the project area shall be submitted by PP from concerned state government authorities.   | <p>Suliyari Coal Block has been allocated by MoC to APMDC vide order no. F. No. 103/10/2016/NA dated 29.09.2016 over an area of 1298 ha.</p> <p>Previous approval of the Central Govt. under Section 5(1) and relaxation of area limit under Section 6(1) of MMDR Act, 1957 has also been accorded for Grant of Mining Lease in respect of Suliyari Coal Mine in favour of M/s APMDC vide letter no. CBA2-13016/3/2018-CBA2 dated 31.10.2019.</p> <p>Issuance of Environmental &amp; Forest Clearances from MoEF&amp;CC are pre-requisites for execution of the ML deed</p>  |
| 5 | Clarification and confirmation from District Forest Officer that no presence of Tiger/or any wildlife corridor were found in the said area of coal mine/forest area considering Sanjay National Park. | Clarification / confirmation from DFO, Singrauli reg. “No presence of Tiger/or any wildlife corridor were found in the said area of coal mine forest area” considering Sanjay National Park vide letter dated 14.01.2020.  |
| 6 | Permission for diversion of road and power transmission line shall be submitted.  | <p>Madhya Pradesh Rural Road Development Authority (MPRRDA) has approved the road diversion proposal and subsequently issued a demand note of Rs. 612.70 lakh vide letter no. 2597 dated 31.12.2019.</p> <p>Madhya Pradesh Power Transmission Co. Ltd. (MPPTCL) has submitted a demand note Rs. 810.98 Lakh towards shifting/modification charges for 132 kV Dongrital / Anuppur- Rajmilan transmission line vide its letter dated 20.02.2020.</p> <p>Madhya Pradesh Poorv Kshetra Vidyut Vitaran Co. Ltd. (MPPKVVCL) has issued a letter vide no. 2566 dated 24.02.2020 to APMDC towards supervision charges for line dismantling, line shifting as well charges to affected consumers amounting Rs. 10958/- ,10,93,806.90/- and 3676428/- respectively pertaining to diversion of 11 &amp; 33 kVA HT line.</p> |
| 7 | EIA report shall include correct figures on details of Project  | Details provided in the presentation during EAC meeting.   |

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|    | displaced families or Project displaced person. Break up of R&R and CSR shall also be included.   |  |
| D  | Impact and Mitigation measures of transportation of coal by road from coal mine to desired destination (linked railway siding or linked Power Plant) shall be included in EIA Report. | <p>Impact and Mitigation measures due to transportation of coal w.r.t. air quality and adequacy of road infrastructure is covered in Chapter-4.</p> <p>The present proposal envisages evacuation of coal from Suliyari coal mine through mechanised covered trucks up to Gajra-Bahra railway siding (12 km).</p> <p>A metalled road is traversing through North-South in the proposed coal block. The existing nearest rail head is located at a distance of 12 km from the block. Gajra-Bahra railway station is located at a distance of 12 km from the proposed.</p> <p>Considering the maximum production of 5.0 MTPA and dispatch of coal for 330 working days per year by trucks (@25 tonnes); the increase in truck traffic is expected to be 1212 trucks/day (606 going and the same number returning) i.e. ~ 33 trucks per hour (considering coal transportation for 18 hours per day).</p> <p>The present proposal envisages evacuation of coal from Suliyari coal mine through mechanised covered trucks up to Gajra-Bahra railway siding (12 km) for initial 5 years.</p> <p>The total increase in road traffic load is well within the carrying capacity of existing road infrastructure. Moreover, MPRRDA has submitted the road widening &amp; strengthening proposal and issued a demand note of Rs. 4402 lakh vide letter no. 2596 dated 31.12.2019 this will further ease out traffic movement</p> |
| 9  | Compliance of issues raised during Public Hearing shall be submitted with certain timeline and allocation.  | Action Plan with budgetary provision has already been included in EIA report as Annexure 7.1.2. details are also included in the presentation during EAC meeting.  |
| 10 | Status of construction of railway siding and traffic impact assessment study for road transportation of coal  | APMDC is examining alternative of developing railway line till Gajra-Bahra railway siding (12 km) for coal evacuation through rail in collaboration with neighboring coal mines (which are also announced to   |



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|    |   | <p>be commercial mines) once they are allotted.</p> <p>To save time, APMDC has already completed Pre-Feasibility Report of the said railway line through RITES and Work order issued to RITES for preparation of DPR.</p>   |
| 11 | Social Impact Assessment Study for the proposed displacement of Tribals/SC/ST   | <p>Out of total Project Displaced Families of 1386 Scheduled Caste families are 104 (7.5%) and Scheduled Tribe families are 361 (26%)</p> <p>The main tribal groups of the proposed project area belong mainly to <i>Baiga</i>, <i>Gond</i> and <i>Bhil</i> tribes.</p> <p>Agriculture is the primary occupation for the people living in the core zone but most of the Tribals/SC/ST are marginal workers and landless poor.</p> <p>The vulnerable group are majorly dependent on the forest products viz. <i>Mahua</i> trees, <i>Tendu</i> leaves and other forest products for their livelihood.</p> <p>Houses in Tribal/SC/ST helmets are mostly <i>kutchha</i> houses made of mud, straw and the roof were made up of twigs, bamboo or baked clay.</p> <p>Drinking water facility for the Tribals/SC/ST is also inadequate and the people are dependent primarily on open wells and hand pumps for the fulfillment of their water consumption needs.</p> <p>Due to lack of awareness as well as the lack of income of the people open-defecation prevails.</p> <p>Poverty and non-availability of adequate educational infrastructures in the villages are the main reasons for early dropouts of the children of SC/ST families</p> |
| 12 | Impact of mine drainage and diversion of nallah based on quality and quantity (inflow of river) on Gopad river and further on Son river shall be studied in detail. | <p>Impact study (quality &amp; quantity) of mine drainage and diversion has been done.</p> <p>The construction of proposed diversion channel along the boundary of coal block, originating from entry point of Hurdul nala to coal block and discharging at exit point of Hurdul Nala from coal</p>   |

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|    |   | <p>block will not effect the Basin and sub basin flows, as the discharge received at end point of Diversion channel is the flood discharge of the same catchment area of Hurdul Nala, only the flow is being diverted along coal block boundary and will be discharging at downstream in same Hurdul Nala.</p> <p>In view of the no change in overall discharge of Hurdul Nala, impact of the same at Gopad River is not envisaged.</p> <p>Moreover, all the villages of core zone will be shifted to designated R&amp;R Colony.</p> <p>For additional safety the diversion channel has been designed for more discharge capacity to accommodate additional flood discharge along with high channel bunds on both side.</p> <p>The scheme involves very simple civil engineering works and can be completed in a period of 2-3 years. Construction of Proposed Diversion channel is safe for environment and habitation in the near by area.</p> <p>Naturally occurring construction materials like sand, screened gravel and aggregates etc. are available in the nearby area. The proposed scheme has minimal interference with the environment and hence would not affect the ecology of the area.</p> <p>Water quality at the entry point and end point will be regularly monitored and acceptable water quality at end point will be ensured</p> |
| 13 | Details of hazardous waste generation (if any) during mining operations and further handling/disposal shall be provided in details. | <p>Sources of hazardous waste generation and its handling/ disposal are given in EIA report.</p> <p>Hazardous wastes like used oil with barrels, waste oil with barrels, used transformer oil with barrels, scrapped batteries, iron scrap, copper cables, scrapped cap lamp accumulators, empty oil and grease drums shall be handled and disposed off in accordance with the procedure laid down in HWM Rules.</p> <p>Used oil, spent oil, batteries and copper cables shall be disposed-off to the recyclers having valid registration from CPCB/MPPCB for recycling or</p>  |

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|    |   | recovery, whereas the empty oil and grease barrels shall be detoxified prior to their disposal to outside agencies.<br>Authorization for handling of Hazardous waste shall be obtained from MPPCB. Proper storage space and disposal method will be adopted as per authorization   |
| 14 | Impact on villages due to mining activity present in core zone (not proposed to be displaced) shall be provided.                                  | All the villages in core zone will be displaced and shifted to R&R Colony<br><br>Amenities to be provided in proposed R&R colony are shown in the presentation   |
| 15 | The activities and fund provisions for CER shall be made as per the guidelines issued by the ministry regarding CER on 1 <sup>st</sup> May, 2018. | Revised fund and activities as per the guidelines issued by the ministry regarding CER on 1 <sup>st</sup> May, 2018 has been included in EIA Report.<br><br>The project cost is estimated to be Rs. 854.27 crore for the proposed project.<br><br>Accordingly, an amount of Rs. ~11.54 crore will be spent over the period of validity of the EC granted for the project on various focus areas identified through the issues raised during Public hearing, social need assessment, R&R plan, EMP etc.<br><br>The activities to be undertaken under CER shall be restricted to the affected area around the project only. The amount spend through CER will be spent over and above CSR fund |

**54.8.4 This proposal is considered by EAC after due approval of the Ministry as an additional item for the consideration of EAC. The EAC members had very limited time to go through the detailed proposal. The presentation was made by PP. During deliberation, it was found that the compliance of earlier observations has not been completed yet, therefore, the EAC sought clarity on previous observations and compliance from PP as per following details: -**

- (i) Letter of Intent for the project area has not been submitted by PP from concerned state government authorities and therefore shall be submitted.
- (ii) Incorrect details filled on PARIVESH Portal regarding status of Forest Clearance (which states that Application for Forest Clearance yet to be submitted) shall be corrected.
- (iii) Proposed site visit of EAC sub-committee for the proposed diversion of Hurdul nallah/river (Perennial tributary of river) which falls into Gopad River. There are various nalla such as Hurdul Nala, Amta nala, Chhtraha nala, Bibiao nala, Jhana nala, Sulkhia Nala including Mahan and Gopad river in the buffer zone. Mahan river is 100 m from the confluence of Hurdul Nallah in the north of the block. Therefore, comprehensive River Protection Plan with detailed study has to be presented including the recommendation of site visit to avoid pollution in the river due to mining activity.

- (iv) Stage-I Forest Clearance of 259.239 ha of forest land involved is pending and even if the proposal is recommended, EC will not be effective till Stage-I FC is granted*
- (v) Detailed timeline for construction of railway siding in mining lease including number of level crossing, IP points etc shall be provided as Member Secretary, Madhya Pradesh Pollution Control Board in its letter dated 22<sup>nd</sup> October, 2019 has proposed 100% transportation of coal through rail line only.*
- (vi) Singrauli Area being a Severely Pollution Area (SPA), PP needs to propose the mechanism for environment management/protection as per Ministry's OM dated 31<sup>st</sup> October, 2019.*
- (vii) Traffic Impact Assessment for coal transportation for mine to siding (12 km) for initial 5 years should include presence of habitation/population/households and likely impact of pollutants on them.*

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

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

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

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

**(a) Statutory compliance**

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

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

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

- (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
- (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (c) **Water quality monitoring and preservation**
  - (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25<sup>th</sup> September, 2000 and as amended from time to time by the Central Pollution Control Board.
  - (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No.J-20012/1/2006-IA.11 (M) dated 27<sup>th</sup> May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
  - (iii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
  - (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
  - (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
  - (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-

off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.

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

- (iv) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

**(f) Land reclamation**

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

**(g) Green Belt**

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



species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

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

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

**(i) Corporate Environment Responsibility**

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

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

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

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

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

**I. Statutory compliance:**

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

**II. Air quality monitoring and preservation**

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

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

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

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

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

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

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

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

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

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

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

## **VI. Land reclamation**

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

## **VII. Green Belt**

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

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

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

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

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

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

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



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

#### **X. Miscellaneous**

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

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

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**Standard EC Conditions for Coal Washery Project**

**I. Statutory compliance:**

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

**II. Air quality monitoring and preservation**

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

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

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

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

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-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 river front side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.
- v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
- vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface run off from reject dumping sites.

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

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

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

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

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

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

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

for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

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

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

**VIII. Corporate Environment Responsibility**

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

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

#### **IX. Miscellaneous**

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

- xiv. 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.
- xv. 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.
- xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

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### **Generic ToR for coal washery**

- i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washery preferably through closed conveyer belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant alongwith a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Repot should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. alongwith the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub> and NO<sub>x</sub>, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the Competent Authority for its drawl.
- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transport by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyer belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.
- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution

- load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out alongwith Action Plan.
  - xiv. O.M.no.J-11013/25/2014-IA.I dated 11<sup>th</sup> August, 2014 to be followed with regard to CSR activities.
  - xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
  - xvi. Analysis of samples indicating the following be submitted:
    - Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
    - Characteristics and quantum of coal after washing.
    - Characteristics and quantum of coal rejects.
  - xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
  - xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
  - xix. Corporate Environment Responsibility:
    - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
    - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
    - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
    - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
  - xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
  - xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
  - xxii. Wastewater /effluent should 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.

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

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

ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.

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

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

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

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

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

- (xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

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

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

\* As a representative example

Table 2 : Stage Wise Cumulative Plantation

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

\* As a representative example

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



**GENERIC TORs FOR AN UNDERGROUND COALMINE PROJECT**

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

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

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

#### Area under Surface Rights

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

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (ix) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub> and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in

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

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

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

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

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

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

|  |  |   |  |  |  |
|--|--|---|--|--|--|
|  |  | If more than one<br>provide details of<br>each FC |  |  |  |
|--|--|---|--|--|--|

**GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND COALMINE PROJECT**

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

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## ANNEXURE-VIII

5/6/2020

Email

Email

munna.shah@gov.in

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**Re: Draft MoM of 54th EAC - Coal Mining Sector held on 17th April, 2020 through Video Conferencing**

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**From :** navinchandrarrl@yahoo.com

Wed, May 06, 2020 02:57 PM

**Subject :** Re: Draft MoM of 54th EAC - Coal Mining Sector held on 17th April, 2020 through Video Conferencing

**To :** navinchandraampri@gmail.com, Munna Kumar Shah <munna.shah@gov.in>

**Cc :** Manoj Gangeya <m.gangeya@gov.in>

**Reply To :** navin chandra <navinchandrarrl@yahoo.com>

06/05/2020

Dear Dr. Shah/Dr Gangeya Ji,

I have gone through the Minutes of the EAC meeting held on 17th April through Video Conferencing. I have also noted that two of our EAC members - Shri Kundargi Ji and Shri Vora Ji have found the MoM in order. Accordingly, I approve the same for uploading on the website of MoEF&CC.

With regards,  
yours sincerely,

(NAVIN CHANDRA)

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Dr. Navin Chandra,  
Vice Chancellor, IES University, Bhopal  
Chairman, Coal Mining & Thermal Power,  
MoEF&CC, GOI, New Delhi.  
Ex-Director General MPCST, Bhopal,  
(Retd.) Director (Actg.), CSIR-AMPRI, Bhopal  
Member, RC, CSIR-AMPRI, Bhopal.  
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