

MINUTES OF THE 2nd MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS

The 2nd Meeting of the reconstituted EAC (Thermal Power) was held on 20th January, 2017 in the Ministry of Environment, Forest & Climate Change at Teesta Meeting Hall, Vayu Wing, First Floor, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi under the Chairmanship of Dr. Navin Chandra. The following members were present:

1. Dr. Navin Chandra - Chairman
2. Dr. Narmada Prasad Shukla - Member
3. Dr. Sharachchandra Lele - Member
4. Shri P.D. Siwal
& Shri N.S. Mondal - Member (Representative of CEA)
5. Dr. R.K. Giri - Member (Representative of IMD)
6. Dr. S.K. Paliwal - Member (Representative of CPCB)
7. Prof. Om Prakash - Member (Representative of IIT (ISM) Dhanbad)
8. Dr. S. Kerketta - Member Secretary

Shri N. Mohan Karnat and Dr. Rajesh P. Gunaga could not be present.

Item No.1: CONFIRMATION OF THE MINUTES OF THE 60th EAC MEETING.

The Minutes of the 1st EAC (Thermal Power) Meeting held on 20th December, 2016 were confirmed.

Item No. 2: CONSIDERATION OF PROJECTS

2.1 6x600 MW Coal Based Thermal Power plant at Nariyara, District Janjgir Champa, Chhattisgarh by M/s KSK Mahanadi Power Company Limited- reg. Compliance of EC as per NGT Directions.

(2.1.1) The Project Proponent (PP) had submitted online application on 02.10.2016. PP made a presentation and, *inter-alia* provided the following information:

- i. PP submitted the details of CSR activities to be carried out in 6 villages in which land has been acquired for laying the railway line.
- ii. As per the NGT, Central Zone Bench, Bhopal vide its order dated 19.08.2016, residents of 6 villages whose land shall be acquired for laying of the railway track are also integral part of the project affected persons, as the track *prima facie* appears to be part of the entire project. Accordingly, NGT directed that CSR activities needs to be undertaken in these 6 villages also in accordance with the procedure laid down for CSR activities and a separate amount should be earmarked and needs to be set apart after identifying such activities. PP is directed to approach both the MoEF&CC and the Collector for identifying such CSR activities and also for determination of the amount in accordance with the scale and the formula applicable in this behalf.
- iii. Land for plant area has been acquired from within four villages, namely Nariyara, Tarod, Amora and Rogda. The 6 villages in which the land has been acquired for laying railway line are Akaltara, Latiya, Pakaria, Murlidih, Amora and Rogda. Lands of Village Rogda fall under both plant site as well as railway line.

- iv. A need based survey was conducted in these villages and accordingly CSR activities have been identified in consultation with Local Authorities in various areas viz. Education & Capacity Building, Health & Family Welfare, Sustainable Development, Infrastructure Development, Cultural & Community Development, etc. CSR activities have been extended not only to the villages whose land has been acquired both for plant site and railway line, but also to the surrounding and other villages namely Basantpur, Sheonarayan, Banahil, Karaud, Mulmula, Jhalmala, Dungakahrod, Janjgir Champa, etc.
- v. A certificate of Joint Site Inspection by Deputy Collector, In-charge Tahsildar Akaltara, Janjgir Champa and Manager, District Trade and Industry Center, Janjgir Champa mentioning that a joint inspection has been carried out on 05.12.2016 and implementation of detailed works in the project affected villages by PP has been found to be physically in order.

(2.1.2) The Committee noted that 25 ha land only has been acquired from the 6 villages for laying rail line. It has also been noted that Rs.11.53 crores has already been earmarked towards CSR activities in the 6 villages, of which Rs. 4.4 Crores has already been spent till November, 2016. The details of expenditure and activities undertaken for CSR were also discussed in the meeting.

(2.1.3) After detailed discussion and deliberations on the above issue, the Committee felt that the CSR activities as undertaken in the 6 villages are adequate and have been implemented as per the need of the Gram Panchayats including the amount earmarked towards various CSR activities. ***The Committee suggested that completion Certificate may be submitted from the District Collector and the Gram Panchayats for undertaking different CSR activitie/works till date and the Ministry may take a call accordingly.***

2.2 2x20 MW Captive Thermal Power Plant at Village Bhuniaraichak, Haldia, Purba Midnapore, West Bengal by M/s MCC PTA India Corp. Private Limited – reg. amendment of EC.

(2.2.1) Project Proponent (PP) had submitted online application vide dated 04.10.2016. PP attended the meeting and, *inter-alia* explained the following:

- i. Earlier Environmental Clearance was granted to M/s MCC PTA India Corp. Private Limited on 19.02.2014 for setting up of 2x20 MW Imported/Domestic Coal based Captive Thermal Power Plant at Village Bhuniaraichak, Tehsil Sutihata, Haldia, Dist. Purba Midnapore, West Bengal.
- ii. Name of the company has now been changed to M/s Materials Chemicals and Performance Intermediaries Private Limited (MCPI) with effect from 16.09.2016. Certificate of Incorporation from Office of the Registrar of Companies has been submitted. It is requested that the EC may be transferred in the name of new company.
- iii. 86% of the Ownership of the company has been changed from Mitsubishi Group to The Chatterji Group (TCG).
- iv. Process of change in ownership is in progress. Board of Directors have recently been formed. The project has not started any of its construction activities.

(2.2.2) Committee suggested that Ministry may publish guidelines clearly indicating the documents required for name change or ownership change or transfer of EC so that PP can apply to the Ministry only after these requisite documents are available with them.

(2.2.3) Committee after deliberations, suggested that validity period of EC may also be suitably amended as 7 years in line with new notification instead of '5 years' as mentioned in the EC. Additional condition also may be incorporated for complying with the new emission norms notified by Ministry's on 07.12.2015. Committee after deliberations **recommended** for amendment of EC by transferring the EC in the name of M/s Materials Chemicals and Performance Intermediaries Private Limited (MCPI) subject to submission of following documents:

- i. NOC from M/s MCC PTA India Corp. Private Limited that they have no objection for transfer of EC to new company.
- ii. Documents regarding ownership change/ House of Profit and Board of Directors.
- iii. Undertaking on non-judicial stamp from the Board of Directors that the new company and owners will continue to abide by the conditions stipulated in the EC and be responsible for implementation all the General and Specific Conditions.

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2.3 2x660 MW Coal based Thermal Power Plant at Karchhana Block, in Dist. Allahabad, in U.P. by M/s Sangam Power Generation Company Ltd – reg. extension of validity of EC.

(2.2.3) Project Proponent (PP) had submitted online application vide dated 25.10.2016. PP made a presentation and, *inter-alia* provided the following information:

- i. Environmental Clearance has been granted to M/s Sangam Power Generation Company Ltd vide Ministry's letter dated 30.10.2009 for setting up of 2x660 MW Thermal Power Project which was valid for five years.
- ii. The validity of EC had been further extended to two more years (i.e. till 29.10.2016) vide Ministry's letter dated 04.03.2016. However, the said letter was not received by PP because Additional Details Sought by EAC during 26-27th November, 2015 has not been submitted online.
- iii. Power Purchase Agreement has been executed between the company and the procurers (5 Discoms of UPPCL, namely MVVNL, PaVVNL, PVVNL, DVVNL and KESCO)
- iv. Requisite land admeasuring 555.63 ha was allotted by UPPCL.
- v. A total of 552.719 ha land has already been acquired till 07.10.2016 and is in physical possession of the Company. Similarly, 14.7 km long boundary wall (1 m above the plinth level) has been constructed along the periphery of the project site. The process of land acquisition was delayed due to litigation, and was finally completed only by 7.10.2016.
- vi. Company has already placed orders to M/s L&T Ltd. and M/s L&T-MHI Boiler Pvt. Ltd for engineering, manufacturing, supply, erection and commissioning of Turbine Generator Package and Boiler Package for implementation of 2x660 MW TPS vide Contracts dated 23.07.2010 & 23.07.2010.
- vii. Pre-feasibility report and concept plan for Marshalling Yard has been submitted by RITES on 27.09.2016 for approval.
- viii. NOC was obtained from Airport Authority of India for installing Stack vide letter dated 27.02.2015. Survey has been carried out for shortest route for water withdrawal of 54 cusecs from Ganga River.

(2.2.3) Committee noted that the present company which belongs to Jaypee Group will be taken over by UPRVUNL, Govt. of U.P. undertaking in due course of time. The physical construction of project activities has not started yet. Only land acquisition and construction of boundary wall have been completed. Land acquisition process has

taken nearly five years. Committee noted that Court case pending before High Court of Allahabad has been disposed of. Committee also noted that the project activities cannot be completed in three years time, even if, the validity of EC is extended for further three years. In seven years period, baseline of the area will change and there is a necessity of conducting fresh EIA studies. Also there has been change in technology for power plants regarding boiler design, cooling towers, ash handling & disposal system, FGD system, etc.

(2.2.4) *Committee after detailed deliberations **recommended** for extending the validity of EC for further two years, i.e. till 29.10.2018, subject to the following conditions:*

- i. Original designs shall be altered for incorporating the latest technologies. Cooling Tower, ESP, Ash storage and disposal system shall be as per recent technology.*
- ii. Design and installation shall meet the FGD norms as per MoEF&CC Notification dated 07.12.2015.*
- iii. Commitment/ Undertaking shall be given by PP that application shall be submitted for obtaining fresh EC prior to expiry of the extant EC.*

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2.4 1080 (4x270 MW) Bhadadri Thermal Power Project at Villages Ramanujavaram, Eddulabayyaram & Seetharampuram, Mandals, Manuguru & Pinapaka, District Khammam, Telangana by M/s Telangana State Power Generation Corporation Ltd. – reg. reconsideration of Environmental Clearance.

(2.4.1) The proposal was last appraised by the EAC in its meetings held on 27.07.2016 and 29-30 August, 2016. The outstanding issues may be summarised as follows:

(2.4.2) The Project Proponent (PP) submitted online application for grant of EC vide dated 08.04.2016. However, the project has not been considered for appraisal by the Ministry as per the Hon'ble NGT Chennai vide Order dated 7.4.2016 directing not to proceed with the appraisal in the matter of 216/2015 (SZ) and in-light of Ministry of Power (MoP) policy OM/letters dated 13.11.2009 and 25.02.2016 stating that 13th plan addition of Power Plants will be through Super-critical units only.

The Hon'ble NGT Chennai vide order dated 11.7.2016 issued directions to EAC to decide whether appraisal of the project is possible by virtue of activities carried out by PP before obtaining EC. Accordingly, a sub-committee visited the site during 17th-19th August, 2015 and a site visit report concluded by the majority of the Members that the activities undertaken by PP are minute fraction of the project area and will not form any impediment for appraisal of EIA. Accordingly, PP was asked to complete the EIA and hold a public hearing.

The Ministry of Power (MoP) expressed its no objection for establishing coal based Thermal Power Plant with sub-critical technology vide their letter dated 27.12.2016. In light of the two above conditions being satisfied, the proposal has been considered for appraisal.

(2.4.3) The PP made presentation and, *inter-alia* submitted the following information:

- i. The proposal is for setting up of 4x270 MW (1080 MW) Coal based Bhadradri Thermal Power Station (BTPS) at Villages Ramanujavaram, Eddulabayyaram & Seetharampuram, Mandals Manuguru & Pinapaka, District Bhadradri Kothagudem (erstwhile Khammam Dist.), Telangana State.*

- ii. Terms of Reference were issued by the Ministry on 23.6.2015 for preparation of EIA/EMP studies and conducting Public Consultation and Public Hearing.
- iii. A total land requirement for setting up of the above power plant, ash dyke, township, greenbelt and other facilities is 936.92 acres (Main plant area: 332.52 acres; ash dyke: 250 acres; Township: 50 acres & Greenbelt: 304.4 acres). As per CEA norms, the land requirement for the proposed project is 1177.2 acres. However, the land requirement has been minimised to 936.92 acres. 87% of the land is Government land and remaining 13% is the private land. 80% of the total land is single crop agricultural land and remaining 20% is covered with roads and drainage system, etc. There are no forest lands, grazing lands, community lands within the project site. Land acquisition is completed and is in possession of PP. In addition, 30 acres of the land, outside the project area is required for RoW for laying of raw water pipeline corridor (9 km) and 326.17 acres of land for railway line corridor (22 km).
- iv. There are no National Parks, Wildlife Sanctuaries, any other protected areas and Eco-Sensitive Zones, etc within 10 km radius of the project. Authenticated map showing project location and Kinnerasani WLS and its Eco-sensitive zone by DFO Wildlife Management, Paloncha is furnished.
- v. Nearest Railway station is Manuguru and is located at 15 km. SH-12/NH-221 is at 37 km. River Godavari is at 0.8 km East. Project is 800 m away from the HFL of Godavari river. Elevation of the plant site varies between 65.5-75 m above MSL. HFL of Godavari is at 63.5 above MSL. Kondayyagudem Reserve Forest is located at 1.8 km South, RF near Venkataraoopeta (4.6 km, NNW), Janapet RF (5.5 km, WNW), Subbampet RF (6.7 km, NE), Kalvanagaram RF (7.9 km, W), Cherla RF (8.2 km, NE). Singareni Opencast Coal Mine is at 7 km near Manuguru.
- vi. Sub-critical boilers will be installed which will be coal fired. Boiler is designed for 50% domestic coal and 50% imported coal. Coal will be fired in a high pressure boiler to produce steam at about 155 kg/cm² at 540°C temperature. Annual Coal requirement is 4.2 MTPA of G-9/G-10 grade domestic coal which will be sourced from M/s Singareni Collieries Company Limited (SCCL). Initially, it was planned to source 50% domestic coal and 50% imported coal. However, M/s SCCL has agreed to supply 100% domestic coal. An MoU is made between PP and M/s SCCL on 4.4.2016. Expected GCV of the domestic coal is 4600-4900 kcal/kg, moisture: 12%, Ash: 27.5%, Sulphur: <0.5%, Fixed Carbon: 23-25%, Volatile matter: 25-30%, etc. Station Heat Rate of plant is 2300 kcal/Kwh at PLF-85%. Coal transportation will done by rail route only.
- vii. Total water requirement for proposed project is 3, 291 m³/hr and will be sourced from Godavari River. Intake water structure will be set up at a distance of 8.6 km along with pipeline to transport water to the plant site. As the River Godavari is perennial, allocation has been made by Govt. of Telangana for drawing 1.4 TMC/annum of water throughout the year vide their letter dated 7.1.2015. The proposed withdrawal is estimated to be around 20% flow during lean season from the daily discharge data of CWC at Perur and Bhadrachalam Gauge and discharge stations.
- viii. Baseline Environmental Studies were conducted during pre-monsoon i.e. from March to May, 2015. The pre-dominant wind direction is South during study period. AAQ monitoring has been carried out at 10 locations. Results indicated that the values of different air quality parameters such as PM₁₀: 31-53.7 µg/m³, PM_{2.5}: 14.1-26.5 µg/m³, SO₂: 7.9-12.7 µg/m³, NO_x: 10.1-17.4 µg/m³, CO: 133-382 µg/m³, O₃: 2.1-6.8 µg/m³ and Hg: BDL. AAQ is within the NAAQ Standards. Five groundwater samples have been analysed in the study area. pH ranges

between 7.3-7.6 and Total Hardness varies between 192-620 mg/l and is well within limit of 600 mg/l except Pinapaka Village. Chlorides ranges between 30-425 mg/l and within permissible limits except plant location and Pinapaka village. Fluoride ranges between 0.2-1.8 mg/l and is found to be within the permissible limits except at proposed plant site and Manuguru village. Heavy metals are within the limits. Surface water samples were analysed from six locations. The different indicated that the values such as pH: 6.9-7.7; DO: 5.7-6.2 mg/l and BOD is 3 mg/l except 15 mg/l at Elchireddipalle Cheruvu. COD at Godavari River downstream and Talperu river is 20 mg/l and 60 mg/l at Elchireddipalle Cheruvu. Noise levels are in the range of 42.7-50.1 dBA for daytime and 36.1-43.1 dBA for nighttime.

- ix. Cumulative air quality impact is predicted for both the proposed power plant and the Manuguru Opencast Mine located within 10 km radius. The maximum incremental ground level concentration is predicted for PM is 1.83 $\mu\text{g}/\text{m}^3$ and the total resultant concentration is 55.53 $\mu\text{g}/\text{m}^3$ which is within limits.
- x. RCC Bi-flu Stack height of 275 m will be set up for dispersion of pollutants. ESP (99.9% efficiency), dust suppression system at coal handling points, ETP and STP are the major pollution control measures have been proposed to be provided in the plant.
- xi. There are no Schedule-I flora and fauna species found in the project area. However, one reptile species and 10 avifaunal species (Schedule-I fauna) are found in the study area.
- xii. Intake water system will be provided with infiltration galleries and designed with maximum recycle/reuse of water. Only a small quantity will be drawn from as make up water. Closed cooling system with cooling towers and clarified water as make-up will be utilised. The optimum COC of 5 has been arrived after evaluating several factors such as chemical dosage, scaling, fouling, etc. Zero discharge will be adopted and no plant effluent will be discharged into any open nallas and rivers.
- xiii. Two seasonal nallas are passing through proposed project, i.e. one through power house block and another through the ash pond area. Nalla passing through ash pond areas will suitably diverted without affecting its natural drainage pattern. Irrigation and CAD dept., Govt. of Telangana has accorded the permission for its diversion vide letter dated 30.12.2016. However, nalla passing through power house block will not be diverted.
- xiv. Total ash generation is 3603.138 TPD (Dry flyash: 2882.5 TPD & Bottom ash: 720.62 TPD). Flyash will be utilised for brick manufacturing, road development and cement manufacturing. Letter of Intent from various Cement manufacturing industries has been furnished. Bottom ash will be used for brick manufacturing, construction of embankments, filling of low lying areas, etc. M/s SCCL has agreed to use bottom ash in mine stowing and given a Letter of Intent to use bottom ash. All the buildings in the project and residential complexes of TSGENCO will be constructed by using flyash bricks. Balance amount of bottom ash, if any, will be stored in the ash pond. Ash water recovery system is proposed to recover decanted water and shall be reused in the plant. Air cooled condenser (ACC) is not envisaged as dry cooling system will result in reduction of plant output by 6-7%. Peizometers will be set up at 6 locations around the ash pond for monitoring groundwater quality. Sludge from oil storage tank with quantity of 0.5 TPA is generated and will be sold to Authorised Recyclers.
- xv. Failure scenarios of pool fire for LDO (2x500 KL) and HFO (2x2000 KL) tanks have been predicted and risk mitigation measures have been proposed. On-site emergency plan has been prepared.

- xvi. Livelihood of 655 families in three villages (Ramanujavarm, Sitaramapuram and Edullabayyaram) will be affected. R&R package of total Rs.17,38,00,000/- (Seventeen Crore Thirty Eight Lakhs) along with SC/ST development plan has been awarded by the District Collector. 346 local people will get direct employment in the plant based on their qualification.
- xvii. Greenbelt will be developed in 304.4 acres which is about 33% of the total acquired area. A 100 m wide greenbelt, consisting of at least 3 tiers around plant boundary will be developed as greenbelt and green cover as per CPCB/MoEF&CC, New Delhi guidelines. Local and native species will be planted with a density of 2500 trees per hacter. 3,07,875 saplings will be planted and nurtured in 304.4 acres in five years. In-house nursery will be established and saplings will be supplied free of cost to all the surrounding villages.
- xviii. Public Hearing has been conducted by Telangana State Pollution Control Board on 17.3.2016 in the premises of proposed Bhadradri Themal Power Station, Seeetharampuram village, Uppaka Gram Panchayat, Pinapaka Mandal, in erstwhile Khammam District (Now Bhadradri Kothagudem Dist.). Employment and compensation to land losers, CSR activities, Greenbelt development and Pollution control measures are the major issues raised by the general public during Public Hearing.
- xix. Estimated Project cost is Rs.7,290.60 Crores, cost of EMP is Rs.388 Crores as Capital and Rs.15.25 Crores as recurring expenditure.
- xx. A detailed CSR study has been conducted by the Centre for Management and Social Research (CMSR), Hyderabad. CSR activities with the budget of Rs.29.04 Crores will be implemented in 18 villages.

(2.4.5) The Member Secretary informed the Committee that necessary action towards criminal prosecution had already been initiated by the Ministry regarding violations under Environment (Protection) Act, 1986, viz., starting of construction activities before obtaining EC.

(2.4.6) *Committee after detailed deliberations, discussions and considering all the facts presented by the PP including Complaints received from some Civil Action Groups, **recommended** for grant of Environmental Clearance subject to the following specific conditions:*

- i. A legal undertaking shall be given that PP owns the EIA/EMP and other documents submitted for appraisal.*
- ii. Feasibility study of Merry Go Round (MGR) System for coal transportation shall be explored and submitted to the Ministry. In any case, Coal transportation shall be through rail only.*
- iii. Explore alternate technologies so that water consumption is further reduced. As recommended by the NIH, Kakinada, appropriate lining shall be done for ash pond area to safeguard groundwater quality and reduce leaching impact towards proposed township.*
- iv. Fly ash transportation shall be done through tarpaulin covered trucks only.*
- v. Cycle of Concentration (COC) of 6.5 shall be achieved by setting up of RO for treating cooling tower blow-down water.*
- vi. The project proponent will submit to the EAC a copy of the impact assessment carried out by Ministry of Irrigation of Govt. of Telanga regarding possible downstream impact of withdrawal of 1.5 TMC of water per year from the Godavari.*

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2.5 3x660 MW (Stage-I: 2x660 MW and Stage-II: 1x660 MW) Super Critical Coal based TPP at Village Painampuram, in Muthukur Mandal, in Nellore Dist. in Andhra Pradesh by M/s Thermal Powertech Corporation (India) Ltd. – reg. extension of validity of EC.

(2.5.1) The Project Proponent (PP) submitted online application for extension of validity of EC on 27.10.2016. PP made presentation along with the Environmental Consultant, M/s BS Envitech Pvt. Ltd and, *inter-alia* submitted the following information:

- i. Environmental Clearance for establishing 3x660 MW (Phase-I: 2x660 MW; Phase-II: 1x660 MW) Coal based Thermal Power Plant in villages Painampuram, Nelaturu, Muthukur Mandal, SPSR Nellore District, Andhra Pradesh has been granted by Ministry on 4.11.2009 which was valid for five years i.e. till 3.11.2014. Further, validity of EC has been extended for more one year i.e till 3.11.2015 vide Ministry's letter dated 2.3.2015.
- ii. As per EIA Notification amendment dated 14.9.2016, Environmental Clearance is valid for seven years. Accordingly the said EC granted by Ministry vide dated 4.11.2009 is valid till 3.11.2016.
- iii. CRZ clearance for the said project has been obtained on 5.12.2011. Consent to Establish (CTE) has been obtained on 15.5.2010 from Andhra Pradesh State Pollution Control Board (APSPCB. Consent to Operate (CTO) has been obtained for Unit-1: 1x660 MW on 24.2.2015 and Unit-2: 1x660 MW (Phase-I) on 27.8.2015. Permission has been obtained from the Director of Ports on 15.6.2011 for drawal 14,000 m³/hr of seawater.
- iv. Unit-1:1x660 MW and Unit-2:1x660 MW (Phase-I) have commenced commercial operations on 1.3.2015 and 15.9.2015, respectively.
- v. Unit-3:1x660 MW (Phase-II) is under design stage and will be commissioned within 42 months of financial closure.
- vi. Project experienced delays due to Nilam Cyclone, increased depth of Bored Cast In-situ piling, delay in TG foundation, etc. Also delay in implementation of Phase-II is mainly due to policy related issues such as domestic coal linkage and Power Purchase Agreements (PPA) which impacted the economical operations of the power plant. It is decided to implement Phase-II after having clarity on policy related issues. Now Coal linkage has been obtained from Mahanadi Coal Fields Ltd (MCL). It is requested for extension of validity of EC for further period of five years from 3.11.2016 to 3.11.2020.

(2.5.2) *The Committee after detailed deliberations, **recommended** for extension of validity of environmental clearance for two years subject to the submission of the following documents:*

- i. *Certified report on the Compliance report of the Environmental Clearance as well as CRZ Clearance from Regional Office, MoEF&CC, Chennai for Phase-I (2x660 MW) project which is in operation.*
- ii. *Details of coal linkage with M/s Mahadnadi Coal Fields Limited (MCL) and Power Purchase Agreement (PPA).*

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2.6 2x350 MW Coal based Thermal Power Plant of IBEUL at Sahajbahal Dist. Jharsuguda, Odisha by M/s Ind-Bharath Energy (UTKAL) Ltd. – reg. extension of validity of EC.

(2.6.1) The Project Proponent (PP) submitted online application for extension of validity of EC on 28.10.2016. PP made presentation and, *inter-alia* submitted the following information:

- i. Environmental Clearance was granted for setting up of 2x350 MW Coal based Thermal Power Plant at Sahajbahal village in Jharsuguda Dist., Odisha vide Ministry's letter dated 31.11.2009 which was valid for five years, i.e. till 30.11.2014.
- ii. Validity of the EC was extended till 31.12.2015 vide Ministry's letter dated 4.2.2015. Validity of EC was further extended for one more year i.e. till 29.11.2016 vide Ministry's letter dated 9.3.2016.
- iii. Trial run and testing of Unit-1 was completed. Unit-1 (1x350 MW) has already been commissioned. Construction of Unit-2 (1x350 MW) is in full swing. Work has been completed for Unit-2 in all respects pending testing of equipment. Boiler light up and testing of equipment and steam blowing to be made with turbine rolling after completion of grid connectivity.
- iv. Major delay of commissioning and COD have been made due to local agitations and RoW problems, frequent stoppage of work, etc. As a result, the progress of transmission line as well as the commissioning of the plant got inordinate delayed. Also, PP was permitted to draw limited start-up power from the LILO connection of PGCIL 400 KV DC Raigarh-Rourkela CKT-1 which was not sufficient for commissioning all the Auxiliary Facilities of the power plant. In November, 2014, PP was permitted to draw limited start-up power to commission small Auxiliary Facilities. After lot of interactions with CEA, PGCIL, POSCO and OCC-EREB, PP was permitted by OCC, EREB to inject power only in October, 2015.
- v. Unpredicted monsoon, heavy rainfall and natural calamity like "PHAILIN" have also affected in completion of the project work for nearly seven months.
- vi. Laying of 35 km transmission line to Kenapalli grid of PGCIL was also delayed due to land related issues, corridor compensation, local obstructions during crop cultivation period, etc. As works related to Transmission line completed, it is expected to connect the grid by 15.2.2017. PPA has been signed with Tamilnadu Electricity Board for fifteen years in Case-I bidding.

(2.6.2) *Committee after detailed deliberations and discussion and considering all the facts as presented by the PP, **recommended** for extension of validity of EC till 31.12.2017.*

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2.7 2x800 MW Coal based Lara Super Thermal Power Project at villages Armuda, Chhapora, Bodajharia, Devalpura, Mahloi, Riyapalli, Lara, Jhigitar and Kandagarh in Taluk Pussore, in District Raigarh, in Chhattisgarh by M/s NTPC Ltd. – reg amendment of EC.

(2.7.1) The Project Proponent (PP) submitted online application on 12.12.2016 for making amendments in Environmental Clearance. The PP along with M/s Min Mec Consultancy Pvt. Ltd made the presentation and, *inter-alia* submitted the following:

- i. Environmental Clearance for setting up of 2x800 MW Coal based Super Critical Thermal Power Project in Raigarh Dist., Chhattisgarh has been granted vide Ministry's letter dated 13.12.2012.
- ii. At present, coal requirement for the project is 8.0 MTPA at 90% PLF. The same is indicated in the para 2 of the said EC. As per the Hon'ble Supreme Court's order, the coal block was de-allocated on 24.9.2014 and later it was re-allocated on 8.9.2015 which has delayed its production plan of Talaipalli Coal Mine. Coal production is expected to commence by November, 2019.
- iii. As the Unit-1:1x800 MW is expected to be commissioned by April, 2017 and the Talaipalli Coal block is expected to start its production by November, 2019, Coal India Limited (CIL) vide their letter dated 2.6.2016, granted Bridge Coal Linkage for the said project and the coal will be sourced from two places i.e. Lakhanpur Coal block of M/s MCL (5.67 MTPA) and Korea Rewa Field of M/s SECL (0.832 MTPA).
- iv. It is proposed to transport coal from the abobe two mines (Lakhanpur Coal Block and Korea Rewa Coal Block) to the power plant on road which involves approximate to and fro distance of 115 km for temporary period till November, 2019.
- v. Ash content in the coal sourced from the Lakhanpur Coal block and Korea Rewa Coal Block is proposed to be increased to 45%. Accordingly, condition of ash content of less than 34% originally stipulated in the EC was sought amendment.
- vi. Traffic impact assessment study has been carried out by M/s Min Mec Consultancy Pvt. Ltd.
- vii. It is proposed to transport coal on road through 15 ton capacity trucks to the plant site. 7,777 TPD of Coal is anticipated to transport through 1,038 trucks/day (nearly 44 trucks/hour to and fro movement) till June, 2017. From June, 2017 to till November, 2019, it is proposed to transport 15, 554 Ton/day of Coal through 2074 trucks/day (nearly 88 trucks/hours to and from movement).
- viii. The roads at different locations had variable width. The average width was found to be 7.9 m with a minimum width of 5.4 m and maximum width of 10.5 m. There are 5 villages along the Route-1, 2 villages along the Route-2 and 18 villages along the Route-3. Route survey has been done for road condition & width.
- ix. Route survey carried out as per IRC:9-1972 (traffic census on non-urban roads) at 8 locations. The traffic density was converted into equivalent passenger car units (PCU). It was found that road passes over a number of nalas. Repairing of roads was mainly being done at locations where nala was passing beneath the road. Traffic jam in Belpahar market area was observed at the time of road survey due to railway crossing present in the area.
- x. The additional traffic volume at all Census points on the entire route will be between 30.3-46.9% of maximum capacity. Resultant incremental air quality concentration of PM₁₀ and PM_{2.5} with Fugitive Dust Modelling and CALINE 4 Modeling at villages Chhapora is 98.88 µg/m³ and 43.68 µg/m³, Kadamdi is 86.68 µg/m³ and 40.98 µg/m³ and Belhapur is 102.38 µg/m³ and 48.48 µg/m³ respectively.

(2.7.2) *Committee noted that transportation of coal from the proposed Coal blocks by 2,074 Nos. trucks through various stretches of roads will substantially increase traffic load and air pollution. There are villages which are located within 100 m distance from roadside. The type & condition of roads along with length and width involved in total length of 115 km is not provided. Committee, after detailed deliberations has not found any justification to recommend the coal transportation through road. PP is advised to find the alternate route*

of transportation. Accordingly, proposal for amendment in EC conditions is **rejected** by the Committee.

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2.8 2x660 MW Coal based STPP near Khurunti, Dhenkanal Dist., Odisha by M/s Lanco Babandh Power Ltd. – reg. extension of validity of EC.

(2.8.1) The Project Proponent (PP) submitted online application for extending the validity of amendment of Environmental Clearance on 30.12.2016. PP made the presentation inter-alia submitted the following:

- i. Environmental Clearance for setting up of 2x660 MW Super critical coal based Thermal Power Plant near Village Khurunti, Dhenkanal Dist., Odisha was granted by the Ministry on 17.2.2010 which was valid for **five years, i.e till 16.2.2015.**
- ii. Amendment regarding relocating ash pond to outside the project boundary at Villages Janamunda & Sanamunda, Tehsil Hindol, Dist. Dhenkanal on 21.8.2014. Further, validity of EC and its amendment has been extended till 31.03.2017 vide Ministry's letter dated 2.3.2015.
- iii. Coal linkage for Unit-1 is available from MCL at 25 km from plant. However, Coal linkage has been applied for Unit-2.
- iv. PPA has been signed with Odisha state, UPPCL (Uttar Pradesh): Case-1 Bid and RVPN (Rajasthan): Case-1 Bid on 4.1.2011, 8.8.2013 and 1.11.2013 respectively. Bulk Power Transmission Agreement Signed with PGCIL on 24.2.2010.
- v. The project has achieved significant progress (nearly 60% overall). Rs.7454 Crores have been spent as on 31.12.2016, out of total project cost of Rs.10,430 Crores. Commissioning of the project could not be achieved on time due to several factors which were beyond the control of PP. The delays are mainly attributable to Lenders not releasing the debt/drawdowns to match with the project construction activities, delay in land acquisition for ash pond, ashpipe corridor and rail connectivity to in-plant MGR system.
- vi. Civil construction has been progressed up to 56%, Offshore supplies such as boiler, APH, Mills, ID, PA&FD fans, ESP, CHP, BFP and Turbine etc have been progressed upto 66%, onshore supplies such as utilities, electric equipment and auxiliary equipment etc. have been progressed up to 19%. 93% of engineering has been completed. 30% of erection activities have been completed.
- vii. Unit-1 and Unit-2 are expected to be commissioned on full load by 15.9.2017 and 15.2.2018 respectively. Commercial operations Unit-1 and Unit-2 are expected to be commissioned by 30.9.017 and 31.3.2018 respectively.
- viii. MoEF&CC, Regional Office, Bhubaneswar visited the project site on 28.1.2016, reviewed the environment compliance and has expressed satisfaction with the present Environment Control measures.
- ix. CSR activities with the expenditure of Rs.9.10 Cores have been implemented till date out of total budget of Rs.18.40 Crores. The amount of Rs.9.83 Crores has been earmarked for FY 2016-17 (Q-4), 2017-18, 2018-19 and 2019-20.

(2.8.2) *Committee noted that substantial investment have already been made at the site with the progress of nearly 60% completion of project activities. Committee, after detailed deliberations and discussion and also considering all the facts presented by the PP, **recommended** for extending the environmental clearance till 31.3.2019.*

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2.9 2x300 MW Imported Coal based Thermal Power Plant at Bellary, Karnataka by M/s JSW Energy (Vijayanagar) Ltd. – reg. amendment of EC.

(2.9.1) The Project Proponent (PP) submitted online application on 4.1.2017 for amendment in Environmental Clearance. PP made presentation inter-alia submitted the following:

- i. Environmental Clearance for setting up of 2x250 MW at Bellary at Toranaagallu, Bellary Dist., Karnataka by using domestic coal was granted by the Ministry's letter dated 20.8.2004. Coal requirement is 2.80 MTPA of washed coal with 34% ash content and 0.6% Sulphur content has been stipulated in the EC dated 20.8.2004.
- ii. Subsequently EC was amended for augmentation of capacity from 2x250 MW to 2x300 MW with imported coal has been granted by the Ministry's vide letter dated 12.10.2007.
- iii. The plant is presently running with 100% imported coal with coal quantity of 1.778 MTPA. Ash content of the imported coal is 15% and sulphur is 0.6%. There is a wide fluctuation in imported coal prices is observed resulting the issue of sustainability. At present, availability of domestic coal has increased considerable in the country and Coal is being offered to IPP's through special forward E-auction for regulated sector (Power Sector)/ Spot E-auction/linkages etc. by Coal India Limited.
- iv. It is now proposed to use domestic coal for blending with imported coal limiting the ash content up to less than 25%. No additional water and land required for change in coal source. Only there is an increase of Coal requirement from 1.778 MTPA to 2.5 MTPA. Blending of Domestic coal of 50% and Imported Coal (SA) of 50% will be used to restrict ash content to less than 25%. Various combinations of domestic and imported coal blending will be done so as to restrict the ash content up to less than 25% and total coal quantity of maximum 2.5 MTPA.
- v. OEM M/s Shanghai Electric Corporation (SEC) carried out preliminary study for utilization of coal with up to 25% ash content and recommended that no modification is required in Boiler and all associated systems.
- vi. There is an incremental ash quantity of nearly 3.65 Lakh Ton/annum which will be utilised by M/s ACC Ltd for cement manufacturing.
- vii. Atmospheric dispersion modelling study has been carried out for the increase in coal quantity along with its characteristics. There will be an increase in pollution load of 9.6% from the existing emission load. Ground level concentrations for Particulate Matter, SO₂ and NO_x will increase in the range of 0.02-0.6 µg/m³, 0.25-0.74 µg/m³ and 0.18-0.51 µg/m³, respectively.
- viii. MoEFCC Regional Office, Bangalore has carried out the site inspection on 17.11.2016 and submitted the compliance report. The compliance is reported to be satisfactory.

(2.9.2) *Committee after detailed deliberations, discussion and all the facts presented by the PP, **recommended** for change in coal source from imported coal to imported/blending of imported (50%) and domestic (50%) coal subject to the following conditions:*

- i. *Top surface of the Coal Wagons shall be completely covered with tarpaulin sheet/cloth so that coal will not get exposed to atmosphere and becomes secondary emissions. This will avoid fugitive dust emissions during the transport. Water sprinkling shall be done on the top surface of coal at loading point before covering with tarpaulin sheet. Due safety procedures shall be followed so that the*

covered sheet doesn't open up and flyaway during transport which will endanger safety of nearby people, agricultural fields, etc. Water sprinkling measures as proposed at loading and unloading point shall be continued.

- ii. Ash and sulphur content in the blended coal shall not exceed 25% and 0.5%, respectively.*
- iii. Incremental fly ash shall be utilised for cement manufacturing.*
- iv. Details of coal linkage with coals mines shall be submitted before using domestic coal in the project.*

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2.10 Any Other Item with the permission of Chair.

Committee also deliberated on following points:

- (2.10.1) Ministry may publish guidelines clearly indicating the documents required for name change or ownership change or transfer of EC so that Project Proponents can apply to the Ministry only after making these requisite documents available.
- (2.10.2) Ministry may formulate guidelines on CSR activities in line with CSR policy. These guidelines should provide details of expenditure (Capital and recurring), extent of area to be covered (5 km radius & 10 km radius), number of villages & population and details of activities so that Project Proponent do not face problem during implementation. These activities along with expenditure shall be clearly demarcated during project and during operation of the project.
- (2.10.3) Project proponents need to submit the brief summary, hard copies and soft copies of the project documents on time to all members of the EAC. In some cases, members are getting documents related to projects one day prior to meeting or during their travel to Delhi which is becoming difficult to review the project in short period or only during the presentation. It has been decided that if the PP should submit the documents well in advance so that Members can review the documents for proper appraisal during the EAC meeting.

According to some Experts Members, only soft copies shall be sent and for some, both hard and soft copies shall be sent. It has been decided that the format (soft or hard or both soft & hard) of the documents desired by the Members shall be clearly indicated in the Agenda so that Proponents can send the documents accordingly.

Simultaneously, since project proponents are anyway uploading all the documents online in the Ministry's portal, the Member Secretary is requested to arrange for these soft copies of the project documents to be copied into a suitable internet-cloud repository as soon as the agenda for each meeting is announced, and the access shall be given only to EAC members for viewing or downloading the documents. Member Secretary agreed to do the needful.

- (2.10.4) To avoid unnecessary expenditure and wastage of resources, it was decided that project proponents should henceforth only provide hard copies of their presentations/executive summaries on plain paper with back-to-back printing, and strictly desist from supply plastic/leather folders, pads, pens, or any other materials to EAC members at the time of making their presentations.

As, there being no agenda item left, the meeting ended with a vote of thanks to the Chair.

Terms of Reference (TOR):

- i) The proposed project shall be given a unique name in consonance with the name submitted to other Government Departments etc. for its better identification and reference.
- ii) Vision document specifying prospective long term plan of the project shall be formulated and submitted.
- iii) Latest compliance report duly certified by the Regional Office of MoEF& CC for the conditions stipulated in the environmental and CRZ clearances of the previous phase(s) for the expansion projects shall be submitted.
- iv) The project proponent needs to identify minimum three potential sites based on environmental, ecological and economic considerations, and choose one appropriate site having minimum impacts on ecology and environment. A detailed comparison of the sites in this regard shall be submitted.
- v) Executive summary of the project indicating relevant details along with recent photographs of the proposed site (s) shall be provided. Response to the issues raised during Public Hearing and the written representations (if any), along with a time bound Action Plan and budgetary allocations to address the same, shall be provided in a tabular form, against each action proposed.
- vi) Harnessing solar power within the premises of the plant particularly at available roof tops and other available areas shall be formulated and for expansion projects, status of implementation shall also be submitted.
- vii) The geographical coordinates (WGS 84) of the proposed site (plant boundary), including location of ash pond along with topo sheet (1:50,000 scale) and IRS satellite map of the area, shall be submitted. Elevation of plant site and ash pond with respect to HFL of water body/nallah/River and high tide level from the sea shall be specified, if the site is located in proximity to them.
- viii) Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.
- ix) Land requirement for the project shall be optimized and in any case not more than what has been specified by CEA from time to time. Item wise break up of land requirement shall be provided.
- x) Present land use (including land class/kism) as per the revenue records and State Govt. records of the proposed site shall be furnished. Information on land to be acquired including coal transportation system, laying of pipeline, ROW, transmission lines etc. shall be specifically submitted. Status of land acquisition and litigation, if any, should be provided.
- xi) If the project involves forest land, details of application, including date of application, area applied for, and application registration number, for diversion under FCA and its status should be provided along with copies of relevant documents.
- xii) The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.
- xiii) Satellite imagery and authenticated topo sheet indicating drainage, cropping pattern, water bodies (wetland, river system, stream, nallahs, ponds etc.), location of nearest habitations (villages), creeks, mangroves, rivers, reservoirs etc. in the study area shall be provided.
- xiv) Location of any National Park, Sanctuary, Elephant/Tiger Reserve (existing as well as proposed), migratory routes / wildlife corridor, if any, within 10 km of the project site shall be specified and marked on the map duly authenticated by the Chief Wildlife Warden of the State or an officer authorized by him.

- xv) Topography of the study area supported by toposheet on 1:50,000 scale of Survey of India, along with a large scale map preferably of 1:25,000 scale and the specific information whether the site requires any filling shall be provided. In that case, details of filling, quantity of required fill material; its source, transportation etc. shall be submitted.
- xvi) A detailed study on land use pattern in the study area shall be carried out including identification of common property resources (such as grazing and community land, water resources etc.) available and Action Plan for its protection and management shall be formulated. If acquisition of grazing land is involved, it shall be ensured that an equal area of grazing land be acquired and developed and detailed plan submitted.
- xvii) A mineralogical map of the proposed site (including soil type) and information (if available) that the site is not located on potentially mineable mineral deposit shall be submitted.
- xviii) Details of fly ash utilization plan as per the latest fly ash Utilization Notification of GoI along with firm agreements / MoU with contracting parties including other usages etc. shall be submitted. The plan shall also include disposal method / mechanism of bottom ash.
- xix) The water requirement shall be optimized (by adopting measures such as dry fly ash and dry bottom ash disposal system, air cooled condenser, concept of zero discharge) and in any case not more than that stipulated by CEA from time to time, to be submitted along with details of source of water and water balance diagram. Details of water balance calculated shall take into account reuse and re-circulation of effluents.
- xx) Water body/Nallah (if any) passing across the site should not be disturbed as far as possible. In case any Nallah / drain is proposed to be diverted, it shall be ensured that the diversion does not disturb the natural drainage pattern of the area. Details of proposed diversion shall be furnished duly approved by the concerned Department of the State.
- xxi) It shall also be ensured that a minimum of 500 m distance of plant boundary is kept from the HFL of river system / streams etc. and the boundary of site should also be located 500 m away from railway track and National Highways.
- xxii) Hydro-geological study of the area shall be carried out through an institute/ organization of repute to assess the impact on ground and surface water regimes. Specific mitigation measures shall be spelt out and time bound Action Plan for its implementation shall be submitted.
- xxiii) Detailed Studies on the impacts of the ecology including fisheries of the River/Estuary/Sea due to the proposed withdrawal of water / discharge of treated wastewater into the River/Sea etc shall be carried out and submitted along with the EIA Report. In case of requirement of marine impact assessment study, the location of intake and outfall shall be clearly specified along with depth of water drawl and discharge into open sea.
- xxiv) Source of water and its sustainability even in lean season shall be provided along with details of ecological impacts arising out of withdrawal of water and taking into account inter-state shares (if any). Information on other competing sources downstream of the proposed project and commitment regarding availability of requisite quantity of water from the Competent Authority shall be provided along with letter / document stating firm allocation of water.
- xxv) Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished.
- xxvi) Feasibility of near zero discharge concept shall be critically examined and its details submitted.
- xxvii) Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.

- xxviii) Plan for recirculation of ash pond water and its implementation shall be submitted.
- xxix) Detailed plan for conducting monitoring of water quality regularly with proper maintenance of records shall be formulated. Detail of methodology and identification of monitoring points (between the plant and drainage in the direction of flow of surface / ground water) shall be submitted. It shall be ensured that parameter to be monitored also include heavy metals. A provision for long-term monitoring of ground water table using Piezometer shall be incorporated in EIA, particularly from the study area.
- xxx) Socio-economic study of the study area comprising of 10 km from the plant site shall be carried out through a reputed institute / agency which shall consist of detail assessment of the impact on livelihood of the local communities.
- xxxii) Action Plan for identification of local employable youth for training in skills, relevant to the project, for eventual employment in the project itself shall be formulated and numbers specified during construction & operation phases of the Project.
- xxxiii) If the area has tribal population it shall be ensured that the rights of tribals are well protected. The project proponent shall accordingly identify tribal issues under various provisions of the law of the land.
- xxxiiii) A detailed CSR plan along with activities wise break up of financial commitment shall be prepared. CSR component shall be identified considering need based assessment study and Public Hearing issues. Sustainable income generating measures which can help in upliftment of affected section of society, which is consistent with the traditional skills of the people shall be identified. Separate budget for community development activities and income generating programmes shall be specified.
- xxxv) While formulating CSR schemes it shall be ensured that an in-built monitoring mechanism for the schemes identified are in place and mechanism for conducting annual social audit from the nearest government institute of repute in the region shall be prepared. The project proponent shall also provide Action Plan for the status of implementation of the scheme from time to time and dovetail the same with any Govt. scheme(s). CSR details done in the past should be clearly spelt out in case of expansion projects.
- xxxvi) R&R plan, as applicable, shall be formulated wherein mechanism for protecting the rights and livelihood of the people in the region who are likely to be impacted, is taken into consideration. R&R plan shall be formulated after a detailed census of population based on socio economic surveys who were dependant on land falling in the project, as well as, population who were dependant on land not owned by them.
- xxxvii) Assessment of occupational health and endemic diseases of environmental origin in the study area shall be carried out and Action Plan to mitigate the same shall be prepared.
- xxxviii) Occupational health and safety measures for the workers including identification of work related health hazards shall be formulated. The company shall engage full time qualified doctors who are trained in occupational health. Health monitoring of the workers shall be conducted at periodic intervals and health records maintained. Awareness programme for workers due to likely adverse impact on their health due to working in non-conducive environment shall be carried out and precautionary measures like use of personal equipments etc. shall be provided. Review of impact of various health measures undertaken at intervals of two to three years shall be conducted with an excellent follow up plan of action wherever required.
- xxxix) One complete season site specific meteorological and AAQ data (except monsoon season) as per latest MoEF Notification shall be collected and the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM₁₀, PM_{2.5}, SO₂, NO_x, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration of the upwind direction, pre-dominant downwind

direction, other dominant directions, habitation and sensitive receptors. There should be at least one monitoring station each in the upwind and in the pre-dominant downwind direction at a location where maximum ground level concentration is likely to occur.

- xxxix) In case of expansion project, air quality monitoring data of 104 observations a year for relevant parameters at air quality monitoring stations as identified/stipulated shall be submitted to assess for compliance of AAQ Standards (annual average as well as 24 hours).
- xl) A list of industries existing and proposed in the study area shall be furnished.
- xli) Cumulative impacts of all sources of emissions including handling and transportation of existing and proposed projects on the environment of the area shall be assessed in detail. Details of the Model used and the input data used for modeling shall also be provided. The air quality contours should be plotted on a location map showing the location of project site, habitation nearby, sensitive receptors, if any. The windrose and isopleths should also be shown on the location map. The cumulative study should also include impacts on water, soil and socio-economics.
- xl ii) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.
- xl iii) Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.
- xl iv) Quantity of fuel required, its source and characteristics and documentary evidence to substantiate confirmed fuel linkage shall be furnished. The Ministry's Notification dated 02.01.2014 regarding ash content in coal shall be complied. For the expansion projects, the compliance of the existing units to the said Notification shall also be submitted
- xl v) Details of transportation of fuel from the source (including port handling) to the proposed plant and its impact on ambient AAQ shall be suitably assessed and submitted. If transportation entails a long distance it shall be ensured that rail transportation to the site shall be first assessed. Wagon loading at source shall preferably be through silo/conveyor belt.
- xl vi) For proposals based on imported coal, inland transportation and port handling and rail movement shall be examined and details furnished. The approval of the Port and Rail Authorities shall be submitted.
- xl vii) Details regarding infrastructure facilities such as sanitation, fuel, restrooms, medical facilities, safety during construction phase etc. to be provided to the labour force during construction as well as to the casual workers including truck drivers during operation phase should be adequately catered for and details furnished.
- xl viii) EMP to mitigate the adverse impacts due to the project along with item - wise cost of its implementation in a time bound manner shall be specified.
- xl ix) A Disaster Management Plan (DMP) along with risk assessment study including fire and explosion issues due to storage and use of fuel should be carried out. It should take into account the maximum inventory of storage at site at any point of time. The risk contours should be plotted on the plant layout map clearly showing which of the proposed activities would be affected in case of an accident taking place. Based on the same, proposed safeguard measures should be provided. Measures to guard against fire hazards should also be invariably provided. Mock drills shall be suitably carried out from time to time to check the efficiency of the plans drawn.
- l) The DMP so formulated shall include measures against likely Fires/Tsunami/Cyclones/Storm Surges/Earthquakes etc, as applicable. It shall be ensured that DMP consists of both On-site and Off-site plans, complete with details of containing likely disaster and shall specifically mention personnel identified for the

task. Smaller version of the plan for different possible disasters shall be prepared both in English and local languages and circulated widely.

- li) Detailed scheme for raising green belt of native species of appropriate width (50 to 100 m) and consisting of at least 3 tiers around plant boundary with tree density of 2000 to 2500 trees per ha with a good survival rate of around 80% shall be submitted. Photographic evidence must be created and submitted periodically including NRSA reports in case of expansion projects. A shrub layer beneath tree layer would serve as an effective sieve for dust and sink for CO₂ and other gaseous pollutants and hence a stratified green belt should be developed.
- lii) Over and above the green belt, as carbon sink, plan for additional plantation shall be drawn by identifying blocks of degraded forests, in close consultation with the District Forests Department. In pursuance to this the project proponent shall formulate time bound Action Plans along with financial allocation and shall submit status of implementation to the Ministry every six months.
- liii) Corporate Environment Policy
 - a. Does the company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be detailed in the EIA report.
 - b. Does the Environment Policy prescribe for standard operating process / procedures to bring into focus any infringement / deviation / violation of the environmental or forest norms / conditions? If so, it may be detailed in the EIA.
 - c. What is the hierarchical system or Administrative order of the company to deal with the environmental issues and for ensuring compliance with the environmental clearance conditions. Details of this system may be given.
 - d. Does the company has compliance management system in place wherein compliance status along with compliances / violations of environmental norms are reported to the CMD and the Board of Directors of the company and / or shareholders or stakeholders at large? This reporting mechanism should be detailed in the EIA report.

All the above details should be adequately brought out in the EIA report and in the presentation to the Committee.

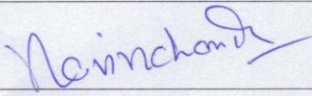
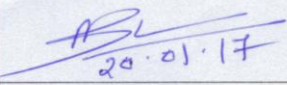
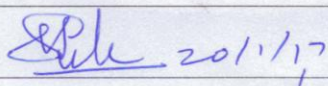

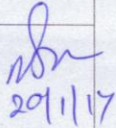
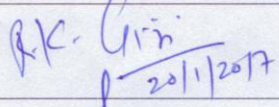
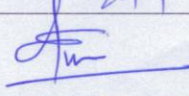
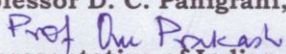
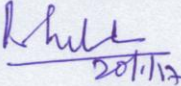
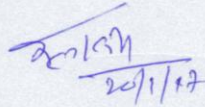
- liv) Details of litigation pending or otherwise with respect to project in any Court, Tribunal etc. shall invariably be furnished.

Attendance of the 2nd EAC Meeting of the Re-constituted Expert Appraisal Committee (EAC) for Thermal Power Projects Meeting held on 20th January, 2017

LIST OF MEMBERS (THERMAL & COAL MINING SECTOR)

2nd MEETING OF RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) FOR THERMAL & COAL MINING PROJECTS

DATE & TIME : 20TH ~~DECEMBER, 2016~~ January, 2017
 VENUE : TEESTA MEETING HALL, VAYU WING, INDIRA PARYAVARAN BHAWAN, NEW DELHI

Sr.No	Name & Designation	Signature
1	Dr.Navin Chandra Chairman	
2	Dr.Narmada Prasad Shukla, Member	 20.01.17
3	Dr.Rajesh P Gunaga, Member	- Absent -
4.	Shri N. Mohan Karnat, IFS Member	- Absent -
5.	Dr.Sharachchandra Lele, Member	 20/1/17
6.	Shri P. D. Siwal, / Shri N. S. Mondal Representative of Central Electricity Authority (CEA)	 20/1/17 /  20/1/17
7.	Dr.R.K Giri, Scientist 'E', Representative of Indian Meteorological Department,(IMD)	 20/1/2017
8.	Dr. S. K. Paliwal, Scientist 'D' Representative of Central Pollution Control Board (CPCB)	
9.	Professor D. C. Panigrahi,  Representative of Indian School of Mines Dhanbad	 20/1/17
10.	Dr. S. Kerketta Member Secretary Ministry of Environment, Forest & Climate Change	 20/1/17

Approval of Minutes of the 2nd Meeting of the Re-constituted Expert Appraisal Committee (EAC) on Environmental Impact Assessment (EIA) of Thermal Power Projects by the Chairman.

----- Original Message -----

From: **navin chandra** <navinchandrar1@yahoo.com>

Date: Feb 3, 2017 11:16:36 AM

Subject: Re: Fwd: Draft_2nd_Minutes_of_Meeting_EAC_20.01.2017_After_Experts

To: Dr S Kerketta <s.kerketta66@gov.in>

Dear Dr. Kerketta Ji,
Member Secretary, (Thermal Power Plants)
MoEF, New Delhi.

I have gone through the minutes sent by you. You may please upload them now.
Thanks,

(NAVIN CHANDRA)
Chairman, EAC, MoEF