

## **MINUTES OF THE 59<sup>th</sup> MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER & COAL MINING PROJECTS**

The 59<sup>th</sup> Meeting of the reconstituted EAC (Thermal Power) was held during 14<sup>th</sup>-15<sup>th</sup> July, 2016 in the Ministry of Environment, Forest & Climate Change at Brahmaputra Meeting Hall, Vayu Wing, First Floor, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi. The following members were present:

1. Shri Anil Kumar - Chairman
2. Prof. C.R. Babu - Member
3. Shri T.K. Dhar - Member
4. Shri N.K. Verma - Member
5. Shri A.K. Bansal - Member
6. Shri G.S. Dang - Member
7. Shri Shantanu Dixit - Member
8. Shri N.S. Mondal - Member (Representative of CEA)
9. Dr. S.K. Paliwal - Member (Representative of CPCB)
10. Dr. S. Kerketta - Member Secretary

Shri J.L. Mehta, Dr. Ratnavel and Representatives of IMD & WII could not be present.

### **Item No.1: CONFIRMATION OF THE MINUTES OF THE 57<sup>th</sup> EAC (LAST) MEETING.**

The Minutes of the 57<sup>th</sup> EAC (Thermal Power) meeting held on 16<sup>th</sup>-17<sup>th</sup> June, 2016 were confirmed.

### **Item No. 2: CONSIDERATION OF PROJECTS**

#### **2.1 5x800 MW Super Critical Coal Based Yadadri Thermal Power Station at Village Veerlapalem, District Nalgonda, Telangana by M/s. Telangana State Power Generation Corporation Ltd. (TSGENCO) – reg. EC.**

The EAC noted that the background documents had not been received by some of the members, and where received, had been received only one day before or on the same day of EAC meeting, thus not giving an opportunity even to such Members to fully study the documents. As such, the EAC was not in a position to consider the case. The proposal was, therefore, **deferred**. However, to save time for this proposal's consideration in the next EAC meeting, the PP was provided a copy each of the two representations received by the EAC for a detailed reply to be submitted by the PP to the Ministry well before the next EAC meeting, for action in line with the decision recorded under Agenda item 3.1 of this meeting.

#### **2.2 2,000 MW Gas Based Combined Cycle Power Plant (CCPP) at Village Godhra, District Kutch, Gujarat by M/s. Nana Layja Power Co. Ltd. - reg. discussion on adequacy of stack height etc.**

The EAC noted that the background documents had not been received by some of the members, and where received, had been received only one day before or on the same day of EAC meeting, thus not giving an opportunity even to such Members to fully study the documents. As such, the EAC was not in a position to consider the case. The proposal was, therefore, **deferred**.

**2.3 3x660 MW Expansion of coal based power Units at Koradi TPP in Nagpur District, Maharashtra by M/s. Maharashtra State Power Generation Co. Ltd.– reg. amendment of EC.**

The EAC noted that the background documents had not been received by some of the members, and where received, had been received only one day before or on the same day of EAC meeting, thus not giving an opportunity even to such Members to fully study the documents. As such, the EAC was not in a position to consider the case. The proposal was, therefore, **deferred**.

**2.4 225 MW Combined Cycle Gas Based Power Plant near Village Khaikhera, Tehsil Kashipur, District Udham Singh Nagar, Uttarakhand by M/s. Sravanthi Energy Pvt. Ltd. – reg. extension of validity of EC.**

(2.4.1) The PP brought out that the EC was given for Phase I of his project on 09.03.2010, and for Phase II on 31.01.2011. In the background document circulated to the EAC Members, the PP (relying upon the MoEF&CC Notification dt. 29.04.2015 and the MoEF&CC O.M dt.12.04.2016, both dealing with extension of EC validity) has requested for extension of validity of EC for Phase I from 5 to 7 years.

(2.4.2) The EAC noted that as per the provisions of the principal Notification dt. 14<sup>th</sup> Sep. 2006 which were applicable at the time the PP's case was processed, the validity of the EC was 5 years. Therefore in terms of those provisions, the validity of the EC for Phase I had expired more than a year back i.e. on 08.03.2015, while the request for its extension has been made only now.

(2.4.3) The EAC noted that the Ministry's Notification dated 29.04.2015 (by which time the EC validity of Phase I had already expired) does not spell out its retrospective applicability regarding extension of validity of EC from 5 to 7 years. However, the Ministry has issued an O.M. dated 12.04.2016 on the subject matter. *Hence, the EAC recommended that the Ministry may take a decision in the matter.*

**2.5 4x300 MW Thermal Power Plant at Jaigad, District Ratnagiri, Maharashtra by M/s. JSW Energy (Ratnagiri) Ltd. – reg. amendment of EC.**

(2.5.1) The PP made a presentation and inter-alia, provided the following information:

- EC was accorded for the above TPP on 17.05.2007. The plant is currently operating on coal having ash content up to 12% (max.) and using 11,000 TPD of coal (as per EC condition). This restriction of 12% ash was one of the conditions for all other imported coal based for coastal power plants in the country during that period.
- By restricting the ash content upto 12% (max.) the sources of coal is getting restricted to a particular origin (viz. Indonesia and limited sourced from SA). Alternatively, the imported coal with higher ash content (15-25%) is easily available from multiple sources.
- It is requested to allow use of imported coal having ash content upto 25% (max.), and enhancing daily coal consumption quantity from 11,000 TPD to 14,000 TPD. This change in coal quantity and ash% will enable the PP to have access to much greater variety of coal from different sources.
- The issue of allowing higher ash content of 25% (max.) for coastal power stations was discussed and recommended in the 43<sup>rd</sup> Meeting of the EAC held on

18.09.2015. MoEF&CC has issued O.M. dated 02.11.2015 for use of imported coal having 25% ash (max.) for the UMPPs.

(2.5.2) The EAC noted that the said O.M. of the Ministry increasing the restriction of ash content in imported coal to 25% (max.) is only for the UMPPs. Hence, the same is not applicable for the above TPP.

(2.5.3) The PP informed that while the first unit was commissioned in 2010, the last (fourth) unit was commissioned in 2012. Regarding the status of the following condition stipulated in Para 3 (ii) of the EC dt. 17<sup>th</sup> May, 2007:-

“The detailed study regarding the impact of the project, if any, on Alphanso mango and marine fisheries as recommended in the report of Dr. B.S. Konkan Krishi Vidyapith shall be undertaken. Based on the same, additional safeguard measures as may be required will be taken by the proponent with prior approval of the Ministry of Environment & Forests. A copy of the report will be submitted to the Ministry. The cost towards undertaking the study and implementation of safeguard measures, if any, will be borne by the project.”

the PP informed that the study had been started in 2008, but had not yet been completed.

(2.5.4) *In view of above, the EAC stated that that the outcome of the above study is a pre-requisite for consideration of the requested amendment of EC. The proposal was accordingly, **deferred**. The EAC also pointed out that if after the examination of the conclusions of the study, it was decided to consider the PP’s request for switching to imported coal with ash content higher than the presently stipulated upto 12%, then it would have to be on the basis of an EIA study, in line with the various O.Ms of the MoEF&CC, and also in line with the earlier recommendation of the EAC (as recorded in Para 3.2 of the minutes of the 43<sup>rd</sup> meeting held on 18<sup>th</sup> Sep. 2015).*

## **2.6 Expansion of 4x250 MW by addition of 4x600 MW Coal Based Thermal Power Plant at Tamnar, in Gharghoda Tehsil, in Raigarh Distt., in Chhattisgarh by M/s Jindal Power Ltd. - reg. amendment of EC.**

(2.6.1) The proposal of PP requesting for amendment of EC for change in location of ash pond was considered earlier by the EAC in its 50<sup>th</sup> Meeting held during 28<sup>th</sup>-29<sup>th</sup> January, 2016, the minutes of which are as under:

**Quote** “(2.7.1) The PP made a presentation and *inter-alia*, provided the following information:

- (i) EC Clearance for the above expansion project was accorded on 18.03.2011 for Units #1 & 2 and 04.11.2011 for Units # 3&4. Subsequently, all four units of 2,400 MW have been synchronized and three units have achieved COD. The requested amendment is for change in ash dyke location.
- (ii) Initially, ash dyke for 4x600 MW was proposed to be constructed on an area of 491 Ha, comprising of 250 Ha land near Dolessara village and another 241 Ha land near Rodapali village. Details of both patches were included in the Draft and Final EIA report and both the patches of land were part of Public Hearing. In order to optimize the land requirement, JPL requested MOEF to consider only

241 Ha of land near Rodapali village for proposed ash dyke. Accordingly, MOEF while granting EC to the project has approved 241 Ha of land near Rodapali village for locating the ash pond for the expansion project. However, land near Rodapali village could not be acquired for construction of ash dyke, as the same became part of Gare Pelma Sector-II coal block.

- (iii) Due to delay in acquisition of land for ash dyke, JPL requested MOEF to permit use of existing ash dyke of 4x250 MW for expansion project of 4x600 MW. Same was permitted by MOEF for period of 3 years i.e. till 09.01.2017. Now, JPL proposes to construct the ash dyke near Dolesara village on an area of 239 Ha. This land has already undergone Public Hearing as a part of EIA for 4x 600 MW.
- (iv) Regarding the land acquisition status of proposed new dyke area, in-principal approval for land acquisition has been received from State Industrial Promotion Board. Compensation of Rs. 57.36 crores has already been deposited with Chhattisgarh State Industrial Development Corporation (CSIDC), Raipur. R&R plan for the land has been approved by CSIDC, Raipur vide letter dated 03.08.2015. Section 11 notification for land acquisition completed on 31.08.2015. Issue of section 12 for preliminary survey of land completed on 15.11.2015. Issue of Section 15 for hearing of objection of Section 11 completed on 18.01.2016.

(2.7.2) While the PP had not intimated about any court case, the Committee noted that the Ministry was informed by the representative of Appellant in Appeal No. 6/2012, Mehnatkash Majdoor Kisan Ekta Sangthan & Anr. Vs. UoI & Ors. that its appeal against the EC of 2011 is still under consideration of Hon'ble N.G.T. and any amendment in EC should not be considered by EAC. *In this regard, the Committee requested the Ministry to study the NGT Orders and clarify whether there is any direct or implied stay by NGT on the project in general and the requested amendment in particular.*

(2.7.3) *After detailed deliberations, the Committee sought the following and **deferred** the decision on the proposal.*

- (i) *Hydro-geological study of the proposed ash pond area for a minimum one month.*
- (ii) *Although the Public Hearing for land acquisition was held earlier, to make the public aware about the proposed new location of ash pond, public notices in the leading local newspapers, Gram Panchayats, Website of PP etc. should be published, along with the intimation that the public can send its comments if any to the PP and also MoEF & CC within one month after publication of the public notice.” **Unquote.***

(2.6.2) In this 59<sup>th</sup> meeting on 14<sup>th</sup> -15<sup>th</sup> July, before taking up consideration of the PP's requests, the EAC, with reference to Para (2.7.2) above, inquired about the impact of the NGT's Orders. The PP and the Ministry clarified that the said Appeal was disposed off on 09.03.2016, and the Order does not stay the proposed amendments.

(2.6.3) For this 59<sup>th</sup> meeting on 14<sup>th</sup> -15<sup>th</sup> July, the PP vide letter dated 07.07.2016 circulated to the EAC Members, had requested the Ministry for change in source of coal for Units 3 & 4 from imported to domestic, and for change in location of the ash dyke near to the Dolesara village. Regarding the change in location of ash dyke, it was inter-alia stated that, as recommended by the EAC, hydro-geological study has been completed and

report on the same will be submitted to MoEF and EAC shortly. However, in case the hydro-geological report is delayed, kindly consider request for change in source of coal from imported to domestic so that unit 3 & 4 are commercially viable to operate. Accordingly, the proposal was placed before the EAC. *The EAC pointed out that since the hydro-geological study report was not yet available, the proposal for only change in source of coal for Units 3 & 4 from imported to domestic can be taken up for consideration in this meeting.*

- (2.6.4) Further, in connection with the request for change in location of the ash dyke near to the Dolesara village, the EAC took note of the e-mail representation dated 13.07.2016 received by the Ministry (i) alleging location of the proposed ash dyke falling within the coal mine area of Gare Palma Sector-I which presently stands allotted to the Gujarat State Electricity Corporation, and (ii) enclosing a resolution of the Dolesara Gram Sabha dated 07.10.2015 against the land acquisition for ash dyke, etc. *Notwithstanding that the ash dyke matter cannot be taken up for consideration in this meeting, the EAC, in order to save time for this proposal's consideration in the next EAC meeting, requested the Member Secretary to make available to the PP a copy of the representation for a detailed reply to be submitted by the PP to the Ministry well before the next EAC meeting, for action in line with the decision recorded under Agenda item 3.1 of this meeting.*
- (2.6.5) Also in connection with the change in ash dyke location, the PP's attention was drawn to the Dolesara Gram Panchayat's "no objection" document dt. 22.8.2015 attached to the PP's letter dated 07.07.2016 circulated to the EAC Members. *The EAC was not clear why this document dt. 22/8/2015 had not been placed before the EAC, when the case was earlier taken up by the EAC in its January, 2016 meeting (i.e. five months after the "no objection"). The PP was also asked to clarify the discrepancy in the area for the ash dyke – while the Gram Panchayat mentioned a total of approximately 190.5 ha, the requirement indicated by the PP in the Jan., 2016 meeting of the EAC was 239 ha {as reproduced in para 2.7.1 (iii) above}.*
- (2.6.6) Regarding the change in source of coal for Units 3 & 4 from imported to domestic, and its transportation to the project, the PP stated that they already had permission for transportation of coal by road, but were unable to switch to domestic coal because the EC stipulates usage of imported coal. Regarding environmental impact of change in source of coal, the following was stated in the PP's letter dated 07.07.2016 circulated to the EAC Members:- "Furthermore, we would like to supplement that in the EIA report, the air quality modelling was based upon the domestic coal and characteristics of imported coal considered for grant of Environmental Clearance were same as for domestic coal. Hence there will be no change in impact on environment, including air quality, due to change in source of coal". Similarly, in the presentation circulated during the meeting, in slide 11, it has again been reiterated that "Hence, due to change in source of coal from Mozambique to domestic, there will be no change in impact on environment, including air quality". Also, as stated in slide 9 of the presentation, domestic coal is proposed to be procured through the "special forward e-auction".
- (2.6.7) As is very well known to all PPs in the thermal power sector, and as has been repeatedly brought out in the various O.Ms etc. issued by the MoEF&CC, one of the primary responsibilities of the EAC is to examine the impact on the environment of coal usage, and the impact on account of the mode and route of its transportation from the coal source to the project site. In this context, on its enquiry, the EAC was informed that the following condition had been stipulated in the EC amendment dt 27<sup>th</sup>

March, 2015 issued to the PP:- *“The coal for the proposed expansion project will be crushed near MCL mines by installing coal crushers by its subsidiary Company Uttam Infralogix Ltd, and the crushed coal will be transported to the plant site at Tamnar through Close Circuit Pipe Conveyer (CCPC). However, as an interim arrangement, the domestic and imported coal may be transported by road from MCL /SECL mines and Raigarh, respectively for a limited period of two years by which time the CCPC will be put in place for coal transportation and crush the same within the plant site by installing coal crusher”.*

- (2.6.8) As is clear from the above EC condition, the transportation route for the imported coal was stipulated from Raigarh. On enquiry, the PP stated that procurement of domestic coal through e-auction (as stated in their presentation) would have to be from MCL / SECL mines. Since these mines are in a completely different direction from Raigarh, it became clear on further enquiry from the PP that substitution of imported coal by domestic coal would necessarily also involve a change in the entire transportation route. In other words, the substitution of coal source for the 1200 MW of Units 3 & 4 would result in an additional movement of five-six MTPA coal on the road network from MCL / SECL mines to the project site. *The EAC was unable to appreciate how the PP had not brought out this basic and fundamental fact in its submissions, and the position had emerged only as a result of specific queries to the PP. It was also obvious that before the PP’s request could be considered, due permissions would have to be obtained from the concerned Authorities for road usage, in addition to studies that may also require to be conducted regarding road carrying capacities etc. The EAC took a serious view of such suppression of vital information for appraisal of the proposal, especially by a company of its magnitude and cautioned the PP for non-repetition.*
- (2.6.9) Since the March, 2015 EC amendment had clearly specified a limited time frame of two years for road transportation (viz, “.....as an interim arrangement, the domestic and imported coal may be transported by road from MCL /SECL mines and Raigarh, respectively for a limited period of two years by which time the CCPC will be put in place for coal transportation.....”), the PP was asked to indicate the readiness of the CCPC. The PP indicated that the CCPC was currently only at the engineering stage. It thus becomes clear that operationalising the CCPC is very much behind schedule, and will take a few more years. *The EAC was unhappy to note that because of this, coal transportation by road would necessarily have to continue in future also. The EAC therefore desired that the PP should take immediate steps to commission the CCPC at the earliest so that road transportation could be avoided.*
- (2.6.10) *In the light of the position given in the preceding paras, the PP was asked to respond to the issues mentioned above in paras 2.6.4, 2.6.5, 2.6.8 and 2.6.9. The proposal was accordingly **deferred.***

## **2.7 1,600 (2x800) MW Godda Thermal Power Project at Villages Motia, Gangta & Gaighat, Tehsils Godda & Poraiyahaat, District Godda, Jharkhand by M/s Adani Power (Jharkhand) Ltd.- re-consideration for ToR.**

- (2.7.1) The proposal was earlier discussed in the 52<sup>nd</sup> & 55<sup>th</sup> meetings of the EAC (Thermal Power) held during 29.02.2016-01.03.2016 & 05-06.05.2016, respectively, for an another site in the same district & different villages and in the 57<sup>th</sup> meeting held on 16<sup>th</sup> and 17<sup>th</sup> June, 2016 for the above site, the minutes of which are as under:

**Quote** “(2.3.1) In the 52<sup>nd</sup> meeting on 29<sup>th</sup> Feb and 01<sup>st</sup> Mar 2016, the PP along with their environmental Consultant, Greencindia Consulting Private Limited, NCR, Ghaziabad made a presentation and *inter-alia*, provided the following information:

- i. Adani Power (Jharkhand) Limited, (APJL) is a subsidiary company of APL which has been formed to develop Thermal Power Plant in Jharkhand. The power plant is being developed as a result of the MoU signed between Government of India (GoI) and Government of Bangladesh (GoB) on 11.01.2010 with a view to enhance traditional ties of friendship, through economic co-operation. Accordingly, Adani Power Limited (APL) on 11.08.2015 signed a MoU with Bangladesh Power Development Board (BPDB), to develop a 2x800 MW thermal power plant on BOO basis in India and supply the entire power generated to Bangladesh Power Development Board (BPDB) through a dedicated Transmission Line.
- ii. NOC from Ministry of Power, Government of India has been obtained to set up Thermal Power Plant in Jharkhand for supplying power to Bangladesh through a dedicated 400 kV transmission line. Government of Jharkhand has signed MoU with Adani Power (Jharkhand) Limited for setting up this Power Plant.
- iii. After exploring four sites, the site at Paraspani has been finalized because of No Protected or Reserve Forest involved in project site, No Wildlife Sanctuary/National Park is located within 15 km from the project site, Land is mostly barren with single crop thus least impact on Agriculture and livelihood in comparison to other location and Minimum Displacement, therefore lesser R & R issues. A second order seasonal stream passes through the site, which will be conserved. To maintain natural drainage profile, storm water drains will be developed along the profile of first order streams.
- iv. The land requirement is 1,014 acres/410 Ha. (includes Main plant, Coal Storage, Water Reservoir and Green Belt) [Private land: 302 + Govt. land: 108]. The coal requirement is 7.0 MMTPA of Imported Coal which will be met from Indonesia, South Africa, Australia and other possible sources. The imported coal shall be received at Dhamra port (Odisha) and the same will be transported to the project site by rail. Coal storage of 15 days requirement of coal is proposed at the power plant. The annual requirement of coal is estimated to be about 7.0 MMTPA. Hasdiha- Godda Railway Line is under development. Railway Infrastructure will be developed from Godda to the Site. The nearest Railway Station is Hansdiha (39 Km, SW) and the nearest Sea Port is Kolkata Port (350 km, S). The project site falls under ZONE – III as per IS 1893: 200. The project cost is Rs. 13,906 Crores.
- v. The water requirement is 4,000 m<sup>3</sup>/hr (35 MCM per annum) which shall be sourced from Chir River with a water intake point at a distance of 20 km. The water will be drawn from the River Chir by constructing a pump house and pumping the water to the plant through a dedicated pipeline. An intermediate booster pumping station shall be provided for Paraspani site. Closed circuit cooling water system would be adopted for steam generator and turbine generator and common auxiliaries like air compressors, ash handling plant equipment etc. It is proposed to install Two (2) natural/induced draft cooling towers, one for each unit and of approx. capacity 92,000 m<sup>3</sup>/hr per tower. The cooling tower would be designed for a cooling range of 9°C. 100% Ash disposal shall be as per MoEF guidelines.

(2.3.2) *The Committee observed that although the proposed site seems to be suitable for the TPP w.r.t ecology etc., the PP did not provide the information/data regarding the water availability from Chir River so as to assess the impact of proposed water drawl on the downstream users and ecology. Accordingly, the proposal was **deferred** and the following information was sought:*

- i. Data from the State Irrigation Department justifying the water availability.*
- ii. Impact of proposed water drawl on the downstream users and ecology.*
- iii. Confirmation that the imported coal parameters shall be as per the O.Ms of the Ministry.*
- iv. Copy of the NOC from Ministry of Power for the export of power.*

(2.3.3) *However, as requested by the PP for generating the baseline data (meteorological and air quality) of pre-monsoon season from March, 2016 the Committee agreed for the same at the PP's own cost.*

(2.7.2) In this 55<sup>th</sup> meeting on 5<sup>th</sup> & 6<sup>th</sup> May 2016, the PP informed that they had submitted report on water availability for proposed withdrawal of water at a point in Chir River prepared by M/s. Nano System Consultant Pvt. Ltd., an empanelled consultant by Water Resources Department, Govt. of Bihar. Based on this report, the PP applied to Water Resources Department, Govt. of Jharkhand for allocation of 36.0 MCM of water on annual basis from Chir River, which the Department has conveyed concurrence for said withdrawal at Lat. 24° 56' 12.85" N & Long. 87° 08' 59" E through storage intervention of specified capacity at a location to store water for operation of the TPP during on Monsoon period i.e. 15<sup>th</sup> of October to 15<sup>th</sup> of June.

(2.7.3) The Committee noted that from this report, it is observed that no flow data on Chir River is reported. All values presented are based on computation taking secondary data on rain fall. The information was not available about total catchment area of Chir River with map and separate catchment before and after proposed abstraction point on Chir River. The details on land use in the catchment and the irrigation scheme details in catchment area with all existing abstraction points for different uses in the catchment area of the Chir River are also not available. The PP could also not give details as to whether Chir is tributary of Chandan River or directly flows in River Ganga. The route of two Rivers is also not given.

(2.7.4) In absence of above data, information & details the proposal is **deferred**. The following shall also be submitted by PP:

- (i) Detailed reply to the issues raised by ERC, New Delhi
- (ii) The PP shall get a clarification from WRD, Jharkhand regarding the requirement of NGRBA approval for the water drawl and if so, whether the same has been obtained.

(2.7.5) Further, the senior official (s) of the Water Resources Department, Govt. of Jharkhand and M/s. Nano System Consultant Pvt. Ltd., who prepared the said report, shall also be present before the EAC, when the proposal is considered next.

- (2.10.2) Subsequent to the last EAC, the PP has applied to the Ministry for ToR for the same project but at a revised site, which is at a distance of 17.5 km away from the earlier site. The name of the project has been changed to “Goddha Thermal Power Plant”, as the Paraspani Village is no more involved. However, the source of coal and water remain unchanged.
- (2.10.3) The PP along with their environmental Consultant, Greencindia Consulting Private Limited, NCR, Ghaziabad and hydrology consultant, Nano System Consultant Pvt. Ltd. made a presentation. An Executive Engineer from the WRD, Govt. of Jharkhand was also present.
- (2.10.4) The land requirement is 860 acre (Main plant, WTP, CT: 393 acre; Green Belt: 203 acre; Town: 30 acre and Ash Dyke: 234 acre) of which private land is 737 acre and Govt. land is 123 acre. Additional area of 550 acre for raw water reservoir will also be required. The nearest Railway Station is Hansdiha (39 km, SW).
- (2.10.5) The EAC noted that the PP did not submit the information sought in the last EAC i.e. flow data and catchment areas of Chir River etc. The EAC pointed out that since the source of water remains unchanged, the data is still required. The hydrology consultant has only tried to make oral submissions. The proposal was accordingly, **deferred.” Unquote.**
- (2.7.2) Upon submission of the above sought information/documents, the proposal was placed before the EAC in this 59<sup>th</sup> meeting dated 15.07.2016, wherein the PP along with their environmental Consultant, Greencindia Consulting Private Limited, NCR, Ghaziabad and hydrology consultant, Nano System Consultant Pvt. Ltd. made a presentation and inter-alia, provided the following information:
- Bilasi - Chandan - Chir River Basin is situated between latitudes 24°30' N to 25°17' N and longitudes 84°36' E to 87°27' E. The basin is drained independently by the Rivers Chandan and Chir and both outfall independently into the River Ganga. Both Rivers Chandan and Chir originate from hills of Deoghar and after traveling more than 100 km length bifurcate into number of small channels with deltaic River characteristics before meeting the River Ganga. There is no observed flow data for River Chir but there is a dam on Chandan River, from where discharge data for longer period was obtained. Runoff is primarily dependent on rainfall and therefore with rainfall in the catchment of Chandan dam were obtained and a weekly rainfall-runoff equation was derived for Chandan dam site.
  - Catchment characteristics of Chandan and Chir are almost same. Therefore, rainfall-runoff equation developed for Chandan dam was utilized for Chir River also, but with changed rainfall in Chir basin. This practice for transporting data from adjacent valley is a most prevalent and practiced method in hydrology. In this particular case, even the valley is same, thus transportation of co-relation with Chandan data is essentially logical. An index map on topo sheet showing the entire catchment area of Chir river upto its outfall in River Ganga is submitted. This index map shows the catchment area before and after withdrawal point. The catchment area before withdrawal point is 1213 km<sup>2</sup> and after withdrawal point is 849 km<sup>2</sup>.

- 13 blocks fall in the upstream catchment area of Chir River and their land use details are submitted. Only 5 (Five) blocks fall below the withdrawal point and their land use with available irrigation facilities are submitted. The map shows the location of all existing irrigation schemes in the catchment area of Chir River. The tributaries of Chir River, where irrigation schemes are existing are Sukhania, Dakai, Triveni, Kajhia, Harna North, Harna South, Sundar and Gahra Rivers. Sonahala weir is on Gahra River, which runs parallel to Chir River. In the downstream of Sonahala weir, it outfalls in Chir River. This outfall is in downstream of withdrawal point. In the downstream of the proposed extraction point, surface water provides irrigation to only 1,524 ha (1.22 %) of the land area. Most of the lands are unirrigated and cultivation depends on rainfall. Water released in River after abstraction by APJL is estimated at 354.96 MCM. Therefore, abstraction of water from Chir River will not affect downstream uses.
- It is clarified that the basin is drained independently by the Rivers Chandan and Chir and both outfall independently into the River Ganga. Chir River is not a tributary of Chandan River. WRD, Government of Jharkhand vide letter dated 09.06.2016 has stated that the approval of NGRBA has not been obtained on this proposal because water is not to be drawn directly from River Ganga.
- Two tributaries namely Triveni and Khajia Rivers are the major tributaries of Chir River. The plant location is in upstream of the confluence of Kajhia River with Chir River. The total catchment area at abstraction point in Chir River is 1213 km<sup>2</sup>, out of which catchment area of Triveni River is 252 km<sup>2</sup> and for Kajhia River 414.50 km<sup>2</sup>. Govt. of Jharkhand is considering to construct a dam in upstream of Triveni weir to stabilize the irrigation potential. All Rivers are rain fed in Jharkhand and runoff depends on rainfall, which varies most during monsoon. To facilitate pumping of water only during monsoon season, the abstraction point is proposed downstream of the confluence, so that maximum water is available.
- Water withdrawal has been proposed from 3<sup>rd</sup> week of June to October, all in monsoon period. Therefore, it is emphatically confirmed that no water shall be withdrawn during non- monsoon period. Water requirement in monsoon period shall be drawn directly from Chir River and water requirement for balance period shall be stored in a man-made reservoir (pond) being planned by the side of proposed plant location.
- Bihar Second Irrigation Commission has assessed Bilasi- Chandan- Chir basin and the balance of surface water potential still to be utilized sector wise is as Municipal and Industrial uses - 223.5 MCM (15.00%), For Major & Medium schemes - 733.0 MCM (49.16%), For Minor Irrigation schemes - 237.0 MCM (15.90%) and Release in River - 297.5 MCM (14.94%). The total Catchment area of the basin is 4,090 km<sup>2</sup>. and Catchment area at abstraction point is 1,213 km<sup>2</sup>. Therefore, on proportionate basis also, allocation for M & I uses in the above catchment should be  $(1213/4090 \times 223.5)$  66.25 MCM. Govt. of Jharkhand has allocated 36.0 MCM of water considering all sectorial requirements.
- Sonahala weir downstream has independent catchment. Water requirement for balance six weirs namely Sukhania, Dakai, Triveni, Kajhia, Harna (South) and Harna (North) has been computed based on Modified Penman method as per FAO guidelines in paper-56. Water availability on 75% dependability has been computed

on basis of rainfall-runoff equation described above and then a simulation study has been done. This simulation study shows the availability of water for downstream users in abundant quantity, which creates flood in the adjoining areas, because Chir River flows in deltaic zone beyond abstraction point. In other way proposed withdrawal for the proposed Thermal power plant would in fact mitigate flood also.

(2.7.3) The issues raised by ERC, New Delhi have also been replied. The details of proposed water reservoir were sought by the EAC and the following has been submitted by the PP:

- To meet the makeup water demand during non-monsoon period, the water shall be stored in external water reservoir of about 24 MCM capacity. The area for the proposed water reservoir is estimated at 550 acres (~222.7 ha) the depth of water shall be 10-11 m, which will be partly below ground and partly above ground surface. One m free board will be provided above the highest water level. During detailed engineering based on the geo-technical investigation reports, the depth will be reviewed and optimized.
- Further, the feasibility of lining the reservoir will be examined based on the geo-technical investigations. The location of the external reservoir has been submitted along with the PFR.

(2.7.4) *After detailed deliberations, the Committee recommended the following ToR in addition to the standard TORs (as applicable) at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP.*

- The water reservoir shall be a part of the project area.*
- Considering the scarcity of water, explore the feasibility of installation of Air Cooled Condensers (ACC) in-lieu of Water Cooled Condensers (WCC).*
- Measures for minimizing the evaporation losses from water reservoir by development of thick green belt etc.*

(2.7.5) *In passing, the Committee also pointed out to the PP that since the initial consideration in the 52<sup>nd</sup> meeting held in Feb. 2016, this was the fourth time the proposal had been taken up for consideration. This delay in recommending TORs could have been easily avoided if the above information sought in the 52<sup>nd</sup> meeting itself by the Committee, had been given expeditiously to it by the PP.*

## **2.8 Expansion of cogeneration power plant from 6 MW to 18 MW, Sy. Nos. 250, 259, 260, 262, 471, 263 and 473, Village & Taluk Gokak, District Belagavi, Karnataka by M/s. Roquette Riddhi Siddhi Pvt. Ltd. - reg. ToR**

(2.8.1) The PP along with their environmental Consultant, Pioneer Enviro Laboratories & Consultants Pvt. Limited, Hyderabad made a presentation and inter-alia, provided the following information:

- KG Gluco Biols Limited (Joint venture of Government of Karnataka & Glaxo) started the Maize processing unit in the year 1988. In the year 1996, Riddhi Siddhi Starch & Chemical Limited has taken over the KG Gluco Biols Limited under BIFR. Later name changed to Riddhi Siddhi Gluco Biols Limited (RSGBL) and has obtained CTE for

expansion of Maize processing plant & installed 6 MW co-generation power plant in the year 2000. CTO has been issued by KSPCB for expansion of maize processing plant & 6 MW co-generation power plant on 21.09.2002. Riddhi Siddhi Gluco Biols Limited (RSGBL) has obtained CTO regularly up to 2013. In the year 2013, Roquette Group has taken over Riddhi Siddhi Gluco Biols Limited and the name of the company has been changed to Roquette Riddhi Siddhi Private Limited (RRSPL). RRSPL have valid CTO up to 30.06.2016. Later application was submitted to KSPCB for renewal of CTO on 04.03.2016 and issue of CTO is under process with KSPCB. The company has obtained CTE & CTO from KSPCB for increasing the Maize processing plant from 250 TPD to 1200 TPD in phased manner.

- The existing plant was not under the purview of Environmental Clearance, as CTE have been obtained and commenced operation prior to issue of EIA Notification, 2006. In order to reduce the grid dependability on power and to generate the additional steam and power with better thermal cycle efficiency, it has been proposed to install new 100 TPH Boiler with 12 MW power i.e. expansion of coal based cogeneration power plant from 6 MW to 18 MW in the existing 97 acres of starch plant & co-generation power plant. No additional land is envisaged for the expansion of power plant. Ghataprabha Bird Sanctuary exists at a distance of 7.35 km from the existing plant, which is confirmed by Deputy conservator Forest, Ghataprabha Division Gokak, Government of Karnataka. As the distance is less than 10 km, General Condition is applied and it is Category-A project as per EIA Notification dated 14.09.2006 and its subsequent amendments. Accordingly, Form-I and Pre-feasibility report have been prepared and submitted to MoEF&CC.
- The plant area does not fall under any industrial areas / cluster, which are listed in MoEF O.M. dated 13.01.2010 & its subsequent amendments. Gokak is the nearest habitation at a distance of 0.61 km from the existing plant. Ghataprabha Bird Sanctuary exists at distance of 7.35 km from the existing plant. There are no National Parks, Tiger Reserves, Biosphere reserves and Elephant corridors within 10 km radius of the plant. No forest land is involved in the plant site. Ghataprabha River is flowing at distance of 0.42 km from the boundary (0.88 km from proposed co-gen power plant site) & Markandeya River (A Tributary to Ghataprabha River) is flowing adjacent to the existing plant boundary in SW to SE direction. Dupdhal dam exists at a distance of 6.8 km from the existing plant. Gokak water falls which is a tourist place exists at a distance of 3.1 km from the existing plant. Reserved Forest (unnamed) is present adjacent to the existing site boundary in SSW to NW direction.
- Presently imported coal is being sourced from Indonesia and brought upto the Mangalore and Jaigarh Port. It is than transported by road from Ports to the plant in trucks covered with tarpaulin. Indian coal, whenever required is being sourced from SCCL, Telengana by road trucks covered with tarpaulin. Bagasse will be sourced from sugar plants in the area and will be transported upto the plant in covered trucks with tarpaulin. Partly coal is being stored in covered sheds and it is planned to store remaining coal in yard covered with GI sheets of 20 feet with cladding arrangement. Water sprinkling is being done to prevent fugitive dust emission. Covered conveyers are being used in the existing plant. Bagasse is stored in yard covered with tarpaulin. The same shall be adopted for the proposed expansion. The flue gases from the Boiler will be designed to comply with Latest MoEF norms for new Thermal power plants.

- Total additional water requirement for proposed 12 MW power plant will be 720 KLD (as per latest norms for TPP @ 2.5 m<sup>3</sup>/MW) and will be sourced from Ghataprabha River. Present water drawl permission from Ghataprabha river is 1.0 CUSEC (2,500 cum/day). Pipelines already exist to transport water from Ghataprabha River upto the plant. Same pipeline will be adequate for water transport after expansion also. Water drawl permission will be obtained to draw water from Ghataprabha river for the additional 720 KLD required for expansion of power plant.
- Markandeya River flows adjacent to some part of the existing plant boundary. Distance of River to the 12 MW power plant location will be 91 m. A few small scale industries exist between Markandeya River and proposed power plant location. Due to the proximity to the River, it is proposed to construct Bund with in the site boundary to prevent any flood water entering the plant or any effluent entering from the plant into the River. The height of the Bund will be maintained above HFL of the River. Zero liquid effluent discharge system is being followed in the existing Maize processing & 6 MW co-generation power plant. Similar practice will be maintained after expansion of power plant also. There will be no increase in coal stacking quantity (3,500 MT) with expansion and the same quantity of coal will be stored. But no. of days of storage will come down to 4 days for 18 MW. Coal will be stored in covered sheds/yard covered with GI sheets on all the sides with cladding arrangement to prevent fugitive dust. No additional coal storage area is envisaged due to the present expansion proposal. Based on the reliability and availability, Conduit type coal conveyers will be installed for coal transfer to prevent fugitive dust and as second option, overhead conveyer will be installed for coal transfer with state of art dedusting system to control fugitive dust. Ash shall be stored in silos only and there shall not be any open storage of ash within the premises. Till date, no complaints have been filed on the company due to any environment issues pertaining to this plant. Hence, there will not be any impact on Markandeya River due to operations of power plant expansion (or) there will not be any impact on the plant due to flooding of the river.

(2.8.2) *After detailed deliberations, the Committee recommended the following ToR in addition to the standard TORs (as applicable) at **Annexure-A1** for undertaking detailed EIA study and preparation of EMP.*

- (i) *As being done for the existing CPP, the water drawl for the proposed expansion shall be only from the downstream of the waterfalls.*
- (ii) *Action plan for beautification of the area around the waterfalls.*
- (iii) *Action plan for conservation of the Ghataprabha Bird Sanctuary in consultation with the wildlife/forest department.*
- (iv) *As being done and committed, ZLD shall be practiced.*
- (v) *Since the plant is adjacent to the River, adequate safeguards shall be taken to prevent leaching.*
- (vi) *As committed, action plan for development of minimum of 100 m width green belt towards the River.*
- (vii) *Green belt will also be developed towards the town areas.*
- (viii) *AAQ monitoring stations for baseline data collection shall be installed at all the important/sensitive locations i.e. near River, Sanctuary, etc.*
- (ix) *The CSR expenditure will be raised to six lakhs annually.*
- (x) *The CPP will ensure adherence to the new norms for thermal power plants notified by the MoEF&CC in Dec. 2015.*

### **3.0 Discussion on any other matters with the permission of the Chair**

- 3.1.1 In this 59<sup>th</sup> meeting on 14<sup>th</sup> and 15<sup>th</sup> July, 2016, the EAC noted that it has of late started receiving representations from different quarters, dealing with a variety of issues. For example, some representations have been received asking the EAC to conduct enquiries, conduct studies, issue directions to different Central and State Govt. Authorities to do, or not to do, a particular act, etc. In such cases, the Member Secretary of the EAC has been asked by the EAC to send appropriate responses as approved by it, to the representationists. However, another category of representations/ comments are also being received by the EAC raising grave issues such as alleged faulty conduct of Public Hearings, alleged inadequate handling by the Project Proponents (PPs) of concerns raised during the Public Hearings, alleged shortcomings in the EIA reports, alleged falsification of data in the EIA reports, alleged plagiarism in the EIA reports etc. The Member Secretary informed that such representations were also being received directly in the MoEF&CC. Looking into these representations in greater depth by the EAC has been hampered by the fact that such representations/ comments continue to be received just a day or so before the EAC meeting {in passing, it may be mentioned that the matter of such late receipt coming in the way of a more detailed examination has earlier also been considered and dealt with by the EAC in its 51<sup>st</sup> meeting held on 05<sup>th</sup> February, 2016 - item 51.11 (ii) of the minutes of that meeting are reproduced below for ease of reference}.
- 3.1.2 The EAC noted that so far the procedure being followed was that the issues raised in the representation(s) were being made available to the PP during discussions on that agenda item, and the PP was asked to respond. In case the item was deferred for further consideration, the PP was asked to respond when his item was next taken up for consideration in the EAC. *The EAC decided in this 59<sup>th</sup> meeting on 14<sup>th</sup> and 15<sup>th</sup> July, 2016 that the issues raised in the representation(s) will continue to be made available, as was being done earlier, to the PP to furnish a response. However, from now onwards, the PP will be asked to send a response to the MoEF&CC in advance of the next consideration of his item, instead of only responding during the next EAC meeting itself. The comments/ observations of the MoEF&CC (in a tabular format) on the PP's response would then be circulated to the EAC Members before that particular agenda item is next scheduled for the EAC's consideration. The EAC stressed that the above procedure is in line with, and in the same spirit of, a procedure already stipulated for the Regulatory Authority (in this case, the MoEF&CC). In this connection, the EAC drew attention to the fact that before consideration by the concerned EAC, pre-examination by the Regulatory Authority (i.e. the MoEF&CC) of the proposals received by it was in fact part of the procedure stipulated in para 2 of Appendix V of the principal EIA Notification dt. 14<sup>th</sup> Sep., 2006.*
- 3.1.3 *Though the above discussions/ decisions have taken place during this 59<sup>th</sup> meeting on 14<sup>th</sup> and 15<sup>th</sup> July, 2016 on thermal projects, they will equally apply to the coal mining projects which also come under this EAC's purview.*
- 3.1.4 As mentioned in 3.1.1 above, the EAC has asked the Member Secretary to send responses approved by it to the representationists. The EAC has however noted that there has been some delay in actually sending the responses. *The EAC stressed that expeditious action should be taken in such cases, particularly since the responses have already been approved by the EAC, and all that remains to be done is to merely forward it to the representationists. It is also desirable that a formal confirmation is given to the EAC of the action taken in the matter.*

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**QUOTE:-**

**Extracts of the Minutes of the 51<sup>st</sup> EAC meeting held on 05<sup>th</sup> Feb., 2016.**

Agenda 51.11

Discussion on any other matters with the permission of the Chair.

(i) .....

(ii) It has been noticed that one NGO often sends various comments on the projects which are being placed before the EAC meeting. While recognizing that some of the concerns/issues raised by the NGO may have some merit, receipt at the last stage makes it difficult for their proper consideration. In addition, since the PP is asked to respond to these issues, their late receipt one day before consideration of the proposal, and that too sometimes late in the evening invariably leads to a delay in the clearance as the proposal often get deferred. While deferment of the proposal may not be only on this ground, nevertheless a delay factor does come in on this account also. It is not the intention of the EAC to deny the right for any party to voice its concerns. However, the EAC is of the view that sufficient time is available for any organization to give its views very much in advance of the day of consideration of a proposal. This is because the information / documents submitted by the project proponent are available in the public domain the moment the project proponent uploads his application on the website of the MoEF&CC; after uploading of the documents, there is normally a considerable time gap before the proposal is listed in the EAC agenda. *The EAC therefore, requests that the Ministry may consider issuing appropriate guidelines to all concerned clearly indicating that objections if any should be submitted at least a week in advance of the date of consideration of any proposal (It may be noted that even the project proponents are requested to submit their documentation to the EAC members at least a week before the date of consideration). The Ministry may also like to consider whether the objections should be sent directly to the EAC Members (as is happening at present), or they should be sent only to the Ministry which can in turn forward them to the EAC Members.*

**UNQUOTE.**

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3.2 At different stages in the EC process, PPs are required to publish various reports and data in the public domain through its website. This is aimed at improving transparency in the process. Sometimes such information is either not uploaded on the website or the specific webpage is difficult to find. To address difficulties arising out of this, including for EAC to refer relevant past documents of specific projects, it is proposed that EAC Meeting Agenda and Minutes of Meeting shall record specific webpage address where all EC related documents (including monitoring and compliance related reports/documents) of the specific project under consideration are/will be available. Also email address of PP's officer responsible for updating this webpage/information should also be included in MoM for relevant project. To operationalise this, the EAC Member Secretary was requested to add this point in the instructions to the PPs which are given as the first page of the agenda for an EAC meeting that is uploaded on the Ministry's site.

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

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**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 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.
- xxxi) 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.
- xxxii) 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.
- xxxiii) 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.
- xxxiv) 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.
- xxxv) 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.
- xxxvi) 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.
- xxxvii) 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.
- xxxviii) 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 PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO and Hg. The location of the monitoring stations should be so decided so as to take into consideration 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 hrs).
- 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 CO<sub>2</sub> 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.

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