IN THE HON'BLE NATIONAL GREEN TRIBUNAL,
EASTERN ZONE BENCH, KOLKATA
APPEAL NO. 02 OF 2021 (EZ)

IN THE MATTER OF:

PRAFULLA SAMANTARAY ...APPELLANT

VERSUS

UNION OF INDIA AND OTHERS ...RESPONDENTS

INDEX

Place: New Delhi
Dated:

Filed by:
Advocate for MoEF&CC

Tel:
Email ID:

IN THE HON'BLE NATIONAL GREEN TRIBUNAL,

EASTERN ZONE BENCH, KOLKATA

APPEAL NO. 02 OF 2021 (EZ)

IN THE MATTER OF:

PRAFULLA SAMANTARAY ...APPELLANT

VERSUS

UNION OF INDIA AND OTHERS ...RESPONDENTS

COUNTER AFFIDAVIT ON BEHALF OF UNION OF INDIA (MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE) RESPONDENT NO. 1

MOST RESPECTFULLY SHOWETH:

I, Shri M. Rajeshwar Prasad , S/o Shri M. Bhaskar Rao, aged about 54 years, working as Scientist 'C' in the Integrated Regional Office of Ministry of Environment, Forest and Climate Change, at Bhubaneswar , do hereby solemnly affirm on oath and state as under:

1. That I am duly authorized by Ministry of Environment, Forest and Climate Change to file this Affidavit on behalf of the Respondent No.1 herein, i.e. the Ministry of Environment, Forest & Climate Change (hereinafter referred to as "MoEF&CC") and I am conversant with the facts and circumstances of the present case and am thereby competent to depose as under:

2. That the present Appeal seeks to quash the Environmental Clearance (hereinafter referred to as 'EC') dated 02.02.2021 granted by the MoEF&CC to M/s Neyveli Lignite Corporation Limited (NLCIL) for its

NOTARY GOVERNMENT OF ODISHA D.S SAMANTARAY REGD.NO.-88/2012 DIST-KHURDA BBSR, ODISHA MOB-9439143015

3.05.2022

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-88/2012
MOB-9439143015

M. Rajeshwar Prasad

3X800 MW Thermal Power Plant in the area of Talaibira which is located in Jharsuguda district of Odisha. The appellant has alleged that the Thermal plant is being set up in a Critically Polluted area and the grant of EC is without application of mind. Further, alleged that although the Environmental Impact Assessment was conducted, various factors were not taken into consideration and impacts on ambient air quality, water bodies, land health, etc. have not been well studied. The appellant has raised various contentions against the compliance of ToR, data and documentation during the Expert Appraisal Committee (hereinafter referred to as "EAC") meetings, preparation of EIA Report, consideration regarding the project by EAC and grant of EC.

3. It is submitted that the present appeal has been filed by the appellant seeking the following reliefs.

   i. *To quash and set aside the EC dated 02.02.2021 granted by the* MoEF&CC *to the project proponent.*

   ii. *To direct for Cumulative Impact Assessment, Social Impact Assessment, Study on Radiation and Health Impact Assessment.*

   iii. *To direct for fresh EIA Report and fresh Public hearing.*

   iv. *To direct that an independent agency should monitor the air and water quality of the area surrounding the present Thermal Power Station.*

4. That the main thrust of the appeal is that the EAC did not deliberate appropriately on various environmental issues and possible implications that could arise due to the construction of the project in question and therefore, the appellant holds the view that the grant of EC is not in the spirit of larger public interest.

NOTARY * GOVERNMENT OF ODISHA * D.S SAMANTARAY REGD.NO.-88/2012 DIST-KHURDA BBSR, ODISHA MOB-9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-88/2012
MOB-9439143015

5. That the MoEF&CC grants Environmental Clearance (hereinafter referred as 'EC') to Thermal Power projects in accordance with the provisions laid down in Environment Impact Assessment Notification, 2006 and its amendments thereof. The EIA Notification, 2006 clearly specifies the purpose of such grant of EC before start of any construction work in case of new projects or expansion and modernization of existing projects or activities. The proposed project falls under project activity 1(d) Coal Based Thermal Power Plant of Category A. The process involved for grant of EC is as following:

- Stage (1) – Screening
- Stage (2) - Scoping – i.e. prescribing Terms of Reference (TOR) or undertaking detailed Environment Impact Assessment Studies.
- Stage (3) - Public Consultation – to be conducted by the respective State Pollution Control Board/UT Pollution Control Committee.
- Stage (4) - Appraisal – by Expert Appraisal Committee (hereinafter referred as to 'EAC').

6. The process involving grant of EC is transparent & is placed in public domain including the application for grant of EC, submissions and supporting documents filed by the project proponent, the minutes of meeting of the EAC and the EC issued in the case.
7. It is submitted that based upon the recommendations of the EAC in its meeting held on 28.11.2017, recommendations of the sub-committee site visit dated 04.11.2017 and after considering the information submitted by the project proponent, the project in question was granted Terms of Reference (hereinafter referred to as "ToR") on 27.12.2017 for conducting Environmental Impact Assessment (EIA) study and preparation of Environmental Management Plan (EMP) Report. The ToR

NOTARY GOVERNMENT OF ODISHA D.S SAMANTARAY REGD.NO.-88/2012 DIST-PURDA BBSR, ODISHA MOB-9439143015

DUSASAN SAMANTARAY NOTARY, GOVT. OF ODISHA BHUBANESWAR, ODISHA REGD.NO.-88/2012 MOB-9439143015

granted also prescribed for following the recommendations made in the site visit of the Sub-committee dated 04.11.2017. Further, some of the significant ToR, keeping in view the ecological sensitivity of the proposed project location in Jharsuguda identified polluted area (hereinafter referred to as 'Jharsuguda PIA'), are as follows:

i. Feasibility of near zero discharge concept shall be critically examined and its details be submitted. *(Sr. No. (xxxi) at page no.4 in the ToR letter dated 27.12.2017)*

ii. Socio-economic study of the study area comprising of 10km from the plant site shall be carried out through a reputed institute/agency which shall consist of a detailed assessment of the impact on the livelihood of local communities. *(Sr. No. (xxxv) at page no.5 in the ToR letter dated 27.12.2017)*

iii. 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 program 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 requisite equipment etc. shall be provided. Review of the 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. *(Sr. No. (xlii) at page no. 5 in the ToR dated 27.12.2017)*

NOTARY * GOVERNMENT OF ODISHA * D.S SAMANTARAY REGD.NO.-03/2012 DIST-KHURDA BBSR, ODISHA MOB-9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-03/2012
MOB-9439143015

iv. One complete season site-specific meteorological and AAQ data (except monsoon season) as per the latest MoEF Notification shall be collected and the dates of monitoring shall be recorded. The parameters to be covered for AAQ shall include PM10. PM2.5, SO2, NOx, 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. *(Sr. No. (xliii) at page no. 6 in the ToR letter dated 27.12.2017)*

v. 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. *(Sr. No. (xlvi) at page no. 6 in the ToR letter dated 27.12.2017)*

vi. Radioactivity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports. *(Sr. No. (xlvii) at page no. 6 in the ToR letter dated 27.12.2017)*

Copy of ToR dated 27.12.2017 is annexed as **Annexure R-1**.

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-88/2012
MOB-9439143015

8. It is submitted that the project proponent submitted an online proposal on 19.02.2020 for a grant of EC. The said proposal for grant of EC was deliberated by the Expert Appraisal Committee (EAC) for Thermal Sector in its meeting held on 10.04.2020. It is further submitted that the EAC comprising of domain experts of different fields, noted that ToR conditions were not duly addressed in the EIA Report such as socio-impact assessment study, water sustainability has not been carried out, non-consideration of cumulative impacts of industries, action plan to address public hearing not available.

After detailed deliberations on the proposed project, the EAC deferred the proposal on account of unsatisfactory EIA Report submission and directed to revise the EIA Report based on the observations made by the EAC. Some of the significant observations of the EAC in the 39th Minutes of Meeting dated 10.04.2020 are reproduced hereunder:

i. *The compliance to recommendations given by the sub-committee during its visit are not met.*

ii. *The cumulative impact considering several power plants, mines, alumina and steel plants located within the study area. However, no cumulative impacts were carried out.*

iii. *Socio impact assessment study was not carried out."*

Copy of EAC 39th Minutes of Meeting held on 10.04.2020 is annexed as **Annexure R-2**.

9. It is submitted that the project proponent submitted the revised EIA Report vide letter dated 19.06.2020. The proposal for the project in question was again considered by the EAC in its 1st Minutes of Meeting

NOTARY GOVERNMENT OF ODISHA D.S SAMANTARAY REGD.NO.-88/2012 DIST-KHURDA BBSR, ODISHA MOB-9[illegible]143015

DUSASAN SAMANTARAY NOTARY, GOVT. OF ODISHA BHUBANESWAR, ODISHA REGD.NO.-88/2012 MOB-9439143015

held on 28.07.2020, wherein the Committee noted that several recommendations made by the sub-committee have not been addressed.

After detailed deliberations on the proposed project, the EAC Committee deferred the proposal for seeking clarification on some of the issues raised by the EAC in its meeting on 10.4.2020 which were not adequately replied by the project proponent. Some of the significant observations of the EAC in the 1st Minutes of Meeting held on 28.07.2020 are reproduced hereunder:

"i. Sub-committee recommended for not disturbing Nallah. However, the proponent proposed to divert the nallah on southern boundary of the Ash pond.

iii. The clarity on water availability and requirement is needed. Make up water requirement for this project would be about 7200 m3/h with ash water recirculation system and about 9150 m3/h with once through ash water system. The actual water requirement including ash water recirculation system, FGD shall be clarified. Further water source sustainability study was sought. However, proponent only replied that Water Resource Department has allocated 90 cusecs water for the proposed project. Water availability after taking the in-stream users, irrigation, other industrial uses, ecological needs in to consideration, shall be arrived for the proposed project.

vii. SIA for Jharsuguda District was carried out. But for Sambalpur district is yet to be conducted. The plan for Skill development should be in line with the SIA carried out."

Copy of EAC 1st Minutes of Meeting held on 28.07.2020 is annexed as **Annexure R-3**.

NOTARY ★ GOVERNMENT OF ODISHA ★
D.S SAMANTARAY
REGD.NO.-98/2012
DIST. JHURDA
ODISHA
MOB-9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-98/2012
MOB-9439143015

10. It is submitted that the proposal for grant of EC was again considered by the EAC in its 4th Minutes of Meeting held on 17.11.2020 wherein, after detailed deliberations, regarding the information/response submitted by the project proponent to the observations made by the EAC during its meeting held on 28.07.2020, the EAC recommended for grant of EC for establishing 3x800 MW NLC Talabira Thermal Power Project, with the following specific environmental safeguard conditions for the compliance:

i. *Ash pond of 175 acres shall be used only for emergency disposal. The ash pond shall have all safety and environmental measures such as HDPE liner, High concentration slurry disposal system, ash water recycling system, dyke stability measures, minimum distance of 500 m from River Bhedan and the ash pond area should be out of the area to be affected by HFL.*

ii. *The safety and structural stability of the ash pond is to be ascertained once in three years by a reputed agency which has expertise in the field of geo-technical aspects.*

iii. *Existing nalla on Northern side of ash pond (175 acres) shall not be disturbed and adequate bund strengthening measures shall be implemented to avoid discharge of ash into the nallah.*

iv. *As committed, the disposal of ash in Talabira mines through HCSD system shall be implemented within 3 years from the start of operations of first unit.*

v. *As per the recommendations of the Chief Wildlife Warden, the Wildlife Conservation Plan is to be prepared at the cost of user agency and vetted by the Chief Wildlife Warden for protection of*

NOTARY * GOVERNMENT OF ODISHA * D.S.SAMANTARAY REGD.NO.-88/2012 DIST-KHORDA BBSR, ODISHA MOB-9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-88/2012
MOB-9439143015

Schedule-I species (wild boar, sloth bear, barking deer, rabbit, jackal, jungle cat, python) in the study area. The progress of its implementation is to be submitted.

vi. *As committed, a total of Rs. 40.18 Crores is to be allocated to fulfill the commitments made during public hearing for uplifting the socio-economic status of the project affected people and inhabitants of the surrounding villages. Certain percentage is also to be earmarked for the socio-economic activities for the affected villages in Sambalpur Dist. due to the ash pond.*

vii. *As proposed, the embankment Bund on the banks of the Bhedan river is to be strengthened, which is +1m above the HFL Limits, so as to prevent flooding. The bund formation shall be developed with a base width of 20 m. In addition, the bund shall also be provided on the other bank of the river to safeguard the Ash disposal area. The height of the river bund shall be minimum RL 202 M.*

viii. *As per the recommendations of Rehabilitation and Periphery Development Advisory Committee (RPDAC), Govt. of Odisha, the R&R package shall be implemented for project displaced and affected families due to land acquisition for the project. The implantation progress shall be submitted.*

ix. *As proposed, Wet FGD shall be installed to control SO2 emissions. ESP and De-NOX control measures shall be installed to meet the emission norms. As proposed One twin flue stack of 180 m and one single flue stack of height 150 m shall be established for adequate dispersion of pollutants.*

Thus, it can be inferred that EAC deliberated on various environmental aspects including inadequate information in the EIA report, location of

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-88/2012
MOB-9439143015

the project in an identified polluted area, collection of data for analysis of air and water quality etc.

Copy of EAC 4th Minutes of Meeting held on 17.11.2020 is annexed as **Annexure R-4**.

11. It is submitted that the MoEF&CC accepted the recommendations by the EAC and granted the EC vide letter no. J-13012/14/2017-IA. I (T) dated 02.02.2021under the provisions of the EIA Notification, 2006 with certain environmental safeguards as recommended by the EAC along with general conditions with a view to minimize the possible environmental damages associated with the activity and to ensure environment sustainability.

The copy of the EC letter dated 02.02.2021 annexed as **Annexure R/5**.

12. It is submitted that the appellant has alleged that the EAC has appraised the revised EIA without considering the fact that the credibility & credentials of the Consultant are doubtful as information given in the entire EIA Report is misleading.

In this regard, it is submitted that the project proponent appointed ABC Techno Labs India Pvt. Ltd. to conduct the Environmental Impact Assessment (EIA) study and prepare EIA report. As per procedure delineated by the MoEF&CC, the EIA Consultant should have valid accreditation of Quality Council of India (hereinafter referred to as 'QCI') / National Accreditation Board for Education & Training (hereinafter referred to as 'NABET') for conducting EIA study and preparing EIA/EMP Report in that particular sector. It is pertinent to mention that the ABC Techno Labs India Pvt. Ltd. was given Certificate of Accreditation certified by QCI/NABET for preparation of EIA/EMP Report vide letter no. QCI/NABET/EAC/ACO/20/1209 dated

NOTARY * GOVERNMENT OF ODISHA * D.S SAMANTARAY REGD.NO.-88/2012 DIST.-KHURDA BBSR, ODISHA MOB-9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-88/2012
MOB-9439143015

20.01.2020. The Declaration by ABC Techno Labs India Pvt. Ltd dated 13.02.2020 mentions that ABC Techno Labs has QCI/NABET accreditation for preparing EIA/EMP Report for thermal power projects. Further it is also stated that the EIA report for the project in question has been prepared by experts and that the consultant organization shall be fully accountable for any misleading information mentioned in this regard.

Moreover, the project proponent has submitted an Undertaking as mentioned in the Form No. 2 of the EC Report available on the Parivesh website, http://environmentclearance.nic.in/ w.r.t to the project in question having proposal no. IA/OR/THE/67938/2017 which is reproduced hereunder:

"I hereby give undertaking that the data and information given in the application and enclosures are true to be best of my knowledge and belief. And I am aware that if any part of the data and information found to be false or misleading at any stage, the project will be rejected and clearance given, if any to the project will be revoked at our risk and cost. In addition to above, I hereby give undertaking that no activity/ construction/ expansion has since been taken up."

Further, it is significant to note that the EAC members use their individual expertise to analyse the EIA report as well as to raise issues related to the same and the project proponent, in turn, clarifies the matter to the satisfaction of the individual domain expert.

Copy of Certificate of Accreditation certified by QCI/NABET dated 20.01.2020, Declaration by ABC Techno Labs India Pvt. Ltd dated 13.02.2020 and Undertaking available at the Parivesh website w.r.t to the

NOTARY * VHSIOO * GOVERNMENT
D.S.SAMANTARAY REGD.NO.-98/2012 KHURDA DIST. ODISHA MOB-9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-98/2012
MOB-9439143015

project in question is annexed as **Annexure R-6, Annexure R-7 and Annexure R-8**.

13. It is submitted that the averments made by the appellant that the EAC has not applied its mind are incorrect, baseless and not maintainable. In this regard, it is pertinent to mention that the domain experts having expertise in various subjects such as Environmental Pollution Control, Environmental Impact Assessment and prediction, Ecology, Forestry & Wildlife, Project Construction and Management, Social Impacts, risk assessment, etc. appraised the project in all aspects of environmental pollution control and subsequently recommended by the MoEF&CC for grant of EC. The various aforementioned EAC minutes of meetings annexed as Annexure R-2 to Annexure R-4 clearly substantiate the due diligence and application of mind by the EAC.

14. It is submitted that the appellant has alleged that the site of expansion of the Thermal Power Station i.e. Talaibira area is already critically polluted and operation of the project in question would have detrimental environmental effects as emissions from industries, mines, vehicular emissions and transportation activities. In this regard it is submitted that the contention of the appellant is wrong and denied. The Central Pollution Control Board conducted a study titled as 'Comprehensive Environmental Pollution Index' (hereinafter referred to as 'CEPI') assessment study in 2009 with the objective of improving quality of the environment of industrial areas. Based on the findings of the CEPI Study, an index value is derived to characterise quality of the environment. In 2009, 88 prominent industrial clusters were identified in consultation with the MoEF&CC for CEPI analysis. These identified prominent industrial clusters, were categorised as *'Critically Polluted Areas'* (CPAs) for the

NOTARY * ODISHA * GOVERNMENT OF
D.S.SAMANTARAY
REGD.NO.-38/2012
DIST-KHURDA
BBSR, ODISHA
MOB-9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-38/2012
MOB-9439143015

industrial clusters having CEPI score of 70 and above; *'Severely Polluted Areas'* (SPAs) for the industrial clusters with CEPI scores between 60 & below 70 and *'Other Polluted Areas'* (OPAs) for the industrial clusters having CEPI score below 60. In this regard, it is submitted that latest CEPI score for 100 polluted industrial areas/clusters was monitored during 2018 and it was found that the project in question does not fall under the category of 'Critically polluted Area' (CPAs)/ 'Severally Polluted Area' (SPAs) as the CEPI score of Jharsuguda PIA is 37.20 therefore it is categorised as 'Other Polluted Areas' (OPAs). Thus, consideration of the project in question for grant of environmental clearance in Jharsuguda PIA is not restricted.

15. Further, during examination of the issues raised by the appellant in the aforesaid appeal, the Ministry has observed certain inconsistencies in the observations of the EAC about the project location as documented in the minutes of meeting dated 10.04.2020, minutes of meeting dated 28.07.2020 and minutes of meeting held on 17.11.2020 and Form No. 2 submitted by the project proponent vide proposal no. IA/OR/THE/67938/2017 for the purpose of grant of environmental clearance. Accordingly, the matter was referred to EAC to relook the facts in this regard in consultation with EAC/Central Pollution Control Board/State Pollution Control Board, so as to submit an appropriate factual position before the Hon'ble Tribunal against the concerns raised by the Appellant.

Thereafter, detailed deliberations took place, the representative from CPCB and SPCB informed that based on area demarcation by SPCB the project boundary of 3x800 MW NLC Talabira Thermal Power Project (NTTPP) is located in Jharsuguda PIA. It was also informed by the

NOTARY * GOVERNMENT OF ODISHA * D.S.SAMANTARAY REGD.NO.-68/2012 DIST.-PURI BBSR, ODISHA MOB:9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-68/2012
MOB-9439143015

representative of CPCB that as per CEPI assessment study done in 2018 Jharsuguda Polluted Industrial Area is neither a *'Critically Polluted Area'* nor *'Severally Polluted Area'* though it is categorised as Other Polluted Area with CEPI score 37.2. Accordingly, vide 23rd Minutes of Meeting dated 07.04.2022, the EAC accepted correction in minutes dated 10.04.2020, 28.07.2020 and 17.11.2020 w.r.t. to location of the project in question which is reproduced as under:

i. The words "Project is part of Ib valley and Jharsuguda critically polluted area" in the Para 39.3.5 subpart (o) on page 10 of the MOM of the 39th EAC meeting (Thermal Power) meeting held on 10.04.2020 may be read as "Project is located in Jharsuguda PIA (identified as 'Other Polluted Area')".

ii. The statement "Further, in light of Ministry's OM dated 31.10.2019, the mechanism to deal with projects in Critically Polluted areas stipulated 40% greenbelt instead of 33%. As the project is in Ib valley critically polluted area, the extent of greenbelt needs to be increased in line with the OM." in the Para (1.3.4) subpart iv. on page 16 of the 1st EAC (Thermal Power) meeting held on 28.07.2020 may be read as "Although project is in Jharsuguda PIA (identified as 'Other Polluted Area') however, the area for green belt will be 40% of the total project cover area, in view of the eco-sensitivity of the project location."

iii. The words "In line with the Ministry's OM dated 31.10.2019, greenbelt shall be developed in an area of 40% of total project area instead of 33% as the project is located near Ib valley critically polluted area." in the Para (4.3.4) subpart xi. on page 8 of the MOM of the 4th EAC (Thermal Power) meeting held on 17.11.2020 may be read as "Although project is in Jharsuguda PIA (identified as 'Other Polluted

NOTARY GOVERNMENT OF ODISHA
DUSASAN SAMANTARAY
REGD.NO.-88/2012
BBSR, ODISHA
MOB-9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-88/2012
MOB-9439143015

Area') however, the area for green belt will be 40% of the total project cover area, in view of the eco-sensitivity of the project location."

Moreover, it is significant to mention that the compliance of environmental safeguard conditions is regularly monitored by the Monitoring Division within the MoEF&CC and its 19 Integrated Regional Office (IROs) situated across the country. The EIA Notification, 2006 mandates submission of half-yearly compliance reports by the project proponent in respect of the stipulated EC conditions to the MoEF&CC and its Integrated Regional Offices (IROs). IROs analyse these six-monthly progress reports, undertake inspection of the unit, if need be.

Copy of 23rd Minutes of meeting of EAC is annexed as **Annexure R-9**.

16. It is submitted that grounds raised by the Appellant are a repetition of the allegations of the appeal which has already been replied to, above. Hence, the MoEF&CC relies upon the aforesaid contents in reply to the grounds raised by the Appellant. The EC granted for the project was issued in accordance with law and after proper deliberations by the EAC.

17. In view of the above above-mentioned, this Hon'ble Tribunal is graciously requested to pass any orders as may deem fit in the interest of justice. The MoEF&CC prays accordingly.

M. Rajeshwara Prasad.

DEPONENT

M.R. Prasad
SCIENTIST 'C'
Govt. of India
Ministry of Environment, Forest & Climate Change
Integrated Regional Office
Bhubaneswar

NOTARY * GOVERNMENT OF ODISHA * D.S.SAMANTARAY REGD.NO.-88/2012 DIST-KHURDA BBSR-ODISHA MOB-9439143015

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-88/2012
MOB-9439143015

13 MAY 2022

NOTARISED

VERIFICATION

I, the above-named deponent do hereby solemnly affirm and state that the contents of above mentioned are true and correct to the best of my knowledge and based on the record and I have not suppressed any material fact.

Verified at BBSR on the 13th of May, 2022.

M. Rajeshwara Prasad

DEPONENT

M.R. Prasad
SCIENTIST 'C'
Govt. of India
Ministry of Environment, Forest & Climate Change
Integrated Regional Office
Bhubaneswar

SWORN BEFORE ME

13.05.2022

DUSASAN SAMANTARAY
NOTARY, GOVT. OF ODISHA
BHUBANESWAR, ODISHA
REGD.NO.-88/2012
MOB-9439143015

Annexure R1 (17)

No. J-13012/14/2017 - IA.I (T)
Government of India
Ministry of Environment, Forest and Climate Change

Indira Paryavaran Bhawan,
3rd Floor, Vayu Wing
Jor Bagh Road,
Aliganj, New Delhi-110003

Dated: 27.12.2017

To

The Chief General Manager
Projects & Business Development,
M/s NLC India Ltd.,
Corporate Office, Neyveli – 607801.

Phone No. 04142-252286; Fax: 04141-252645; E-mail: cgm.pbd@nlcindina.com.

Sub: 3x800 MW NLC Talabira Thermal Power Project at Village Khumberi, Taraikela and Thelkolai, Tehsil and District Jharsuguda, Odisha by M/s NLC India Ltd.-reg. ToR

Sir,

The undersigned is directed to refer your online application no. **IA/OR/THE/67938/2017** dated 5.9.2017 w.r.t the aforesaid project.

2. The proposal is for setting up of 3x800 MW Talabira Thermal Power Plant in Odisha which will be implemented in two stages, i.e. Stage-I: 3x800 MW and Stage-II: 1x800 MW.

3. The plant and Township of the project are located near Kumbhari and Taraikela villages, on south west of Brajarajnagar town, on Sambalpur-Rourkela highway in Jharsuguda district and ash disposal area is located near Thelkolai village in Sambalpur district. The project site is approachable from Sambalpur–Jharsuguda highway after crossing Bedhen river bridge *via* state PWD road. Two separate 4 lane roads from Sambalpur-Jharsuguda highway have been envisaged for main approach to the project site. The nearest airports are at Bhubaneswar at a distance of 350 km and Raipur airport is at a distance of approx. 290 km. Nearest railway station is located at Jharsuguda at a distance of 11 km on Howrah-Nagpur main (trunk) section.

4. The project has been planned in the identified 1,511 acres of land comprising of Plant area – 661 acres, Green Belt - 250 acres, Ash Disposal Area – 400 acres, Common Township – 100 acres and Corridors - 100 acres. Proposal for acquisition of land is to be submitted to IPICOL. Additional land (approximately 60 acres) for make up water pipelines from Intake Pump House at Hirakud Reservoir up to plant shall be taken up on right of way basis after finalization of its alignments.

5. There is not forest land involved in the proposed project. There are no national parks, wildlife sanctuaries and other protected areas notified under Wildlife Protection Act, 1972 within 10 km radius of the project.

6. Coal requirement is 11 MTPA having GCV of 3,700 Kcal/kg, Station Heat Rate 5of 2,163 kcal/kwh at PLF of 85%. Ministry of Coal, Govt. of India vide Order No. 103/I/ 2016-NA dated 02.05.2016 have allotted Talabira-II & III captive coal mining blocks in Odisha to NLCIL. The rated capacity of Talabira-II & III mines is 20 MTPA. Talabira mines were initially envisaged to supply coal to proposed 4,000 MW Sirkali project in Tamil Nadu.

7. Consumptive water requirement for present stage of 2,400 MW is 60 Cusec (80 cusecs for ultimate capacity). The water is proposed to be drawn from Hirakud reservoir at a distance of about 20 km. In-principle approval of State Govt. has been obtained. However, the point of water drawal, pipe routing and other terms are yet to be finalized with WRD. Additional water requirement for FGD plant would be 2 cusec/unit i.e. 6 cusec for all the three units. Thus, the total consumptive water requirement shall be 66 cusecs (88 cusecs for all 4 units).

8. Total project cost is Rs. 16,073.86 crores. The proposed Environmental Consultant for carrying out EIA/EMP studies is "ABC Techno Labs India Private Limited" who is QCI-NABET accredited consultants.

9. Sub-committee conducted the site visit on 04.11.2017. The report and recommendations of the sub-committee are available at Ministry's website at Minutes of 13th EAC (Thermal Power) held on 28.11.2017.

10. The proposal has been considered by the Re-constituted EAC (Thermal Power) in its 10th and 13th meetings held on 25.9.2017 and 28.11.2017 respectively. Based on the recommendations of the Re-constituted EAC (Thermal Power) in its meeting held on 28.11.2017, recommendations of the sub-committee site visit dated 4.11.2017 and the information/clarifications and documents submitted by you with regard to the above-mentioned project proposal, **the Ministry hereby prescribes the following TOR along with the standard ToR (as applicable)** for preparation of the EIA and EMP Report.

i) *All the recommendations made in the site visit of the Sub-committee dated 4.11.2017 shall be followed.*

ii) *The proposed power plant area shall be reduced and the Raw Water Reservoir area be shifted near to the existing water bodies. Re-alignment of proposed power plant is to be done and the revised layout map is to be submitted.*

iii) *Ficus species to be raised in and around the temples.*

iv) *Even though the proposed area is far from any wildlife sanctuary, a specific recommendations of Chief Wildlife Warden on the impacts of proposed project on wildlife is to be obtained.*

v) *The social impact assessment due to proposed project is to be conducted and a report shall be submitted.*

vi) 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.

vii) Vision document specifying prospective long term plan of the project shall be formulated and submitted.

viii) 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.

ix) 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.

x) 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.

xi) 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.

xii) 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.

xiii) Layout plan indicating break-up of plant area, ash pond, green belt, infrastructure, roads etc. shall be provided.

xiv) 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.

xv) 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.

xvi) 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.

xvii) The land acquisition and R&R scheme with a time bound Action Plan should be formulated and addressed in the EIA report.

xviii) 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.

xix) 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.

xx) 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.

xxi) 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.

xxii) 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.

xxiii) 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.

xxiv) 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.

xxv) 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.

xxvi) 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.

xxvii) 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.

xxviii) 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.

xxix) 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.

xxx) Detailed plan for rainwater harvesting and its proposed utilization in the plant shall be furnished.

xxxi) Feasibility of near zero discharge concept shall be critically examined and its details submitted.

xxxii) Optimization of Cycles of Concentration (COC) along with other water conservation measures in the project shall be specified.

xxxiii) Plan for recirculation of ash pond water and its implementation shall be submitted.

xxxiv) 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.

xxxv) 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.

xxxvi) 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.

xxxvii) 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.

xxxviii) 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.

xxxix) 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.

xl) 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.

xli) 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.

xlii) 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.

xliii) 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, PM2.5, SO2, NOx, 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.

xliv) 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).

xlv) A list of industries existing and proposed in the study area shall be furnished.

xlvi) 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.

xlvii) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.

xlviii) Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.

xlix) 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

l) 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.

li) 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.

lii) 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.

liii) 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.

liv) 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.

lv) 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.

lvi) 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_2 and other gaseous pollutants and hence a stratified green belt should be developed.

lvii) 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.

lviii) Corporate Environment Policy

i. 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.

ii. 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.

iii. 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.

iv. 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.

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

11. Besides the above, the following general points shall be followed:
   a. All documents to be properly referenced with index, page numbers and continuous page numbering.
   b. Where data is presented in the report especially in table, the period in which the data was collected and the source should invariably be indicated.
   c. Where the documents provided are in a language other than English, an English translation should be provided.
   d. The Questionnaire for environmental appraisal of thermal power projects as devised earlier by the Ministry shall also be filled and submitted.
   e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI) / National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/ EMP reports prepared by them and data provided by other organization / Laboratories including their status of approvals etc. In this regard circular no. F.No. J-11013/77/2004-IA-II (I) dated 2nd December, 2009 is posted on the Ministry's website http://www.moef.nic.in may be referred.

In addition to the above, information on the following may also be incorporated in the EIA report.

1. Is the project intended to have CDM-intent?
   (i) If not, then why?
   (ii) If yes, then
   a. Has PIN (Project Idea Note) {or PCN (Project Concept Note)} submitted to the NCA (National CDM Authority) in the MoEF?
   b. If not, then by when is that expected?
   c. Has PDD (Project Design Document) been prepared?
   d. What is the Carbon intensity? from your electricity generation projected (i.e. CO_2 Tons/MWH or Kg/KWH)
   e. Amount of CO_2 in Tons/year expected to be reduced from the baseline data available on the CEA's web-site (www.cea.nic.in)

2. Notwithstanding 1(i) above, data on (d) & (e) above shall be worked out and reported.

12. **The Environmental Clearance shall be applied only after fuel and water linkages are firmed up.**

13. After preparing the Draft EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned issues, the same shall be submitted to the SPCB for conducting the public hearing as per procedure of EIA notification 2006. The issues emerged during public hearing shall be further incorporated in the Draft EIA/EMP report. The final EIA/EMP report along with public hearing report and the requisite documents (*including written objections, if any*) shall be submitted to the Ministry for appraisal by the Expert Appraisal Committee for consideration of awarding environmental clearance under the provisions of Environmental Impact Assessment notification dated September 14, 2006.

14. The TORs prescribed shall be valid for a period of **three years** from the date of issue for submission of final EIA/ EMP reports, after public consultation.

(Dr. S. Kerketta)
Director

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001.
2. The Chairman, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi- 110032.
4. The Additional Principal Conservator of Forests (APCCF), Regional Office (EZ), Ministry of Environment, Forests and Climate Change, A/3, Chandesekharpur, Bhubaneswar – 751023.
5. The Principal Secretary, Department of Forest and Environment, Government of Odisha, Bhubaneshwar.
6. The Chairman, Orissa State Pollution Control Board, A-118, Nilkanta Nagar, Unit – VIII, Bhubaneshwar- 751 012.
7. The District Collector, Jharsuguda District, Govt. of Odisha, Jharsuguda.
8. Guard/Monitoring file.
9. Website of MoEF&CC.

(Dr. S. Kerketta)
Director

MINUTES OF THE 39th MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS

The 39th Meeting of the re-constituted EAC (Thermal Power) was held on 10th April, 2020 through Video-conference organised by NIC in the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi under the Chairmanship of Dr. Naveen Chandra. The following members were present through video-conference:

1.	Dr. Navin Chandra	-	Chairman
2.	Dr. N.P Shukla	-	Member
3.	Shri Suramya Vora	-	Member
4.	Shri Gururaj P. Kundargi	-	Member
5.	Shri Mohan Karnat,	-	Member
6.	Dr. Jai Krishna Pandey	-	Member
7.	Shri N.S. Mondal	-	Member (Representative of CEA)
8.	Dr. S.K. Paliwal	-	Member (Representative of CPCB)
9.	Prof. S.K. Gupta	-	Member (Rep. of ISM/IIT Dhanbad)
10.	Dr. S. Kerketta	-	Member Secretary

Dr. S. Lele, Dr.(Mrs.) Manjari Srivastava and Dr. R.K. Giri (Representative of IMD) could not be present due to preoccupation.

Item No.39.0: CONFIRMATION OF THE MINUTES OF THE 37th EAC MEETING.

The Minutes of the 37th EAC (Thermal Power) meeting held on 21.02.2020 were confirmed in presence of members present in the meeting. The 38th meeting scheduled on 2003.2020, couldnot be held due to outbreak of Coronavirus pandemic worldwide. Further, Member Secretary informed that the tenure of the EAC has been extended for three months (till June, 2020).

Item No. 39.0: CONSIDERATION OF PROJECTS

39.1 1x600 MW coal Based Thermal Power Plant at Villages Chhote Bhandar, Bade Bhandar, Sarvani and Amli Bhauna, Tehsil Pussore, District Raigarh, Chhattisgarh by M/s The Raigarh Energy Generation Ltd.-reg. extension of permission to transport coal by road.
(F.No. J-13012/57/2008-IA.II (T) & Proposal No: IA/CG/THE/19988/2010)

(39.1.1) Project Proponent submitted online proposal on 13.3.2020 for extension of permission to transport coal by road for a period of three years (till 31.3.2023) from Bhupdevpur Railway siding to plant premises for a distance of 47 km.

(39.1.2) The Environmental Clearance for 1x600 MW Thermal Power Project granted vide Ministry's letter dated 20.5.2010 infavour of M/s Korba West Power Co. Ltd.. The permission to transport coal by road for a period of three years (15.4.2018) was issued vide Ministry's letter dated 16.4.2015. The EC and other permissions were transferred from first proponent to M/s The Raigarh Energy Generation Ltd. (Subsidiary Company of M/s Adani Power Ltd.). Subsequently,

the said permission was further extended for two years (till 15.4.2020) for continuing road transportation vide Ministry' letter dated 26.11.2019.

(39.1.3) Project Proponent has made presentation and inter-alia submitted the following information:

i. Raigarh Energy Generation Limited is a 100% subsidiary of Adani Power Ltd. The Plant was under shutdown due to the accidental failure of the generator on 22nd May 2017.
ii. BHEL, OEM of the generator has declared this failure as one of the very rare accident. They recommended to sent the stator, rotor & other accessories to their workshop for repairing & advised that it may take 10-12 months for the repairing of generator. The repairing was completed in month of May 2018.
iii. Being a Single Unit plant, KWPCL was under total shutdown and there was no Fund Generation. The financial crisis enforced KWPCL to approach NCLT for initiation of Insolvency process.
iv. On 21st May 2018, KWPCL approached Hon'ble NCLT, Ahmedabad bench for initiation of Corporate Insolvency Resolution Process (CIRP) under Section 10 of IBC, 2016. The Railway Project was also put on hold since May 2017.
v. After taking over the company from July' 2019, REGL has evaluated the pending works to complete the Railway Project. The plant has resumed it's operation from December' 2019.
vi. The expenditure towards laying railway line is Rs.116.42 Crores out of total budget of Rs.436.15 Crores. The land of 355.3 acres was acquired out 515 acres and remaining 160 acres are to be acquired.
vii. The coal requirement is 8,800 Tonnes/day which will involve 752 trips (To and fro) from Bhupdevepur Railwasy siding to the plant premises.

(39.2.4) On 17.04.2020 the PP has given an undertaking that in case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of amendment in EC i.e. extension of permission to transport coal by road. If any deviation is noticed subsequent to grant of amendment in EC, the amendment in EC shall be liable to be withdrawn at the cost of the project proponent.

(39.1.4) Committee noted that project proponent has not submitted traffic impact assessment study for assessing the road sufficiency at present along with other environmental sensitivities along the transportation route. Committee further noted that total of 5 years have been permitted for road transportation pending railway connectivity from nearest railway siding. The reason may be due to company was admitted under insolvency resolution process and subsequently, the assets were transferred from M/s Korba West Power Co. Ltd. to M/s Raigarh Energy Generation Ltd.

(39.1.5) Considering the progress of the railway connectivity and the COVID-19 pandemic, the **Committee recommends for extension of permission to transport coal by road for a period of one year (w.e.f. 16.4.2020 till 15.4.2021)** subject to following conditions:

i. Traffic Impact Assessment Study shall be conducted for the proposed route and submitted to the Ministry for further extension, if any.
ii. The progress (physical and financial) of railway connectivity shall be submitted as part of compliance report.
iii. The status and progress of installation of pollution control equipment such as FGD, De-NO_X systems, etc. to meet revised emission norms vide Notificaiton dated 07.12.2015 shall be submitted as part of compliance report.
iv. Higher capacity of trucks viz., 30 T or 35 T (which ever is available)shall be used for coal transportation as the is roads NH and having enough bearing capacity.
v. Tarpaulin covered trucks shall be used. The water sprinkling shall be carried out at loading and unloading points.
vi. Air Quality monitoring shall be carried out along the road near villages to assess the impact of road transportation once in 3 months.

(39.2) Expansion of 4x250 MW by addition of 4x600 MW Coal Based Thermal Power Plant at Tamnar, Tehsil Gharghoda, District Raigarh, Chhattisgarh by M/s Jindal Power Ltd.- reg. extension of permission to use existing dyke.
(FileNo.J-13012/117/2008-IA.II(T) & Proposal No.IA/CG/THE/147418/2020)

(39.2.1) Project Proponent submitted online application on 5.3.2020 to extend the permission to use existing ash pond (198 ha) of 4x250 MW till October, 2021 as ash pond envisaged for 4x600 MW could not be established due to problems in land acquisition, etc.

(39.2.2) The chronology of the permissions to use existing ash pond is provided as below:

i. The Environmental Clearance (EC) for 2x600 MW (Units #1 & 2) Thermal Power Plant was accorded on 18.03.2011 and for 2x600 MW (Units # 3 & 4) Thermal Power Plant was accorded on 04.11.2011.

ii. Subsequently, the Ministry permitted to use existing ash dyke of 1,000 MW Thermal Power Plants for all the four expansion units (4x600 MW) for an interim period not exceeding three years, vide EC amendment letter dated 10.01.2014.

iii. Further, the said permission to use the existing ash pond for 4x660 MW Power Plant was extended for two years (till 25.4.2019) vide Ministry's letter dated 26.4.2017.
iv. Meanwhile, Project Proponent obtained amendment to increase the height of the ash pond from 10 m to 14 m to accommodate ash from both the plants vide Ministry vide letter dated 3.1.2019.
v. Further, Project Proponent applied for extension of permission to use existing ash pond till October, 2020 for for disposal of unutilized ash from 4x600 MW including 4x250 MW. The said proposal was appraised by the Expert Appraisal Committee (EAC) in its meeting held on 27.3.2019 and the EAC recommended to extend the

permission issued vide dated 26.4.2017 for a period of one year (from 26.4.2019 till 25.4.2020) for using the existing ash pond for disposal of unutilized ash from 4x660 MW as well. However, the Ministry has not yet communicated the recommendations made by EAC in its meeting held on 27.3.2019.

vi. Ministry while processing the proposal, sought Project Proponent vide letter dated 30.5.2019, the compliance of 100% ash utilisation as per the Flyash Notification. It has been found that the ash utilisation percentage is 53% for 4x250 MW TPP and 67% for 4x600 MW TPP. As the ash utilisation is not in compliance with the Flyash Notifications and the power plants are located in the South Eastern Coalfields, the Ministry requested to M/s SECL to explore the back filling of ash in abandoned mines or working mines. M/s SECL has provided the reply recently stating that limited quantity of ash can be taken up as the overburden and ash is mixed during backfilling of mines.

(39.2.3) Project Proponent made the presentation and inter-alia submitted the following information:

i. The coal quantity and ash generation from both the power plants are as below:

Project Configuration	Coal Quantity	Ash quantity	Disposal
4x250 MW	5 MTPA (from SECL)	2 MTPA @40 % ash)	198 ha of ash dyke is permitted.
4x600 MW	9.6 MTPA (from SECL)	3.264 MTPA @34% ash	239 ha of ash pond is to established.
Total quantity of ash generation		5.264 MTPA (15,000 Tons/day)	

ii. The various units of Thermal power plant has achieved COD as per the following dates:

Unit No.	4x250 MW	4x600 MW
1	8.12.2007	14.3.2014
2	15.6.2008	31.3.2014
3	16.4.2008	15.1.2015
4	5.9.2008	12.12.2016

iii. The flyash generation and utilisation details for 4x250 MW TPP since commissioning are as below:

Year	Quantity generated (Metric Tonnes)	Quantity utilized (Metric Tonnes)	Percentage utilisation

Dec'07-Mar'08	119210	35577	29.8%
2008-09	1393190	416018	29.9%
2009-10	2025961	523224	25.8%
2010-11	2075319	974631	47.0%
2011-12	2029653	1134420	55.9%
2012-13	1999551	1195184	59.8%
2013-14	2100322	1199935	57.1%
2014-15	2290987	1413812	61.7%
2015-16	1651142	496933	30.1%
2016-17	1503282	791399	52.6%
2017-18	1395031	1054552	75.6%
2018-19	1062635	1086015	102.2%
2019-20	820549	830335	101.2%
Total	**2,04,66,832**	**1,11,52,035**	**54.5%**

iv. The flyash generation and utilisation details for 4x600 MW TPP since commissioning are as below:

Year	Quantity generated (Metric Tonnes)	Quantity utilized (Metric Tonnes)	Percentage utilisation
2014-15	696774	374005	53.7
2015-16	1399383	415142	29.7
2016-17	1647664	528538	32.1
2017-18	2272734	1749418	77.0
2018-19	2303607	2351192	102.1%
2019-20	2495080	2520430	101%
Total	**1,05,15,242**	**79,38,725**	**75.5%**

v. Due to non availability of PPAs, Only 1 or 2 units of 250 MW being operated since last few years and 2 units of 4x 600 MW are in operation at part load of 800 MW. Hence, sufficient capacity is available in the existing ash dyke of 4x250 MW to dispose bottom ash and unutilized ash from 4x 600 MW.

vi. The existing ash dyke divided into four sub-dykes (1A, 1B, 2A & 2B). The sub-dyke of 1A is exhausted. However, the volume of available from remaining dykes will be 0.32 Million Cubic Metres (MCM) which cater to the ash disposal for 40 months considering the present ash generation at lower capacity.

vii. To establish ash pond for 4x600 MW, the land for the construction of the new ash dyke for 4x 600 MW has been awarded by the state Government under the New Land Acquisition Act, 2013.

viii. However, CTE from CECB got delayed on account of CECB seeking clarifications from time to time w.r.t. land requirement, ash utilization plan, enforcement of model code of conduct in the Chhattisgarh State, change in officials in CECB, etc.

ix. CECB vide letter dated 07.05.2019 sought further clarification from MOEF&CC whether the Consent to Establish should be given to M/s Jindal Power Limited for construction of ash dyke in Village Dolesara (239 ha) for disposal of ash generated from 4x600 MW power plant as the MoEF has already given the permission to operationalize the same and whether the same shall be without any violation to the directions of Supreme Court and Hon'ble NGT. The board has given the following details in this regard:

a) Hon'ble NGT in the matter of Shantanu Sharma v. UoI with UoI v Sandplast, vide orders dated 20.11.2018 levied fine on all Thermal Power Stations who have failed to dispose 100% fly ash by 31.12.2017 as per the Flyash Utilisation Notification.

b) Subsequently, Supreme Court on 4.2.2019 stayed the NGT directions of 20.11.2018 regarding depositing the penalty and considered appropriate to give an opportunity to indicate the steps taken for compliance of Flyash Notficiation.

c) Thereafter, NGT vide order dated 12.3.2019 directed all power plants to submit their action plans to the Committee constituted for this purpose by MoEF to determine amount of damages and also the issue of action plan for achieving 100% utilisation and its scientific and environmentally sound disposal.

x. Owing to the delay in obtaining amendment in CTE for ash dyke of 4x600 MW from CECB, the present request is to extend permission to use existing ash dyke till October, 2021.

(39.2.5) On 17.04.2020 the PP has given an undertaking that in case of any deviation in data found in any of the documents, the Authorized Signatory shall

be held responsible and furthermore, the above said project shall be rejected for grant of amendment in EC i.e. extension of permission to use existing dyke. If any deviation is noticed subsequent to grant of amendment in EC, the amendment in EC shall be liable to be withdrawn at the cost of the project proponent.

(39.2.5) Committee noted that the earlier recommendations of EAC to use ash pond for one year was not communicated to Project Proponent. Further, the ash utilisation from both the plants is in the range of 54.5% and 75.5%. As per the Flyash Utilisatio Notification, the power plant shall achieve 100% utilisation in 4 years with balance unutilised ash to be utilised in another 5 years. Further, the ash utilisation in the last two years has increased to 100% because the large quantity of ash 47.7 Lakh Tonnes has been used in the ash dyke height raising which was also counted as utilisation. Other than dyke raising, other avenues such as brick manufacturing, backfilling in mines (6.6-29%) and filling low lying areas is minimal. Committee further noted that a committee was constituted by NGT to monitor flyash utilsation and levy penalty on non-compliant power plants for which CPCB has prepared a guidelines for assessing the environmental damage and penalty.

(39.2.6) **Committee after detailed deliberations, and considering the ash utilisation percentage, recommended for using the existing ash pond for disposal of unutilised ash generated from 4x600 MW power plant till October, 2021** subject to following additional conditions:

i. The details of quantities of ash generation, utilisation to various purposes such as brick manufacturing, constructions, soil condition & cement manufacturing and disposal shall be provided for six months (April-September & October-March) in the six monthly compliance report.
ii. As per the Ministry's fly ash amendment Notification vide SO.254 (E) dated 25.01.2016, the company shall upload the details of stock of each type of ash generated/available from all the units (4x250 MW and 4x600 MW) on their website and shall update the stock position regularly.
iii. As per the Ministry's fly ash amendment Notification vide SO.254 (E) dated 25.01.2016, the fly ash shall be supplied to various utilising units. The cost of transportation of ash for road construction projects or for manufacturing of ash based products or use as soil conditioner in agriculture activity within a radius of hundred km from Thermal Power Station shall be borne by the company and the cost of transportation beyond the radius of hundred km and up to three hundred km shall be shared equally between the user and the company.
iv. For achieving compliance of fly ash notification, a map and details of ash utilising units within 100 km radius and 100-300 km along with quantity of ash required for each unit shall be prepared and submitted to the Ministry within 3 months.
v. A public notice in major daily newspapers shall be published in both vernacular and English that the fly ash/bottom ash will be supplied free of cost for ash

utilising units located within 100 km radius and the cost of transportation will be shared equally between user and company for ash utilising units located in the radius of 100-300 km, in compliance to the fly ash amendment notification dated 25.01.2016. A copy of newspaper advertisement shall be submitted to Regional Office.

vi. The compliance of applicable revised emission norms vide Notification dated 07.12.2015, shall be achieved along with specific water consumption as per the notification issued vide dated 28.06.2018. The FGD System, NO_X control measures shall be installed to achieve the revised emission norms. The progress of its implementation shall be submitted as part of compliance report.

--

(39.3) 3x800 MW NLC Talabira Thermal Power Project at Village Khumberi, Taraikela and Thelkolai, Tehsil and District Jharsuguda, Odisha by M/s NLC India Ltd. -reg. Environment Clearance.
(F.No. J-13012/14/2017-IA.I(T) & Proposal No. IA/OR/THE/67938/2017)

(39.3.1) Project Proponent submitted online application on 19.2.2020 for grant of Environmental Clearance for establishing 3x800 MW Thermal Power Project in Jharsuguda District, Odisha.

(39.3.2) The project proponent along with Environment Consultants M/s ABC Techno Labs India Pvt. Ltd. have made the presentation inter-alia furnished the following information:

i. The NLCIL is proposing to setup 3x800 MW coal based NLC Talabira TPP (NTTPP) with super critical units to supply power to States/UT of SR & ER.

ii. The project is located in the v-fold of Bhedan river in Jharsuguda District and the ash pond is proposed on the other side of the river (opposite to power project) in Sambalpur District.

iii. Terms of Reference (ToR) has been issued by MOEF&CC vide letter dated 27.12.2017

iv. The estimated project cost for the proposed project is Rs.16073.86 Crores.

v. This project is linked to Talabira – II & III captive coal blocks allocated to NLCIL

vi. There is no forestland involved at the project site. There are three Reserved forest (Katikela RF – 6.5 km, Patrapali FR – 0.7 km, Malda RF – 3.18 km) within 10 km radius. There are no notified There are no notified ecologically sensitive areas in the study area.

vii. The land requirement for the project is 1447 acres out of which 602 acres is main plant, 252 acres is greenbelt, 340 acres is ash pond and remaining area consists of reservoir, roads, township and corridors.

viii. Coal Requirement (11.37 MTPA will be met from NLCIL's Talabira -II & III captive mines of 20 MTPA capacity. Coal will be transported from the linked mines through Belt Conveyor system from coal stock up to transfer point at mine end and thereafter by Pipe conveyor for crossing Bheden River up to the plant area.

ix. Estimated employment during Construction phase - 1500 (Temporary) & 250 (Direct) and Operation and maintenance - 700 (direct) & 400 (Indirect).

x. NOC from Sambalpur DFO obtained and NOC from DFO Jharsuguda is under process.

xi. The HFL of Bheden River joining at Ib River is 200.55 m and HFL of Hirakud reservoir is 199.90 m and Full Reservoir Level (FRL) of Hirakud reservoir is 192.02 m.

xii. Make up water requirement is about 7200 M^3/h (72 cusec). Commitment of 90 cusec of water is available from DoWR from Hirakud Reservoir. This project is planned with close cycle CW System with IDCT. All the plant effluents would be recycled/ reused to achieve Zero Liquid Discharge (ZLD).

xiii. After taking into consideration the competitive users demand, the water resources Dept. Govt. of Orissa has given allocation of 90Cusecs from Hirakud Reservoir from the industrial quota without curtailing irrigation demand.

xiv. Public Hearing was conducted on 13.11.2019 at 11.00 AM village Tareikela, in front of Gariadihi UP School near Hirma village of Jharsuguda District, Odisha and 10.01.2020 at Khumbhari and Tareikela in the district of Jharsuguda and Thelkoli village in the district of Sambalpur (For Sambalpur District).

xv. Public Hearing was conducted on 13.11.2019 at 11.00 AM village Tarkeikela, in front of Gariadihi up school near Hirma village of Jharsuguda District, Odisha and 10.01.2020 at Khumbhari and Tareikela in the district of Jharsuguda and Thelkoli village in the district of Sambalpur (For Sambalpur District).

(39.3.3) On 20.04.2020 the PP has given an undertaking that in case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of fresh EC. If any deviation is noticed subsequent to grant of EC, the EC shall be liable to be withdrawn at the cost of the project proponent.

(39.3.4) Committee noted that EIA report does not address all the points in the ToR thoroughly. Further, the proposed location for ash pond is adjacent to Bhedan river. Committee has observed that if the ash pond is allowed close to River, there is a chance of breach of ash pond in future which will pollute river body. Similar incidents happened with other power plants where the ash pond was located next to Bhedan river. Further, the proposed ash pond location has one nallah passing in between and a village nearby. The sufficient distance of minimum 500 m is to be left in between ash pond and river body.

(39.3.5) Further, committee noted that ToR conditions have not been duly addressed in the EIA report such as -

a) socio-impact assessment study is not carried out.

b) water sustainability study has not been carried out.

c) action plan to address public hearing issues is not available.

d) land use and revenue status of proposed project area is not given.

e) cumulative impacts of existing industries within the study area are not considered.

f) the compliance to recommendations given by sub-committee during its visit are not met.

g) Proposed only 17% greenbelt (252 acres) of the total project area. There is no greenbelt proposed around periphery of ash pond.

h) The project is 200 m away from Bhedan river. Minimum distance from HFL needs to be verified.

i) Patralpali Forest is 700 m from the project. Exact location needs to be shown on the map.

j) Details of transportation of coal such as Conveyor belt and its route map from Talabira mines to Project is to be provided.

k) Map showing Water intake point and route for transportation pipelines are to be shown.

l) Coal linkage document of MoC states that it is to be used for power plants at Tuticorin TPS, Guatampur TPS (Kanpur) & Sirkhaji TPS (Nagapattinam). There is no mention of present project.

m) Environmental Management Plan (EMP) and its cost does not provide breakup of FGD and other pollution control. Water consumption in the FGD, in case ofwet lime dosing, and management of gypsum including its land requirement shall be provided in the EIA report.

n) As shown the EIA, the maximum flood level of 100 years submerges ash pond area and part plant area. Justification is to be provided.

o) Project is part of IB valley and Jharsuguda critically polluted area. The additional precautionary measures to be proposed to prevent pollution load in the region.

p) Reply and commitment to issues raised in Public hearing to be submitted.

q) The NOC from DFO Jharsuguda is not available regarding impact of proposed project on forest and wildlife.

r) Presentation simply refers to chapters in the EIA without providing any salient points of the subject. For example:

i. w.r.t. Sub-committee recommendations, it was replied that these were almost complied. No details provided,
ii. W.r.t.Social Impact Assessment, it was referred to EIA. Summary of socio-economic status of study area is not provided.
iii. W.r.t. diversion of nallah in ash pond area, it referred to NIH area drainage report. Salient recommendations of NIH, diversion proposal was not furnished.
iv. W.r.t. cumulative impacts of emissions, it referred to EIA report. The cumulative impact considering several power plants, mines, alumina and steel plants located within the study area. However, no cumulative impacts were carried out.

(39.3.6) **Committee after deliberations deferred the proposal for revising the EIA report based on the observations made by the EAC above**.

(39.4) 1x800 MW Coal Based Supercritical Thermal Power Plant and Decommissioning of 2x120 MW Units at Ukai Thermal Power Plant at Vill. Vagda, Tehsil –Fort Songadh, District-Tapi, Gujarat by M/s Gujarat State Electricity Corporation Limited (GSECL)- reg. Environment Clearance. (F.No. J-13012/4/2018-IA.I(T) & Online No. IA/GJ/THE/144074/2018)

(39.4.1) Project Proponent has submitted online application on 19.2.2020 for grant of Environmental Clearance to establish 1x800 MW Thermal Power Project within the premises of existing units 2x200 MW, 1x210 MW and 1x500 MW.

(39.4.2) Project Proponent along with Environment Consultants M/s Mantec Consultants Pvt. Ltd. have made the presentation inter-alia furnished the following information:

i. The project proposal is for establishing 1x800 MW coal based Supercritical Thermal Power Power Plant and decommissioning of 2x120 MW units at Ukai Thermal Power Plant, Vill. Vagda, Tehsil–Fort Songadh, Dist. Tapi, Gujarat.
ii. The Term of Reference (TOR) for the project was granted vide Ministry's letter dated 04.09.2018.
iii. The total installed generating capacity at Ukai TPS is 1350 MW, comprising 2x120 MW (Units 1 & 2- Decommissioned), 2x200 MW (Units 3 & 4), 1x210 MW (Unit 5), and 1x500 MW (Unit 6).
iv. The land requirement for the project 89 Acres (69 Acres in Ash Pond 'A' and 20 Acres vacant land within existing TPP premises).
v. There is no forest land involved in the project. There are No National park, Sanctuary, Elephant/tiger Reserve (existing as well as proposed), migratory routes, exist within 10 km of the project site.
vi. The coal required for the proposed project is 3.34 Million. The company has been allocated Gare Palma Sector-I coal block, in Mand Raigarh Coal field, Raigarh district of Chhattisgarh.
vii. The expected coal quality is: Ash Content- 31.97%, Sulphur- 0.54%, Gross CV-4706 kcal/kg, Moisture-5.38 %, Mercury- 0.125 (ppm), Fixed carbon-35.66%, Volatile matter-26.9 %.
viii. The company has its own railway siding and rail network in the plant to receive coal from nearest railway Songadh railway station (6 km). Accordingly, the proposed coal will also be transported by rail.
ix. The maximum water requirement for the proposed 1x800 MW unit is about 1900 m^3/h, which is less than 3.0 m^3/MWh. Ukai Thermal Power station is situated next to the Ukai left bank Main Canal, the water requirements for the existing plant of 1x210 MW, 2x200 MW and 2x120MW and 1x500 MW is being met from the supply from Main Canal.
x. Two units of 120 MW are decommissioned and the existing raw water pumps (3x50%) each of capacity 10500 m^3/h and head is 8.5 kg/cm^2 presently catering to these units will be used for supplying the plant water required for the proposed 1x800MW unit. The available pumping head of 8.5 kg/cm^2 (g) is sufficient for additional pumping of plant consumptive water the up to the clarifier of new 1x800 MW unit. The proposed project will be operated on zero effluent discharge concept, and no wastewater will be discharged.
xi. Ambient air quality has been monitored during pre-monsoon season of 2018. The observed PM_{10} concentration was ranging from 50 $\mu g/m^3$ at GEB Colony to 88 $\mu g/m^3$ at Ghoda Village, Navi Ukai Village, Motikhervan Village. The

maximum observed $PM_{2.5}$ concentration was 48 µg/m^3 at Navi Ukai Village. The maximum SO_2 concentration was 18 µg/m^3 at Charcharbunda Village. Further NO_2 concentration maximum observed was 28 µg/m^3 at Partharda village. All the ambient air quality parameters are within the national standards.

xii. The incremental concentrations due to emissions from proposed project have been predicted and are within the limits.

Pollutant	Baseline air quality (µg/m^3)	Incremental concentrations (µg/m^3)	Resultant concentrations (µg/m^3)	National standard (µg/m^3)
PM	88	0.35	88.35	100
SO_2	26	1.19	19.19	80
NO_2	18	1.19	27.19	80

xiii. In house temperature measurement for Temperature dilution study in the Ukai left bank canal is carried out by GSECL. Thermal dilution study have been carried out for evaluating discharge of return water from power plant into Ukai left bank Main Canal through an open channel. The scientific simulation software "Hydrodyn POLSOFT", developed at Environ Software (P) Ltd. has been used for predicting the water levels, currents and dispersion of temperature.

xiv. ESP up gradation for units 3, 4 & 5 of Ukai TPS completed. Draft Tender for FGD installation in old units received and is under Scrutiny. EPC tender for FGD in unit 6 of Ukai TPS will be invited soon. Regarding once-through cooling system in Units 3 to 5, GSECL has requested MoEF&CC for grant of exemption from installation of cooling towers. The specific water consumption in unit 6 is within MoEF&CC norms of 3.5 m^3/MWh.

xv. 3.2 KW Solar-Wind hybrid units are provided at VIP Guest House, Ukai TPS. Solar water heaters will be used for the administrative office building, control rooms, guesthouse, club and colony houses. Street lighting powered by solar power is also being envisaged for the Plant Site.

xvi. UTPS has already approach Roshni Stone Quarry and Dhara Stone Quarry, situated in the 20 Km radius from the proposed thermal power plant for utilizing of the fly ash in their open cast stone quarry reclamation and back-filling operations. W.O. is placed on 26.09.2019. Further, GSECL had invited offers from Ash utilizes through Web Portal for utilizing Ash to be generated from #8 WTPS and allocated 31 parties like Cement manufactures, RMC, Brick Manufactures etc. Total allocation is 2.5 times the estimated ash Generation. GSECL will follow similar line of action for the proposed Ukai unit no 7.

xvii. Being an existing thermal power station at Ukai, GSECL has been doing the social works towards its corporate social responsibilities since very long. For expansion within existing TPS with estimated cost between 1000 to 10000 crores, the project proponent has to allocate and spend minimum 0.25% of the

project cost under the schemes identified under Corporate Environment Responsibility. Therefore, the amount of Rs.12.78 crores will be spent by GSECL under activities

xviii. The compliance to the Sub-committee observations is as below:

Sl.No.	Subject	Compliance status
1	Ash water recirculation system for existing ash ponds. Treatment of decanted water and Reuse.	DPR for ash water re-circulation & establishing zero liquid discharge (ZLD) scheme prepared on 10.1.2020. The expected completion date is Feb, 2021.
2	Segregation of Solid waste and hazardous waste, alternate disposal mechanism other than ash pond.	Presently solid and hazardous wastes is not dumped with ash. Municipal Solidwaste from colony and TPP is sent to landfill site near village Patharda. Order for Vermi composting pits in the colony was placed on 05.12.2019, construction is in progress. Hazardous waste is sent to TSDF site in Nandesari.
3	Dry fly ash along the roads and banks to be lifted or embankment to be stabilized with vegetation.	The extra fly ash on top of bunds and roads has been cleared. Stabilization of the ash dyke bund with plantation is a regular process. Work order for raising greenbelt along the dyke was given to Forest dept., Surat for three years. Total 13750 nos. of plants are planned in 5.50 Ha at ash dyke area and 2500 nos. of plants planted in 1.0 Ha in colony area by Forest Department.
4	Continuous flow meters at intake & discharge points for cooling water are not available.	work order is placed on 11.11.2019 and material is received in February 2020.
5	Ash water is being released into Ghodanala from the ash pond, monitoring of the flow & quality at	Providing real time monitoring system for flow & quality at all ash dyke discharge water is included in tender of zero

	this point are not done.	discharge scheme. Monitoring of ash dykes outlet is carried out through external GPCB-approved agency.
6.	Water balance for all the processes to be clearly maintained.	Water balance for all the processes is clearly maintained in the water balance diagram.
7.	Air quality monitoring is to be done near to ash dyke.	Ambient Air quality monitoring near ash dyke is included in the EIA study.
8.	To set up continuous online ambient air quality monitoring stations both at Plant & Township.	CAAQMS installed in colony area and plant area in February 2020.
9.	Water quality monitoring in the upstream and downstream of Ukai canal.	Analysis has been carried out.

xix. Latest EC compliance report for the period April-Sept 2018 was submitted by Ukai TPS to MoEF&CC, Bhopal office on 1.11.2018.

xx. Public Hearing conducted for the proposed project on 19.06.2019 (at 11:00 am) at Urja Nagar Colony, Post: Ukai, Ta. Fort Songadh, District: Tapi, Gujarat.

xxi. Employment, CSR activities, the disposal/utilisation system for ash from proposed unit, reclamation of ash ponds, air born flyash causing air pollution, tree plantation, compensation issues of earlier acquired land, transfer of plots to tribals in the new colony, provision of health care facilities, etc.

xxii. Project Proponent replied to the public during hearing that the land acquired for earlier plant facilities was compensated. Further, CSR activities and tree plantation shall be extensively carried out in surrounding villages. After providing ash slurry recirculation pump house, height of ash dyke will be raised upto 5m. Existing ash shall be utilized in stone quarry nearby Songadh area after the consent of respective owners. Annual order of approx. 2,35,000 MT of pond ash has already been issued , this pond ash will be used in stone quarry filling.

xxiii. Capital cost of EMP measures provided in the project is Rs. 799.20 Crores and the recurring cost of operation and maintenance of these measures is Rs. 47.40 Crores/annum.

xxiv. Green belt development around the Ash Pond is a regular process. Massive tree plantation is being carried out around Ash pond and in the colony through Forest Department. Total 13750 nos. of plants planted in 5.50 ha of ash dyke area and 2500 nos. of plant planted in 1 ha in colony area.

xxv. Estimated project cost is Rs.5,113 Crores. Capital Cost of Environmental Control Measures is Rs.799.20 Crores and recurring cost of EMP is 47.4 Crores.

(39.4.3)On 17.04.2020 the PP has given an undertaking that in case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of fresh EC. If any deviation is noticed subsequent to grant of fresh EC, the EC shall be liable to be withdrawn at the cost of the project proponent.

(39.4.4) Committee noted that the project is proposed on existing ash pond area which does not involve acquiring fresh land. Project Proponent has to clarify the following points w.r.t. environmental aspects of proposed project and compliance of existing power plant:

i. The air quality predictions have been estimated only by considering the emissions from the proposed project. However, the emission load from the existing units has not been considered for assessing the cumulative impacts.
ii. The ultimate pollution load from each unit with full pollution controls (ESP & FGD, De-NO_X systems) and with partial control measures (only ESP) shall be estimated. Subsequently, the cumulative pollution load and its impact on environment is to be predicted.
iii. Environmental Management Plan (EMP) and its cost does not provide breakup of FGD and other pollution control. Water consumption in the FGD, in case of wet lime dosing, and management of gypsum including its land requirement shall be provided in the EIA report.
iv. The results of thermal dilution study shall be submitted to assess whether the there is any impact of temperature of cooling water discharge on agriculture fields dependent on canal irrigation.
v. 33% greenbelt area is to mapped for the total project area including existing units.
vi. The action plan for public hearing issues such as air pollution from air borne ash of ash pond, transfer of land plots in their name for rehabilitated colony, employment to tribals, etc.
vii. The time lines along with budgetary allocations for installing FGD for existing plants. Water consumption in the FGD, in case ofwet lime dosing, and management of gypsum including its land requirement shall be provided in the EIA report.
viii. Extension given to implement pollution control measures to meet revised emission norms and water consumption norms by CPCB, if any.
ix. The possibility directly using cooling water discharge (once through cooling system) for the proposed project. This will avoid taking additional fresh water from Ukai canal and discharge of hot cooling water (once through system) from existing power plants. Action plan in this regard is to be submitted.
x. The Regional Office compliance report shows several partial compliance such as stack emissions exceeding the standard, effluent release into natural drain, no garland drain around the coal stock yard, no settling pond near ash pond, house keeping, etc. An action plan to achieve compliance of these conditions is to be provided.
xi. Ash generation, Ash utilisation vis-a-vis 100% utilisation as per Ministry's fly ash notification during last five years.

(39.4.5) Committee after deliberations, **deferred the proposal for furnishing the information as per the above observations**.

(39.5) 1x660 MW (Unit-VI) Super Critical Technology Bhusawal Coal Based TPP at Village Pimpri-Sekam, Bhusawal Taluk, Jalgaon District, Maharashtra by M/s Maharashtra State Power Generating Co. Limited –reg. amendment in EC.
(F.No. J-13012/75/2010-IA.II(T)& Proposal No. IA/MH/THE/146614/2020)

(39.5.1) Project Proponent has submitted online application on 6.3.2020 for amendment in EC conditions for change in coal source from existing Machakuta mines to WCL/MCL/SECL mines and revision of stack parameters due to implementation of FGD systems.

(39.5.2) The project proponent along with Environment Consultants M/s Pollution and Ecology Control Services, Nagpur made the presentation and *inter-alia* submitted the following information:

i. The Environment Clearance for 1x660 MW Bhusaval Thermal Power Project was issued vide Ministry's letter dated 27.11.2012, which is valid for five years i.e. till 26.11.2017. Inline with Ministry's EIA amendment notification vide S.O.3944(E) dated 14.09.2016, the said Environment Clearance was valid for seven years i.e. till 26.11.2019.

ii. The validity of the EC dated 27.11.2012 was extended for further period of three years vide Ministry's letter dated 14.1.2020.

iii. As per the EC, the coal source requirement is 3.99 MTPA which is to be sourced from MachMachakata Coal Block, Talcher Coalfields, District Angul, Odisha. Based on Hon'ble Supreme Court decision dated 24.9.2014, the coal block was cancelled.

iv. Now, the Standing Committee on Linkages, Ministry of Coal vide letter date d15.12.2020 has permitted to use the existing linkages of Koradi Unit-5, Parli Unit-3, Bhusaval Unit-2 as these units were permanently shut down. The coal will be sourced from WCL, SECL and MCL mines.

v. It is expected that 80-90% of coal will be sourced from WCL mines and remaining quantity will be procured from SECL & MCL mines. The coal will be transported by rail only. The present coal requirement has now been reduced to 3.18 MTPA. The restrictions of ash content in coal to be less than 34% is applied for SECL and MCL coal as the coal source is more than 500 km. In such case, the washed coal will be used to meet the Ministry's notification dated 2.1.2014.

vi. The incremental emission concentrations have been predicted with change in coal characteristics and with new pollution control equipment. The results were compared with EIA results computed during the grant of EC.

Parameter	Incremental GLCs as per	Incremental GLCs with FGD	Resultant	NAAQS

	Old EIA, 2009	and SCR & New coal source	concentration (baseline + incremental)	
PM ($\mu g/m^3$)	0.65	0.139	75.139	100
SO_2 ($\mu g/m^3$)	15.78	2.04	18.04	80
NO_X ($\mu g/m^3$)	5.31	1.35	30.35	80

vii. As the FGD is planned to control sulphur emissions, the exit velocity of the flue gas be amended to 18.3 m/s instead of existing 22 m/sec. The stack height of 275 m will remain the same.

(39.5.3) On 17.04.2020 the PP has given an undertaking that in case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of amendment in EC i.e. change in coal source from the existing mine. If any deviation is noticed subsequent to grant of amendment in EC, the amendment of EC shall be liable to be withdrawn at the cost of the project proponent.

(39.5.4)Committee noted that the coal source is due to cancellation of earlier mine which was allocated to the unit. As the coal is now expected from three different sources, the ash content in the coal to be ensured below 34% for sources located more than 500 km which is inline with Ministry's notification dated 2.1.2014. Project Proponent agreed that washed coal will be used in case source is more than 500 km. W.r.t. flue gas exit velocity, there is no guidelines arrived to specify the minimum exit velocity for proper dispersion of pollutants. However, CPCB member suggested that minimum of 17 m/s should be maintained for power plants which install FGDs. But, in absence of any such guidelines, the Member Secretary informed the Committee that until there is any such standard guidelines, as requested by PP, the exit velocity of 18.3 m/s, cannot be aceded to. The Committee also agreed on the suggestion of Member Secretary.

(39.5.5)The committee discussed on the issues of keeping the minimum value of exit velocity of the stack that the exit velocity needs to be sufficient to establish a plume height that will adequately dissipated (even in "no wind conditions") in order to prevent exhaust stress on the local environment. Further, the Member Secretary informed that the current size of the chimney and for maximum flume rate (100% PLF), the exit velocity needs to be adequate for air dissipation. There are studies with the increase exit velocity and stack gas temperature, plume rise increases under all stability conditions and as such needs to be planned and considered at the initial stages of plant set up in order to have

minimum GLC of air pollutants from such plants even if FGD and other pollution control equipment are to be installed.

(39.5.5) **Committee after detailed deliberations, recommended for amendment in EC for change in coal source from Machakata Mines to WCL/SECL/MCL mines and change in flue gas exit velocity** subject to following additional conditions:

i. The coal transportation is to be done by rail only.

ii. The ash content in coal to be ensured based on Ministry's notification dated 02.01.2014 and subsequent amendments.

iii. Water consumption in the FGD, in case of wet lime dosing, and management of gypsum including its land requirement shall be provided.

iv. A study with the increase exit velocity and stack gas temperature is to be carried out to find out the increase in plume rise under all stability conditions to have minimum GLC of air pollutants from such plants even if FGD and other pollution control equipment are to be installed. Based on such study, a report be submitted to the Ministry for taking a decision to fix the exit velocity of the stack.

--

(39.6) 2x660 MW Super Critical Thermal Power Plant at Village Koradi, Tahsil Kamptee, District Nagpur, Maharashtra by M/s Maharashtra State Power Generation Company Limited (MAHAGENCO)– reg. re-consideration for ToR.
(F.No. J-13012/87/2007-IA.I(T) & Proposal No. IA/MH/THE/102533/2019)

(39.6.1) M/s Maharashtra State Power Generation Company Ltd.(MAHGENCO) has applied for grant of Terms of Reference (ToR) on 20.4.2019 for establishing 2x660 MW Power Project in the premises of 2x210 MW & 3x660 MW Koradi Power Plant near Village Koradi, Tehsil Kamptee, District Nagpur.

(39.6.2) The proposal of ToR was earlier considered by the EAC in its meeting held on 28.5.2019 and the committee recommended for a site visit by the Sub-committee to review the pollution levels in the surrounding area, emissions from the operating power plants, impact on Nagpur and Koradi towns, review the implementation of pollution control equipment, availability of land without compromising the greenbelt area. The Committee visited Koradi Power Plant during 01st -3rd August, 2019 and submitted its site visit report.

(39.6.3) The site visit report has been placed before EAC in its meeting held on 23rd August, 2019 and the committee suggested that Project Proponent should submit the action plan to the observations made in the site visit report for reducing the pollution levels in the area.

(39.6.4) The action plan to the observations made by the sub-committee has been submitted by the Project Proponent on 20.11.2019. The action plan was

appraised by the EAC in its meeting held on 4.12.2019 and the committee deferred the proposal for submitting the revised map showing operational units, proposed project and to cover 33% greenbelt of the total area and map showing piezometric wells around the ash pond. Simultaneously, Ministry may take the action on non-compliances regarding FGD installation and other issues mentioned in the site visit report.

(36.5.5) Show-cause notice was issued to M/s Mahagenco vide Ministry's letter dated 29.1.2020 for non-compliances regarding non-functioning of ETP and AWRS, emissions exceeding the standards, discharging effluents into open drains, and not establishing peizometric wells around ash pond. Subsequently, Proponent submitted the action plan to fulfill the non-compliances which is examined by the Ministry.

(39.6.6) Project Proponent also submitted the reply to the EAC queries sought on 4.12.2019 regarding ensuring 33% greenbelt and establishment of peizometric wells around ash pond. Accordingly, the proposal was considered in the present meeting.

(39.6.7) Project Proponent along with Environment Consultants M/s Pollution and Ecology Control Services, Nagpur made the presentation and inter-alia submitted the following information:

i. **Revised map showing project, 33% greenbelt of the total area:** 44 acres of GBD out of 176 acres of project area is 25%. To make up 33%, it is proposed to add 104 ha (260 acres). Accordingly, total project area including existing units is 652 ha (1670 acres) and the GBD is 215 Ha (550 acres) which comes to 33%.

ii. **Map showing piezometric wells around ash pond:** 3 piezo wells marked on map around existing ash pond.

iii. **Action on non-compliances:** Show-cause notice issued by Ministry on 29.1.2020. Action plan was also submitted to Ministry. The salient points are mentioned below:

    i. FGD could not be set up in one unit. Waiver was sought from the Ministry. However, it was declined.
    ii. Now, technical bids were received for FGD for 3 existing units. Approval of board of directors was sought for placing Letter of Award. Installation will be completed by extended timelines given by CPCB.
    iii. ETP made has been made functional. Online connectivity of emissions and effluents was done wit CPCB.
    iv. Ash recovery pumps was made functional at Khasara ash pond. Ash recovery water at Koradi is sent to ETP for treatment.
    v. Peizometric wells around existing ash pond will be established by June, 2020

(39.6.8) On 17.04.2020 the PP has given an undertaking that in case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant

of fresh ToR. If any deviation is noticed subsequent to grant of fresh ToR, the Tor shall be liable to be withdrawn at the cost of the project proponent.

(39.6.9) Committee noted that the main issue for deciding the ToR was availability of sufficient land without compromising 33% greenbelt and the existing pollution levels. As far as land is concerned, project proponent has attached additional 104 ha to make up 33% of greenbelt in an area of 250 ha. The second issue is the pollution levels within the Koradi and surrounding areas. At present Project Proponent has not installed FGD for any unit. It is expected to implement and meet emission norms by 2022 as per the extension given by time lines. Further, Ministry issued a show-cause notice for which a separate action will be taken by the Ministry to deal with non-compliances as per the guidelines. Further, Member Secretary briefed that Ministry issued an amendment to EIA notification vide dated 17.2.2020 which mentions that Standard ToR will be issued to expansion projects (having EC from MoEF for existing units) without referring to EAC within 7 days of acceptance.

(39.6.9) **Committee after detailed deliberations recommended the following ToRs in addition to the standard ToRs**:

i. The EIA study and assessment pollution load and impact prediction shall be carried out for two scenarios, i.e. Scenario-1: One unit of 660 MW proposed project and existing Koradi units; Scenario-2: Two units of 660 MW proposed project and existing Koradi units. Further, the assessment is to be done based on actual status of pollution without FGD and with FGD, as the FGD is yet to be implemented.

ii. The issue of ToR for two units does not guarantee the Environmental Clearance. The decision on which shall be taken only after assessment of the pollution load and incremental pollution of both scenarios as above.

iii. The Status Compliance to the issues mentioned in the Ministry's Show-cause letter dated 29.1.2020 shall be submitted.

iv. The status of action plan to be submitted as per the recommendations/ observations of the Sub-committee in its visit during 01st -3rd August, 2019.

v. The water requirement from the proposed project shall be met from Treated Sewage Water from Nagpur City. Status of transportation pipelines is to be submitted.

vi. The flya ash generation & utilisation vis-a-vis 100% utilisation target as per the Flyash Notification in the last five years is to be submitted.

vii. Emissions of existing units in comparison with emission standards will be provided.

--

(39.7) 5x270 MW Coal based TPP at Sinnar Industrial Area, Dist. Nasik, Maharashtra by M/s RattanIndia Nasik Power Ltd.- reg. amendment of EC for temporary permission for transportation of coal by road.
(F.No. J-13012/11/2008-IA.II(T)& Proposal No. IA/MH/THE/139686/2020)

(39.7.1) Project Proponent submitted online application on 11.3.2020 for extension of permission to transport coal by road for two units from two routes Ekhlahare Railway siding (35 km) and Igatpuri railway siding (70 km).

(39.7.2) The following clearances were issued till date for the 5x270 MW Thermal Power Plant:

i. Environment Clearance for 5x270 MW coal based Thermal Power Plant in District Nashik, Maharashtra was accorded to M/s Indiabulls Realtech Limited vide Ministry's letter dated 28.07.2010 which was valid for five years.

ii. Temporary permission for transporting coal by road for *one year* (till 24.8.2015) was issued vide Ministry's letter dated 25.8.2014.

iii. The validity of the EC was also for a period of two years, i.e. till 27.7.2017 and temporary permission for transportation of coal by road was extended for another *two years* (i.e. till 24.8.2017) to M/s RattanIndia Nasik Power Ltd. vide Ministry's letter dated 10.2.2016 as the company assets were transferred to M/s RattanIndia Nasik Power Ltd.

iv. Temporary permission for road transportation was extended *till March, 2020* for 9600 Tonnes per day from four three (i.e. Rahuri siding, Ekhlahare siding, and Igatpuri siding) vide Ministry' letter dated 30.4.2019.

(39.7.3) Project Proponent along with consultants M/s GreencIndia Consulting Pvt. Ltd. made the presentation and inter-alia submitted the following information:

i. All 5 Units of Nasik Plant were commissioned by May, 2017 but due to lack of PPA the plant could not generate power. However permission for road transportation of coal was got extended up to 31.03.2020 vide letter dated 30.04.2019.

ii. There had been no further PPA opportunities and the 650 MW PPA signed earlier with MSEDCL could not be operationalized due to litigation by another Company (M/s Sai Wardha Power) on the ground that opportunity to supply power had not been provided to it.

iii. As the STPL Units are not operational, the Lenders Consortium has stopped funding for the remaining Railway siding works. Only critical Plant preservation activities are being taken up for keeping it ready for operation as required.

iv. The dispute regarding 650 MW PPA has been ultimately resolved by MERC by hiving off share of STPL (650 MW) & Adani Power (440 MW) and re-distribution to STPL (507 MW), APML (343 MW) & Sai Wardha Power (240 MW) with Tariff @ Rs. 3.28/ kWh.

v. On MERC direction, MSEDCL has issued LOI to STPL for supplying 507 MW by signing PPA along with Contract Performance Bank Guarantee (CPBG) of Rs. 153 Crores. The matter has been accordingly taken up with Lenders Consortium with Power Finance Corporation (PFC) as Lead Lender for arranging CPBG and Working Capital for plant operation to supply power to MSEDCL.

vi. Pursuant to the Revised Circular of Reserve Bank of India (RBI) dated 07.06.2019, Lenders are presently in the process of formulating a suitable Resolution Plan for STPL. We are in the process of securing Working Capital & other Non- fund based support from Lenders for execution of PPA and operationalization of 2 Units to meet MSEDCL PPA requirement.

vii. While the bankers are sympathetic to our cause in the backdrop of sectoral challenges, they have their own procedural formalities to be completed before CPBG can be furnished.

viii. In the recent meeting Chaired by Hon'ble Minister of State (IC) for Power and NRE on 21.10.2019, PFC highlighted the issues of projects having PPA and FSA like STPL who were facing problems in obtaining Working Capital loan from the lenders. The concerned banks were accordingly advised by the Hon'ble Minister for resolving the issue of Working Capital being faced by power projects with operating/commissioned units.

ix. It is now well known that many coal based thermal power plants are stressed due to various reasons majority pertaining to sectoral challenges. This project despite of commissioning of all units categorised under stressed assets.

x. Two Units can be operationalized within 3 months period from signing of PPA i.e. by June, 2020.

xi. After start of operations of two units, Lenders will allow disbursement of funds for railway siding and the balance works of railway siding will be started immediately to ensure completion by March, 2022.

xii. The company made investment of more than 9,500 Crores in Nasik Project. It is pertinent to mention that many thermal power plants in the country are currently stressed mostly due to non availability of PPA/FSA. All out efforts are being made by Ministry of Power to revive such Power Plants and the results are now showing up slowly. STPL already has FSA in place and now LOI for 507 MW PPA has been received from MSEDCL.

xiii. As the Plant could not be operated due to non availability of PPA and as such no Coal Transportation by road could be undertaken since commissioning.

xiv. Now since PPA for 2 Units is about to be signed, we request for permission for coal transportation for 400 trucks only from 2 different routes (200 from each route) for which traffic survey has been conducted. For modeling and Impact Assessment purpose worst case scenario has been considered i.e. 400 trucks from each route.

xv. Water for the project has been allocated from sewage treated water of Nasik Municipal Corporation. Cross-country GRP Pipeline has been laid for entire length of 29.47 kms from Eklahare Pump House upto Plant.

xvi. Coal linkage for the project has been granted by Coal India Limited. Fuel Supply Agreement for 4.1808 MTPA has been signed with SECL and MCL.

xvii. Coal for this plant is to be transported from SECL/MCL coal fields by railways up to the nearby Odha Railway Station near Nasik. Accordingly a 29.5 Km long dedicated Railway Siding was envisaged to connect Odha Railway Station with the Plant site.

xviii. Accordingly 184 Ha land was acquired through Govt. of Maharashtra (MIDC) by making full payment of 140 Cr. However possession of ~ 76% land (142 Ha in patches) has been made available and balance ~42 Ha land is awaited.

xix. Moreover land in possession is not contiguous and small pieces/parcels of land are yet to handed over to the Company making progress slow & difficult.

xx. The route involves construction of total 58 bridges comprising 2 nos. Major river bridges, 19 nos. RUB, 8 nos ROB, 27 nos. Cross Drainage and 1 no. Tunnel.

xxi. Presently 26 out of the 58 major and minor bridges have been completed and 41% of the earthwork has been completed.

xxii. The existing traffic volumes of the both routes considering the 400 trucks from each route are mentioned as below:

Route	Traffic point	Design Volume (PCU/day)	Existing Traffic	Resultant traffice including proposed Traffic	% Utilisation
Common for both Routes: Ekhlahare siding	Devur Phata (NH160)	60,000	19,046	19,998	33%
Route-1: Ekhlahare siding	MIDC Sinnar (NH-50)	60,000	40,551	42,579	71%
Route-2: Igatpuri siding	Dhamangaon (MDR)	25,000	11,416	11,987	48%
Route-2: Igatpuri siding	Ghoti Budruk (NH-3)	60,000	65,528	68,805	115%

xxiii. The ambient air quality along the route has been monitored and the air quality is within the national ambient standards. Further, the incremental air pollution from proposed traffic is estimated to be in the range of 0.05-1 $\mu g/m^3$. Accordingly, the resultant concentrations are within the standards.

Station	PM_{10} ($\mu g/m^3$)	$PM_{2.5}$($\mu g/m^3$)	SO_2($\mu g/m^3$)	NO_2($\mu g/m^3$)	CO (mg/m^3)

Devur Phata (NH160)	63.3	25.1	14.4	21.1	0.7
MIDC Sinnar (NH-50)	62.5	26.3	15.6	24.3	0.8
Dhamangao (MDR)	61.8	26	13.6	22.6	0.9
Ghoti Budruk (NH-3)	64.5	28.4	15.2	24.6	0.9

(39.7.4) On 17.04.2020 the PP has given an undertaking that in case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of amendment of EC i.e for temporary permission of transportation of coal by road. If any deviation is noticed subsequent to grant of amendment of EC, the amendment of EC shall be liable to be withdrawn at the cost of the project proponent.

(39.7.5)Committee noted that the railway siding could not be completed due to non-availability of funds as the power plant was categorised as stressed asset. Proponent also informed that though the plant was commissioned in May, 2017, the plant was not in operation due to lack of PPA. Proponent has resolved issues with MSEDCL and expected to sign PPA with two units. After running the two units, the funds required for railway line will be released by banks based on performance. Further, out of two routes proposed for road transportation, the route of Igatpuri siding is congested and the existing traffic itself is 109% and the proposed incremental traffic of 400 trucks will further increase the traffic utilisation to 120-135%. Firstly, the committee is of the opinion that the requested quantity of 16000 Tonnes/day coal is not needed as only two units are intended to be run initially. Accordingly, committee felt that the coal quantity required for two units which is approx. 7000 Tonnes/day may be allowed. As the existing traffic from Igatpuri route has already exceed its design volume, only bear bear minimum incremental traffic is to be permitted. The number of trucks along Igatpuri route is to be reduced to 100 trucks/day from 400 trucks/day. The remaining quantity with 250 trucks/day may be allowed from Eklahare siding which is the shortest route of 35 km from the plant.

(39.7.6) Committee after detailed deliberations, **recommended for permission for transportation of 7000 Tonnes/day for a period of two years, i.e. till March, 2022** from the following routes:

Sl.No.	From	Distance	Number of trucks per day (20 T Capacity)	Quantity of Coal
1	Eklahare Railway siding	35 km	250	5000 TPD
2	Igatpuri Railway siding	70 km	100	2000 TPD
Total			350 trucks	7,000 TPD

(39.7.6) The following additional conditions shall be stipulated:

i. The conditions stipulated in the Ministry's permission dated 30.4.2019 shall be complied with w.r.t. transportation of coal by road.

ii. The statement of fly ash generation and its utilisation/disposal shall be submitted.

iii. The status and implementation of pollution control measures (both physical and financial) in line with the new emission norms vide Ministry's notification dated 7.12.2015 shall be submitted.

--

(39.8) Expansion of Obra TPP by addition of 2x660 MW at Obra, Tehsil Robertsganj, District Sonebhadra, Uttar Pradesh by M/s Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd.- reg. EC amendment for additional ash dyke.
(F.No.J-13012/144/2007-IA.II(T) & Proposal No.IA/UP/THE/134383/2019)

(39.8.1) Project Proponent has submitted online application on 31.12.2019 for amendment in EC for permission to construct new ash dyke in an area of 400.41 acres (162.04 ha) at Villages Chanchalia-Panari & Tola-Guroor.

(39.8.2) The proposal was earlier considered by the EAC in its meeting held on 23.1.2020 and sought the following additional information:

i. The details of generation of ash from existing 5x200 MW and proposed 2x660 MW power projects. The details of coal consumption, ash content and source of coal including transportation may also be furnished.

ii. The available volume & area of existing ash ponds vis-à-vis present generation of ash. The volume availability versus generation is to be estimated based on dyke height raise and ash generation from existing & proposed projects.

iii. The action plan for ash disposal/utilisation for the life of power plant to achieve 100% utilisation in light of directions from Hon'ble NGT in the matter of Shantanu Sharma vs UoI.

iv. The potential of using stone quarries/abandoned coalmines nearby power plant. The use of ash in cement industries.

v. The plan to avoid forest land, agricultural land and community lands. Further, the status of forest land proposed for ash pond is to be provided whether it is reserve forest, protected forest or village forest.

(39.8.3) Project Proponent has submitted the information sought by EAC. Accordingly the proposal has been considered in the present EAC meeting. Project Proponent along with technical consultants M/s NTPC Ltd. have made the presentation and inter-alia submitted the following information:

i. The average ash generation during last 5 years from Obra-B TPP (5x200 MW) is about 1.3 MTPA. About 3.25 MTPA Coal is being sourced from coal mines of NCL and CCL with ash content about 40% through railway wagons. The estimated ash generation from proposed 2x660 MW Power Project would be 1.9 MTPA considering 35% ash content.

Year	Energy Generation (MU)	Ash Generation (Lakh Tonnes)	Ash Utilisation (Lakh Tonnes)	Ash utilisation (%)
FY 2014-15	3128.72	13.47	3.09	22.94%
FY 2015-16	3445.04	14.77	2.92	19.77%
FY 2016-17	3360.97	13.85	3.83	27.66%
FY 2017-18	4107.18	13.26	2.25	16.97%
FY 2018-19	3292.66	9.75	0.9	9.26%

ii. The area of existing ash dyke at Chakari is about 70 Ha with available volume of pond ash about 115 lakh m3.

iii. Pondage capacity created during the 1st raising of ash dyke shall be exhausted in 14 months (by July, 2021). The Pondage Capacity created during the 2nd and 3rd raisings shall be exhausted in next 25 months (by August, 2023).

iv. The available volume of existing Chakari ash pond (70 ha) after raising the dyke height and its life is estimated as below:

Details	First raising (4.5 m)	Second and third raising (4 m each)
Available volume	10.3 Lakh m^3	44.88 Lakh m^3.
The quantity of ash generation	2808 MT/day from 5x200 MW	9360 MT/day from both 5x200 MW and 2x660 MW
Life of ash pond	13.6 months (till July, 2021)	25 months (till August, 2023)

v. Obra TPP is making its best efforts for 100% utilization of ash as per directions from Hon'ble NGT in the matter of Shantanu Sharma Vs UoI. The details are as below:

a. Cement Sector : There are 16 cement plants within 300 km of Obra TPP, however, only three cement plants of Jaypee (Chunar & Churk), Ultratech Cement, Dalla located near Obra TPS agreed to lift the ash.

b. Ready Mix Concrete (RMC) Plants : No major construction activities in region. However, Obra TPP will encourage the entrepreneurs to install RMC plants for future requirement.

c. Fly ash Bricks: It is anticipated that fly ash brick plants will lift 2000 Ton/year and 9500 Ton/year fly ash from Obra TPP (B&C) during 2021-22 and 2022-23 respectively. Obra TPP shall set up fly ash brick manufacturing plant at ObraTPP. The bricks produced would be utilized for in-house construction works and also to make available fly ash bricks in the vicinity. This shall also encourage other brick manufacturers in the vicinity to use fly ash.

d. Road and Highway Development: NHAI has a plan for 4 laning of Sultanpur to Varanasi Section of Ghaghara Bridge to Varanasi Section of NH-133. The other State Highways and village roads can also be developed using ash from the said power station. This will create a demand of 22,000 TPA and 32,000 TPA of ash during 2021-22 and 2022-23 respectively.

e. Filling of Voids in Stone Quarries : 7 nos. abandoned stone quarries having pondage capacity 6.8 lakh tonnes with average depth 20 m, having total area 8.4 acres which have been earmarked by District administration for ash filling. There are about 52 abandoned dolomite stone quarries over an area of 104.915 acres in village Billi Markundi, Dist. Sonebhadra with an estimated capacity about 84.90 lakh Cum of ash disposal. UPRVUNL is in consultation with district administration and forest department for disposal of ash. However, various issues associated with these quarries like ownership disputes and NOC from forest department are beyond the control of UPRVUNL. It was estimated that about 84,89,722 Cum of ash can be disposed in to these voids as per guidelines of pollution control board. After filling of quarries with ash, plantation can be done after laying a layer of soil.

f. Coal Mining Segment : UPVRUNL has approached to NCL for allocation of any abandoned coal mine for ash filling. It was informed by NCL authorities that currently, Gorbi Mines is only abandoned Mines available for ash disposal which has already been allocated to NTPC Vindhyachal STPP.

vi. There is forest land involved in proposed ash pond at Guroor village which is reserve forest as per Survey of India toposheet no. 63L/15 and DFO letter dated 13.02.2020.

vii. W.r.t. avoiding forest land, it is submitted that the forest land is in scattered in various patches and fringes. While the forest land in patches cannot be avoided at all, avoiding forest land in fringe will make the boundary of the ash dyke highly irregular leading to significant loss of storage capacity. Therefore it is not feasible to avoid the forest land. However, excluding the area along Renuka River, the net land requirement for the ash dyke would be 124.76 Ha.

(39.8.4) On 17.04.2020 the PP has given an undertaking that in case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of amendment in EC. If any deviation is noticed subsequent to grant of amendment in EC, the amend of EC shall be liable to be withdrawn at the cost of the project proponent.

(39.8.5) Committee noted that project proponent is planning to increase the dyke height of existing Chakari ash pond of in 70 ha which will create 115 lakh m^3 and will last about 40 months (more than 3 years) considering the current trend of utilisation. As per the NGT directions, in a move to achieve 100% flyash utilisation, project proponent submitted an action plan which will reach its target by 2022-23 in a phased manner. The proposed ash pond also has forest land of 39.69 ha (98 acres) for an application for forest clearance has been submitted. Committee noted that the reserve forest land should not be used for ash disposal unless there is dire need.

(39.8.5) **Committee after detailed deliberations, recommended for allowing emergency ash pond of 0.1 ha area for MW excluding the forest land, i.e. 132 ha** subject to following conditions:

i. The status of implementation of flyash utilisation plan submitted as per the NGT directions shall submitted as part of compliance report.

ii. The penalty if any determined by the CPCB for not achieving 100% ash utilisation shall be paid. An undertaking in this regard shall be submitted.

iii. The proponent shall explore the abandoned stone quarries available nearby for backfilling of ash in these mines. As estimated, the volume of 6.8 lakh tonnes with average depth 20 m and area of 8.4 acres shall be explored for backfilling.

iv. The statement of ash generation, utilisation and disposal into ash pond, available volume of ash ponds & its residual life vis-a-vis 100% utilisation target as per Ministry's Flyash Notification shall be submitted to the Ministry as part of compliance report.

--

(39.9) 2x800 MW (Phase-I) Imported coal based Sri Damodaram Sanjeevaiah Thermal Power Project at Nelaturu Village, Muthukuru Mandal, SPSR Nellore District, Andhra Pradesh by M/s Andhra Pradesh Power Development Corporation Ltd.- reg. re-consideration for permission ash pond for addition.
(File No. J-13012/25/2012-IA.II(T) & Online No. IA/AP/THE/114419/2007)

(39.9.1) M/s Andhra Pradesh Power Development Corporation Ltd. submitted online application dated 13.08.2019 for amendment in EC for increasing the ash pond area from 130 acres to 200 acres.

(39.9.2) The Environmental Clearance for 2x800 MW Thermal Power Plant vide dated 17.7.2007 initially allowed only 100 acres of ash pond as an emergency ash pond. Subsequently, Ministry vide letter dated 3.9.2019 allowed to use additional 30 acres ash pond.

(39.9.3) Subsequently, Project Proponent approached to increase the ash pond for additional 70 acres in addition to 130 acres (100 acres+ 30 acres) which was already permitted stating that APPCB restricted the height of 30 acres ash pond to 2 m due to proximity of a village to ash pond. The proposal was considered by the EAC in its meeting held on 23.8.2019 and the committee didn't recommend for granting permission of using another land of 70 acres for using ash pond.

(39.9.3) However, the Ministry considering the request of proponent for the urgent need to dispose ash in the additional ash pond, granted permission to use another 30 acres (Total: 100 acres + 30 acres + 30 acres) vide letter dated 27.2.2020. However, Project Proponent had given the commitment of 100% flyash utilisation as per the agreements with Inpower cements: 3000 MT/Day, Penna Cements: 1500 MT/day, NCL Altek (Bricks): 350 MT/day would be materialised by March, 2020. Considering the implementation of agreements with ash users, Ministry decided that the proposal is to be referred to EAC for assessing the additional requirement of ash pond. Further, Ministry decided that a sub-committee would conduct site to assess the ash utilisation and need for further ash pond requirement. Accordingly, the proposal was placed before EAC in this meeting.

(39.9.5)On 21.04.2020 the PP has given an undertaking that in case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of amendment in EC. If any deviation is noticed subsequent to grant of amendment of EC, the amendment of EC shall be liable to be withdrawn at the cost of the project proponent.

(39.9.6) Committee noted that the Ministry has recently granted additional 30 acres of ash pond to the proponent. Accordingly, proponent can use this area for disposing unutilised ash from the plant. **As per the Ministry's decision to constitute a committee, the sub-committee comprising of following members is formed for conducting site visit :**

i.	Dr. Navin Chandra	-	Chairman
ii.	Shri Suramya Vora	-	Member

iii. Shri Gururaj Kundargi - Member

iv. Dr. S.K. Paliwal - Member

v. Dr. S. Kerketta - Member Secretary

(39.9.5) The report of the sub-committee after conducting site visit to be examined by the EAC. The sub-committee should conduct site visit after subsiding the COVID-19 pandemic.

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

***

ANNEXURE- A1

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.

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_{10}, $PM_{2.5}$, SO_2, 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 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.

xlii) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.

xliii) Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.

xliv) 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

xlv) 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.

xlvi) 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.

xlvii) 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.

xlviii) 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.

xlix) 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_2 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.

ANNEXURE- A2

Standard EC Conditions for Thermal Power Sector:

A. Statutory compliance:

1. Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305(E) dated 7.12.2015, G.S.R.593(E) dated 28.6.2018 and as amended from time to time shall be complied.
2. Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.
3. MoEF&CC Notification G.S.R 02(E) dated 2.1.2014 as amended time to time regarding use of raw or blended or beneficiated/washed coal with ash content not exceeding 34% shall be complied with, as applicable.
4. MoEF&CC Notifications on Fly Ash Utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804(E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016 as amended from time to time shall be complied.
5. Thermal Power Plants other than the power plants located on coast and using sea water for cooling purposes, shall achieve specific water consumption of 2.5 m^3/MWh and Zero effluent discharge.
6. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
7. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
8. Groundwater shall not be drawn during construction of the project. In case, groundwater is drawn during construction, necessary permission be obtained from CGWA.

B. Ash content/ mode of transportation of coal:

1. EC is given on the basis of assumption of ____% of ash content and ____km distance of transportation in rail/road/conveyor/any other mode. Any increase of %ash content by more than 1 percent, and/or any change in transportation mode or increase in the transport distance (except for rail) require application for modifications of EC conditions after conducting the 'incremental impact assessment' and proposal for mitigation measures.

C. Air quality monitoring and Management:

1. Flue Gas Desulphurisation System shall be installed based on Lime/Ammonia dosing to capture Sulphur in the flue gases to meet the SO_2 emissions standard of 100 mg/Nm^3.
2. Selective Catalytic Reduction (SCR) system or the Selective Non-Catalytic Reduction (SNCR) system or Low NOX Burners with Over Fire Air (OFA) system shall be installed to achieve NO_X emission standard of 100 mg/Nm^3.
3. High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm^3.
4. Stacks of prescribed height ____m shall be provided with continuous online monitoring instruments for SO_X, NOx and Particulate Matter as per extant rules.
5. Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.

6. Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM_{10}, $PM_{2.5}$, SO_2, NO_Xwithin the plant area at least at one location. The monitoring of other locations (at least three locations outside the plant area covering upwind and downwind directions at an angle of 120° each) shall be carried out manually.
7. Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
8. Appropriate Air Pollution Control measures (DEs/DSs) be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.

D. Noise pollution and its control measures:

1. The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
2. Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3. Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.

E. Human Health Environment:

1. Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
2. Baseline health status within study area shall be assessed and report be prepared. Mitigation measures should be taken to address the endemic diseases.
3. Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.
4. Sewage Treatment Plant shall be provided for domestic wastewater.

F. Water quality monitoring and Management:

1. Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 2.5 m^3/MWhr. (Or) Induced/Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5 or above for power plants using sea water.
2. In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.

3. Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.
4. Rainwater harvesting in and around the plant area be taken up to reduce drawl of fresh water. If possible, recharge of groundwater to be undertaken to improve the ground water table in the area.
5. Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
6. The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.
7. Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
8. Based on the commitment made by the Project Proponent, Sewage Treatment Plants within the radius of 50 km from proposed project, the treated sewage of .....KLD from STP ..... (name) shall be used as an alternative to the fresh water source to minimize the fresh water drawl from surface water bodies.
9. Wastewater generation of .....KLD from various sources (viz. cooling tower blowdown, boiler blow down, wastewater from ash handling, etc) shall be treated to meet the standards of pH: 6.5-8.5; Total Suspended Solids: 100 mg/l; Oil & Grease: 20 mg/l; Copper: 1 mg/l; Iron:1 mg/l; Free Chlorine: 0.5; Zinc: 1.0 mg/l; Total Chromium: 0.2 mg/l; Phosphate: 5.0 mg/l;
10. Sewage generation of .....KLD will be treated by setting up Sewage Treatment plant to maintain the treated sewage characteristics of pH: 6.5-9.0; Bio-Chemical Oxygen Demand (BOD): 30 mg/l; Total Suspended Solids: 100 mg/l; Fecal Coliforms (Most Probable Number):<1000 per 100 ml.

G. Risk Mitigation and Disaster Management:

1. Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
2. Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Sulphur Content in the liquid fuel should not exceed 0.5%.
3. Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
4. Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
5. Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

H. Green belt and Biodiversity conservation:

1. Green belt shall be developed in an area of 33% of the total project with indigenous native tree species in accordance with CPCB guidelines. The green belt shall inter-alia cover an entire periphery of the plant.
2. *In-situ/ex-situ* Conservation Plan for the conservation of flora and fauna should be prepared and implemented.
3. Suitable screens shall be placed across the intake channel to prevent entrainment of life forms including eggs, larvae, juvenile fish, etc., during extraction of seawater.

I. Waste management:

1. Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
2. Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.
3. Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.
4. Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Fly Ash Utilization issued by the Ministry and amendment thereto. By the end of 4th year, 100% fly ash utilization should be ensured. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry. Mercury and other heavy metals (As, Hg, Cr, Pb, etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. Flyash utilization details shall be submitted to concerned Regional Office along with the six-monthly compliance reports and utilization data shall be published on company's website.
5. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry/Medium Concentration Slurry/Lean Concentration Slurry method. Ash water recycling system shall be set up to recover supernatant water.
6. In case of waste-to-energy plant, major problems related with environment are fire smog in MSW dump site, foul smell and impacts to the surrounding populations. Therefore, the following measures are required to be taken up:

    i) Water hydrant at all the dumpsites of MSW area to be provided so that the fire and smog could be controlled.
    ii) Sprayer like microbial consortia may be provided for arresting the foul smell emanating from MSW area.

J. Monitoring of compliance:

1. Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the Ministry.
2. Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
3. Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be

met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.

4. Monitoring of Carbon Emissions from the existing power plant aswell as for the proposed power project shall be carried out annually from a reputed institute and report be submitted to the Ministry's Regional Office.
5. Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to Ministry's Regional Office.
6. Environment Cell (EC) shall be constituted by taking members from different divisions, headed by a qualified person on the subject, who shall be reporting directly to the Head of the Project.
7. The project proponent shall (Post-EC Monitoring):

    a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;

    b. upload the clearance letter on the web site of the company as a part of information to the general public.

    c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in.

    d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;

    e. monitor the criteria pollutants level namely; PM (PM_{10}& $PM_{2.5}$incase of ambient AAQ), SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;

    f. submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB;

    g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;

    h. inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project and the date of commencement of the land development work.

K. Corporate Environmental Responsibility (CER) activities:

1. CER activities will be carried out as per OM No. 22-65/2017-IA.II dated 01.05.2018 or as proposed by the PP in reference to Public Hearing or as

earmarked in the EIA/EMP report along with the detailed scheduled of implementation with appropriate budgeting.

L. Marine facilities:

1. As the seawater intake systems are required for the plant fall in CRZ area, recommendations from State Coastal Zone Management Authority (SCZMA) as per CRZ Notification shall be implemented.
2. Marine intake and outfall pipelines shall be located as per the recommendations State Coastal Zone Management Authority (SCZMA).

M. Sea Water Intake:

1. Seawater intake system shall be so designed and constructed to ensure sufficient sweater in terms of quantity and quality.
2. The withdrawal of seawater shall be preferably through a pipeline with a riser equipped with a velocity cap arrangement and bar screen to arrest the impingement of large marine organisms.
3. In all tide conditions (particularly at spring low tides) the riser head must be flooded with the required submergence of seawater above its top.

N. Effluent Release:

1. At the effluent release point, maximum temperature of the discharge water shall not be more than 5°C and salinity shall not exceed 50 ppt with respect to that of the ambient seawater.
2. Use of antifouling agents like chlorine / hypochlorite, shall be carefully controlled. The chlorine concentration shall not exceed 0.2 ppm at the effluent release point.
3. The effluent when released at the selected location shall attain sufficient dilution so that near ambient water quality (particularly temperature and salinity) is attained within 500 m from the release location, at low tide.
4. The location of the diffuser shall be marked with a solar lighted buoy to avoid accidents.
5. The site selected based on mathematical modeling shall ensure absence of recirculation of the effluent plume in the seawater intake area under all tidal conditions.
6. The effluent shall be released through a properly designed multiport diffuser above the seabed to facilitate its efficient initial mixing with the receiving seawater.
7. Efficacy of the diffuser shall be ascertained at least once in 2 years through scientific studies and corrective actions such as cleaning of the diffuser from marine growth, removal of silt deposits, etc. shall be taken up, if warranted.
8. Continuous online monitoring system for Temperature and Salinity shall be installed to monitor the quality of effluent.

O. Common to intake and effluent:

1. The pipeline shall be buried below the seabed at a depth to ensure its stability under rough sea conditions particularly during cyclone / tsunami. The depth of burial will depend on the seafloor strata but normally the top of the pipeline shall be at least 1 m below the bed level. In the surf and intertidal zones, the pipeline shall be buried below the maximum scour level.

2. In case of open channel, the channel shall be constructed as per the recommendations of State Coastal Zone Management Authority (SCZMA).
3. If the substratum is rocky the pipeline may be anchored to the rock provided the geology of the area satisfactorily supports the structure which shall be ascertained through geo-technical investigations.
4. Exposed pipeline section and riser shall be protected by armour stone from waves, boats anchoring, fishing activities etc.
5. The location of the riser & diffuser shall be marked with a solar lighted buoy to avoid accidents from boats.
6. Marine / Sea water quality shall be monitored at effluent release location at the center. Parameters to be monitored shall be as follows:
    a. *Physico-chemical:* Temperature, Salinity, pH and Dissolved Oxygen.
    b. *Biological:* Primary Productivity, Phytoplankton (Chlorophyll a, Phaeophytin, Population, Species), Zooplankton (Biomass, Population, Species) and Benthos (Biomass, Population, Species).
7. In case of Coastal Power Plants, the Mangrove plantation shall be taken up in an area of .....ha, along the coast/ on the banks of ..... Estuary.

Attendance List

Sl.No.	Name	Role	Signature
1.	Dr. Navin Chandra	Chairman	Sd/-
2.	Dr. N.P Shukla	Member	Sd/-
3.	Shri Suramya Vora	Member	Sd/-
4.	Shri Gururaj P. Kundargi	Member	Sd/-
5.	Shri Mohan Karnat,	Member	Sd/-
6.	Dr. Jai Krishna Pandey	Member	Sd/-
7.	Shri N.S. Mondal	Member (Representative of CEA)	Sd/-
8.	Dr. S.K. Paliwal	Member (Representative of CPCB)	Sd/-
9.	Prof. S.K. Gupta	Member (Rep. of ISM/IIT Dhanbad)	Sd/-
10.	Dr. S. Kerketta	Member Secretary, MoEF&CC	Sd/-

Approval of the Chairman

Email **s.kerketta66@gov.in**

Re: Exit velocity of stack - reg

From : navinchandrarrl@yahoo.com Fri, May 01, 2020 07:53 AM
Subject : Re: Exit velocity of stack - reg
To : Dr S Kerketta <s.kerketta66@gov.in>
Reply To : navin chandra <navinchandrarrl@yahoo.com>

01/05/2020

Dear Dr. Kerketta Ji,

I have gone through the MoM sent by you. The Minutes are in order and accordingly approved. These may be uploaded on the website of MoEF&CC.

Regards,
yours truly,

(NAVIN CHANDRA)

Dr. Navin Chandra,
Vice Chancellor, IES University, Bhopal
Chairman, Coal Mining & Thermal Power,
MoEF&CC, GOI, New Delhi.
Ex-Director General MPCST, Bhopal,
(Retd.) Director (Actg.), CSIR-AMPRI, Bhopal
Member, RC, CSIR-AMPRI, Bhopal.
Phone (Res.) 91-755-2454600
navinchandrarrl@yahoo.com, navinchandraampri@gmail.com

On Thursday, 30 April, 2020, 03:14:34 pm IST, Dr S Kerketta <s.kerketta66@gov.in> wrote:

Sir,

PFA for kind comments.

regards,

Dr. S. Kerketta
Director- IA (Thermal, River Valley & HEP)
MoEF&CC, New Delhi
Phone: 011-24695314 (O), 26113096 (R)

AGENDA OF 39th MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON THERMAL POWER PROJECTS

DATE : 10th April, 2020
TIME : 11.00 A.M.- 1.00 PM
VENUE : VIDEO-CONFERENCE

ITEM	
Item No. 39.0	**CONFIRMATION OF MINUTES OF 38th EAC (THERMAL) MEETING**
Item No.	**CONSIDERATION OF PROJECTS**
39.1 Time Slot: 11:05-11:15 AM (10 min)	1x600 MW coal Based Thermal Power Plant at Villages Chhote Bhandar, Bade Bhandar, Sarvani and Amli Bhauna, Tehsil Pussore, District Raigarh, Chhattisgarh by **M/s The Raigarh Energy Generation Ltd.-reg. extension of permission to transport coal by road.** (F.No. J-13012/57/2008-IA.II (T) & Proposal No: IA/CG/THE/19988/2010)
39.2 Time Slot: 11:15-11:25 AM (10 min)	Expansion of 4x250 MW by addition of 4x600 MW Coal Based Thermal Power Plant at Tamnar, Tehsil Gharghoda, District Raigarh, Chhattisgarh by **M/s Jindal Power Ltd.- reg. extension of permission to use existing dyke.** (F. No.J-13012/117/2008-IA.II(T)& Proposal No. IA/CG/THE/147418/2020)
39.3 Time Slot: 11:25-11:45 AM (20 min)	3x800 MW NLC Talabira Thermal Power Project at Village Khumberi, Taraikela and Thelkolai, Tehsil and District Jharsuguda, Odisha by **M/s NLC India Ltd -reg. Environment Clearance.** (F.No. J-13012/14/2017-IA.I(T) & Proposal No. IA/OR/THE/67938/2017)
39.4 Time Slot: 11:45AM- 12:05PM (20 min)	1x800 MW Coal Based Supercritical Thermal Power Plant and Decommissioning of 2x120 MW Units at Ukai Thermal Power Plant at Vill. Vagda, Tehsil –Fort Songadh, District-Tapi, Gujarat by **M/s Gujarat State Electricity Corporation Limited (GSECL)- reg. Environment Clearance.** (F.No. J-13012/4/2018-IA.I(T) & Online No. IA/GJ/THE/144074/2018)
39.5 Time Slot: 12:05 -12:15 PM (10 min)	1x660 MW (Unit-VI) Super Critical Technology Bhusawal Coal Based TPP at Village Pimpri-Sekam, Bhusawal Taluk, Jalgaon District, Maharashtra by **M/s Maharashtra State Power Generating Co. Limited –reg. amendment in EC**. (F.No. J-13012/75/2010-IA.II(T)& Proposal No. IA/MH/THE/146614/2020)
39.6 Time Slot: 12:15 -12:25 PM (10 min)	2x660 MW Super Critical Thermal Power Plant at Village Koradi, TahsilKamptee, District Nagpur, Maharashtra by **M/s Maharashtra State Power Generation Company Limited (MAHAGENCO)– reg. re-consideration for ToR.** (F.No. J-13012/87/2007-IA.I(T) & Proposal No. IA/MH/THE/102533/2019)

39.7 Time Slot: 12:25-12:40 PM (15 min)	5x270 MW Coal based TPP at Sinnar Industrial Area, Dist. Nasik, Maharashtra by **M/s RattanIndia Nasik Power Ltd.- reg. amendment of EC for temporary permission for transportation of coal by road.** (F.No. J-13012/11/2008-IA.II(T)& Proposal No. IA/MH/THE/139686/2020)
39.8 Time Slot: 12:40-12:50 PM (10 min)	Expansion of Obra TPP by addition of 2x660 MW at Obra, Tehsil Robertsganj, District Sonebhadra, Uttar Pradesh by **M/s Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd.- reg. EC amendment for additional ash dyke.** (F.No.J-13012/144/2007-IA.II(T) & Proposal No.IA/UP/THE/134383/2019)
39.9 12:50-01:00 PM (10 min)	1x800 MW (Phase-II) Imported coal based Sri Damodaram Sanjeevaiah Thermal Power Project at Nelaturu Village, Muthukuru Mandal, SPSR Nellore District, Andhra Pradesh by **M/s Andhra Pradesh Power Development Corporation Ltd.- reg. re-consideration for permission ash pond for addition.** (File No. J-13012/25/2012-IA.II(T) & Online No. IA/AP/THE/114419/2007)
39.10	ANY OTHER ITEM WITH THE PERMISSION OF THE CHAIR.

Annexure R3
73

MINUTES OF THE 1st MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 28TH JULY, 2020.

The 1st Meeting of the re-constituted EAC (Thermal Power) was held on 28th July, 2020 through Video-conference organised by NIC in the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jorbagh Road, New Delhi under the Chairmanship of Shri Gururaj P. Kundargi. The following members were present through video-conference:

1.	Shri Gururaj P. Kundargi	-	Chairman
2.	Shri Suramya Vora	-	Member
3.	Dr. N.P. Shukla	-	Member
4.	Dr. K.B. Biswas	-	Member
5.	Shri Prasant Kumar Mohapatra	-	Member
6.	Dr. Umesh Jagannathrao Kahalekar	-	Member
7.	Dr. Nandini N.	-	Member
8.	Dr. Unmesh Patnaik	-	Member
9.	Dr. Santosh Kumar	-	Member
10.	Dr. S.K. Paliwal	-	Member (Rep. of CPCB)
11.	Shri N.S. Mondal	-	Member (Rep. of CEA)
12.	Professor Sheo Shankar Rai	-	Member (Rep. of IIT/ISM Dhanbad)
13.	Dr. R.K. Giri	-	Member (Rep. of IMD)
14.	Dr. S. Kerketta	-	Member Secretary

Item No.1.0: WELCOME NOTE AND CONFIRMATION OF THE MINUTES OF THE 41st EAC MEETING.

(a) The Chairman Shri Gururaj Kundargi welcomed all the members of the Committee as this is the first meeting after re-constitution. Chairman urged all the members to contribute towards project appraisal from their respective expertise. Further, he mentioned that the Committee will work as a team and decisions will be taken collectively on the proposals. He also praised the committee that 100% attendance is seen in this meeting and requested all the members to participate in all meetings. He also thanked the Member Secretary and his team for organising meetings and providing other logistic support.

(b) The Minutes of the 41st EAC (Thermal Power) meeting held on 23.06.2020 were confirmed in presence of members present in the meeting. Further, the Committee noted that Meeting of EAC on 23.6.2020 was held under the chairmanship of Dr. Navin Chandra. The draft minutes of meeting were circulated to members for seeking comments on 30.6.2020. After incorporating the comments, the final draft minutes were sent to the Dr. Navin Chandra by e-mail for seeking approval. However, the Chairman could not be contacted by e-mail and telephone. As the tenure of the previous EAC was also completed by 30.6.2020, the EAC was re-constituted on 09.7.2020. The present Chairman Shri Gururaj P. Kundargi of the re-constituted committee was also member of the

previous EAC. Since, Dr. Navin Chandra could not be contacted and more than one month has been elapsed in finalising the minutes, it was decided in the Ministry that the Minutes may be sent to the present Chairman as he was also present during the meeting held on 23.6.2020. Accordingly, the minutes were sent to Shri Gururaj P. Kundargi for seeking approval for finalisation. As the minutes were already agreed by all the members present during the meeting held on 23.6.2020, Shri Kundargi approved the final minutes for uploading on PARIVESH on 27.7.2020.

Item No. 1.0: CONSIDERATION OF PROJECTS

(1.1) Proposed Expansion of Waste to Energy (WTE) plant from 15 MW to 25 MW for Integrated Municipal Solid Waste Processing Facility (IMSWM) at Village Bandhwari, Tehsil & District Gurugram, Haryana by M/s Gurugram Municipal Corporation-reg. ToR.
(F. No. J-13012/08/2020-IA.I(T) & IA/HR/THE/162510/2020)

(1.1.1) Project Proponent submitted online application on 17.07.2020 for grant of ToR for expanding the Waste to Energy Power Project from 15 MW to 25 MW. The Environmental Clearance for 15 MW Waste to Energy Project was issued by the Ministry vide letter No.10-74/2016-IA.III dated 1.11.2019.

(1.1.2) Project Proponent along with QCI-NABET consultants M/s. Fulgro Environmental & Engineering Services Pvt. Ltd., Jaipur made the submission and submitted the following information:

i. The project of installed capacity of 15 MW Waste to Energy could not be established due to delays in project planning and COVID-19.
ii. Municipal Corporation of Gurugram is proposing to augment capacity of Waste to Energy from 15 MW to 25 MW.
iii. The project site is located at Bandhwari Village, Gurugram. The Bandhwari village is at 1.7 km in W direction from project site. The proposed waste to energy project is located adjacent to the municipal waste dump.
iv. Further, Faridabad-Gurgaon Road (MDR-137) at a distance of 300 m on north direction. The nearest road from the project site is NH-236 at a distance of 13.39 km in NW direction. Gurugram city is located at approx. 6.44 km in NW direction from the project site. Indira Gandhi International airport is the nearest airport at an aerial distance of 18.10 km in NNW direction from the project site.
v. Inter State boundary of Haryana and Delhi lies at a distance of 0.98 km in north direction from project site.
vi. Asola Wildlife Sanctuary boundary exists at 300 m in NE direction from the project site and is beyond Eco Sensitive Zone (ESZ) of Asola WLS which is 150 m as per MoEFCC notification vide S.0.1911 (E) dated 31.5.2019.
vii. The project area is 30.5 acres. The land is already in the possession of Municipal Corporation of Gurugram. Thus, no land acquisition and Rehabilitation is involved.

The co-ordinates of the project are as below:

Point	Latitude	Longitude
A	28°24'14.89"N	77°10'16.86"E
B	28°24'13.13"N	77°10'27.39"E
C	28°24'01.35"N	77°10'18.83"E
D	28°24'02.72"N	77°10'11.54"E

viii. Total municipal solid waste to be processed in the project is 2100 TPD. After segregation, the Refused Derived Fuel (RDF) of 1500 MT would be made available for incineration. The break-up of various types of waste is given as below:

Sl. No.	Type of waste	Quantity (MT)
1.	Composting	210
2.	Inert	130
3.	Recyclable	50
4.	Moisture loss	210
5.	RDF	1500
6.	Total	2100

ix. The project consists of pre-treatment and waste collection facility, 2 mechanical grate incinerators (2x750 TPD), composting unit, Leachate collection and treatment system, Turbo generator.

x. The estimate of population and municipal waste generation is as below:

	Population for 2015	Waste generation (TPD)	Population Projected in 2035	Waste generation (TPD)
Gurugram	9.97 Lakhs	449 TPD	18 Lakhs	810 TPD
Faridabad	15.9 Lakhs	716 TPD	28.7 Lakhs	1290 TPD
Total	25.9 Lakhs	1165 TPD	46.75 Lakhs	2100 TPD

xi. The break-up of land for the project site is given as below:

Facility	Area in Acres	% of total land
WtE Plant	6.56	21.57%
MSW processing area	3.35	11.03%
Roads/amenities	2.7	9%
Sanitary landfill	6.0	20%
Greenbelt	10.0	33%
Drain/sump	1.6	5.4%
Total	**30.5**	**100%**

xii. MSW will be unloaded inside the pit where in 5-7 days retention shall be given to remove excess leachate/moisture. After leachate removal, primary segregation shall be undertaken to recover the RDF fraction (>50 mm) for further storage. The compostable fraction of waste (<50 mm) will be shifted to windrow platform for

composting. The inert removed through pre-processing system shall be directed to landfill.

xiii. Windrow composting method shall be adopted for composting the compostable fraction of waste which is generated from pre-processing system. Leachate generated from MSW pit and windrow platform will be conveyed for treatment at Leachate Treatment Plant.

xiv. Water requirement during construction Phase is 8-10 KLD which will be sourced from Municipal Corporation of Gurgaon. Domestic water requirement during Operation phase is 0.5 m^3/h (i.e. 12 KLD) which will be sourced from Municipal Corporation Gurgaon by water tankers. The water requirement for plant purpose during operation phase is 45.9 m^3/h (i.e. 1101.6 KLD) which will be sourced from STP approved by GMDA for plant.

xv. 2 boilers/grate incinerators will have two chimneys with height of 60 m.

xvi. The following air pollution control systems shall be installed:

Parameter	Pollution Control
NOx	No air pollution control equipment is proposed. Boiler combustion temperature to be limited to 850°C so that NOx is limited.
Other Gaseous pollutants	Dry adsorption system using hydrate lime and activated carbon
Toxic substances Dioxins and Mercury	Activated Carbon Scrubber
Particulate Matter	Bag filter
Emission dispersion and monitoring	60 m height stack along with online stack monitoring systems

xvii. The leachate treatment plant with capacity of 500 KLD will be installed to treat the leachate.

xviii. Inert material and other residues generated from plant such as ash will be sent to Sanitary land fill proposed within the project area.

xix. The flyash of 113 tons/day and bottom ash of 418 Tons/day are expected to generate from the plant area. Further, sludge of 1.2 tons/day is expected to generate from the activated carbon from the dry sorbent system. In addition, 15 Tons/day sludge is also expected to generate from the Leachate treatment plant. The ash will be utilised for construction purposes and unutilised ash will be disposed in sanitary landfill. The sludge from Leachate Treatment Plant will be used in Boilers as it has calorific value.

xx. The estimated project cost is Rs. 617.01 Crores. The estimated employment during construction is 600 and during operation is 2100 persons.

xxi. A case in NGT Central Bench vide OA No.514/2018 is under adjudication. However, the Orders/Directions from the Hon'ble NGT are not relevant the proposed project. However, MCG has submitted revised action plan in compliance to order.

(1.1.3) Committee noted that the 15 MW Waste to Energy Project for which Environmental Clearance was issued in November, 2019 could not be set up by Proponent. Thus, present proposal of enhancing the capacity from 15 MW to 25 MW should not be considered as an expansion project. Instead, it should be treated as fresh project. Further, Committee noted that Asola Bhatti Wildlife Sanctuary is located at 300 m from the project site. Project Proponent should ensure the project site is not falling in the ESZ of Asola Bhatti Wildlife Sanctuary. The waste requirement for the proposed project is 2100 TPD which will be expected by 2035. Further, no NOx control measures are proposed in the Pre-feasibility Report. Considering, Asola Bhatti Wildlife Sanctuary present in the proximity of the project site, SCR/SCNR/De-NOx systems are to be installed to control NOx emissions within the stipulated norms. Further, water requirement of 1101.6 KLD is proposed during operation phase and to be sourced from MCG. Proponent should utilise the treated water from Leachate treatment system and the balance water may be sourced from MCG which will reduce fresh water consumption.

(1.1.4) Committee after detailed deliberations, recommended for following ToRs for WtE of 25 MW installed capacity in addition to the Standard ToRs:

i. Proximate and ultimate analysis, Calorific value of municipal waste proposed to be brought from Gurugram and Faridabad shall be carried out for design purpose of boilers. Mass balance of waste in the process shall be submitted.
ii. Air pollution control measures including NOx control measures, Leachate treatment methods shall be proposed.
iii. The air pollution control measures and leachate treatment systems shall conform the emission and wastewater standards provided in Solid Waste Management Rules, 2016.
iv. Heavy metal content analysis in the fly ash and bottom ash shall be carried out at laboratory scale for similar plant to estimate the hazardous content of the ash generated from the waste to energy plant.
v. The bio-diversity study of Asola Bhatti Wildlife Sanctuary shall be carried out and likely impacts due to proposed project activities shall be predicted. Suitable mitigation measures along with bio-diversity conservation plan shall be prepared in consultation with Monitoring Committee of ESZ-Asola Bhatti Wildlife Sanctuary. An authenticated map showing Wildlife Sanctuary and its ESZ *vis a vis* project boundary shall be vetted by Chief Wildlife Warden for both national territory of Delhi and Haryana region.

vi. As the inter-state boundary of Haryana and Delhi lies at a distance of 0.98 km from project site, the affected people from Delhi residing within 10 km radius of the project shall also be invited to participate in the Public Hearing. Accordingly, the representative of Delhi Pollution Control Committee shall also be invited to the Public Hearing to ensure such participation.

vii. Proponent should utilise the treated water from Leachate treatment system instead discharging into the public sewerage and the balance water may be sourced from MCG which will reduce fresh water consumption.

(1.2) 900 MW (750 MW + 150 MW) RLNG based Combined Cycle Power Plant at Village Kalanji, Taluk Ponneri, District Thiruvallur, Tamil Nadu by M/s. Chennai Power Generation Limited (CPGL)-reg. ToR.
(F.No.J-13012/ 09/2020-IA.I (T)& No. IA/TN/THE/162023/2020)

(1.2.1) The Project Proponent submitted online application dated 15.07.2020 for grant of ToR.

(1.2.2) Project Proponent along with M/s Ramky Enviro Services Pvt. Ltd. made the presentation and inter-alia submitted the following information:

i. The Company had initially obtained Environmental Clearance from MoEF&CC vide letter No. J-13011/11/961A.11 (T) dated 19.03.1997 for setting up of thermal power project using naphtha as fuel.

ii. TIDCO dropped the proposal to establish the LNG Terminal. Then the Company had approached MoEF&CC to give amendment for change of fuel from Naphtha to Imported coal.

iii. MoEF&CC asked to submit the fresh application as the proposal is based on coal and the land requirement will also increase due to use of coal. Subsequently, the ToR was issued for the project in letter No. J-13011/11/96 IA. II (T) dated 03.06.2009.

iv. Due to overlapping of land of approx. 70 acres between company's project site and the North Chennai Power Company Project site, the project could not proceed further due to litigations pending in the Madras High Court.

v. As the ToR validity expired, another ToR was obtained for setting up of 2x660 MW Super critical imported coal based power plant vide letter number J-13012/16/2015-1A-I (T) dated 10.06.2016. The validity of the said ToR was also expired on 9.6.2019.

vi. Subsequently, the company decided to change the fuel from coal based 2x660 MW Supercritical plant to 1050 MW gas based combined cycle plant due to availability of RLNG from IOCL terminal coming up at Ennore which is about 6 Km from selected plant site. Further MoU between IOCL & CPGL also signed Gas transportation of RLNG supply at the plant site. Accordingly, fresh ToR was obtained on 19.07.2018.

vii. Presently, the company wants to revise the proposal by changing the configuration to 900 MW (750+ 150 MW) and there is a slight shift & change in

land area as proposed in the earlier ToR. Accordingly, it is proposed to obtain the new ToR and withdraw the previous ToR dated 19.07.2018.

viii. At present, the company does not have any dispute with North Chennai Power Company regarding land and the company does not have any land sharing with them. The Madras High Court in W.P. Nos. 25745 and 25080 of 2010 vide Order dated 29.11.2012 also settled the dispute and disposed the matter.

ix. The proposed power project will be set up in 31.16 ha. The break-up of land is given as below:

Particulars	Main Plant area in ha	Desalination plant area in ha	Total area in ha	Remarks
Main Plant & auxiliaries	12.45	5.30	17.75	33% of the area will be used for greenbelt development, minimum of 50 m wide along the boundary.
Roads	2.19	0.93	3.12	
Greenbelt	7.22	3.07	10.29	
Total	21.86	9.30	**31.16**	

x. No R&R is involved in the proposed project. CPGL had already purchased 28 acres of land at Kalanji village and 23 acres of lands at Kattupalli village. The major part of the land in the proposed site is in the possession by CPGL (approx.51 acres). There are pockets of Boodhan land within the proposed site. CPGL requested to Secretary, Revenue department and the commissioner to acquire/purchase the Boodhan lands for the project.

xi. The Buckingham canal (30 m away on west) is located adjacent to the proposed project site and Bay of Bengal is 1 km East from project site. The RLNG terminal of IOCL is located at 6 km from the project site. It is proposed to set up Desalination plant which is located close by to Bay of Bengal i.e. at 200 m from the Coast.

xii. There are no declared biospheres, wildlife sanctuaries, or tiger sanctuary or migrating corridor or Coastal zone in the core zone and 10 km buffer zone. Pulicat Sanctuary is located at 12 km, North of the project.

xiii. 750 MW unit comprising one block of 550 MW capacity + 1 HRSG + 1 STG of 200 MW. Further, 150 MW unit comprising one block with 3 GTG of 90 MW capacity + 3 HRSG + 1 STG of 60 MW. Both the units will be operated on RLNG only. Closed recirculation cooling water with cooling tower shall be adopted for STG condensers.

xiv. The fuel requirement for the proposed project is given as below:

Details	Units	Power plant capacity			Remarks
		750 MW	150 MW	Total	
Fuel – RLNG	MMSCMD	3.07	0.6	3.67	Mode of transportation is through pipeline from IOCL RLNG terminal at a distance of 6 km
Gross calorific value	kcal/SCM	9174	9174	9174	
Plant heat rate	kcal/kwh	1598	1598	1598	
Fuel requirement at 60% PLF	MMSCMD	2.0	0.45	2.45	

xv. The proposed power plant units are gas based power plant there will not be any ash disposal. Liquid waste will be mainly from the effluents generated from the combined cycle power plant would be from Cooling tower blow down, DM plant Regeneration plant, Heat recovery steam generator drum blow down, Sanitary waste, Water from Oil water Separator.

xvi. Water requirement for the project is 6165 m^3/h (1,47,960 m^3/day) which will be sourced from Bay of Bengal through construction of onshore sea water intake pump house and pipeline for a distance of 1.5 km.

xvii. The cooling tower blow down and RO rejects will be discharged back into the sea based on Simulation Model in study and in compliance with regulatory norms in order to keep temperature differential between blow down and receiving seawater with in permissible limits and will be disposed deep into the sea through diffuse ports to achieve optimum mixing to attain requisite temperature and salinity

xviii. Power generated from the proposed Plant units of 750 MW will be evacuated through 765 kV or 400 kV outdoor switchyards.

xix. The 765 kV transmission line is proposed to laid to connect to the proposed pooling station at Ennore which is 15 km from site; or 400 kV Double circuits to the Manali 400/230 kV sub-station which is 20 km from site which is owned by the TNEB. Power generated from 150MW Plant will be evacuated through 230kV outdoor switch yard to the 230/110 kV station at Athipattu owned by TNEB Grid having the distance of 8 Km from the project site.

xx. Estimated cost of the project is Rs. 3700 Crores. The estimated employment generation is 2000 persons during construction phase and 1000 persons during operation phase.

(1.2.3) Committee noted the ToR was issued to the proponent on 19.7.2018 for the same project. However, Proponent has changed the project configuration and shifted the land boundaries towards North of the earlier proposed site. Proponent has informed that there is no dispute of land with North Chennai Power Company. Further, the project is adjacent to the Buckingham Canal which is also a tidal influenced water body. The proposed location has some saltpans and aqua culture ponds. Committee further noted that since the ToR for the said site had

already been issued in the past, the present proposal can be considered provided main power plant area is not falling in the CRZ area. Further, the committee noted that either existing ToR is to be withdrawn for issuing new ToR or existing ToR is to be modified. Proponent agreed to withdraw the pervious ToR.

(1.2.4) **Committee after detailed deliberations, recommended for grant of following ToRs in addition to the standard ToRs** while at the same time recommended for withdrawal of the ToRs dated 19.7.2018.

i. Recommendations of TNSCZMA shall be obtained for permissible activities such as intake and outfall pipelines, desalination plant and connected facilities. TNSCZMA shall categorically verify whether main plant area is falling within the CRZ area or not in accordance with the approved Coastal Zone Management Plans. Further, presence of mangroves in the proposed project area including pipeline corridor shall be ascertained. CRZ maps in 1:5,000 scale shall be submitted.

ii. A certificate from the concerned District Collector should be obtained clearly confirming that the proposed site does not overlap with the site of M/s North Chennai Power Generation Ltd. and that the proposed site (total land required for the project) is free of all encumbrances.

iii. As many salt pans and aquaculture ponds are falling within the proposed project area, the alternate livelihood plan for the villagers who are doing salt farming or aquaculture shall be prepared along with budgetary provisions. Further the rights of 5 acres of Bhudhan land is to be ascertained and compensated, if any.

iv. A project layout map showing power plant facilities along with 50 m wide greenbelt and Desalination Plant shall be submitted.

v. EIA report shall cover marine aspects such as impact on marine ecology. The impact of the intake / outfall structure on marine life during construction and operation phases shall be studied. Studies pertaining to Bathymetry Sediment transportation, Thermal Dispersion and Salinity dispersion shall be conducted. Design of intake and outfall points shall be based on the studies.

vi. Mangroves shall not be disturbed along the Buckingham canal, if any. Mangrove mapping within 10 km radius shall be mapped. There are several trees/greenery within the project area. Whether this greenery is mangroves or otherwise is to be ascertained and tree enumeration shall be done. Compensatory mangrove afforestation shall also be proposed in the EIA report.

(1.3) 3x800 MW NLC Talabira Thermal Power Project at Village Khumberi, Taraikela and Thelkoli, Tehsil and District Jharsuguda, Odisha by M/s NLC India Ltd -reg. Environment Clearance.
(F.No. J-13012/14/2017-IA.I (T) & Proposal No. IA/OR/THE/67938/2017)

(1.3.1) Project Proponent submitted online application on 19.2.2020 for grant of Environmental Clearance for establishing 3x800 MW Thermal Power Project in Jharsuguda District, Odisha.

(1.3.2) The proposal was earlier considered by the EAC in its meeting held on 10.4.2020 and the committee made several observations in the EIA such as socio-impact assessment study, water sustainability study, public hearing action plan, land use, cumulative impacts of existing industries, compliance to recommendations of sub-committee, proximity to Bhedan river & its HFL, greenbelt proposed of 17%, adjacent forests, project location in critically polluted area, ash pond proximity to Bhedan river & its risks, natural Nallah passing through proposed ash pond, break-up of EMP, NOC from DFO Jharsuguda for impacts on forest and wildlife, coal linkage, intake water point & transport pipelines, submerging of ash pond and plant area with maximum flood level, etc. The committee deferred the proposal for revising the EIA report.

(1.3.3) Project Proponent vide letter dated 19.6.2020 submitted the revised EIA report. Proponent along with Environment Consultants M/s ABC Techno Labs India Pvt. Ltd. have made the presentation inter-alia furnished the following information:

i. HCSD concept of ash disposal is being adopted the slurry disposal. In HCSD system, slurry gets hardened after disposal, and hence no pollution of river due to any possible breach is envisaged. Also as per norms the min distance of 500m is left between the river body & ash dyke. The Nalla passing through the proposed Ash Dyke shall be remodelled and diverted as per NIH Roorkee report.

ii. The SIA study has been conducted by DCOR Consulting Private Limited applying cross-sectional study design and the overall design and framework of the study was guided by the RFCTLARR act and was developed and executed under the technical guidance of the SIA unit.

iii. The study site for SIA included the village Tumbekela, Tareikela, Hirma, Kumbhari and Luhurenkachhar of Jharsuguda Tahasil in Jharsuguda district where 753.13 acres of private land will be acquired for the proposed project.

iv. The SIA study enumerated a total of 512 families from the list given for survey of which 291 will be displaced as their residential areas is going to be acquired and 221 families will be affected as their land is going to be acquired for setting up of the proposed industry in the five villages. The expected displaced people were residing in village Tareikela, Kumbhari and Gariadihi Kisan Pada (a hamlet of Hirma village) and the expected affected people were from village Tumbekela, Tareikela, Kumbhari and Hirma.

Name of village	No. of families	No. of displaced families	Percentage	No. of affected families	Percentage
Hirma	124	39	31.5%	85	68.5%
Kumbhari	163	123	75.5%	40	24.5%
Tereikela	136	129	94.9%	7	5.1%

Tumbekela	89	0	0%	89	100%
Total	512	291	62%	221	38%

v. Most of the people in project area wanted to vacate their homes provided that they would get suitable monetary compensation for their land, houses and immovable assets. According to them the cost of land is highest in the area. So they should be compensated accordingly.

vi. Owners of land near the Bheden river in Kumbhari and Tareikela villages wanted to part with their land as they will face problem in cultivation. The proposed project maps show exclusion of those patch of land. They requested that the company should acquire that patch of land for tree plantation or any other purpose.

vii. SIA study revealed heavy loss of land and income due to the acquisition of land under the project. The adverse effects of the project may be overcome by restoration of livelihood, providing employment opportunities, skill building and vocational training like ITI, Diploma, Computer, Driving, Tailoring etc. for engagement of the displaced and affected family members in the project or various project ancillary units for income and also by promoting income generation skill among the women mass through SHGs like Tailoring, Khali Stitching, Mushroom cultivation etc. with a market linkage support and by taking up community awareness generation on health & nutrition and plantation drive.

viii. DoWR wide letter dated 05.09.2019 has accorded water commitment of 90 cusec from Hirakund reservoir out of industrial quota without curtailing allocation for irrigation.

ix. The land use of the proposed project area is as below:

Land Use	Area
Agriculture	1007.115 acres
Homestead	33.855 acres
Wasteland	102.65 acres
Grazing/Gochar	11.76 acres
Water bodies	35.9 acres
Communal (Roads, etc)	30.33 acres
Total	1221.61 acres

x. Cumulative impact considering the surrounding industries viz. power plant, Bhushan steel plant and mining activity on baseline ambient air quality, after

the implementation of the proposed project has been arrived by superimposing the present baseline maximum air quality levels of each pollutant.

xi. Sub-committee recommended that the PP should construct a bound of Minimum width of 20 m having elevation of at least 202 m AMSL, along the riverbanks. The PP may construct the bund in consultation with Irrigation Department of Water Resource Department and state Forest Department for their guidance and necessary permission. Accordingly, bund strengthening is proposed as per the NIH Roorkee, which will be carried out in accordance with advise of WRD of Odisha.

xii. Sub-committee recommended to construct approach road along the boundary wall of power plant so that villages can have easy access to their agricultural fields. Accordingly, access road surrounding the project area has been planned for villagers.

xiii. Sub-committee recommended that the course of Nallah exists in the proposed Ash pond areas should not be diverted and necessary protection measures such as proper lining at both banks, etc. are to be provided. Ash pond area requires to be re-aligned so that the village shall remain outside of the boundary of the proposed ash pond area and fresh lay out map, in this regard, to be submitted.

xiv. As per the sub-committee recommendations, the ash pond area has been re-aligned so that village remains outside the boundary. However, nallah diversion has been proposed and NIH conducted a study on this and suggested to re-route along the southern side.

xv. Sub-committee recommended that no construction within 500m width from the HFL shall be proposed as per Hon'ble supreme court directions. The area requiring for construction of over bridges should be included in the proposed project. And accordingly, necessary permission to be taken from the competent authorities.

xvi. During the visit of Sub Committee of EAC, it was observed that earth from the river bank have been removed illegally which causes submergence and accordingly it was suggested to go for bund strengthening. The NIH report is based on historical data of 100 years return period. In the report, 20 meter wide bund strengthening around the Bhedan river on either side shall be carried out. The plant formation level to be kept at min 202 meter.

xvii. Sub-committee recommended that construction of Raw water Reservoir may be shifted toward the existing water pond due to paucity of land and keeping agricultural land unaffected. As per the recommendations, the raw water reservoir has been shifted north wards and area reduced from 126 acres to 88 acres

xviii. Sub-committee recommended that before any construction is taken up in either of the areas, the transmission lines are to be shifted. Accordingly, OPTCL has been approached to carry out the diversion of transmission lines.

xix. Sub-committee recommended that a Greenbelt between the village and the proposed ash pond shall be developed. Fresh water available in the existing water bodies in the proposed project should be reused for construction work to minimize requirement of fresh water. No ground water shall be drawn for construction work. As recommended, Green belt between village and ash pond will be developed. No ground water withdrawal is envisaged.

xx. As recommended by the sub-committee, wind barrier shall be constructed to arrest fugitive dust in coal Handling Plant area.

xxi. The overall land requirement for the project is proposed as 1447 acres, out of which the plant area is 602 acres and reservoir is 88 Acres thus making the plant area as 690 acres. As per CEA norms, one third of plant area needs to be earmarked for green belt, which works out to 230 acres for NTTPP, where as 252 acres of green belt is envisaged. As suggested, Green belt shall be provided around the periphery of Ash Dyke.

xxii. The plant boundary wall and the ash dyke shall be at a distance of 500m from the Bhedan river. As suggested during the visit of Sub Committee of EAC and also suggested in the NIH report, 20 meter wide bund strengthening around the Bhedan river on either side shall be carried out.

xxiii. The most of the Patrapali forest area is part of Talabira II & III Captive mining Blocks of NLCIL. The forest clearances (Stage I & Stage II) for diversion of forest land in the mining area have already been obtained.

xxiv. Coal from the coal mine shall be transported by belt conveyor up to the transfer point in mine area (about 01 km) and thereafter through pipe conveyor (crossing the Bhedan river) up to the power plant (about 900 m).

xxv. The location of water intake and the tentative pipeline route from the intake pump house up to the power plant has been submitted in the EIA report. Water Resource Department (DoWR) shall make the site visit shortly and finalise the intake point and final route layout.

xxvi. Cost Breakup of FGD and other pollution control measures of EMP plan has been revised and submitted in the EIA report.

Sl.No.	Description	Capital Cost (Rs. in Crores)	Recurring cost (Rs. in Crores)
1	Greenbelt/Horticulture	5	0.05
2	Rain Water Harvesting	2	0.02
3	Municipal Waste Management (STP)	2	0.03
4	Ash Disposal	150	1.5
5	Environmental Monitoring	6	0.1

6	Water Management including ETP including RO for ZLD	20	0.2
7	Air Pollution Control -ESP	120	1.2
8	Air Pollution Control –SCR	264	2.64
9	Air Pollution Control –FGD	800	0.08
10	Air Pollution Control -Chimney	66	0.7
11	Dust suppression system	2	0.02
12	PT Plant	35	0.4
13	DM Plant	25	0.03
14	Environmental Awareness & Training	3	0.03
Total		1500 (9.3% of project cost)	7

xxvii. The Water Balance Diagram (WBD) included in the EIA report take into account the consumption of water for wet limestone based FGD as per MoEF norms.

xxviii. Make up water requirement for this project would be about 7200 m^3/h with ash water recirculation system and about 9150 m^3/h with once through ash water system. This project is planned on zero discharge of water concept. The water is proposed to be drawn from Hirakund reservoir at a point near the intake location of M/s Bhushan Steel and Power Ltd, at a distance of about 20 km. Makeup water from the source will be pumped to an in-plant raw water reservoir having storage capacity of about 10 days to take care of emergencies. Presently, Induced Draft Cooling Towers (IDCT) has been proposed for the project.

xxix. Limestone storage and handling system and Gypsum storage and handling system area is earmarked in the plant layout. Marketing of Gypsum will be employed for Management of gypsum, and excess if any, will be backfilled in mine voids.

xxx. Ministry of Coal vide letter dated 12.1.2018 confirmed that Talabira II and III mines are allocated for proposed power project as well as another power project located in Tuticorin, Tamil Nadu.

xxxi. The ambient data monitoring carried out at the project site takes care of the present pollution loading in the project area. The proposed project is envisaged to adopt supercritical parameters and installation of FGD, SCR, High Efficiency ESP, Green Belt, Dust Supression/Extraction systems to prevent air pollution, Zero Liquid Discharge (ZLD) is proposed to prevent water pollution. Accordingly, even though the project is located in Anugul-Talcher Critically polluted area, the

proposed pollution control measures will ensure the impact from the project is minimum.

xxxii. Regarding NOC from DFO Jharsuguda, concerned Ranger visited the site and submitted the report to DFO. The NOC will be obtained within three months.

xxxiii. As part of the Public Hearing commitments, a total of Rs. 40.18 Crores has been allocated to fulfill the commitments made during public hearing for uplifting the socio-economic status of surrounding and affected villages.

S.No.	Activities	1st year	2nd year	3rd year	4th year	5th year	Total Cost Rs. in Lakhs
1	Infrastructure Development (Roads, class rooms, tanks, solar, electrical facilities)	700	600	500	500	400	2700
2	Education/skill development	-	-	200	-	100	300
3	Drinking water supply		200			70	270
4	Sanitation	50	50	50	50	50	250
5	Health	100	100	100	100	100	500
Total		850	950	850	650	720	**Rs.40.20 Crores**

(1.3.4) Committee noted that several recommendations made by the sub-committee have not been addressed. Further, some of the issues raised by the EAC in its meeting on 10.4.2020 have not been adequately replied by the Project Proponent. The following are the issues deliberated by the committee:

i. The main issue among these is the location of ash pond in the HFL area adjacent (200 m) to Bhedan River which may cause breach of ash pond in case of high floods. Further, the proposed ash pond has human settlements on Northern and southern side. Proponent agreed to re-align the boundaries so that villages in North may not be disturbed. However, Southern settlements require rehabilitation. Further, a natural drain (nallah) is passing through proposed ash pond. Sub-committee recommended for not disturbing Nallah. However, proponent proposed to divert the nallah on southern boundary of the Ash pond. As per the Hydrogeological report prepared by NIH, the maximum inundation after 50 year and 100 years return flood shows that more than 70% of the proposed ash pond area gets inundated. Committee suggested that the ash

pond may be shifted to a suitable location closer to Talabira coal mines so that the same ash can be disposed into the mine void with overburden material as part of internal dumping / backfilling scheme. This would also ensure maximum utilization of ash. Else, proponent may redraw the ash pond boundaries after eliminating the villages, natural drain, distance of 500 m HFL of Bhedan river. Option of dry ash disposal preferably near Talabira mines may also be explored as the hydraulic pressure in the ash pond proposed adjacent to Bhedan River will pose a threat for breaching, if slurry disposal is considered.

ii. The incremental concentrations from the stack emissions were predicted as 0.8 $\mu g/m^3$, 2.73 $\mu g/m^3$ and 2.73 $\mu g/m^3$ for PM, SO_2 and NOx concentrations, respectively.

iii. The clarity on water availability and requirement is needed. Make up water requirement for this project would be about 7200 m^3/h with ash water recirculation system and about 9150 m^3/h with once through ash water system. The actual water requirement including ash water recirculation system, FGD shall be clarified. Further water source sustainability study was sought. However, proponent only replied that Water Resource Department has allocated 90 cusecs water for the proposed project. Water availability after taking the in-stream users, irrigation, other industrial uses, ecological needs in to consideration, shall be arrived for the proposed project.

iv. The justification for showing 17% greenbelt (252 acres) of the total project area (1447 acres) as more than 33% is not convincing. Project Proponent is considering the plant area as 690 acres (excluding water reservoir) out of which 33% is shown as 227 acres and the proposed greenbelt of 252 acres is shown as more than 33%. However, this logic is not convincing to the committee. The 33% greenbelt of the total project area is to be taken into consideration including all facilities used for the project. Further, inlight of Ministry's OM dated 31.10.2019, the mechanism to deal with projects in Critically Polluted areas stipulated 40% greenbelt instead of 33%. As the project is in Ib valley critically polluted area, the extent of greenbelt needs to be increased in line with the OM.

v. NOC from DFO Jharsuguda regarding impact on surrounding forests and wildlife is to be submitted.

vi. Mercury concentrations in the coal, emissions and control measures to be provided.

vii. SIA for Jharsuguda District was carried out. But for Sambalpur district is yet to be conducted. The plan for Skill development should be in line with the SIA carried out.

(1.3.5) Further, **Committee members opined the requirement of the following:**

The location of ash dyke to be shifted away from Bhedan river, ash utilization program to be indicated with proper tie up. An embankment to be made along the river, which is to be designed through a reputed agency/institute. Greenbelt to be developed between river and ash dyke. Ash dyke design to be done through a reputed agency. High concentration flyash disposal to be made. NLCIL will identify a mine void for discharging high concentration slurry Bottom ash to be used as a construction material a substitute of sand. Fly ash shall be utilized for different purposes as per the Fly Ash Notification. **After detailed deliberations deferred the proposal for seeking clarification on issues as per para 1.3.4 above.**

--

(1.4) 1x800 MW Coal Based Supercritical Thermal Power Plant and Decommissioning of 2x120 MW Units at Ukai Thermal Power Plant at Vill. Vagda, Tehsil–Fort Songadh, District-Tapi, Gujarat by M/s Gujarat State Electricity Corporation Limited (GSECL)- reg. Environment Clearance. (F.No.J-13012/4/2018-IA.I(T) & Online No. IA/GJ/THE/144074/2018)

(1.4.1) Project Proponent has submitted online application on 19.2.2020 for grant of Environmental Clearance to establish 1x800 MW Thermal Power Project within the premises of existing units 2x200 MW, 1x210 MW and 1x500 MW.

(1.4.2) The proposal was earlier considered by the EAC in its meeting held on 10.4.2020 and the committee deferred the proposal for seeking information on following aspects:

i. The air quality predictions have been estimated only by considering the emissions from the proposed project. However, the emission load from the existing units has not been considered for assessing the cumulative impacts.
ii. The ultimate pollution load from each unit with full pollution controls (ESP & FGD, De-NO_X systems) and with partial control measures (only ESP) shall be estimated. Subsequently, the cumulative pollution load and its impact on environment is to be predicted.
iii. Environmental Management Plan (EMP) and its cost does not provide breakup of FGD and other pollution control. Water consumption in the FGD, in case of wet lime dosing, and management of gypsum including its land requirement shall be provided in the EIA report.
iv. The results of thermal dilution study shall be submitted to assess whether the there is any impact of temperature of cooling water discharge on agriculture fields dependent on canal irrigation.
v. 33% greenbelt area is to be mapped for the total project area including existing units.
vi. The action plan for public hearing issues such as air pollution from air borne ash of ash pond, transfer of land plots in their name for rehabilitated colony, employment to tribal, etc.
vii. The time lines along with budgetary allocations for installing FGD for existing plants. Water consumption in the FGD, in case ofwet lime dosing, and management of gypsum including its land requirement shall be provided in the EIA report.
viii. Extension given to implement pollution control measures to meet revised emission norms and water consumption norms by CPCB, if any.

ix. The possibility directly using cooling water discharge (once through cooling system) for the proposed project. This will avoid taking additional fresh water from Ukai canal and discharge of hot cooling water (once through system) from existing power plants. Action plan in this regard is to be submitted.
x. The Regional Office compliance report shows several partial compliance such as stack emissions exceeding the standard, effluent release into natural drain, no garland drain around the coal stock yard, no settling pond near ash pond, housekeeping, etc. An action plan to achieve compliance of these conditions is to be provided.
xi. Ash generation, Ash utilisation vis-a-vis 100% utilisation as per Ministry's fly ash notification during last five years.

(1.4.3) Project Proponent submitted the information as sought by the EAC on 10th July, 2020. Accordingly, the proposal has been placed before the EAC. Project Proponent along with Environment Consultants M/s Mantec Consultants Pvt. Ltd. have made the presentation inter-alia furnished the following information:

i. The emission load from the existing units have already been reflected in the base line ambient air quality monitoring carried out by Accredited EIA consultant during March to May 2018. During that period of monitoring, mostly all four units (unit 3, 4, 5 and 6 of Ukai TPS) were in running condition. This is the case of expansion by addition of 1x800 MW unit to existing 4 units of Ukai TPS.

ii. Existing load of emission from existing units was already considered in base line. However, emission load for existing units was calculated as per EAC requirement. The pollution load from existing units (Unit- 3& 4: 2x200 MW; Unit- 5: 210 MW, Unit-6: 500 MW) with present pollution control measures (with ESP, No FGD, No NO_X control measures) is PM: 9.66 Tons/day (112 g/sec), SO_2: 146.8 Tons/day (1699 g/sec), NO_X: 57.37 Tons/day (664 g/sec) which is getting released into atmosphere.

Parameter	Existing Power Plants with present pollution controls (with ESP, without FGD & NOx controls)	Proposed Power Project with all pollution control measures (ESP, FGD & De-NOx control) considering the compliance of latest emission norms.	Total emission load
Plant/ capacity	Unit- 3& 4: 2x200 MW; Unit- 5: 210 MW, Unit-6: 500 MW (Total:1110 MW)	Proposed Unit-7: 800 MW	Total: 1910 MW
PM	9.66 Tons/day (112 g/sec)	2.35 Tons/day (27.2 g/sec)	12.01 Tons/day (139.2 g/sec)

SO_2	146.8 Tons/day (1699 g/sec)	7.93 Tons/day (91.8 g/sec)	154.73 Tons/day (1790.8 g/sec)
NOx	57.37 Tons/day (664 g/sec)	7.93 Tons/day 91.8 g/sec	154.73 Tons/day (1790.8 g/sec)

iii. The incremental concentrations have been predicted by using plume dispersion modelling for the above mentioned scenario. The incremental concentrations for are as below:

Pollutant	Maximum AAQ Concentrations Recorded During the Study ($\mu g/m^3$)	Maximum Incremental GLC ($\mu g/m^3$)	Cumulative GLC ($\mu g/m^3$)
SO_2	18	56.99	74.99
NOx	26	24.30	50.30
PM	88	4.93	92.93

iv. The incremental concentrations have also been predicted for other scenario where all existing units are also equipped with FGD, De-NOx control measures and meeting emission norms given in the Notification dated 07.12.2015. The predicted concentrations are as below:

Pollutant	Maximum AAQ Concentrations Recorded During the Study ($\mu g/m^3$)	Maximum Incremental GLC ($\mu g/m^3$)	Cumulative GLC ($\mu g/m^3$)
SO_2	18	39.31	57.31
NOx	26	38.48	64.40
PM	88	7.24	95.24

v. Since, the stack height is reduced, the maximum incremental GLC in case of NOx and PM are relatively higher than the predicted values.

vi. The Environment Management Plan (EMP) cost includes the FGD and other pollution control system. The break-up of EMP is provided as below:

S. No.	**Item**	**Cost, Crore Rs.**		
		Capital	**Recurring**	**Total**
1.	Electrostatic Precipitator	70.45	2.17	72.62

2.	FGD &De-NOx systems	322.00	35.00	357.00
3.	Chimney	45.09	0.50	45.59
4.	Cooling Tower incl. civil works	64.53	0.65	65.18
5.	Ash Handling	224.53	4.49	229.02
6.	Ash Dyke	47.67	0.95	48.62
7.	ETP for Zero Liquid Discharge	50.90	1.01	51.91
8.	Dust Extraction & Suppression System	5.00	0.30	5.30
9.	DM Plant Waste Treatment System	5.00	0.10	5.10
10.	Sewerage Collection, Treatment & Disposal	4.00	1.33	5.33
11.	Environmental Lab Equipment	1.50	0.15	1.65
12.	Green Belt, Afforestation & Landscaping	5.00	0.24	5.24
13.	Rainwater Harvesting System	1.20	0.51	1.71
TOTAL		**799.20**	**47.40**	**846.60**

vii. Water consumption in FGD for 800 MW unit shall be 171 m^3/h, in case of wet lime dosing and this shall be met with through treated effluent from ETP. Quantity of gypsum generation from the FGD unit will in the range of 40-45 T/h. The Gypsum shall be dried, and disposed through sale to users like cement industry, land correction, etc. Intermediate storage shall be done at Gypsum storage shed in the plant.

viii. Based on the thermal dispersion modeling studies it is observed and concluded that the discharged cooling water from the thermal plant gets normal ambient temperature within downstream flow of 1.55 km from the proposed outfall location. Hence, there is no change in canal waters beyond 1.55 km from outfall location. Since, no change observed in the water qualities after 1.55 km in the downstream, the canal water can be used for agricultural purpose.

ix. The total area of the project including existing units, proposed unit & ash dykes is 285.49 ha. The 33% greenbelt of 285.49 ha would be 94.21 ha. Total existing plantation area is 37.56 ha. Total proposed plantation area in proposed project area is 11.88 ha. Remaining 44.77 ha area for plantation has been proposed in Villages Dumda, Ukai, Nanikhervan. Consent was obtained from respective Gram Panchayats.

x. Regarding Air pollution from air borne ash raised in the public hearing, an agency was appointed for water sprinkling through tankers on haul road to arrest air borne dust. Work has started on 26.11.2018. Further, the plantation (13750 plants) on the periphery of ash pond is being done through Forest Dept. Agency was appointed to develop 1.6 km. Pukka Road on the canal bank for controlling fugitive dust during vehicle movement up to Ash dyke area. Utilisation of ash dyke- B, C & D is carried out in rotation & Water sprinkling is carried out during ash lifting operation accordingly so that the dry ash is not spread away. Part of

the treated water from proposed ZLD scheme will also be utilised for continuous sprinkling on the ash dyke.

xi. Regarding Transfer of land raised in the public hearing, the land has been allotted to GSECL Ukai TPS on the basis of the compensation deposited with the Government as per the prevalent rules and regulations at the time of land acquisition. Land acquisition was carried out as per legal rules, regulations and after mutual agreement and acceptance of nearby Villagers at the time of establishment of Ukai Thermal Power Plant.

xii. Regarding employment issue raised in the public hearing, the unit is providing employment to people based on their educational qualifications and as per the rules and regulations of Gujarat Government. Employment preference is being given to local population and will follow government rules and regulations. At present out of the total permanent employees at Ukai TPS, 43.54% are locally employed. 90.55% of contract labourers are also local persons. Same trend will be adhered to in the future employment.

xiii. As part of Public Hearing commitment to improve the livelihood and socio-economic conditions of the surrounding and affected villages, the infrastructure development such as renovation of school building, playground, road development, causeway construction on Ghodakhadi, building of computer lab, class rooms, mid-day meal hall, hostel rooms and bathroom, compound wall, etc.; eye check-up camps, providing school bag kit, primary education, etc. will be taken up. After the Public hearing, medical check-up camps were arranged by GSECL in the nearby villages like Vagda, Dumda, Nanikhervan, & Motikhervan during September 2019 at the total expense of Rs.60,000/-.

xiv. The Timelines for installing FGD for units # 3, 4, & 5 is December 2021 and for Unit 6 of Ukai TPS is March 2022.

xv. As per the DPR, Water consumption in FGD of unit 3, 4 & 5 shall be @ 122 m^3/h, while that for unit 6 shall be @ 150 m^3/h, in case of wet lime dosing.

xvi. Draft Tender for FGD installation in old units 3,4 & 5 of Ukai TPS received and is under Scrutiny. EPC tender for FGD in unit-6 of Ukai TPS will be re-invited soon. However, the same can be delayed on account of Covid-19 pandemic.

xvii. CPCB has given the timeline of June 2022 for installing the cooling Towers in place of Once Through Cooling system in unit 3, 4, 5 of Ukai TPS. However, GSECL has requested MoEF&CC and CPCB to grant exemption from providing Cooling towers considering the age of units and space constraints.

xviii. In case of OTC system, the water loss is @ 1%, whereas in case of closed cycle system, (i.e. cooling tower) it is @ 1.5 to 1.7% of the CW flow.

xix. Regarding the possibility of using cooling water discharge for the proposed project, the consumption of Water for proposed 800 MW unit will be only make up water of 1900 m^3/h, in line with methodology of cooling being implemented in existing unit no-6 having capacity of 500 MW. Recently in 2017, 100% civil lining work of irrigation canal is carried out by GSECL, incurring huge expenses, and GSECL is stake holder of Ukai hydro power plant and power block of DAM,

regularly spending considerable expenses on maintaining the same through irrigation department of Government of Gujarat.

xx. It is proposed to install a closed re-circulating cooling water system using Natural draft cooling towers, with 9°C temperature rise across the condenser. It is envisaged to design the system for five (5) cycles of concentration (CoC). Clarified water shall be used in closed recirculating cooling water system. With 28°C Design Wet Bulb Temperature, the optimum Cooling Water temperature which can be achieved is 33°C.

xxi. The cooling water discharge (OTC system) temperature shall be higher by 5-9°C as compared to the intake temperature from the Left Bank Main canal. This water gets normalized up to 1.55 km from the discharge point. If the cooling water discharge of OTC system is used for the proposed 1x800 MW project, it will directly affect the cooling system performance. Further, to use the water with higher temperature, very big size cooling system shall be required, which is techno-economically not feasible.

xxii. Regarding non-compliances highlighted by the Regional Office, stack emissions exceeding the standard, effluent release into natural drain, no garland drain around the coal stock yard, no settling pond near ash pond, housekeeping, the following measures were taken to control pollution:

a. High efficiency Electrostatic Precipitator is provided for unit no. 6 with Collection efficiency of 99.897%. ESP up-gradation work of unit No. 3 to 5 is completed & PM norms were achieved in all units

b. As per directive of CPCB, timelines for implementation of FGD to meet SO_2 norms in old units 3, 4 & 5 is December 2021 & Unit 6 is March 2022. Draft Tender for FGD installation in old units received and is under Scrutiny. EPC tender for FGD in unit 6 of Ukai TPS will be re-invited soon. However, the same can be delayed on account of COVID-19 pandemic.

c. The Over Fire Air (OFA) and Lower Over Fire Air (LOFA) System is provided in unit 6 for reduction of NOx emission.

d. Work order issued for Consultancy work for ash water recirculation and establishing ZLD scheme to M/s Radical Engineering, Vadodara vide dated 24.01.2019. Survey work completed and DPR is received on 10.01.2020. After implementation of this scheme, the effluent release into natural drain will be zero. The same can be delayed on account of COVID-19 pandemic.

e. Construction work of coal settling tank has been completed. Has been advertised for providing both sides drain of coal stacker & reclaimer in coal plant. Technical bid was opened on 18.06.2020.

f. For improvement of housekeeping in the plant, scrap & usable material is segregated by concerned section. Scrap collected & credited to store section by concerned section as per scrap lifting work. Scrap management is in place. Further, Work order was issued for painting to steel structure and work started from 12.12.2019.

xxiii. The ash generation vis-à-vis utilization for the existing power plant is given as below:

Year	Ash generation in Tons	Ash utilisation in Tons	% of ash utilisation
2015-16	1257297	1010955	79.45
2016-17	1195325	1058145	88.52
2017-18	1404886	1065143	75.82
2018-19	1311946	1081131	82.41
2019-20	1355128	1156495	85.34

(1.4.4) Committee took note of the assumption made by consultant that the pollution load of emissions from existing units was already considered in base line data. For example, the baseline data of PM: 88 $\mu g/m^3$, SO_2: 18 $\mu g/m^3$, NO_X: 26 $\mu g/m^3$ mentioned by the proponent was measured during March-May, 2018. The details of baseline and the present emission load are mentioned as below for reference:

Parameter	Baseline during March-May, 2018	Emissions (Tons/day) from 1110 MW operational plant	The total emissions from the power plant since June, 2018 till June, 2020 (750 days)
PM	88 $\mu g/m^3$	9.66 Tons/day	750x9.66=7,245 tons
SO_2	18 $\mu g/m^3$	146.8 Tons/day	750x146.8=1,10,100 tons
NO_X	26 $\mu g/m^3$	57.37 Tons/day	750x57.37=43,027 tons

The baseline data collected during March-May, 2018 for SO_2 is 18 $\mu g/m^3$. However, during the last 750 days since May, 2018, the power plant contributed 1,10,100 Tons SO_2 into the atmosphere. Committee is of the opinion that irrespective of the baseline data, the total emission load from the power plant (operating and proposed) is essential to understand the impact of the project on environment. The assumption that pollution from existing plant is already added to the baseline may be true to some extent, but to understand the total pollution load from the power plant (operational and proposed), cumulative load is to be estimated.

Further, the consultant in the prediction of incremental concentrations of emission has shown the baseline data of PM: 88 $\mu g/m^3$, NO_X: 26 $\mu g/m^3$, SO_2: 18 $\mu g/m^3$ which was collected during March-May, 2018. The final resultant concentrations (baseline + incremental) were compared to the 24 hourly emission standards. However, the present plant being the operational power plant, the continuous air quality monitoring is collected at several places. In case of expansion projects, air quality monitoring for 104 measurements/year needs to be collected and the annual average is to be estimated. In line with the ToR condition No. xlv, project proponent estimated annual averages of air quality during the year 2017-18. The annual average values at 4 locations are as below:

Parameter	Location-1: Near C.W. Pump house	Location-2: Near LDO Pump House	Location-3: Near Hostel, GSECL Colony	Location-4: AT Store
PM_{10} (µg/m³)	73	72.92	57.75	74.75
$PM_{2.5}$ (µg/m³)	27.2	27.7	18.8	26.3
SO_2 (µg/m³)	21	24.5	17.5	25.1
NOx (µg/m³)	20.6	21.6	17.4	19.9

From the annual average values of baseline data, PM_{10} values are exceeding the annual standard at several locations, let alone the incremental concentrations. Committee noted that the action plan to bring it below the annual standards is to be submitted by the project proponent and the Gujarat Pollution Control Board should monitor the action plan and the ambient air quality to bring it below the standards.

Committee noted that the existing power plants were given timelines by CPCB to install Flue Gas Desulphurisation Units and meet new emission norms. Further, installation of cooling towers and switching from once through cooling systems to closed system is yet to be done for 2x200 MW and 1x210 MW. Proponent mentioned that they have requested MoEF&CC/CPCB to exempt from installing cooling towers. Further, proponent mentioned that CEA has recently visited the site and a report is awaited on phasing out of existing units as these are very old units. Ministry may look into it. Fly ash utilisation is in the order of 75-88%. However, Proponent needs to achieve 100% utilisation target as per the Fly Ash Notification.

(1.4.5) **Committee after detailed deliberations, recommended for grant of Environmental Clearance** and following additional conditions are stipulated for compliance in addition to the Standard EC conditions for Thermal Power Plants:

i. From the annual average values of baseline data, PM_{10} values are exceeding the annual standard at several locations. An action plan to bring it below the annual standards is to be submitted by the project proponent and the Gujarat State Pollution Control Board should monitor the action plan and the ambient air quality to bring it below the standards.

ii. As the FGD cannot be installed within the timeline given by CPCB, necessary permission shall be obtain once again as to which date the FGD could be installed to meet the new norms.

iii. The stack emissions of PM: 30 mg/Nm³, SO_2: 100 mg/Nm³, NOx: 100 µg/Nm³, Hg: 0.03 mg/Nm³ shall be complied with. The emission reporting shall be submitted in the compliance report.

iv. The emission norms for the existing power plants as applicable inline with Ministry's Notification dated 07.12.2015 shall be complied with. The status of implementation and the current emission norms to be reported. Plant is not allowed to operate without meeting emission norms, unless an extension of timelines for implementation is granted by CPCB/MoEF&CC.

v. As the proposed 800 MW unit will be built on existing ash pond, the stability of the structure shall also be ensured.

vi. The implementation status of action plan furnished to the observations of the sub-committee such as a) Ash water recirculation system for existing ash ponds and treatment & reuse, b) Municipal Solid waste and hazardous waste and segregation & disposal, c) installation of Vermi composting plant, d) Removal of dry flyash along the roads and embankment & stabilization with vegetation, e) Continuous flow meters at intake & discharge points for cooling water, f) air quality monitoring in the village near Ash pond, g) continuous online ambient air quality monitoring stations both at Plant & Township, and h) Water quality monitoring in the upstream and downstream of Ukai canal, shall be submitted in the compliance report.

vii. Daily average and annual consumption of quantities of Coal consumption and water consumption shall be provided.

viii. ZLD of the plant shall be complied as per the notification dated 07.12.2020 of MoEFCC.

ix. The daily average and monthly quantities of flyash (including bottom ash) generation, utilisation and disposal of unutilised ash including percentages against the target as given in the flyash Notification shall be submitted.

x. No additional ash pond is permitted. Existing ash ponds shall be used to store the unutilised ash pond.

xi. The status of ash ponds such as volume availability, amount of flyash filled, stability of the dyke, greenbelt around the ash dyke, remaining life of ash pond, reclamation plan after its life shall be submitted.

xii. High Concentrated Slurry Disposal System, ash water recirculation system shall be installed for disposal of unutilised ash.

xiii. As proposed Cost of EMP Rs.799.2 crores as capital cost, Rs.47.40 Crores as recurring cost shall be spent to implement environment pollution control measures.

xiv. As proposed, Rs. 12.78 Crores (0.25% of the project cost) has been earmarked for fulfilling the public hearing commitments and for uplifting the socio-economic conditions of the surrounding and affected villages as part of Corporate Environment Responsibility. The progress of implementation is to be submitted.

xv. The 33% of the project area (285.49 ha) would be 94.21 ha. As proposed, 49.44 ha greenbelt is to be developed within the plant area. Due to paucity of land, the remaining 44.77 ha greenbelt is to be developed in Villages Dumda, Ukai, Nanikhervan so that the objective of 33% greenbelt development is achieved.

(1.5) Expansion of existing 2x150 MW TPP by installation of 185 MW (165+20 MW) Imported coal based Thermal Power Plant at Meramundali, Dist. Dhenkanal, Odisha by M/s Bhushan Steel Energy Ltd.- amendment in Environmental Clearance for change in coal source.
(File No. J-13012/78/2011-IA.II(T) & Online No. IA/OR/THE/163319/2020)

(1.5.1) M/s Angul Energy Ltd. (Subsidiary of M/s Tata Steel BSL Ltd.) vide online application dated 13.07.2020 requested for amendment in Environmental Clearance dated 12.2.2015 for change in coal source from imported to domestic coal.

(1.5.2) The Environmental Clearance for establishing 185 MW captive power plant in Dist. Dhenkanal, Odisha was issued to M/s Bhushan Energy Ltd. vide Ministry's letter dated 13.7.2015. Application for transfer of EC from M/s Bhushan Energy Ltd. to M/s Angul Energy Ltd. was submitted to the Ministry on 9th June, 2020 which is under consideration by the Ministry.

(1.5.3) Committee noted that the EC transfer application is under consideration by the Ministry which is an administrative matter and does not come under the purview of EAC. Committee allowed the presentation by the new proponent subject to the EC transfer by the Ministry. M/s Angul Energy Ltd. (a subsidiary of M/s Tata Steel BSL Ltd.) made the presentation and *inter-alia* submitted the following information:

i. As per EIA Notification, 2006, the thermal power projects of capacity <500 MW fall under category "B" and requires EC to be granted by the State Environment Impact Assessment Authority (SEIAA). However, as the present project was coming under Odapada Block of Dhenkanal district, Odisha, which was under Anugul-Talcher Critically Polluted as per CEPI of 2012. Accordingly, it was considered as Category "A" project and the EC was granted by MoEF.
ii. Tata Steel BSL Steel Limited (TSBSL), a subsidiary Company of Tata Steel Limited successfully completed acquisition of Bhushan Energy Limited (BEL) on 30th May, 2019 under the Corporate Insolvency Resolution Process of Insolvency and Bankruptcy Code 2016.
iii. Subsequent to acquisition, Bhushan Energy Limited has been renamed as Angul Energy Limited, following an approval from Govt. of India for name change w.e.f. 27th February, 2020.
iv. After name change, application has been submitted to MoEF&CC for change of name of Bhushan Energy Limited to Angul Energy Limited and transfer of 485 (300 + 185) MW EC vide proposal No. IA/OR/THE/156851/2020, dated 9th June, 2020 which is under consideration.
v. Post-acquisition of the Company, the new management is working on performance improvement including pollution control equipment and facilities. Multiple initiatives to reduce pollution load and carbon footprint have been identified, those are at various stages of implementation.
vi. The Environmental Clearance was granted based on Imported coal (Indonesia) with ash and Sulphur content 6% and 0.3%, respectively and Washery rejects.
vii. Indonesian coal contains very high percentage of moisture (30-40%) which leads to lower overall efficiency of the system. This additionally manifests in handling and feeding of coal during monsoon seasons. Long storage of Indonesian coal leads to issues of self-ignition & fire. Sourcing of Indonesian coal restricts use of options available domestically & requires maintaining a minimum of 60 days stock level to account for supply chain disruptions.
viii. Foreign exchange expenditure is incurred on commodity which is available in the country. Moreover, cost of Indonesian coal (1.15-1.20 Rs./GCV) is significantly higher than domestic coal cost (0.8 Rs./GCV).
ix. As on date only 165 MW CFBC boiler was installed and the remaining 20 MW could not be installed.

x. The domestic coal requirement is 1.6 MTPA with Ash content 45-50%, Sulphur: 0.4 - 0.5%, Moisture: 10-15%, GCV: 2800 - 3200 kcal/Kg.

xi. The domestic coal has been planned to be sourced from the raw material yard of Tata Steel BSL Limited (TSBSL) which is just 1 km from the thermal power plant (TPP). From the yard it will be conveyed to the boilers by conveyers. However, Tata Steel BSL Limited sources coal from MCL mines, Talcher from distance 27 km. The preferred mode of transport is by rail, however depending on the rake availability and railway siding issues, Coal could also be transported by road. It is to be noted that State govt. of Odisha is also planning for a dedicated Angul - Talcher-Chhendipada Common railway corridor project in partnership with railways. The common corridor will support 10 coal blocks operating in Talcher coalfields under the command area of Mahanadi Coal fields limited & 55 Industries including steel plants & power projects would be benefitted by this project.

xii. The company is planning to get some coal mines as captive source for the Thermal Power plant by participating in auction of coal blocks and based on the location of the mine, the coal is envisaged to be sourced preferably by rail or by road.

xiii. The ash generation from the Imported coal and domestic scenarios is given as below:

Type of coal	Fly ash	Bottom ash	Total
Imported coal	80,000 TPA	40,000 TPA	1,20,000 TPA
Domestic Coal	5,40,000 TPA	2,30,000 TPA	7,70,000 TPA

xiv. 100% flyash utilization has been planned for road construction, brick & paver block making, use in Cement Plants etc. At present, unutilized ash is disposed in the ash pond area of 5 acres. The same will be used in case of disposal of unutilized ash.

xv. The Boiler is based on CFBC technology which has inherent lime dosing.

Accordingly, the power plant is complying with the emission norms. The status of emissions are given as below:

Parameter	Emissions	Standard (power plants installed between January, 2003 and December, 2016)

PM	30.5 mg/Nm^3	50 mg/Nm^3
SO_2	594 mg/Nm^3	600 mg/Nm^3
NOx	96.1 mg/Nm^3	300 mg/Nm^3
Hg	0.022 mg/Nm^3	0.03 mg/Nm^3

(1.5.4) Committee noted that the project proponent has established 165 MW out of total sanctioned capacity of 185 MW under EC dated 12.2.2015. Further, by switching from imported coal to domestic coal, only ash generation will increase. Proponent has committed that 100% ash utilisation will be achieved. At present, it was informed that 5 acres of ash pond was already constructed and used for disposal of unutilised ash. Committee will not permit additional ash pond owing to increase in ash generation due to domestic coal. M/s Angul Energy Ltd. has agreed to this. Further, the plant is complying with the new emission norms. However, the Environmental Clearance has not stipulated new emission norms as these norms were notified subsequent to the EC grant. Further, Ministry of Power vide letter dated 28.4.2020 is encouraging all power plants to switch over to domestic coal to reduce dependency on imported coal.

(1.5.5) Committee after detailed deliberations recommended change in coal source from imported to domestic coal subject to the transfer of EC to M/s. Angul Energy Ltd and with the following additional conditions:

i. Increase in ash generation due to change in coal source from imported to domestic coal shall be utilised 100% as per the targets provided in the Flyash Notification. Ash generation, utilisation, disposal along with the target achieved (percentage utilisation) annually shall be submitted in the compliance report. Mercury in the coal to be analysed and submitted.

ii. The ash pond of 5 acres of ash pond was already constructed for disposing unutilised ash. No additional land is permitted for ash pond owing to increase in ash generation. PP should take proper implementation measures for control of fugitive dust during storage, handling and transport flyash.

iii. The emissions from the flue gases and chimney shall meet the standard of PM: 50 mg/Nm^3, SO_2: 600 mg/Nm^3, NOx: 300 mg/Nm^3, Hg: 0.03 mg/Nm^3 as per the Ministry's Notification dated 07.12.2015. Emission reporting shall be submitted in the compliance report.

iv. The coal transportation shall be carried out by rail as far as possible. In case, the rail/conveyor belt infrastructure is not available, road transportation may be done with tarpaulin covered trucks. The coal transportation and the ash content in the coal are governed by the Ministry's Notification dated 21.05.2020.

(1.6) 2x800 MW Udangadi Super Critical Imported Coal Based TPP at village Udangudi, in Thiruchendur Taluk, Thoothukudi district, Tamil Nadu by M/s. Udangudi Power Corporation Ltd.- extension of validity of Environmental Clearance.
(File No. J-13012/19/2008-IA.II (T) & Online No. IA/TN/THE/164027/2020)

(1.6.1) Project Proponent vide online application dated 18.07.2020 requested for extension of validity of Environmental Clearance dated 14.10.2013 for further period of 3 years.

(1.6.2) Project proponent has made the presentation inter-alia submitted the following information:

i. The Environmental Clearance for setting up of 2x800 MW Udangadi Super Critical Imported Coal Based Thermal Power Plant in Thiruchendur Taluk of Thoothukudi district, Tamil Nadu was accorded vide Ministry's dated 14.10.2013.

ii. Subsequently, the project capacity has been revised form 2x800 MW to 2x660 MW vide Ministry's amendment letter dated 26.4.2017. The Environmental Clearance is valid for seven years, i.e. till 13.10.2020.

iii. The land requirement for the project is 939 acres. Government of Tamil Nadu has alienated about 305.311 Ha for Power Plant and 1.2355 Ha for cooling water corridor totalling 306.5455 Ha (757.47 acres). G.O No.31, dt.22.3.2010 has been issued for acquisition of Patta lands of 114.75.5 Ha (283 acres)

iv. Government Poramboke Lands have been alienated and boundary marked

v. W.r.t. acquisition of Private Land, Gazette Notification has been issued under 3(2) and 3(1) clauses of the Tamil Nadu Industrial Purposes Act. The District Collector has issued enter upon permission on 7.8.2013. Compensation amount for private lands have been deposited. The break-up of land for the project facilities is given as below:

Sl.No.	Description	Land required for 2x660 MW (Acres)
1.	Main Plant, Transformer Yard, Switch yard and FGD	65
2.	Coal Yard	65
3.	Cooling water system	43
4.	Fuel Oil system	4.2
5.	Water system including Chlorination system	19.23
6.	Ash Dyke	120
7.	Administration building and other Non-plant buildings	11.66
8.	Miscellaneous such as Corridor for CW piping, Ash piping, Intake & outfall, Silo & its utility building, Workshop, Stores, Roads etc.,	198.1
9.	Green Belt	412.81 (about 44% of total area)

10.	Total	939

vi. Coal requirement is 3.87 MTPA with GCV 5700 kcal/kg based on imported coal. TANGEDCO has entered into a MOU dt.19.11.2012 with MMTC for supply of 4.5 Million Tonnes per Annum of imported coal from Indonesia. Water requirement is 13,790 m^3/h is to be sourced from Bay of Bengal through pipeline. Desalination Plant with capacity of 16 mld is proposed

vii. In order to establish the Project under single EPC (Engineering-Procurement-Construction) cum Debt Financing Basis, TANGEDCO floated International Competitive Bidding and opened the tenders on 19.7.2013. After detailed tender analysis, as it was noted that the bids suffered deficiencies and infirmities, TANGEDCO decided on 13.3.2015 to lodge the tender and call for fresh tender under single EPC and without Debt Financing.

viii. Meanwhile, one of the bidders of the previous tender, challenged the lodging of Tender in the Hon'ble High Court of Madras and stayed for floating of fresh tenders. TANGEDCO filed writ appeal to vacate the stay. The Hon'ble High Court of Chennai passed orders on 30.10.2015, allowing TANGEDCO to process the fresh tender. The fresh tender has been opened on 15.12.2015. The work was awarded to M/s BHEL.

ix. Physical progress of Main Plant Area (Boiler, ESP, Chimney, NDCT, Power House Building etc.,) & Non Plant Area (Compound Wall, Site Grading, Sea water intake and outfall structures , CW pipe lines etc.,) achieved up to 39%.

x. The amount of Rs.7,359 Crores has been spent till date towards project of the construction, out total revised project cost of Rs.13076.705 Crores.

xi. Further, the funds have been earmarked for FGD installation to meet revised emission norm. At present, quotations have been received and the evaluation of techno-commercial bids is under process. It is expected to place the orders by October, 2020.

xii. The completion of project construction activities and the COD of first unit is expected by May, 2023. The COD of second unit is expected by June, 2023.

(1.6.3) Committee noted that the EC was issued to M/s Udangudi Power Corporation Ltd. (UPCL) which was under Joint venture of M/s Tamil Nadu Generation and Distribution Corporation Ltd. (M/s TANGEDCO) and M/s Bharat Heavy Electricals Ltd. (M/s BHEL). Later Tamil Nadu Government decided to execute the project on their own and terminated the joint venture with M/s BHEL by purchasing all shares in M/s UPCL. Transfer of assets have been finalized with M/s TANGEDCO which is the sole owner of the project. Further, based on the progress of the project, it is possible to complete remaining activities within 3 years. Regarding FGD package, proponent is yet to award the contract. Proponent has been suggested to place the orders immediately so that FGD installation will also be completed along with the COD of the plant so that the new plant can operate with new revised emission norms.

(1.6.4) **Committee after detailed deliberations, recommended for extension of validity of EC dated 14.10.2013 for further period of three years, w.e.f.14.10.2020 till 13.10.2023** subject to following additional conditions:

i. The physical and financial progress of FGD and other pollution control measures to meeting revised emission norms vide Notification dated 07.12.2015 shall be submitted as part of compliance report.

ii. Progress of construction of the project till the COD of both units achieved shall be furnished in the compliance report.

(1.7) 2x800 MW (Phase-I) Imported coal based Sri Damodaram Sanjeevaiah Thermal Power Project at Nelaturu Village, Muthukuru Mandal, SPSR Nellore District, Andhra Pradesh by M/s Andhra Pradesh Power Development Corporation Ltd.- reg. re-consideration for permission ash pond for addition. (File No.J-13012/25/2012-IA.II(T) & Online No. IA/AP/THE/114419/2007)

(1.7.1) M/s Andhra Pradesh Power Development Corporation Ltd. submitted online application dated 13.08.2019 for amendment in EC for increasing the ash pond area from 130 acres to 200 acres.

(1.7.2) The Environmental Clearance for 2x800 MW Thermal Power Plant vide dated 17.7.2007 initially allowed only 100 acres of ash pond as an emergency ash pond. Subsequently, Ministry vide letter dated 3.9.2019 allowed to use additional 30 acres ash pond. Further, Ministry considering the request of proponent for the urgent need to dispose ash in the additional ash pond, granted permission to use another 30 acres (Total: 100 acres + 30 acres + 30 acres) vide letter dated 27.2.2020.

(1.7.3) Project Proponent has given the commitment of 100% flyash utilisation as per the agreements with Inpower cements: 3000 MT/Day, Penna Cements: 1500 MT/day, NCL Altek (Bricks): 350 MT/day which would be materialised by March, 2020. Considering the implementation of agreements with ash users, Ministry decided that the proposal is to be referred to EAC for assessing the additional requirement of ash pond. At the same time, Ministry has also decided that a sub-committee would conduct site visit to assess the ash utilisation and need for further ash pond requirement.

(1.7.4) The proposal was earlier considered by the EAC in its meeting held on 10.4.2020. Committee noted that the Ministry has recently granted additional 30 acres of ash pond to the proponent. Accordingly, proponent can use this area for disposing unutilised ash from the plant. As per the Ministry's decision to constitute a committee, the sub-committee comprising of following members is formed for conducting site visit:

i. Dr. Navin Chandra
ii. Shri Suramya Vora
iii. Shri Gururaj Kundargi
iv. Dr. S.K. Paliwal
v. Dr. S. Kerketta

(1.7.4) As the tenure of the earlier EAC completed by June, 2020 and the EAC has been re-constituted on 9.7.2020, the composition of the committee has changed. Accordingly, the sub-committee comprising following members will conduct the site visit.

i.	Shri Gururaj Kundargi	-	Chairman
ii.	Shri Suramya Vora	-	Member
iii.	Shri P.K. Mohapatra	-	Member
iv.	Dr. S.K. Paliwal	-	Member
v.	Dr. S. Kerketta or his representative	-	Member Secretary

(1.7.5) The report of the sub-committee after conducting the site visit shall be placed before EAC for examination. The dates of site visit may be decided based on the ground situation of COVID-19 pandemic.

(1.8) 2000 MW Gas based Combined Cycle Power Plant (CCPP) at Village Godhra, Kutch District, Gujarat by M/s Nana Layja Power Co. Ltd.- amendment Ein C as per the Orders of NGT dated 3.7.2020 in the matter of Conservation Action Trust vs UoI & Ors. (File No. J-13012/10/2012-IA.II(T))

(1.8.1) M/s Nana Layja Power Co. Ltd. has obtained Environmental Clearances for the following projects by MoEF&CC :

a. 2000 MW Gas based combined cycle power plant, Village Godhra, Kutch District, Gujarat vide Letter No.J-13012/10/2102-IA.II(T) dated 29.9.2016 in favour of M/s Nana Layja Power Co. Ltd (IL&FS group company)

b. 3960 MW Coal based Thermal Power Plant at Vilalge Layja Mota, Mandiv Taluk, Kutch, Gujarat vide letter No.J-13-12/13/2011-IA.I(T) dated 26.6.2015.

(1.8.2) Appeal against the above mentioned ECs is pending before Hon'ble NGT, Principal Bench for adjudication in the Appeal No.73/2016 (WZ) and Appeal No.24/2015 (WZ). The Hon'ble NGT vide Orders dated 3.7.2020.

(1.8.3) The above mentioned projects require CRZ area/sea front for drawing water from sea, discharging cooling water into the sea and transporting coal from nearby jetty by conveyor belts. The permissible activities which require foreshore facilities in the CRZ area require clearance under CRZ Notification, 2011. For Projects requiring Environmental Clearance and CRZ Clearance, a procedure was delineated in the CRZ Notification to deal with such projects. The Para 4(i)(b) of the CRZ Notification, 2011 is reproduced below:

"for those projects which are listed under this notification and also attract EIA Notification, 2006 (S.O.1533 (E) dated 14th September, 2006), for such projects clearance under EIA Notification only shall be required subject to being recommended by the concerned State or Union Coastal Zone Management Authority (hereinafter referred as the CZMA)."

(1.8.4) The above mentioned two projects also require foreshore facilities under CRZ Notification. It appears while granting EC dated 26.6.2015 for 3960 MW coal

based Thermal Power Plant, the recommendations of State CZMA under CRZ Notification, 2011 were not taken into consideration. This can be seen from a condition stipulated in the EC dated 26.6.2015 which is reproduced below:

'4A(i) The activities attracting CRZ clearance shall only be initiated after obtaining prior CRZ Clearance from the Competent Authority. A copy of the same shall be submitted to the Ministry and its Regional Office.'

(1.8.5) It was noticed that composite CRZ and EC was granted for 'Development of Multi Product SEZ and Free Trade Warehousing Zone and Domestic Tariff Area' at Layja Mota, Dist. Kutch, Gujarat to M/s Sea Land Ports Pvt. Ltd. & M/s Avash Logistic Park Pvt. Ltd. vide Ministry's letter No. 21-68/2011-IA-III dated 12.2.2020. The said clearance mentions the utility corridor consisting of sea water intake pipelines & system, marine outfall & diffuser system, coal conveyor, natural gas pipeline, transmission towers in the CRZ area required for 2000 MW Gas based Power Plant and 4000 MW Coal based Power Plant. The said clearance also takes the Gujarat Coastal Zone Management Authority recommendations dated 29.6.2016 into consideration.

(1.8.6) Earlier Ministry submitted to the Hon'ble NGT that the procedural mismatch, i.e. granting EC without taking the State CZMA recommendations will be rectified once the CRZ clearance is issued by the Ministry. As the CRZ clearance was issued to the foreshore facilities on 12.2.2020, M/s Nana Layja Power Company Ltd. was given opportunity to present the details of foreshore facilities required for power plant and the extent of CRZ area involved. Further, the CRZ clearance was given to another company viz. M/ Sea Land Ports Pvt. Ltd. An agreement/MoU is required if M/s Nana Layja Power Company Ltd. wants to utilise the utility corridor developed by M/s Sea Land Ports Pvt. Ltd.

(1.8.7) Accordingly, the matter has been placed before the EAC in its meeting schedule on 28.7.2020 for appraising the matter and making necessary recommendations. The communication regarding EAC meeting was sent to Shri Bibhu Biswal who is the project in-charge via e-mail and telephone call on 22.7.2020. However, no documents were circulated to EAC members by e-mail in advance as per the protocol given in the agenda. Further, Project Proponent has not attended the EAC meeting held through Video-conference. However, the Member Secretary informed the Committee that Shri Bibhu Biswal told over telephone that the ILFS group company has reduced the manpower to bare minimum from 120 to 20 persons and there are no plans to implement this project at the moment.

(1.8.8) Committee noted that a written communication from the project proponent regarding the status of the project is required before appraising the matter. Without relevant information and commitment from the Proponent, Committee finds it difficult to make recommendations, if any. If, proponent is not going to implement the project, the whole exercise of appraisal is futile. Accordingly, Project Proponent may be asked to submit the status of the project along with

EC compliance report to know the factual status. Hon'ble NGT may also be apprised of the present status. **Accordingly, the matter has been deferred.**

(1.9) Any other points with the permission of the Chair.

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

***

ANNEXURE- A1

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.

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_{10}, $PM_{2.5}$, SO_2, 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 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.

xlii) Radio activity and heavy metal contents of coal to be sourced shall be examined and submitted along with laboratory reports.

xliii) Fuel analysis shall be provided. Details of auxiliary fuel, if any, including its quantity, quality, storage etc should also be furnished.

xliv) 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

xlv) 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.

xlvi) 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.

xlvii) 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.

xlviii) 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.

xlix) 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_2 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.

ANNEXURE- A2

Standard EC Conditions for Thermal Power Sector:

A. Statutory compliance:

1. Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305(E) dated 7.12.2015, G.S.R.593(E) dated 28.6.2018 and as amended from time to time shall be complied.
2. Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.
3. MoEF&CC Notification G.S.R 02(E) dated 2.1.2014 as amended time to time regarding use of raw or blended or beneficiated/washed coal with ash content not exceeding 34% shall be complied with, as applicable.
4. MoEF&CC Notifications on Fly Ash Utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804(E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016 as amended from time to time shall be complied.
5. Thermal Power Plants other than the power plants located on coast and using sea water for cooling purposes, shall achieve specific water consumption of 2.5 m^3/MWh and Zero effluent discharge.
6. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
7. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
8. Groundwater shall not be drawn during construction of the project. In case, groundwater is drawn during construction, necessary permission be obtained from CGWA.

B. Ash content/ mode of transportation of coal:

1. EC is given on the basis of assumption of ____% of ash content and ____km distance of transportation in rail/road/conveyor/any other mode. Any increase of %ash content by more than 1 percent, and/or any change in transportation mode or increase in the transport distance (except for rail) require application for modifications of EC conditions after conducting the 'incremental impact assessment' and proposal for mitigation measures.

C. Air quality monitoring and Management:

1. Flue Gas Desulphurisation System shall be installed based on Lime/Ammonia dosing to capture Sulphur in the flue gases to meet the SO_2 emissions standard of 100 mg/Nm^3.
2. Selective Catalytic Reduction (SCR) system or the Selective Non-Catalytic Reduction (SNCR) system or Low NOX Burners with Over Fire Air (OFA) system shall be installed to achieve NO_X emission standard of 100 mg/Nm^3.
3. High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm^3.
4. Stacks of prescribed height ____m shall be provided with continuous online monitoring instruments for SO_X, NOx and Particulate Matter as per extant rules.
5. Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.

6. Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM_{10}, $PM_{2.5}$, SO_2, NO_Xwithin the plant area at least at one location. The monitoring of other locations (at least three locations outside the plant area covering upwind and downwind directions at an angle of 120° each) shall be carried out manually.
7. Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
8. Appropriate Air Pollution Control measures (DEs/DSs) be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.

D. Noise pollution and its control measures:

1. The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
2. Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3. Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.

E. Human Health Environment:

1. Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
2. Baseline health status within study area shall be assessed and report be prepared. Mitigation measures should be taken to address the endemic diseases.
3. Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.
4. Sewage Treatment Plant shall be provided for domestic wastewater.

F. Water quality monitoring and Management:

1. Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 2.5 m^3/MWhr. (Or) Induced/Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5 or above for power plants using sea water.
2. In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.
3. Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.

4. Rainwater harvesting in and around the plant area be taken up to reduce drawl of fresh water. If possible, recharge of groundwater to be undertaken to improve the ground water table in the area.
5. Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
6. The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.
7. Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
8. Based on the commitment made by the Project Proponent, Sewage Treatment Plants within the radius of 50 km from proposed project, the treated sewage of .....KLD from STP ..... (name) shall be used as an alternative to the fresh water source to minimize the fresh water drawl from surface water bodies.
9. Wastewater generation of .....KLD from various sources (viz. cooling tower blowdown, boiler blow down, wastewater from ash handling, etc) shall be treated to meet the standards of pH: 6.5-8.5; Total Suspended Solids: 100 mg/l; Oil & Grease: 20 mg/l; Copper: 1 mg/l; Iron:1 mg/l; Free Chlorine: 0.5; Zinc: 1.0 mg/l; Total Chromium: 0.2 mg/l; Phosphate: 5.0 mg/l;
10. Sewage generation of .....KLD will be treated by setting up Sewage Treatment plant to maintain the treated sewage characteristics of pH: 6.5-9.0; Bio-Chemical Oxygen Demand (BOD): 30 mg/l; Total Suspended Solids: 100 mg/l; Fecal Coliforms (Most Probable Number):<1000 per 100 ml.

G. Risk Mitigation and Disaster Management:

1. Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
2. Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Sulphur Content in the liquid fuel should not exceed 0.5%.
3. Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
4. Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
5. Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

H. Green belt and Biodiversity conservation:

1. Green belt shall be developed in an area of 33% of the total project with indigenous native tree species in accordance with CPCB guidelines. The green belt shall inter-alia cover an entire periphery of the plant.
2. *In-situ/ex-situ* Conservation Plan for the conservation of flora and fauna should be prepared and implemented.
3. Suitable screens shall be placed across the intake channel to prevent entrainment of life forms including eggs, larvae, juvenile fish, etc., during extraction of seawater.

I. Waste management:

1. Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
2. Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.
3. Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.
4. Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Fly Ash Utilization issued by the Ministry and amendment thereto. By the end of 4th year, 100% fly ash utilization should be ensured. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry. Mercury and other heavy metals (As, Hg, Cr, Pb, etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. Flyash utilization details shall be submitted to concerned Regional Office along with the six-monthly compliance reports and utilization data shall be published on company's website.
5. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry/Medium Concentration Slurry/Lean Concentration Slurry method. Ash water recycling system shall be set up to recover supernatant water.
6. In case of waste-to-energy plant, major problems related with environment are fire smog in MSW dump site, foul smell and impacts to the surrounding populations. Therefore, the following measures are required to be taken up:
   i) Water hydrant at all the dumpsites of MSW area to be provided so that the fire and smog could be controlled.
   ii) Sprayer like microbial consortia may be provided for arresting the foul smell emanating from MSW area.

J. Monitoring of compliance:

1. Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the Ministry.
2. Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
3. Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.

4. Monitoring of Carbon Emissions from the existing power plant aswell as for the proposed power project shall be carried out annually from a reputed institute and report be submitted to the Ministry's Regional Office.
5. Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to Ministry's Regional Office.
6. Environment Cell (EC) shall be constituted by taking members from different divisions, headed by a qualified person on the subject, who shall be reporting directly to the Head of the Project.
7. The project proponent shall (Post-EC Monitoring):

    a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;

    b. upload the clearance letter on the web site of the company as a part of information to the general public.

    c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEF&CC) at http://parviesh.nic.in.

    d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;

    e. monitor the criteria pollutants level namely; PM (PM_{10}& $PM_{2.5}$incase of ambient AAQ), SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;

    f. submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB;

    g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;

    h. inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project and the date of commencement of the land development work.

K. Corporate Environmental Responsibility (CER) activities:

1. CER activities will be carried out as per OM No. 22-65/2017-IA.II dated 01.05.2018 or as proposed by the PP in reference to Public Hearing or as earmarked in the EIA/EMP report along with the detailed scheduled of implementation with appropriate budgeting.

L. Marine facilities:

1. As the seawater intake systems are required for the plant fall in CRZ area, recommendations from State Coastal Zone Management Authority (SCZMA) as per CRZ Notification shall be implemented.
2. Marine intake and outfall pipelines shall be located as per the recommendations State Coastal Zone Management Authority (SCZMA).

M. Sea Water Intake:

1. Seawater intake system shall be so designed and constructed to ensure sufficient sweater in terms of quantity and quality.
2. The withdrawal of seawater shall be preferably through a pipeline with a riser equipped with a velocity cap arrangement and bar screen to arrest the impingement of large marine organisms.
3. In all tide conditions (particularly at spring low tides) the riser head must be flooded with the required submergence of seawater above its top.

N. Effluent Release:

1. At the effluent release point, maximum temperature of the discharge water shall not be more than 5°C and salinity shall not exceed 50 ppt with respect to that of the ambient seawater.
2. Use of antifouling agents like chlorine / hypochlorite, shall be carefully controlled. The chlorine concentration shall not exceed 0.2 ppm at the effluent release point.
3. The effluent when released at the selected location shall attain sufficient dilution so that near ambient water quality (particularly temperature and salinity) is attained within 500 m from the release location, at low tide.
4. The location of the diffuser shall be marked with a solar lighted buoy to avoid accidents.
5. The site selected based on mathematical modeling shall ensure absence of recirculation of the effluent plume in the seawater intake area under all tidal conditions.
6. The effluent shall be released through a properly designed multiport diffuser above the seabed to facilitate its efficient initial mixing with the receiving seawater.
7. Efficacy of the diffuser shall be ascertained at least once in 2 years through scientific studies and corrective actions such as cleaning of the diffuser from marine growth, removal of silt deposits, etc. shall be taken up, if warranted.
8. Continuous online monitoring system for Temperature and Salinity shall be installed to monitor the quality of effluent.

O. Common to intake and effluent:

1. The pipeline shall be buried below the seabed at a depth to ensure its stability under rough sea conditions particularly during cyclone / tsunami. The depth of burial will depend on the seafloor strata but normally the top of the pipeline shall be at least 1 m below the bed level. In the surf and intertidal zones, the pipeline shall be buried below the maximum scour level.
2. In case of open channel, the channel shall be constructed as per the recommendations of State Coastal Zone Management Authority (SCZMA).

3. If the substratum is rocky the pipeline may be anchored to the rock provided the geology of the area satisfactorily supports the structure which shall be ascertained through geo-technical investigations.
4. Exposed pipeline section and riser shall be protected by armour stone from waves, boats anchoring, fishing activities etc.
5. The location of the riser & diffuser shall be marked with a solar lighted buoy to avoid accidents from boats.
6. Marine / Sea water quality shall be monitored at effluent release location at the center. Parameters to be monitored shall be as follows:
    a. *Physico-chemical:* Temperature, Salinity, pH and Dissolved Oxygen.
    b. *Biological:* Primary Productivity, Phytoplankton (Chlorophyll a, Phaeophytin, Population, Species), Zooplankton (Biomass, Population, Species) and Benthos (Biomass, Population, Species).
7. In case of Coastal Power Plants, the Mangrove plantation shall be taken up in an area of .....ha, along the coast/ on the banks of ..... Estuary.

Attendance of the EAC members during the Video-conference

Name & Address	Role	Attendance
1. Shri Gururaj P. Kundargi	Chairman	Present
2. Dr. N.P Shukla	Member	Present
3. Shri Suramya Vora	Member	Present
4. Dr Santosh Kumar	Member	Present
5. Dr. Umesh Jagannathrao Kahalekar	Member	Present
6. Shri K.B. Biswas	Member	Present
7. Dr. Nandini. N	Member	Present
8. Dr. Unmesh Patnaik	Member	Present
9. Shri Prasant Kumar Mohapatra	Member	Present
10. Dr. S.K. Paliwal	Member (Representative of CPCB)	Present
11. Shri N. S. Mondal	Member (Representative of CEA)	Present
12. Professor S S Rai	Member Representative of IIT/ISM Dhanbad	Present
13. Prof R.K. Giri	Member Representative of IMD	Present
14. Dr. S. Kerketta	Member Secretary	Present

From: gpkundargi@gmail.com
To: "Dr S Kerketta" <s.kerketta66@gov.in>
Sent: Friday, August 7, 2020 9:30:31 PM
Subject: Re: 1st EAC meeting of Thermal Sector - draft MoM- approval reg.

Dear Dr kerketta ji

Small typographical corrections are made at 1.2,2 (xix), 1.3.3 (x), 1.4.5 (viii)

and 1.8 (a).Please correct the same.They are highlighted in yellow. With these

corrections Minutes are approved.

Thank you

Gururaj Kundargi

,

On Thu, Aug 6, 2020 at 10:26 PM Dr S Kerketta <s.kerketta66@gov.in> wrote:

Dear Sir,

Revised PFA. It is revised after including the comments/suggestions of the other EAC members and also as discussed with you. May please approve the same for uploading in the Website of MoEFCC.

regards,

regards,

(Dr. S. Kerketta)

Director- IA (Thermal, River Valley & HEP)

MoEF&CC, New Delhi

Phone: 011-24695314 (O), 26113096 (R)

AGENDA OF 1st MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON THERMAL POWER PROJECTS

DATE : 28th JULY, 2020
TIME : 11.00 A.M.- 4.00 PM through Video Conference

ITEM	
Item No. 1.0 Time Slot: 11-11:10 AM (10 min)	**CONFIRMATION OF MINUTES OF 41st EAC (THERMAL) MEETING**
Item No.	**CONSIDERATION OF PROJECTS**
1.1 Time Slot: 11:10-11:40 AM	Proposed Expansion of Waste to Energy (WTE) plant from 15 MW to 25 MW for Integrated Municipal Solid Waste Processing Facility (IMSWM) at Village Bandhwari, Tehsil & District Gurugram Haryana, by **M/s Gurugram Municipal Corporation-reg. ToR**. (F.No. J-13012/08/2020-IA.I(T) & IA/HR/THE/162510/2020)
1.2 Time Slot: 11:40-12:00 PM	900 MW (750 MW + 150 MW) RLNG based Combined Cycle Power Plant at Village Kalanji, Taluk Ponneri, District Thiruvallur, Tamil Nadu by **M/s. Chennai Power Generation Limited (CPGL)-reg. ToR**. (F.No.J-13012/09/2020-IA.I (T)& No. IA/TN/THE/162023/2020)
1.3 Time Slot: 12:00 -12:40 PM	3x800 MW NLC Talabira Thermal Power Project at Village Khumberi, Taraikela and Thelkolai, Tehsil and District Jharsuguda, Odisha by **M/s NLC India Ltd. – reg. Environmental Clearance.** (F. No. J-13012/14/2017-IA.I(T) & IA/OR/THE/67938/2017)
1.4 Time Slot: 12:40-01:15 PM	1x800 MW Coal Based Supercritical Thermal Power Plant and Decommissioning of 2x120 MW Units at Ukai Thermal Power Plant at Village Vagda, Tehsil-Fort Songadh, District-Tapi, Gujarat by **M/s Gujarat State Electricity Corporation Limited (GSECL)-reg. Environment Clearance.** (F.No.J-13012/4/2018-IA.I (T) & No. IA/GJ/THE/144074/2018)
Time Slot: 01:15-2:00 PM	Lunch Break
1.5 Time Slot: 02:00-2:20 PM	Expansion of existing 2x150 MW TPP by installation of 185 MW (165+20 MW) Imported coal based Thermal Power Plant at Meeramandali, Dist. Dhenkanal, Odisha by M/s Bhushan Steel Energy Ltd.- **amendment in Environmental Clearance for change in coal source.** (F.No.J-13012/78/2011-IA.II(T)& No.IA/OR/THE/163319/2020)
1.6 Time Slot: 02:20-02:40 PM	2x800 MW Udangadi Super Critical Imported Coal Based TPP at village Udangudi, in Thiruchendur Taluk, Thoothukudi district, Tamil Nadu by **M/s. Udangudi Power Corporation Ltd.- extension of validity of Environmental Clearance.** (F.No.J-13012/19/2008-IA.II(T) & No.IA/TN/THE/164027/2020)

1.7 Time Slot: 02:40-03:00 PM	1x800 MW (Phase-II) Imported coal based Sri DamodaramSanjeevaiah Thermal Power Project at Nelaturu Village, Muthukuru Mandal, SPSR Nellore District, Andhra Pradesh by **M/s Andhra Pradesh Power Development Corporation Ltd.- reg. site visit for permission for additional ash pond.** (F.No.J-13012/25/2012-IA.II (T) & No. IA/AP/THE/114419/2007)
1.8 Time Slot: 3:00-3:20 PM	2000 MW Gas based Combined Cycle Power Plant (CCPP) at Village Godhra, Kutch District, Gujarat by **M/s Nana Layja Power Co. Ltd.- amendment EC as per the Orders of NGT dated 3.7.2020 in the matter of Conservation Action Trust vs UoI & Ors.** (F. No.J-13012/10/2012-IA.II(T))
1.9	ANY OTHER ITEM WITH THE PERMISSION OF THE CHAIR.

Name of the project
Addressed detailed
e-mail/contact No.

Undertaking

(To be provided by the PP)

This is to certify that the information provided in Form-.... in physical form and/or in .pdf format (as applicable to the project and remaining be removed) in PARIVESH, to the Ministry/EAC members and PPT presentation during the EAC meeting held on 14.05.2020 have no deviation in respect of the proposal of ToR/EC/EC validity extension/EC amendment for establishing ".....MW Thermal Power Project at village ....., Taluk ....., District....., State.....by M/s. .....

2. It is further certified that there are no data entry errors in the information uploaded in PARIVESH system including names/email-id/mobile numbers/address of the project proponent, authorized person, etc. It is also certified that the supporting documents uploaded on PARIVESH portal are correct and duly authenticated by the Authorized Signatory.

3. In case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of amendment in EC.

Authorized Signature

date

Annexure R4
125

MINUTES OF THE 4th MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 17th NOVEMBER, 2020

The 4th Meeting of the re-constituted EAC (Thermal Power) organised by the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi was held on 17th November, 2020 through video conference under the Chairmanship of Shri Gururaj P. Kundargi. The list of Members present in the meeting is at **Annexure A**.

Item No.4.0: CONFIRMATION OF THE MINUTES OF THE 3rd EAC MEETING

The Minutes of the 3rd EAC (Thermal Power) meeting held on 24.08.2020 were confirmed in the meeting.

(4.1) 2x800 MW Ennore SEZ TPP at Vayalur Village, Ambattur Taluk, District – Tiruvallur, Tamil Nadu by M/s TANGEDCO – regarding extension of validity of EC.
(F.No. J-13012/36/2010-IA II (T) & Online No. IA/TN/THE/173531/2020)

(4.1.1) Project Proponent submitted online application on 16.9.2020 for extension of Environmental Clearance dated 7.1.2014 which is valid for 07 years (till 6.1.2021).

(4.1.2) Project Proponent in the presentation *inter-alia*, submitted the following information:

i. The EC for establishing 2x800 MW was granted by the Ministry on 7.1.2014. Public hearing for the project was conducted on 23.2.2012. The configuration has been changed to 2x660 MW vide Ministry's amendment letter dated 14.8.2018.

ii. CRZ Clearance for coal pipe conveyor, cooling water and discharge pipelines under CRZ Notification, 2011, was granted by the Ministry on 1.1.2014 based on the TNCZMA recommendations dated 4.10.2011.

iii. The current time schedule for the completion of the power project is 2022-23. The works are progressing in a fast track basis to commission the project within the time schedule. Physical progress of around 45% and financial progress of 55% has been achieved.

iv. Considering slippages due to cyclones and Covid-19 lock down and other force majeure, commissioning of the project is delayed. Progress achieved so far for main plant is around 45%.

v. It is estimated that extension of validity of EC for 3 more years is essential to complete the project works including provision of FGD for compliance of latest environmental norms.

vi. It is expected that all the works including pollution control measures require another 3 years to complete the project. The unit-1 and unit-2 are expected to commission by May 2022 and August 2022 including completion of FGD.

vii. Tender for installation of FGD is in process and it is expected that the work will be awarded for commencement by April 2021 and scheduled to be completed by August 2023.

viii. Environmental Clearance has been issued by MoEFCC for the project based on the submission that the existing ash dyke of NCTPS will be utilized for the bottom ash disposal, since, the captioned project itself is being developed over the abandoned primary ash pond of NCTPS.

ix. TANGEDCO has proposed augmentation of volume of the existing NCTPS Ash Dyke by raising 6 m under technical guidance of IIT Madras. After the above augmentation, the carrying capacity of Ash Dyke will increase to around 78,30,000 m^3. The above work will be completed along with the completion of the captioned power project.

x. The proposed augmentation of the ash pond will cater to the bottom ash disposal. Further bottom ash is being evacuated by Govt. departments and other agencies for filling purposes and for brick manufacturing.

xi. Coordinates of ash pond are as below:

Point	Latitude	Longitude
A	13°17'5.63"N	80°18'45.43"E
B	13°15'51.87"N	80°18'31.97"E
C	13°15'54.08"N	80°18'24.54"E
D	13°17'12.30"N	80°18'6.42"E

xii. TANGEDCO applied to Tamil Nadu Coastal Zone Management Authority on 08.10.2020 to issue recommendation for extension of CRZ Clearance 1.1.2014, separately for 3 years.

xiii. Area of Green Belt proposed to be developed is 130 Acres. Around 10 Acres are already developed with suitable type plantation. It is submitted that around 40 Acres per Year will be developed as Green belt in the next 3 years within power plant before commissioning of the power plant. The selection of species for greenbelt will be based on the recommendations of District Forest Officer, Thiruvallur District.

(4.1.3) Committee noted that out of project cost of Rs. 9799 crores, it has been informed that 55% of the amount has been spent for project activities. Further, 45% of physical activities have been completed so far. W.r.t. ash pond, it was informed that ash pond of operational units located nearby shall be used for the proposed project as well for disposal of unutilised ash. Further, Environmental Clearance stipulated a condition to install FGD considering the pollution generated in the area due to several power plants in Ennore area. Proponent mentioned that tender is being finalised and expected to commence work by April 2021 and completed by August 2023. However, as per CEA estimation, it will take about 30 months for installation from the date of award/ commencement of work. Further, w.r.t. CRZ clearance, a separate CRZ

clearance was issued by the Ministry after examining the State CZMA recommendations and appraisal by the EAC-CRZ. As the fresh State CZMA recommendations are yet to issued, the aspect of the CRZ may be dealt separately by CRZ Division.

(4.1.4) Committee after detailed deliberations recommended for extension of Environmental Clearance granted on dated 7.1.2014 for further period of 3 years subject to following additional conditions:

i. Flue-gas Desulphurisation (FGD) shall be installed and the progress (physical and financial) shall be submitted as part of compliance report.
ii. The ash pond (about 353 acres) augmentation by increasing the dyke height by 6 m to accommodate additional & unutilised ash generated from 2x660 MW Ennore SEZ TPP shall have all adequate environmental and safety measures such as HDPE liner, high concentration slurry disposal system, ash water recycling system, dyke stability measures, and minimum distance of 500 m from the water bodies.
iii. The safety and structural stability of the ash pond is to be ascertained once in three years by reputed agency which has expertise in the field of geo-technical aspects, to avoid breaching as Ennore creek is less than 1 km from the said ash pond.
iv. Greenbelt consisting of three tiers of plantation of native species of alteast 20 m width around the periphery of the ash pond (353 acres) shall be developed.

(4.2) Proposed 14.5 MW Coal based Captive Co-Generation Power Plant within the existing facility at Village Puthukkadu, Kokkarakondi, Pirivu, Puthupeerkadavu, Taluk Sathyamangalam, District Erode, Tamil Nadu by M/s Sri Andal Paper Mills Pvt. Ltd. – Regarding Exemption of Public Hearing
(F.No. J-13012/02/2020-IA.I(T) & P. No. IA/TN/IND/170382/2020)

(4.2.1) Project Proponent applied on 30.8.2020 for seeking exemption of Public Hearing which has been stipulated in the Terms of Reference (ToR) issued vide Ministry's letter dated 13.4.2020 for installing 14.5 MW Captive Power Plant.

(4.2.2) Project Proponent did not attend the meeting. The present request is to exempt from the public hearing as the project capacity is small. The Committee noted that there is no provision to exempt public hearing as per the EIA Notification. Further, Committee checked the TNPCB website and it was found that the public hearing in this case has been scheduled by TNPCB o 15.12.2020.

(4.2.3) Accordingly, Committee after detailed deliberations, did not accept the request of public hearing exemption.

(4.3) 3x800 MW NLC Talabira Thermal Power Project (NTTPP) at Kumbhari & Tareikela Villages in Jharsuguda, Odisha by M/s NLC India Ltd. – Reconsideration of grant of EC
(F.No. J-13012/14/2017-IA.I(T) & Online No. IA/OR/THE/67938/2017)

(4.3.1) Project Proponent submitted online application on 19.2.2020 for grant of Environmental Clearance for establishing 3x800 MW Thermal Power Project in Jharsuguda District, Odisha.

(4.3.2) The proposal was earlier considered by the EAC in its meetings held on 10.4.2020 and 28.7.2020. EAC in its meeting held on 28.7.2020 sought the clarification on shifting of ash pond as it is close to Bhedan river and a nalla is passing through the proposed ash pond area, considering option to backfilling with ash in Talabira mines to avoid ash pond, availability of water for the plant including FGD, proposal to increase greenbelt area from 17% to 40% as the location is in Critically polluted area, NOC from DFO Jharsuguda, Mercury concentrations in the Coal, SIA for Sambalpur District, etc.

(4.3.3) Project Proponent vide letter dated 19.6.2020 submitted the revised EIA report. Proponent along with Environment Consultants M/s ABC Techno Labs India Pvt. Ltd. made the presentation and inter-alia furnished the following information:

i. Natural drain (nallah) passing through proposed ash dyke area would not be diverted and Northern side of the proposed ash dyke area will not be acquired so as to avoid the habited area on the northern side of nallah. The dyke area thus available on the Southern side would be reduced from originally envisaged 340 acres to about 175 acres. The edge of the ash dyke area would be maintained at 500 meters away from the Bedhan river.

ii. The design of ash dyke and bund along Bedhan river shall be carried out by the Project Consultant/ EPC contractor. In addition, a reputed institute like IIT/ NIT would be engaged for vetting of designs and periodic checking during critical stages of construction.

iii. A large mine void would likely be available for Mine void filling by the time the thermal power project starts commercial operation.

iv. The ash will be transported/disposed to Mine Void/Emergency ash dyke through combined (Bottom ash & Fly ash) High concentration slurry disposal system (HCSD) through pipe lines. Around 20% ash will be utilized for filling up the low-lying areas, brick manufacturing, supply to cement manufacturers, etc and the balance 80% ash will be utilized for the mine void filling. Mining operations have already commenced from April 2020 and sufficient mine void will be available from 2025 onwards, which will meet the requirement of Unit 1 commissioning in the year 2025, meeting the Ash utilization guidelines of MoEFCC.

v. Bottom ash and fly ash will be disposed-off into the identified emergency ash dyke area (175 acres) till such time, nearby mine void is made available for ash disposal. HCSD system would be used for combined slurry (Bottom and Fly Ash) for mine void filling/ disposal into ash dyke area during initial period and during emergency. On completion of required

studies/investigations, requisite clearance shall be obtained from MoEFCC and thereafter ash will be disposed-off into the mine void created after removal of coal in Talabira mines.

vi. As per the area drainage study report furnished by NIH Roorkee, the embankment of the Bhedan river has to be strengthened along with slope stabilization. The HFL of the Bedhan River at the existing Highway Bridge location is RL 200.9 M. As formation of the embankment Bund is being executed on the banks of the Bhedan river, which is +1m above the HFL limits, water from the Bhedan river will not overflow outside the river in case of flooding. Hence, the Ash dyke will not be affected due to High Flood Level in the Bhedan river.

vii. In line with the above, the bund formation is envisaged with a base width of the bund as 20 M as indicated at the TOR stage. In addition to that bund shall also be provided on the other bank of the river to safeguard the Ash disposal area. The height of the river bund will be minimum RL 202 M.

viii. Ash dyke Bund formation will be followed as per the good Engineering practice following all the safety precautions laid down in the IS Code, with introduction of filter media inside the bund, edge protection by way of Rock toe, provision of toe drains, inside lining by HDPE film to avoid seepage of water inside the bund, etc.

ix. Action plan for achieving 100% Ash utilization, meeting the MOEFCC norms is prepared. The total ash generation from the project considering 40% ash content shall be 4.55 MTPA (Fly ash - 3.64 MTPA and Bottom Ash - 0.91 MTPA). There is large scope for Ash utilization in various fields within 100 kms distance from the proposed project site.

x. The fly ash generated will be collected and stored in fly ash silos. Pneumatic conveying system (either vacuum system or pressure system) will be employed for conveying of fly ash from the electrostatic precipitator hoppers in dry form. This dry ash will be taken to buffer hoppers in each unit. The dry ash buffer hoppers will be located adjacent to the ESP. Dry ash from buffer hoppers will be transported either to HCSD ash silos or to main storage silos. The fly ash silos shall be located near plant boundary for issuance in Ash Bulkers/ dumpers to user industries (brick/cement manufacturers).

xi. Brick making plant of 50,000 or100,000 brick per day capacity shall be installed within the project area.

xii. Efforts shall be made to tie up with cement plant manufacturers to set up cement plant near the project site with commitment of ash off take from the Talabira project.

xiii. Organizations likely to take Fly Ash from our project are a) Dalmia Cement, Rajgangpur :F.A Consumption ~ 1.5 Lakh TPA b) Aditya Birla Cement, Jharsugada- F.A. Consumption ~ 1.2775 -1.460 TPA c) Shiva Cement, Sambalpur - Daily requirement (3500 to 4000 TPA).

xiv. Based on the data from recent 800 MW units, the incremental concentrations were reworked with revised parameters. The incremental concentrations from the stack emissions were now predicted as 1.33 µg/m3, 4.915 µg/m3 and 4.915 µg/m3 for PM, SO2 and NOx concentrations, respectively. All the critical pollutants are well within the prescribed NAAQS.

xv. The State Govt. has accorded approval for 90 cusecs of water from Hirakud reservoir under industrial quota. During 40th SPMG meeting, M/s IPICOL conveyed the availability of water for NTTPP as follows:

a. 38.44 cusec industrial quota was available with DoWR.
b. The allocation of M/s NTPC Darlipali has been reduced from 95 cusecs to 55 cusecs by the SLSWCA.
c. M/s Ind Barath Energy Ltd. has applied for reduction of its consumption from 42 cusecs to 28 cusecs.
d. Thus, net available water in the Hirakud Reservoir for industrial use comes to 92.44 cusecs out of which 90 cusecs can be allocated to M/s NLC India Ltd.

xvi. As advised by EAC, the greenbelt requirement shall be reworked @ 40% of the project area including main plant area, ash dyke, corridors, and water reservoir. Additional land for developing green belt will be acquired in between 250 meter line and the river bank if required.

xvii. NOC from Principal Chief Conservator of Forests (PCCF) and Chief Wildlife Warden, Jharsuguda, Odisha has been granted on 13/10/2020, wherein it is stated that the establishment of Thermal Power plant may be considered subject to site specific conservation plan funded by user agency for the protection of Schedule-I species present in the project area such as wild boar, sloth bear, barking deer, rabbit, jackal, jungle cat, pythons.

xviii. Wild life conservation plan" will be formulated as per the guidelines and directive of wild life authorities (CWW/PCCF, Govt. of Odisha) and will be implemented through funding by NLCIL. A copy of the wildlife conservation plan will be submitted to MOEFCC in due course

xix. The Mercury content in different coal samples has been analysed and is in the range of 0.1-0.96 mg/kg. The total quantity of Mercury generated from coal burning is in the range of 5.98-29 kg/day. The average mercury removal efficiencies of the ESP and ESP + Wet FGD systems are 24% and 73%, respectively. The Mercury emitted to the atmosphere through stack was in the range of 19% –72%, which was dominated by HgO. Considering the worst-case scenario of release of 72% Mercury into the atmosphere, the quantity of 4.65 kg/day (HgO) is anticipated to be released into the atmosphere. The corresponding volumetric concentrations are 0.019 mg/Nm^3 which is below the emission standard of 0.03 mg/Nm^3.

xx. As the district border lines pass in between main plant and ash dyke, skill development suggested from SIA conducted for Main plant (falling in Jharsguda District) is likely to suit for Ash dyke area (falling in Sambalpur District) also. SIA study for Sambalpur district which was earlier assigned to an agency by the State Nodal Authority (IDCO), could not be undertaken by that Agency due to certain internal issues. State Nodal Authority is presently in the process in awarding the SIA study work to another agency. The amount of about Rs. 21 Lakhs has already been deposited with IDCO for conducting SIA. **The quantum of land to be acquired in Sambalpur Dist. for Ash dyke is now reduced to around 175 acres** and will be required only at a later date as compared to the plant area. The SIA would be completed and SIA Public Hearing shall be held before proceeding further in acquisition as per LARR Act. The SIA report shall be submitted in due

course. However, preliminary SIA study as per the requirement of EIA guidelines and specific to Thelkoloi village in respect of Demographic Structure, Educational Structure, Occupational Pattern, Village Amenities etc. has been conducted by the EIA consultant.

xxi. Based on the SIA, the Rehabilitation and Periphery Development Advisory Committee (RPDAC), Govt. of Odisha will recommend the R&R package including welfare activities for displaced and affected families due to land acquisition for the project. The recommendations will be implemented.

xxii. The village which is falling in the ash pond area is Thelkoloi village which has total population of 3684 with 1039 families. Due to land acquisition for ash pond of 175 acres, few families will be affected. As per the recommendations of RPDAC, the necessary R&R plan will be executed in consultation with the State Govt.

xxiii. Regarding Skill development, it is proposed that the Skill development initiatives identified in SIA report for Main Plant area (Jharsuguda Distt.) will be extended to Ash Dyke area in Sambalpur Distt also. Any specific/ additional suggestions for Sambalpur Distt. would be incorporated as per discussions in RPDAC meetings.

xxiv. High carbon sequestration trees such as Sal, Peepal, Teak, Poplar, etc., shall be planted in as a part of Green belt development program of Talabira Thermal Power Plant along with native species of Odisha such as fig, Vengai (Pterocarpus marsupium), Lagerstroemia spp., Red cotton tree (Bombax ceiba), Jamun (Eugenia jambolana), Ficus varieties etc.

xxv. Expected average Gypsum generation for three units considering 85% PLF is 0.33 MTPA. Gypsum storage for the plant is envisaged as covered storage with PCC flooring. Gypsum storage is envisaged for 7 days. Gypsum produced in the plant will be transported through trucks for utilization in the nearby Cement Industries, Plaster of Paris and Gypsum board Industries, etc.

(4.3.4) Committee noted that the ash pond proposed close to Bhedan river has now been reduced to 175 acres with minimum distance of 500 m from the river bank. Further, the ash pond should be away from HFL. As per the recommendations of NIH Roorkee, the strengthening measures for the river bank as well as ash dyke needs to be implemented to avoid any breach. Further, Proponent agreed to dispose ash in the nearby Talabira mine through HCSD within 5 years. As an emergency, ash pond of 175 acres may be used. As per the Chief Wildlife Warden recommendations, Conservation plan is to be prepared as Schedule-1 species are present in the study area.

(4.3.4) The Committee after detailed deliberations, recommended for grant of Environmental Clearance for establishing **3x800 MW NLC Talabira Thermal Power Project, with the following conditions for the compliance, in addition to the standard conditions (Annexure B) stipulated for thermal power plants:**

i. Ash pond of 175 acres shall be used only for emergency disposal. The ash pond shall have all safety and environmental measures such as HDPE liner, High concentration slurry disposal system, ash water recycling system, dyke stability

measures, minimum distance of 500 m from River Bhedan and the ash pond area should be out of the area to be affected by HFL.

ii. The safety and structural stability of the ash pond is to be ascertained once in three years by reputed agency which has expertise in the field of geo-technical aspects.

iii. Existing nalla on Northern side of ash pond (175 acres) shall not be disturbed and adequate bund strengthening measures shall be implemented to avoid discharge of ash into the nallah.

iv. As committed, the disposal of ash in Talabira mines through HCSD system shall be implemented within 3 years from the start of operations of first unit.

v. The 100% ash utilisation shall be achieved as per the Fly ash Notification (as amended from time to time).

vi. As per the recommendations of the Chief Wildlife Warden, the Wlidlife Conservation Plan is to be prepared at the cost of user agency and vetted by the Chief Wildlife Warden for protection of Schedule-I species (wild boar, sloth bear, barking deer, rabbit, jackal, jungle cat, python) in the study area. The progress of its implementation is to be submitted.

vii. As committed, a total of Rs. 40.18 Crores is to be allocated to fulfill the commitments made during public hearing for uplifting the socio-economic status of the project affected people and inhabitants of the surrounding villages. Certain percentage is also to be earmarked for the socio-economic activities for the affected villages in Sambalpur Dist. due to the ash pond.

viii. As proposed, the embankment Bund on the banks of the Bhedan river is to be strengthened, which is +1m above the HFL Limits, so as to prevent flooding. The bund formation shall be developed with a base width of 20 m. In addition, the bund shall also be provided on the other bank of the river to safeguard the Ash disposal area. The height of the river bund shall be minimum RL 202 M.

ix. As per the recommendations of Rehabilitation and Periphery Development Advisory Committee (RPDAC), Govt. of Odisha, the R&R package shall be implemented for project displaced and affected families due to land acquisition for the project. The implantation progress shall be submitted.

x. As proposed Wet FGD shall be installed to control SO2 emissions. ESP and De-NOX control measures shall be installed to meet the emission norms. As proposed One twin flue stack of 180 m and one single flue stack of height 150 m shall be established for adequate dispersion of pollutants.

xi. After reducing the ash pond area from 340 acres to 175 acres, the total project area is about 1282 acres (1447 acres-165 acres). The proponent had earlier proposed for greenbelt development in an area of 252 acres. In line with the Ministry's OM dated 31.10.2019, greenbelt shall be developed in an area of 40% of total project area instead of 33% as the project is located near Ib valley critically polluted area. As proposed, the additional area is to be acquired for meeting target of 40% greenbelt of total project area.

xii. High carbon sequestration trees shall be planted as a part of Green belt development along with native species such as fig, Vengai (Pterocarpus marsupium), Lagerstroemia spp., Red cotton tree (Bombax ceiba), Jamun (Eugenia jambolana), Ficus varieties etc.

xiii. Greenhouse gas emissions and Mercury balance accounting is to be conducted once in three years. This is in addition to Mercury emission monitoring as per the emission standards and monitoring protocol.

xiv. The progress (physical and financial) of construction till its commissioning shall be submitted to concerned Regional Office.

xv. During operations, the details regarding quantity of coal consumption, power generation, ash (fly and bottom) generation & utilisation, volume availability of ash pond, emissions and gypsum handling shall be submitted to concerned Regional Office as part of the compliance report.

The meeting concluded with the vote of thanks by the Member Secretary.

***

Annexure - A

Attendance List

Name & Address	Role	Attendance
1. Shri Gururaj P. Kundargi	Chairman	P
2. Dr. N.P Shukla	Member	P
3. Shri Suramya Vora	Member	P
4. Dr Santosh Kumar	Member	P
5. Dr. Umesh Jagannathrao Kahalekar	Member	P
6. Shri K.B. Biswas	Member	P
7. Dr. Nandini. N	Member	P
8. Dr. Unmesh Patnaik	Member	P
9. Shri Prasant Kumar Mohapatra	Member	P
10. Dr.Nazimuddin/Dr. S.K. Paliwal	Member (Rep. of CPCB)	A
11. Shri M.P Singh	Member (Rep. of CEA)	P
12. Professor S S Rai	Member Rep. of IIT/ISM Dhanbad	P
13. Dr. R.K. Giri	Member Rep. of IMD	P
14. Dr. S. Kerketta	Member Secretary	P

ANNEXURE- B

Standard EC Conditions for Thermal Power Sector:

A. Statutory compliance:

1. Emission Standards for Thermal Power Plants as per Ministry's Notification S.O. 3305(E) dated 7.12.2015, G.S.R.593(E) dated 28.6.2018 and as amended from time to time shall be complied.
2. Part C of Schedule II of Municipal Solid Wastes Rules, 2016 dated 08.04.2016 as amended from time to time shall be complied for power plants based on Municipal Solid Waste.
3. MoEFCC Notification G.S.R 02(E) dated 2.1.2014 as amended time to time regarding use of raw or blended or beneficiated/washed coal with ash content not exceeding 34% shall be complied with, as applicable.
4. MoEFCC Notifications on Fly Ash Utilization S.O. 763(E) dated 14.09.1999, S.O. 979(E) dated 27.08.2003, S.O. 2804(E) dated 3.11.2009, S.O. 254(E) dated 25.01.2016 as amended from time to time shall be complied.
5. Thermal Power Plants other than the power plants located on coast and using sea water for cooling purposes, shall achieve specific water consumption of 2.5 m^3/MWh and Zero effluent discharge.
6. The recommendation from Standing Committee of NBWL under the Wildlife (Protection) Act, 1972 should be obtained, if applicable.
7. No Objection Certificate from Ministry of Civil Aviation be obtained for installation of requisite chimney height and its siting criteria for height clearance.
8. Groundwater shall not be drawn during construction of the project. In case, groundwater is drawn during construction, necessary permission be obtained from CGWA.

B. Ash content/ mode of transportation of coal:

1. EC is given on the basis of assumption of ____% of ash content and ____km distance of transportation in rail/road/conveyor/any other mode. Any increase of %ash content by more than 1 percent, and/or any change in transportation mode or increase in the transport distance (except for rail) require application for modifications of EC conditions after conducting the 'incremental impact assessment' and proposal for mitigation measures.

C. Air quality monitoring and Management:

1. Flue Gas Desulphurisation System shall be installed based on Lime/Ammonia dosing to capture Sulphur in the flue gases to meet the SO_2 emissions standard of 100 mg/Nm^3.
2. Selective Catalytic Reduction (SCR) system or the Selective Non-Catalytic Reduction (SNCR) system or Low NOX Burners with Over Fire Air (OFA) system shall be installed to achieve NO_X emission standard of 100 mg/Nm^3.
3. High efficiency Electrostatic Precipitators (ESPs) shall be installed in each unit to ensure that particulate matter (PM) emission to meet the stipulated standards of 30 mg/Nm^3.
4. Stacks of prescribed height ____m shall be provided with continuous online monitoring instruments for SO_X, NOx and Particulate Matter as per extant rules.
5. Exit velocity of flue gases shall not be less than 20-25 m/s. Mercury emissions from stack shall also be monitored periodically.

6. Continuous Ambient Air Quality monitoring system shall be set up to monitor common/criteria pollutants from the flue gases such as PM_{10}, $PM_{2.5}$, SO_2, NO_X within the plant area at least at one location. The monitoring of other locations (at least three locations outside the plant area covering upwind and downwind directions at an angle of 120° each) shall be carried out manually.
7. Adequate dust extraction/suppression system shall be installed in coal handling, ash handling areas and material transfer points to control fugitive emissions.
8. Appropriate Air Pollution Control measures (DEs/DSs) be provided at all the dust generating sources including sufficient water sprinkling arrangements at various locations viz., roads, excavation sites, crusher plants, transfer points, loading and unloading areas, etc.

D. Noise pollution and its control measures:

1. The Ambient Noise levels shall meet the standards prescribed as per the Noise Pollution (Regulation and Control) Rules, 2000.
2. Persons exposed to high noise generating equipment shall use Personal Protective Equipment (PPE) like earplugs/ear muffs, etc.
3. Periodical medical examination on hearing loss shall be carried out for all the workers and maintain audiometric record and for treatment of any hearing loss including rotating to non-noisy/less noisy areas.

E. Human Health Environment:

1. Bi-annual Health check-up of all the workers is to be conducted. The study shall take into account of chronic exposure to noise which may lead to adverse effects like increase in heart rate and blood pressure, hypertension and peripheral vasoconstriction and thus increased peripheral vascular resistance. Similarly, the study shall also assess the health impacts due to air polluting agents.
2. Baseline health status within study area shall be assessed and report be prepared. Mitigation measures should be taken to address the endemic diseases.
3. Impact of operation of power plant on agricultural crops, large water bodies (as applicable) once in two years by engaging an institute of repute. The study shall also include impact due to heavy metals associated with emission from power plant.
4. Sewage Treatment Plant shall be provided for domestic wastewater.

F. Water quality monitoring and Management:

1. Induced/Natural draft closed cycle wet cooling system including cooling towers shall be set up with minimum Cycles of Concentration (COC) of 5.0 or above for power plants using fresh water to achieve specific water consumption of 2.5 m^3/MWhr. (Or) Induced/Natural draft open cycle cooling system shall be set up with minimum Cycles of Concentration (COC) of 1.5 or above for power plants using sea water.
2. In case of the water withdrawal from river, a minimum flow 15% of the average flow of 120 consecutive leanest days should be maintained for environmental flow whichever is higher, to be released during the lean season after water withdrawal for proposed power plant.

3. Records pertaining to measurements of daily water withdrawal and river flows (obtained from Irrigation Department/Water Resources Department) immediately upstream and downstream of withdrawal site shall be maintained.
4. Rainwater harvesting in and around the plant area be taken up to reduce drawl of fresh water. If possible, recharge of groundwater to be undertaken to improve the ground water table in the area.
5. Regular (at least once in six months) monitoring of groundwater quality in and around the ash pond area including presence of heavy metals (Hg, Cr, As, Pb, etc.) shall be carried out as per CPCB guidelines. Surface water quality monitoring shall be undertaken for major surface water bodies as per the EMP. The data so obtained should be compared with the baseline data so as to ensure that the groundwater and surface water quality is not adversely impacted due to the project & its activities.
6. The treated effluents emanating from the different processes such as DM plant, boiler blow down, ash pond/dyke, sewage, etc. conforming to the prescribed standards shall be re-circulated and reused. Sludge/ rejects will be disposed in accordance with the Hazardous Waste Management Rules.
7. Hot water dispensed from the condenser should be adequately cooled to ensure the temperature of the released surface water is not more than 5 degrees Celsius above the temperature of the intake water.
8. Based on the commitment made by the Project Proponent, Sewage Treatment Plants within the radius of 50 km from proposed project, the treated sewage of .....KLD from STP ..... (name) shall be used as an alternative to the fresh water source to minimize the fresh water drawl from surface water bodies.
9. Wastewater generation of .....KLD from various sources (viz. cooling tower blowdown, boiler blow down, wastewater from ash handling, etc) shall be treated to meet the standards of pH: 6.5-8.5; Total Suspended Solids: 100 mg/l; Oil & Grease: 20 mg/l; Copper: 1 mg/l; Iron:1 mg/l; Free Chlorine: 0.5; Zinc: 1.0 mg/l; Total Chromium: 0.2 mg/l; Phosphate: 5.0 mg/l;
10. Sewage generation of .....KLD will be treated by setting up Sewage Treatment plant to maintain the treated sewage characteristics of pH: 6.5-9.0; Bio-Chemical Oxygen Demand (BOD): 30 mg/l; Total Suspended Solids: 100 mg/l; Fecal Coliforms (Most Probable Number):<1000 per 100 ml.

G. Risk Mitigation and Disaster Management:

1. Adequate safety measures and environmental safeguards shall be provided in the plant area to control spontaneous fires in coal yard, especially during dry and humid season.
2. Storage facilities for auxiliary liquid fuel such as LDO and HFO/LSHS shall be made as per the extant rules in the plant area in accordance with the directives of Petroleum & Explosives Safety Organisation (PESO). Sulphur Content in the liquid fuel should not exceed 0.5%.
3. Ergonomic working conditions with First Aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.
4. Safety management plan based on Risk Assessment shall be prepared to limit the risk exposure to the workers within the plant boundary.
5. Regular mock drills for on-site emergency management plan and Integrated Emergency Response System shall be developed for all kind of possible disaster situations.

H. Green belt and Biodiversity conservation:

1. Green belt shall be developed in an area of 33% of the total project with indigenous native tree species in accordance with CPCB guidelines. The green belt shall inter-alia cover an entire periphery of the plant.
2. *In-situ/ex-situ* Conservation Plan for the conservation of flora and fauna should be prepared and implemented.
3. Suitable screens shall be placed across the intake channel to prevent entrainment of life forms including eggs, larvae, juvenile fish, etc., during extraction of seawater.

I. Waste management:

1. Solid waste management should be planned in accordance with extant Solid Waste Management Rules, 2016.
2. Toxicity Characteristic Leachate Procedure (TCLP) test shall be conducted for any substance, potential of leaching heavy metals into the surrounding areas as well as into the groundwater.
3. Ash pond shall be lined with impervious liner as per the soil conditions. Adequate dam/dyke safety measures shall also be implemented to protect the ash dyke from getting breached.
4. Fly ash shall be collected in dry form and ash generated shall be used in phased manner as per provisions of the Notification on Fly Ash Utilization issued by the Ministry and amendment thereto. By the end of 4th year, 100% fly ash utilization should be ensured. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry. Mercury and other heavy metals (As, Hg, Cr, Pb, etc.) will be monitored in the bottom ash as also in the effluents emanating from the existing ash pond. Fly ash utilization details shall be submitted to concerned Regional Office along with the six-monthly compliance reports and utilization data shall be published on company's website.
5. Unutilized ash shall be disposed off in the ash pond in the form of High Concentration Slurry/Medium Concentration Slurry/Lean Concentration Slurry method. Ash water recycling system shall be set up to recover supernatant water.
6. In case of waste-to-energy plant, major problems related with environment are fire smog in MSW dump site, foul smell and impacts to the surrounding populations. Therefore, the following measures are required to be taken up:

    i) Water hydrant at all the dumpsites of MSW area to be provided so that the fire and smog could be controlled.
    ii) Sprayer like microbial consortia may be provided for arresting the foul smell emanating from MSW area.

J. Monitoring of compliance:

1. Environmental Audit of the project be taken up by the third party for preparation of Environmental Statement as per Form-V & Conditions stipulated in the EC and report be submitted to the Ministry.
2. Resettlement & Rehabilitation Plan as per the extant rules of Govt. of India and respective State Govt. shall be followed, if applicable.
3. Energy Conservation Plan to be implemented as envisaged in the EIA / EMP report. Renewable Energy Purchase Obligation as set by MoP/State Government shall be

met either by establishing renewable energy power plant (such as solar, wind, etc.) or by purchasing Renewable Energy Certificates.

4. Monitoring of Carbon Emissions from the existing power plant as well as for the proposed power project shall be carried out annually from a reputed institute and report be submitted to the Ministry's Regional Office.
5. Energy and Water Audit shall be conducted at least once in two years and recommendations arising out of the Report should be followed. A report in this regard shall be submitted to Ministry's Regional Office.
6. Environment Cell (EC) shall be constituted by taking members from different divisions, headed by a qualified person on the subject, who shall be reporting directly to the Head of the Project.
7. The project proponent shall (Post-EC Monitoring):

    a. send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;

    b. upload the clearance letter on the web site of the company as a part of information to the general public.

    c. inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forest and Climate Change (MoEFCC) at http://parviesh.nic.in.

    d. upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;

    e. monitor the criteria pollutants level namely; PM (PM_{10}& $PM_{2.5}$incase of ambient AAQ), SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;

    f. submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEFCC, the respective Zonal Office of CPCB and the SPCB;

    g. submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;

    h. inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project and the date of commencement of the land development work.

K. Corporate Environmental Responsibility (CER) activities:

1. CER activities will be carried out as per OM No. 22-65/2017-IA.II dated 01.05.2018 or as proposed by the PP in reference to Public Hearing or as

earmarked in the EIA/EMP report along with the detailed scheduled of implementation with appropriate budgeting.

L. Marine facilities:

1. As the seawater intake systems are required for the plant fall in CRZ area, recommendations from State Coastal Zone Management Authority (SCZMA) as per CRZ Notification shall be implemented.
2. Marine intake and outfall pipelines shall be located as per the recommendations State Coastal Zone Management Authority (SCZMA).

M. Sea Water Intake:

1. Seawater intake system shall be so designed and constructed to ensure sufficient sweater in terms of quantity and quality.
2. The withdrawal of seawater shall be preferably through a pipeline with a riser equipped with a velocity cap arrangement and bar screen to arrest the impingement of large marine organisms.
3. In all tide conditions (particularly at spring low tides) the riser head must be flooded with the required submergence of seawater above its top.

N. Effluent Release:

1. At the effluent release point, maximum temperature of the discharge water shall not be more than 5^{o}C and salinity shall not exceed 50 ppt with respect to that of the ambient seawater.
2. Use of antifouling agents like chlorine / hypochlorite, shall be carefully controlled. The chlorine concentration shall not exceed 0.2 ppm at the effluent release point.
3. The effluent when released at the selected location shall attain sufficient dilution so that near ambient water quality (particularly temperature and salinity) is attained within 500 m from the release location, at low tide.
4. The location of the diffuser shall be marked with a solar lighted buoy to avoid accidents.
5. The site selected based on mathematical modelling shall ensure absence of recirculation of the effluent plume in the seawater intake area under all tidal conditions.
6. The effluent shall be released through a properly designed multiport diffuser above the seabed to facilitate its efficient initial mixing with the receiving seawater.
7. Efficacy of the diffuser shall be ascertained at least once in 2 years through scientific studies and corrective actions such as cleaning of the diffuser from marine growth, removal of silt deposits, etc. shall be taken up, if warranted.
8. Continuous online monitoring system for Temperature and Salinity shall be installed to monitor the quality of effluent.

O. Common to intake and effluent:

1. The pipeline shall be buried below the seabed at a depth to ensure its stability under rough sea conditions particularly during cyclone / tsunami. The depth of burial will depend on the seafloor strata but normally the top of the pipeline shall be at least 1 m below the bed level. In the surf and intertidal zones, the pipeline shall be buried below the maximum scour level.

2. In case of open channel, the channel shall be constructed as per the recommendations of State Coastal Zone Management Authority (SCZMA).
3. If the substratum is rocky the pipeline may be anchored to the rock provided the geology of the area satisfactorily supports the structure which shall be ascertained through geo-technical investigations.
4. Exposed pipeline section and riser shall be protected by armour stone from waves, boats anchoring, fishing activities etc.
5. The location of the riser & diffuser shall be marked with a solar lighted buoy to avoid accidents from boats.
6. Marine / Sea water quality shall be monitored at effluent release location at the center. Parameters to be monitored shall be as follows:
    a. *Physico-chemical:* Temperature, Salinity, pH and Dissolved Oxygen.
    b. *Biological:* Primary Productivity, Phytoplankton (Chlorophyll a, Phaeophytin, Population, Species), Zooplankton (Biomass, Population, Species) and Benthos (Biomass, Population, Species).
7. In case of Coastal Power Plants, the Mangrove plantation shall be taken up in an area of .....ha, along the coast/ on the banks of ..... Estuary.

Approval of the Chairman

From: gpkundargi@gmail.com
To: "Dr S Kerketta" <s.kerketta66@gov.in>
Sent: Wednesday, December 2, 2020 4:34:19 PM
Subject: Re: Revised Draft MoM of 4th EAC of Thermal.

Dear Dr Kerketta Saheb

Draft minutes are in order & approved for further needful.

Thank you

G P Kundargi

On Wed, 2 Dec, 2020, 4:29 pm Dr S Kerketta, <s.kerketta66@gov.in> wrote:

Dear sir,

Changes incorporated as discussed. For approval please.

regards,

From: "Dr S Kerketta" <s.kerketta66@gov.in>
To: "G.P. Kundargi" <gpkundargi@gmail.com>
Cc: "Dr. S Kerketta" <suna1466@rediffmail.com>
Sent: Wednesday, December 2, 2020 3:53:50 PM
Subject: Revised Draft MoM of 4th EAC of Thermal.

Dear sir,

Changes incorporated as discussed. For approval please.

regards,

(Dr. S. Kerketta)

Director- IA (Thermal, River Valley & HEP)

MoEF&CC, New Delhi

Phone: 011-24695314 (O), 26113096 (R)

AGENDA OF 4th MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE ON THERMAL POWER PROJECTS

DATE : 17th NOVEMBER, 2020
TIME : 11.00 A.M.- 4.00 PM through Video Conference

ITEM	
Item No. 1.0 Time Slot: 11-11:10 AM (10 min)	**CONFIRMATION OF MINUTES OF 3rd EAC (THERMAL) MEETING**
Item No.	**CONSIDERATION OF PROJECTS**
1.1 Time Slot: 11:10-11:40 AM	2x800 MW Ennore SEZ TPP at Vayalur Village, Ambattur Taluk, District – Tiruvallur, Tamil Nadu by M/s TANGEDCO – regarding extension of validity of EC. **(F.No. J-13012/36/2010-IA II (T) & Online No. IA/TN/THE/173531/2020)**
1.2 Time Slot: 11:40-12:00 PM	Proposed 14.5 MW Coal based Captive Co-Generation Power Plant within the existing facility at Village Puthukkadu, Kokkarakondi, Pirivu, Puthupeerkadavu, Taluk Sathyamangalam, District Erode, Tamil Nadu by M/s Sri Andal Paper Mills Pvt. Ltd. – Regarding Exemption of Public Hearing **(F.No. J-13012/02/2020-IA.I(T) & P. No. IA/TN/IND/170382/2020)**
1.3 Time Slot: 12:00 -12:40 PM	3x800 MW NLC Talabira Thermal Power Project (NTTPP) at Kumbhari & Tareikela Villages in Jharsuguda, Odisha by M/s NLC India Ltd. -- Reconsideration of grant of EC **(F.No. J-13012/14/2017-IA.I(T) & Online No. IA/OR/THE/67938/2017)**
1.4	ANY OTHER ITEM WITH THE PERMISSION OF THE CHAIR.

(45)

Name of the project
Addressed detailed
e-mail/contact No.

Undertaking

(To be provided by the PP)

This is to certify that the information provided in Form-.... in physical form and/or in .pdf format (as applicable to the project and remaining be removed) in PARIVESH, to the Ministry/EAC members and PPT presentation during the EAC meeting held on 14.05.2020 have no deviation in respect of the proposal of ToR/EC/EC validity extension/EC amendment for establishing ".....MW Thermal Power Project at village ....., Taluk ....., District....., State.....by M/s. .....

2. It is further certified that there are no data entry errors in the information uploaded in PARIVESH system including names/email-id/mobile numbers/address of the project proponent, authorized person, etc. It is also certified that the supporting documents uploaded on PARIVESH portal are correct and duly authenticated by the Authorized Signatory.

3. In case of any deviation in data found in any of the documents, the Authorized Signatory shall be held responsible and furthermore, the above said project shall be rejected for grant of amendment in EC.

Authorized Signature

date

Annexure R5
146

F. No. J-13012/14/2017-IA.I(T)
Government of India
Ministry of Environment, Forest and Climate Change

Indira Paryavaran Bhawan
Jor bagh Road, New Delhi -110003

Dated 2nd February, 2021

To,

Mr. Devendra Pratap Singh
Deputy General Manager
NLC India Limited,
Corporate Office, Near Kilpauk Road,
Egmore-Nungambakkam
Chennai – 600 031

Sub: 3x800 MW NLC Talabira Thermal Power Project (NTTPP) at Kumbhari and Tareikela Villages in District Jharsuguda and Thelkoloi Village in District Sambalpur, Odisha by M/s NLC India Ltd. – Regarding grant of Environmental Clearance

Sir,

This has reference to your online application no. IA/OR/THE/67938/2017 on 19.02.2020 for grant of Environmental Clearance to establish coal based 3x800 MW NLC Talabira Thermal Power Project (NTTPP) based on Supercritical Technology at Kumbhari and Tareikela Villages in District Jharsuguda and Thelkoloi Village in District Sambalpur, Odisha by M/s NLC India Limited (NLCIL).

2. It has been noted that the Terms of Reference of the proposed project was granted vide Ministry's letter of even no. dated 27.12.2017. The total installed power generating capacity of the Plant will be 2400 MW.

3. It has been noted that the total land requirement for the project is 585.58 ha including 243.621 ha for the Main Plant, 101.981 ha for the Greenbelt, 137.593 ha for the Ash Pond, 35.612 ha for the water reservoir and 20.234 ha for the township. The Ib Valley critically polluted area is 4 km away from the project site. There is no forest land involved in the project. There are no National Parks, Wildlife Sanctuary, Elephant/Tiger Reserve (existing or proposed), migratory routes within 10 km of the project site. Land ownership of the project site includes private land – 463.494 ha, Government land – 96.246 ha and other land – 25.84 ha. Complete land is yet to be acquired by NLCIL for the proposed project.

4. It has been noted that coal requirement for the project is 11.37 million tons / annum. The company has been allocated Talabira II & I, II OCP coal block in Jharsuguda District, Odisha vide MoC letter no 103/1/2016/NA dated 02.05.2016. The expected coal quality is: Ash content- 45%, Sulphur – 0.33%, Gross calorific value – 3400 kcal/kg, Moisture – 6.1%, mercury – 0.03 mg/kg, Fixed carbon – 46.7% and Volatile matter – 26.9%. The distance of the coal source from the project site is 2 kms. The coal is proposed to be transported by conveyor belt and pipe conveyor.

5. It has been informed that maximum water requirement for the proposed 3x800 MW Plant is about 1,76,153 m^3/d, which will be sourced from the Hirakud Reservoir through 15 km pipeline. There will be no effluent discharge to the water bodies and adequate wastewater treatment facilities will be provided to comply with the prescribed norms. During operational phase, the Plant will reuse all its wastewater and meet Zero Liquid Discharge (ZLD) as per MoEFCC norms.

6. It has been noted that the total estimated cost of the project is Rs. 16073.86 crores. Capital cost of environment management measures provided in the project is Rs 1439 crores. Funds allocated towards Corporate Environment Responsibility (CER) is Rs 40.20 crores.

7. Public hearing for the proposed project was conducted on 13.11.2019 at Jharsuguda and on 10.01.2020 at Sambalpur, Odisha. The issues raised during the public hearing inter-alia include project coming up near Ib Valley-Jharsuguda critically polluted area, existing pollution of nearby water bodies, groundwater pollution, airborne fly ash causing air and water pollution, disposal and utilisation system for Ash, land acquisition, R&R, employment, welfare activities, compensation issues, provision of educational facilities, etc.

8. It is noted that the project proponent replied during the public hearing that welfare activities will be extensively carried out in the surrounding villages and NLCIL will provide healthcare facilities, roads, vocational education, clean drinking water, solar electrical facilities, set up small scale industries as per the advice of local panchayat and District Administration. NLCIL will have adequate pollution control measures for air pollution including installation of FGDs and high efficiency ESPs, wastewater treatment, ash disposal through high concentration slurry disposal, noise control and greenbelt development in and around at the available spaces of the Plant to arrest fugitive emissions.

9. The proposal was appraised by the Expert Appraisal Committee (Thermal Power) in its meetings held on 10.04.2020, 28.07.2020 and 17.11.2020. In acceptance of the recommendations of the EAC (Thermal Power) in the meeting held on 17.11.2020 and in view of the information, clarifications and documents submitted by M/s NLC India Ltd, **the Ministry hereby accords Environmental Clearance** to the above-mentioned project under item 1(d) of the Schedule of the EIA Notification dated September 14, 2006 with following specific conditions for compliance:

(i) Ash pond of 70.82 ha shall be used only for emergency disposal. The ash pond shall have all safety and environmental measures such as HDPE liner, High concentration slurry disposal system, ash water recycling system, dyke stability measures, minimum distance of 500 m from River Bhedan and the ash pond area should be out of the area to be affected by HFL.

(ii) The safety and structural stability of the ash pond is to be ascertained once in three years by reputed agency which has expertise in the field of geo-technical aspects.

(iii) Existing nalla on Northern side of ash pond (70.82 ha) shall not be disturbed and adequate bund strengthening measures shall be implemented to avoid discharge of ash into the nallah.

(iv) As committed, the disposal of ash in Talabira mines through HCSD system shall be implemented within 3 years from the start of operations of first unit.

(v) The 100% ash utilisation shall be achieved as per the Fly ash Notification as amended from time to time.

(vi) As per the recommendations of the Chief Wildlife Warden, the Wildlife Conservation Plan is to be prepared at the cost of user agency and vetted by the Chief Wildlife Warden for protection of Schedule-I species (wild boar, sloth bear, barking deer, rabbit, jackal, jungle cat, python) present in the study area. The progress of its implementation is to be submitted.

(vii) As committed, a total of Rs. 40.18 crores are to be allocated to fulfill the commitments made during public hearing for uplifting the socio-economic status of the project affected people and inhabitants of the surrounding villages. Certain percentage is also to be earmarked for the socio-economic activities for the affected villages in Sambalpur District due to the ash pond.

(viii) As proposed, the embankment Bund on the banks of the Bhedan river is to be strengthened, which is +1m above the HFL Limits, so as to prevent flooding. The bund formation shall be developed with a base width of 20 m. In addition, the bund shall also be provided on the other bank of the river to safeguard the Ash disposal area. The height of the river bund shall be minimum RL 202 M.

(ix) As per the recommendations of Rehabilitation and Periphery Development Advisory Committee (RPDAC), Govt. of Odisha, the R&R package shall be implemented for project displaced and affected families due to land acquisition for the project. The implantation progress shall be submitted.

(x) As proposed Wet FGD shall be installed to control SO_2 emissions. ESP and De-NOX control measures shall be installed to meet the emission norms. As proposed one twin flue stack of 180 m and one single flue stack of height 150 m shall be established for adequate dispersion of pollutants.

(xi) Wet FGD uses limestone slurry to remove **SOx**. Therefore, utilization of gypsum generated from the plant, if any, shall be proposed along with the land to be used for dumping of gypsum including staking of lime etc. to be planned.

(xii) After reducing the ash pond area from 137.593 ha to 70.82 ha, the total project area is about 518.807 ha (585.5801 ha -66.7731 ha). The proponent had earlier proposed for greenbelt development in an area of 101.981 ha. In line with the Ministry's OM dated 31.10.2019, greenbelt shall be developed in an area of 40% of total project area instead of 33% as the project is located near Ib valley critically polluted area. As proposed, the additional area is to be acquired for meeting target of 40% greenbelt of total project area.

(xiii) High carbon sequestration trees shall be planted as a part of greenbelt development along with native species such as fig, Vengai (Pterocarpus marsupium), Lagerstroemia spp., Red cotton tree (Bombax ceiba), Jamun (Eugenia jambolana), Ficus varieties etc.

(xiv) Greenhouse gas emissions and Mercury balance accounting is to be conducted once in three years. This is in addition to Mercury emission monitoring as per the emission standards and monitoring protocol.

(xv) The progress (physical and financial) of construction till its commissioning shall be submitted to concerned Regional Office.

(xvi) During operations, the details regarding quantity of coal consumption, power generation, ash (fly and bottom) generation & utilisation, volume availability of ash pond, emissions and gypsum handling shall be submitted to concerned Regional Office as part of the compliance report.

(xvii) The Project Proponent shall submit the time- bound action plan to the concerned regional office of the Ministry within 6 months from the date of issuance of environmental clearance for undertaking the CER activities, committed during public consultation by the project proponent and as discussed by the EAC, in terms of the provisions of the MoEF&CC Office Memorandum No.22-65/2017-IA.III dated 30 September, 2020. The action plan shall be implemented within three years of commencement of the project.

10. The standard EC conditions, for the Thermal Power projects to be complied with, are uploaded on the website of the Ministry and can be downloaded from the link http://moef.gov.in/wp-content/uploads/2018/03/E12Q0QNG_Standardisation-of-Conditons-of-EC-for-TPP-19112018.pdf.

11. Once the project construction is complete, the final layout of the Plant including the existing one to be submitted stating the scope/extent of work envisaged in the EIA along with the estimated cost vis-à-vis the actual cost incurred.

12. The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction. The Ministry may also impose additional environmental conditions or modify the existing ones, if necessary.

13. The Environmental Clearance accorded **shall be valid for a period of 7 years** from the date of issue of this letter to start operations of the Power Plant.

14. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

15. In case of any deviation or alteration in the project proposed including coal transportation system from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.

16. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the rules thereunder and their amendments, the Public Liability Insurance Act, 1991 and its amendments.

150

17. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

This issues with the approval of the Competent Authority.

Yours faithfully,

2.2.2021

(Yogendra Pal Singh)
Scientist 'E'

Copy to:

1. Secretary, Ministry of Power, Shram Shakti Bhawan, Rafi Marg, New Delhi 110001
2. Chairman, Central Electricity Authority, Sewa Bhawan, RK Puram, New Delhi 110066
3. Chairman, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi 110 032
4. Additional Director General of Forests, MoEFCC Regional Office (EZ), Bhubaneshwar, Odisha
5. Additional Chief Secretary, Forest and Environment Department, Government of Odisha, Bhubaneshwar, Odisha
6. Chairman, State Pollution Control Board, Odisha, Bhubaneshwar, Odisha
7. District Magistrate, Jharsuguda District, Jharsuguda, Odisha
8. District Magistrate, Sambalpur District, Sambalpur, Odisha
9. Guard file/ Monitoring file
10. Website of MoEFCC

2.2.2021

(Yogendra Pal Singh)
Scientist 'E'

Annexure R6

(151)

Quality Council of India
National Accreditation Board for Education & Training

CERTIFICATE OF ACCREDITATION

ABC Techno Labs India Private Limited

 # 400, 13th Street, SIDCO Industrial Estate (North Phase), Ambattur, Chennai - 600098

are accredited as Category - A organization under the QCI-NABET Scheme for Accreditation of EIA Consultant Organizations: Version 3 for preparing EIA/EMP reports in the following sectors:

Sl.No.	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals (open cast and underground)	1	1 (a) (i)	B
	Mining of minerals (open cast only)			A
2	Offshore and onshore oil and gas exploration	2	1 (b)	A
3	River Valley projects-Irrigation projects only	3	1 (c)	A
4	Thermal power plants	4	1 (d)	A
5	Mineral beneficiation	7	2 (b)	B
6	Metallurgical industries (Secondary ferrous only)	8	3 (a)	B
7	Petroleum refining industry	10	4 (a)	A
8	Leather/skin/hide processing industry	15	4 (f)	A
9	Chemical fertilizers	16	5 (a)	A
10	Petro-chemical complexes	18	5 (c)	A
11	Synthetic organic chemicals industry	21	5 (f)	A
12	Distilleries	22	5 (g)	A
13	Sugar industry	25	5 (j)	B
14	Oil & gas transportation pipeline	27	6 (a)	A
15	Isolated storage & handling of Hazardous chemicals	28	6 (b)	B
16	Air ports	29	7 (a)	A
17	Industrial estates/ parks, (EPZs), (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	B
18	Ports, harbours, break waters and dredging	33	7 (e)	A
19	Highways	34	7 (f)	A
20	Common Effluent Treatment Plants (CETPs)	36	7 (h)	B
21	Common Municipal Solid Waste Management Facility (CMSWMF)	37	7 (i)	B
22	Building and construction projects	38	8 (a)	B
23	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated Jan 13, 2017 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/17/0319 dated 29 May 2017. The accreditation needs to be renewed before the expiry date by ABC Techno Labs. Pvt. Ltd., following due process of assessment.

C.E.O	*Certificate No.*	*Issue date*	*Expiry Date*
NABET	*NABET/ EIA/1619/ RA 0048*	*May 29, 2017*	*May 25, 2019*

For the updated List of Accredited Consultants with approved sectors please refer QCI-NABET website.

NABET is a member of International Accreditation Forum (IAF) and Pacific Accreditation Cooperation (PAC).

152

National Accreditation Board
for Education and Training
(Member - International Accreditation Forum & Pacific Accreditation Cooperation)

Jan 20, 2020

QCI/NABET/EIA/ACO/20/1209

ABC Techno Labs India Private Limited
(formerly known as ABC Environ Solutions Pvt. Ltd.)
400, 13th Street, SIDCO Industrial Estate (North Phase),
Ambattur, Chennai - 600098

Sub: Validity of Accreditation

Dear Sir/Madam,

This has reference to the accreditation of your organization under QCI-NABET EIA Scheme, the validity of ABC Techno Labs India Private Limited, Chennai is hereby extended till April 19, 2020 or completion of assessment process, whichever is earlier.

The above extension is subject to the submission of required information/documents related to assessment on time to NABET.

You are requested not to use this letter after expiry of the above stated date.

With best regards,

for 20/01/2020

A.K Jha
Senior Director| NABET

Annexure R7

(193)

ABC Techno Labs
India Private Limited
(Recognised by NABL, NABET & MoEF(CC))

Declaration by ABC Techno Labs India Pvt. Ltd.

M/S NLC India limited has **Proposed *3x800 MW NLC Talabira Thermal Power Project (NTTPP) Kumbhari & Tharaikela Tehsil in Jharsuguda District & Ash dyke in Thelkoloi Villages Sambalpur District***. In this Regard ***NLC India limited*** appointed ABC Techno Labs India Pvt. Ltd. to conduct the Environmental Impact Assessment (EIA) study as per the Terms of Reference (ToR) for carrying out the EIA/EMP study vide vide letter dated Jan 02nd, 2018, File No. - J-13012/14/2017– IA, I (T) by Expert Appraisal Committee (EAC)- Thermal Power Plant, Ministry of Environment, Forest & Climatic Change (MoEF&CC).

ABC Techno Labs has taken all reasonable predictions in the preparation of this EIA report. ABC Techno Labs also believes that the facts presented in this report are accurate as on date it was written.

ABC Techno Labs confirm that the mentioned experts has prepared the EIA report for **Proposed *3x800 MW NLC Talabira Thermal Power Project (NTTPP) Kumbhari & Tharaikela in Jharsuguda Tehsil and District & Ash dyke in Thelkoloi Villages Sambalpur District***. ABC Techno Labs also confirm that the consultant organization shall be fully accountable for any misleading information mentioned in this statement.

Name: Mr. G. Murugesh

Designation: Chairman & Managing Director

Name of the EIA Consultant Organisation: ABC Techno Labs India Pvt. Ltd

154

NLC India Limited
('Navratna' - Government of India Enterprise)
CIN No.: L93090TN1956GOI0031007, Website: www.nlcindia.com

OFFICE OF THE CHIEF GENERAL MANAGER,
Projects & Business Development

/Tele: 04142-252286 /Common Fax:04142-252645 -/Email: cgmpbd@nlcindia.in

Declaration

I, **Devendra Pratap Singh, Deputy General Manager/Project&Busness Development Division (P&BD)** of M/s NLC India Limited, give this declaration/undertaking to the effect that EIA report preparation has been undertaken in compliance with the Standard Terms of Reference (ToR) Prescribed by MoEF & CC, vide proposal No: **IA/OR/THE/67938/2017**, dated 27.12.2017, for our proposed NLC Talabira Thermal Power Project (NTTPP) (3 X800 MW - Ultra Mega Power Project – coal based) at village Khumberi,Tareikela in the district of Jharsuguda and Thelkoloi village in the District of Sambalpur, Odisha and the information and content provided in the report are factually correct.

Date : 13th February 2020

Place : Neyveli

For & On behalf of NLC India Limited

(DEVENDRA PRATAP SINGH)
DEPUTY GENERAL MANAGER

Annexure R8

(155)

Form-2

APPLICATION FOR PRIOR ENVIRONMENTAL CLEARANCE

S. No.	Item	Details
	Whether it is a violation case and application is being submitted under Notification No. S.O.804(E) dated 14.03.2017 ?	No
1.	**Details of Project:**	
	(a)Name of the project(s)	Proposed 3x800 MW NLC Talabira Thermal Power Project (NTTPP)by M/S NLC India
	(b)Name of the Company / Organisation	NLC INDIA LTD
	(c)Registered Address	First Floor, No.08, Mayor sathyamoorthi Road, FSD,Egmore Complex of Food Corporation of India, Chetpet, Chennai,,Cuddalore,Lakshadweep-600031
	(d)Legal Status of the Company	Central PSU
	(e)Joint Venture	No
2.	**Address for the correspondence:**	
	(a)Name of the Applicant	DEVENDRA PRATAP SINGH DPS
	(b)Designation (Owner/ Partner/ CEO)	DEPUTY GENERAL MANAGER
	(c)Address	O/o Projects & Business Development Divison, Corporate Office, NLC India Limited, Near Kilpauk Road,,Egmore Numgambakkam,Chennai,Tamil Nadu-600031
	(d)Pin code	600031
	(e)E-mail	devendra_pratap@nlcindia.in
	(f)STD Code.	151(f)Telephone No. 2847574
	(g)Fax No.	1512847511
	(h)Copy of documents in support of the competence/authority of the person making this application to make application on behalf of the User Agency .	Annexure-Uploaded Copy of documents in support of the competence/authority
3.	**Category of the Project/Activity as per Schedule of EIA Notification,2006:**	
	(a.1)Project/Activity	**1(d) Thermal Power Plants**
	Minor Activity	**1(d) Thermal Power Plants**
	(b)Category	**A**
	(c)Proposal Number	**IA/OR/THE/67938/2017**
	(d)Master Proposal Number(Single Window)	**SW/143266/2020**
	(e)EAC concerned (for category A Projects only)	**Thermal Projects**
	(f)Project Type	**Fresh EC**
4.	**Location of the Project:**	
	(a)Plot/Survey/Khasra No.	Kumbhuri, Tharaikela in Jharsuguda Tehsil and Dist.
	(b)Pincode	768202
	(c)Bounded Latitudes (North)	
	From	
	Degree	21465611
	Minutes	
	Second	
	From	
	Degree	83593059
	Minutes	
	Second	
	(d)Bounded Longitudes (East)	
	From	
	Degree	21465295
	Minutes	
	Second	
	From	
	Degree	84002072
	Minutes	
	Second	
	(e)Survey of India Topo Sheet No.	64O11,64O14,73C1,73C2
	(f)Uploaded Topo Sheet File	Copy of Topo Sheet File
	(g)Maximum Elevation Above Means Sea Level(AMSL)	211
	(h)Uploaded (kml) File	Copy of Kml File
	(i)Distance of Nearest HFL from the project boundary within the study area	0.52
	(j)Seismic Zone	2
5.	(a)Number of States in which Project will be Executed	1
	(b)Main State of the project	Orissa

Details of State(s) of the project

S. No.	State Name	District Name	Tehsil Name	Village Name
(1.)	Orissa	Jharsuguda	Jharsuguda	

6.	**Details of Terms of Reference (ToR):**	
	(a)MoEF&CC / SEIAA File Number	J-13012/14/2017-IA.I(T)
	(b)Date of Apply of TOR	05 Sep 2017
	(c)Date of Issue of TOR / Standard ToR	27 Dec 2017
	(d)Previous TOR Letter	Copy of Previous TOR letter
7.	**Details of Public Consultation:**	
	(a)Whether the Project Exempted from Public Hearing?	No
	(b)Whether details of Public Hearing available?	Yes
	(c)Whether Public hearing was presided over by an officer of the rank of Additional District Magistrate or above	Yes

7.1. **Details of Public Hearing**

S. No.	Details of Advertisement	Details of Public Hearing	Venue	Location Details	No. of People Attended	Issues Raised	Designation of Presiding Officer	Other Designation of Presiding Officer
(1.)	Date of Advertisement : 11 Oct 2019 Copy of advertisement : Copy of Advertisement	Copy of Public Hearing : Copy of Public Hearing Date : 13 Nov 2019 Distance of Public Hearing Venue from the Proposed Project : 1	Gariadihi UP School	State : Orissa District : Jharsuguda Tehsil : Jharsuguda Village : Tarelkela	179	• Concerning to the left out area outside the plant layout situated near the river bank. • Related to resettlement of the displaced within the same panchayat. • Concerning R&R benefits and land rate	Others	Additional District Magistrate
(2.)	Date of Advertisement : 04 Dec 2019 Copy of advertisement : Copy of Advertisement	Copy of Public Hearing : Copy of Public Hearing Date : 10 Jan 2020 Distance of Public Hearing Venue from the Proposed Project : 5	Durga Mandap Field	State : Orissa District : Sambalpur Tehsil : Rengali Village : Thelkoli	24	• Proper pollution control measures should be taken in the project so that people should not be affected due to the project.	Others	Additional District Magistrate

8. **Details of Project Configuration/Product:**

8.1. **Project Configuration**

S. No.	Plant/Equipment/Facility	Configuration	Remarks
(1.)	Thermal Power Plant	3 x 800 MW	

8.2. **Product**

S. No.	Product/Activity	Quantity	Unit	Other Unit	Mode of Transport / Transmission of	Other Mode of Transport /

156

	(Capacity/Area)				Product	Transmission of Product
(1.)	3 x 800	2400	Mega Watt(MW)		Others	Transmission lines

9.	In case of Expansion / Modernisation / One Time Capacity Expansion (only for Coal Mining) / Expansion under Clause 7(ii) / Modernisation under Clause 7(ii) / Change of Product Mix under Clause 7(ii):	**Details Not Applicable**
9.1.	**Details of Consent to Operate**	
	(i)Whether Consent to operate obtained ?	NA
	(ii)Copies of all Consent to operate obtained since inception	NA
	(iii)Date of Issue	N/A
	(iv)Valid Upto	N/A
	(v)File No.	NA
	(vi)Application No.	NA
	(vii)Copy of Consent to operate valid as on date	NA
10.	**Project Cost:**	
	(a)Total Cost of the Project at current price level (in Crores)	16073.86
	(b) Funds Allocated for Environment Management (Capital) (in Crores)	1439
	(c) Funds Allocated Towards CER (Corporate Environment Responsibility) (in Crores)	40.20
	(d) Funds Allocated for Environment Management Plan (EMP) (Recurring per Annum) (in Crores)	14.39
11.	**Whether project attracts the General Condition specified in the Schedule of EIA Notification ?**	No
12.	**Whether project attract the Specific Condition specified in the Schedule of EIA Notification ?**	No
13.	**Raw Material / Fuel Requirement:**	
	(a)Proposed quantity of raw material/fuel	11370000
	(b)Existing quantity of raw material/fuel	N/A
	(c)Total quantity of raw material/fuel	11370000

13.1. **Raw Material / Fuel Profile**

S. No.	Raw Material / Fuel	Quantity	Unit	Other Unit	Source (incase of Import. please specify country and Name of the port from which Raw Material / Fuel is received)	Mode of Transport	Other Mode of Transport	Distance of Source from Project Site (in Kilometres) (In case of import, distance from the port from which the raw material / fuel is received)	Type of Linkage	Other Type of Linkage	Uploaded Copy of Linkage
(1.)	Coal	11370000	Tons per Annum		Talabira II &I II OCP	Conveyor Belt,Pipe Conveyor		2	Captive		Copy of Linkage

14.	**Baseline Data :**	
	(a)Period of Base Line Data Collection	FROM 01 Jan 2018 To 31 Mar 2018
	(b)Season	Winter

14.1. **No. of ambient Air Quality (AAQ) monitoring locations : 10**

S. No.	Criteria Pollutants	Other Criteria Pollutants	Unit	Maximum Value	Minimum Value	98 Percentile Value	Prescribed Standard
(1.)	Others	O3	Micro Gram per Meter Cube	15.1	0	9.82	400
(2.)	SO2		Micro Gram per Meter Cube	11.7	5.2	8.49	80
(3.)	NOx		Micro Gram per Meter Cube	24.9	5.69	15.81	80
(4.)	PM2.5		Micro Gram per Meter Cube	41.5	23.6	36.79	60
(5.)	PM10		Micro Gram per Meter Cube	79.80	48.9	75	100

14.2. **No. of Ground Water monitoring locations : 05**

S. No.	Criteria Pollutants	Other Criteria Pollutants	Heavy Metal	Unit	Other Unit	Maximum Value	Minimum Value	Desirable Limit	Maximum Permissible Limit
(1.)	TSS			mg/l		1.9	0.6	0	0
(2.)	TDS			mg/l		354	52	500	500
(3.)	Total Hardness			mg/l		172	22	200	600
(4.)	Others	Calcium		mg/l		48	05	75	200
(5.)	Heavy Metals		Zinc	mg/l		0.36	0.09	5	15
(6.)	pH			NA		6.91	6.06	6.5	8.5
(7.)	Chlorides			mg/l		112	11	250	1000
(8.)	Fluoride			mg/l		0.36	0.13	1	1.5

14.3. **No. of Surface Water monitoring locations : 05**

S. No.	Criteria Pollutants	Other Criteria Pollutants	Unit	Other Unit	Maximum Value	Minimum Value	Classification of inland water body
(1.)	COD		mg/l		22	4.8	C
(2.)	DO		mg/l		7.8	6.3	C
(3.)	pH		NA		8.58	7.42	C
(4.)	BOD		mg/l		2.6	1.5	C
(5.)	Others	Total Coliform	Others	MPN/100	300	0	C

14.4. **No. of Ambient Noise monitoring locations : 08**

S. No.	Parameter	Unit	Maximum Value	Minimum Value	Prescribed Standard
(1.)	Leq(Day)	A-weighted decibels(dB(A))	57.3	46.9	70
(2.)	Leq(Night)	A-weighted decibels(dB(A))	44.3	38.1	75

14.5. **No. of Soil Sample Monitored locations : 08**

S. No.	Parameter	Unit	Other Unit	Maximum Value	Minimum Value
(1.)	P(Phosphorus)	Kilogram per hectare		66.5	24.8
(2.)	K(Potassium)	Kilogram per hectare		307	173
(3.)	pH			7.22	6.33
(4.)	N(Nitrogen)	Kilogram per hectare		620	296
(5.)	Electric Conductivity	Others	mS/cm	1.18	0.06

14.6.	**Details of Ground Water Table:**	
	(a)Range of Water Table Pre-Monsoon Season (Meters Below Ground Level (m bgl))	From 5.99 To 8.70
	(b)Range of Water Table Post-Monsoon Season (Meters Below Ground Level (m bgl))	From 3.26 To 4.45
	(c)Whether Ground Water Intersection will be there ?	No

15. **Details of Water Requirement (During Operation)**

S. No.	Source	Source Other	Required Quantity (Kilolitre per Day (Kld))	Distance from Source	Copy of Permission from Competent Authority	Mode of Transport	Other Mode of Transport	Method of Water Withdrawal	Other Method of Water Withdrawal	Letter No.	Date of Issue	Permitted Quantity

(1.)	Others	Hirakud Reservoir	176153.44	15	Copy of Permission Letter	Pipeline		Others	Pipeline	19552/WR	04 Sep 2019	220191.80

15.1.	(a)Whether Desalination is proposed	No

16. **Waste Water Management(During Operation)**

S. No.	Type/Source	Quantity of Waste Water Generated (Kilolitre per Day)	Treatment Capacity (Kilolitre per Day)	Treatment Method	Mode of Disposal	Other Mode of Disposal	Quantity of Treated Water Used in Recycling/Reuse (Kilolitre per Day)	Quantity of Discharged Water (Kilolitre per Day)
(1.)	DM plant	480	5280	DM system	Reuse within the Plant & Recycling		480	
(2.)	cooling	37800	151200	closed cycle CW system	Reuse within the Plant & Recycling		37800	0

16.1.	(a)Total Waste Water Generation (Kilolitre per Day)	38280
	(b)Total Discharged Water (Kilolitre per Day)	0
	(c)Total Reused Water (Kilolitre per Day)	38280

17. **Solid Waste Generation/Management**

S. No.	Name of Waste	Item	Other Item	Quantity per Annum	Unit	Distance from Site(KM)	Mode of Transport	Other Mode of Transport	Mode of Disposal	Other Mode of Disposal
(1.)	Ash	Fly Ash		3820000	Tons	1	Road		Others	Bricks & Cement Industries
(2.)	Ash	Bottom Ash		940000	Tons	2	Pipe Conveyor		Others	Ash Pond/Mine Void

18.

18.1. **Air Quality Impact Prediction**

S. No.	Criteria Pollutants	Other Criteria Pollutants	Unit	Baseline Concentration	Distance GLC	Incremental Concentration	Total GLC	Prescribed Standard
(1.)	PM2.5		Microgram per Meter Cube	41.5	0.12	0.3	41.9	60
(2.)	PM10		Microgram per Meter Cube	79.80	0.2	1.25	81.1	100
(3.)	SO2		Microgram per Meter Cube	11.70	0.15	4.36	16.1	80
(4.)	NOx		Microgram per Meter Cube	24.90	0.2	4.36	29.3	80

18.2. **Stack Details**

S. No.	Source	Fuel	Stack Height(m)	Stack Diameter(m)	Pollutants	Other Pollutants	Emission (GLS)
(1.)	TP stack	Coal	180	8	PM10		1.25
(2.)	TP stack	Coal/LDO/HFO	150	8	SO2		4.36

19.	**Power Requirement:**	
	(a)Quantity (Kilo Volt Amps (kVA))	5000
	(b)Source	33 KV supply from state DISCOM
	(c)Uploaded Copy of Agreement	Not Applicable
	(d)Standby Arrangement (Details of DG Sets)	250 kVA
	(e)Stack Height (in m)	7
20.	**Land Ownership Pattern:**	
	(a)Forest Land (ha.)	0
	(b)Private Land (ha.)	463.494
	(c)Government Land (ha.)	96.246
	(d)Revenue Land (ha.)	0
	(e)Other Land (ha.)	25.8401
	Total Land (ha.)	**585.5801**
21.	**Present Land Use Breakup of the Study Area in Ha:**	
	(a)Agriculture Area (ha.)	380.62
	(b)Waste/Barren Land (ha.)	76.125
	(c)Grazing/ Community Land (ha.)	5.859
	(d)Surface Water Bodies (ha.)	11.712
	(e)Settlements (ha.)	93.693
	(f)Industrial (ha.)	0
	(g)Forest (ha.)	0
	(h)Mangroves (ha.)	0
	(i)Marine Area (ha.)	0
	(j)Others (ha.) : shrubs	17.574
	Total (ha.)	**585.583**

22. **Land requirement for various activities**

S. No.	Description of Activity / Facility / Plant / Others	Others	Land Requirement (ha.)	Remarks
(1.)	Main Plant		243.621	
(2.)	Green belt		101.981	
(3.)	Township		20.234	
(4.)	Ash Pond		137.593	
(5.)	Water Reservoir		35.612	
(6.)	Others	Corridors and Road	46.539	
	Total (ha.)		585.58	

23. **Ecological and Environmental Sensitivity (Within 10 Km):- WLS-Wild Life Sanctuaries; NPA-Notified Protected Area; ESAs-Eco Sensitive Areas; ESZs-Eco Sensitive Zones :**

23.1. **Details of Ecological Sensitivity :**

S. No.	Details of Ecological Sensitivity	Name	Distance from the Project (Km)	Remarks
(1.)	Critically Polluted Area	-	0	IB Valley which is 4 km away from the project site is falls under SPAs
(2.)	ESAs	-	0	NO ESAs within 10km
(3.)	WLS	-	0	WLS not falling within 10 km from the project site
(4.)	ESZs	-	0	Not within 10 km
(5.)	Corridors	-	0	Not within 10 km
(6.)	Wildlife Corridors	-	0	Not within 10 km
(7.)	NPA	-	0	NO NPA within 10km

23.2. **Details of Environmental Sensitivity :**

S. No.	Details of Environmental Sensitivity	Other Details of Environmental Sensitivity	Name	Distance from the Project (Km)	Remarks
(1.)	Others	RF	Patrapali RF	0.7	Not sensitivity
(2.)	Defence Installations		NIL	0	not within 10 km
(3.)	Forest		NIL	0	not within 10 km
(4.)	Archaeological Sites		NIL	0	not within 10 km

23.3.	(a)Whether Noc / Permission from the competent authority is required?	No
	(b)Whether NBWL recommendation is required?	No
24.	**Forest Land:**	
	Whether any Forest Land involved?	No

25.	**Tree Cutting:**	
	(a)No. of Trees Cut for the Project (if Forest Land not Involved)	0
	(b)Details of Tree Cutting and Planting of Trees	Not Applicable
26.	**Land Acquisition Status:**	
	(a)Acquired Land(Ha)	0
	(b)Land yet to be acquired(Ha)	585.58
	(c)Status of Land acquisition if not acquired	Section IV notification placed and some land acqui
27.	**Rehabilitation and Resettlement (R&R):**	
	(a)No. of Villages	6
	(b)No. of Households	512
	(c)No. of PDFs (Project Displaced Families)	291
	(d)No. of PAFs (Project Affected Families)	221
	(e)Funds Allocated for R&R(in INR) (in Lacs)	10000
	(f)Status of R&R	Yet To Start
28.	**Details of Presence of Schedule-I Species:**	
	(a)Whether there is Presence of Schedule-I Species ?	No
	(b)Whether conservation plan for Schedule-I Species has been prepared ?	No
	(c)Whether conservation plan for Schedule-I Species has been approved by competent authority ?	No
29.	**Details of Presence of Water Bodies in Core Area:**	
	(a)Whether there is Presence of Water Bodies in Core Area ?	Yes
	(i)Details of Water Bodies in Core Area	The Drain (D2) passes through the proposedash pond area of NLCIL and joins to Bhedan river.
	(b)Whether there is Diversion Required ?	Yes
	(i)Details of Diversion Required	The estimated peakrunoff in the drain for 50 year and 100 year return period are 55.5 m3/s and 61.3 m3/s. Bothunlined trapezoidal section with a side slope of 1.5:1 (H:V) and lined rectangular section
	(ii)Details of Study Conducted	Two alternatives for the drain D2 are analysed. Th
	(c)Whether permission has been obtained from competent authority ?	No
30.	**Details of Presence of Water Bodies in Buffer Area:**	
	(a)Whether there is Presence of Water Bodies in Buffer Area ?	Yes
	(i)Details of Water Bodies in Buffer Area	Bedhan river, IB river-3.8 km
	(ii)Direction of Water Bodies in Buffer Area	West
	(iii)Distance of Water Bodies in Buffer Area	0.5
31.	**Manpower Requirement:**	
	(a)Permanent Employment-During Construction	250
	(b)Permanent Employment-During Operation	700
	(c)Temporary Employment- During Construction	1500
	(d)Temporary Employment- During Operation	400
	(e)No. of working days	310
	(f)Total Manpower	2850
32.	**Green Belt in Ha:**	
	(a)Total Area of Green Belt	101.98
	(b)Percentage of Total Project Area	17.42
	(c)No. of Plants to be Planted	250000
	(d)Funds Allocated for Plantation	50000000
	(e)Uploaded Green Belt plan	Copy of Green Belt Plan

33. **Project Benefits**

S. No.	Type of Project Benefits	Details of Project Benefits
(1.)	Social	Infrastructure Development, Employment Generation.

34. CRZ Specific Details : Not Applicable

35. Sector Specific Details For Thermal Projects

S. No.	Item	Details
1.	**Specifications of Plant:**	
	(b) Technology Proposed	Supercritical
	(b) Plant Load Factor(%)	85
	(c) Station Heat Rate (Kcal/Kwh)	2163
	(d) Steam Rate/Flow Rate	2475
	(e) Boiler Temperature	603
	(f) Boiler Pressure	281
	(g) Type of Stack	Single flue
	(h) No. of Stacks	3

S. No.	Stack ID	Stack Height (m)	Stack Diameter at exit (m)	Exit Velocity of Stack Gas (m/s)	Exit Temperature of Stack Gas (Degree Celsius)
(1.)	1	150	8	20	130
(2.)	2	150	8	20	130
(3.)	3	150	8	20	130

2. **Details of Fuel Linkage**

S. No.	Type of Fuel	Type of Linkage	Other Type of Linkage	Details	Characteristics
(1.)	Coal	Captive		Source of Linkage : Talabria II &I II OCP Quantity of Linkage Granted : 11370000 Date of Linkage : 02 May 2016 Duration of Linkage : 25	Gross Calorific Value (Kcal/Kg) : 3400 Ash Content (%) : 45 Sulphur Content (%) : 0.33 Moisture (%) : 6.1 Mercury (mg/kg) : 0.03 Fixed Carbon (%) : 46.7 Volatile Matter (%) : 24.8

3. **Details of Transportation of Fuel**

S. No.	Fuel	Rail	Road	Pipe Conveyor	Conveyor Belt	Arial Ropeway	Other Mode of Transportation	Total Distance	Total Quantity
(1.)	Coal	Distance : Quantity :	Distance : Quantity :	Distance : 1 Quantity : 5685000	Distance : 1 Quantity : 5685000	Distance : Quantity :	Distance : Quantity :	2	11370000
TOTAL		**Distance : 0 Quantity : 0**	**Distance : 0 Quantity : 0**	**Distance : 1 Quantity : 5685000**	**Distance : 1 Quantity : 5685000**	**Distance : 0 Quantity : 0**	**Distance : 0 Quantity : 0**		

4.	**Details of Cooling System:**	
	(a) Type of Cooling System	Water Cooled
	(b) Type of Draft	Forced Draft
	(c) Type of Air Circulation	Counter Flow
	(d) Cycle of Cooling (COC)	5
	(e) Water Req. For Cooling (m3/day)	151200
	(f) Boiler Blow Down Temperature	50

S. No.	Item	Details
36.	**Details of Court Cases:**	
	(a)Whether there is any Court Cases pending against the project and/or land in which the project is proposed to be set up ?	No

37.	**Details of Direction Issued under Environment (Protection) Act / Air (Prevention & Control of Pollution)) Act / Water (Prevention & Control of Pollution) Act:**	
	(a)Whether any Direction issued under EPA Act/Air Act/Water Act ?	No
38.	**Details of EIA Consultant:**	
	(a)Have you hired Consultant for preparing document?	Yes
	(i)Accreditation No.	NABET/EIA/1619/RA0048/29.05.2017
	(ii)Name of the EIA Consultant	ABC Techno labs India Pvt Ltd
	(iii)Address	400 ABC Tower, SIDCO Industrial Estate, Ambattur
	(iv)Mobile No.	9194442600
	(v)Landline No.	0442625778
	(vi)Email Id	abc@abctechnolab.com
	(vii)Category of Accreditation	A
	(viii)Sector of Accreditation	Thermal Projects
	(ix)Validity of Accreditation	19 Apr 2020
	(x)Uploaded Certificate of Accreditation certified by QCI/NABET	Copy of Certificate of Accreditation
39.	**Documents to be Attached:**	
	(a)Uploaded Copy of EIA/EMP Report	Copy of EIA/EMP Copy of EIA/EMP(Annexures) Copy of EIA/EMP(Plans/Figures)
	(b)Uploaded Copy of Risk Assessment Report	Copy of Risk Assessment
	(c)Uploaded Copy of Feasibility Report/ Detailed Project Report(DPR) /Detailed Engineering Report /Detailed Conceptual Plan /Approved Mining Plan	Copy of Feasibility Report/ Detailed Project Report(DPR) /Detailed Engineering Report /Detailed Conceptual Plan /Approved Mining Plan
	(d)Uploaded Copy of Final Layout Plan	Copy of Final Layout Plan
	(e)Uploaded Cover Letter	Copy of Cover Letter
	(f)Uploaded Copy of documents in support of the competence/authority of the person making this application to make application on behalf of the User Agency	Copy of documents in support of the competence/authority of the person making this application to make application on behalf of the User Agency
	(g)Uploaded Additional File	NA
	(h)Uploaded Proposal Presentation (To be given in EAC meeting)	NA

Essential Detail Sought : NIL

Additional Detail Sought:

Sno.	ADS Letter	Remarks	Date of ADS
1.	ADS Reply Letter	ADS Reply for 1st EAC Agenda meeting On 28th April 2020	04 Nov 2020
2.	NA	**After detailed deliberations deferred the proposal for seeking clarification on issues as per para 1.3.4 .**	09 Aug 2020
3.	ADS Reply Letter	ADS Reply for 39th Agenda meeting at 10th April 2020	19 Jun 2020
4.	ADS Reply Letter	ADS Reply for 39th Agenda meeting at 10th April 2020	19 Jun 2020
5.	NA	**Committee after deliberations deferred the proposal for revising the EIA report based on the observations made by the EAC.**	01 May 2020

Undertaking

I hereby give undertaking that the data and information given in the application and enclosures are true to be best of my knowledge and belief. And I am aware that if any part of the data and information found to be false or misleading at any stage, the project will be rejected and clearance given, if any to the project will be revoked at our risk and cost. In addition to above, I hereby give undertaking that no activity/ construction/ expansion has since been taken up.

Name of Applicant	DEVENDRA PRATAP SINGH DPS
Designation	DEPUTY GENERAL MANAGER
Name of Company (Applicant Name should not be given here)	NLC INDIA LTD
Address	First Floor, No.08, Mayor sathyamoorthi Road, FSD,Egmore Complex of Food Corporation of India, Chetpet, Chennai

Annexure- R9

160

MINUTES OF THE 23RD MEETING OF THE RE-CONSTITUTED EXPERT APPRAISAL COMMITTEE (EAC) ON ENVIRONMENTAL IMPACT ASSESSMENT (EIA) OF THERMAL POWER PROJECTS HELD ON 7TH APRIL, 2022

The 23rd Meeting of the re-constituted EAC (Thermal Power) organized by the Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi was held on 7th April 2022 through video conference under the Chairmanship of Shri Gururaj P. Kundargi. The list of Members participated in the meeting is at **Annexure**.

Agenda Item No. 23.1:

Confirmation of the Minutes of the 22nd EAC meeting

The Minutes of the 22nd EAC (Thermal Power Project) meeting held on 14th March, 2022 were confirmed.

Agenda Item No. 23.2:

1x660MW Amarkantak Supercritical Thermal Power Project (Expansion) in place of existing Amarkantak Thermal Power Station (Phase – I &II: 290 MW) in area of 90.24ha, Chachai Village, District Anuppur, Madhya Pradesh by M/s M. P. Power Generating Company Ltd. – Environment Clearance (EC) – reg.

[Proposal No. IA/MP/THE/10749/2003; F. No. J-13012/07/2019-IA.I (T)]

23.2.1 The proposal is for grant of Environment Clearance (EC) to 1x660MW Amarkantak Supercritical Thermal Power Project (Expansion) in place of existing Amarkantak Thermal Power Station (Phase – I &II: 290 MW) in area of 90.24ha, Chachai Village, District Anuppur, Madhya Pradesh by M/s M.P. Power Generating Company Ltd.

23.2.2 The details of the project submitted by project proponent and ascertained from the document submitted are mentioned below:

i. M/s Madhya Pradesh Power Generating Company Limited (MPPGCL), proposes to set up a 1x660 MW coal based Supercritical Thermal Power Station (STPS) in place of retired units of (PH-I (1x20 MW + 1x30 MW) & PH-II (2x120 MW)) = 290 MW at Chachai village, Anuppur district, Madhya Pradesh.

ii. MPPGCL has retained M/S Ramky Enviro Services Private Limited (RESPL) as their environmental consultant. Technical details of the project are taken from Detailed Project Report (DPR) prepared by M/s Desein Private Limited, New Delhi.

iii. Terms of Reference (TOR) for undertaking detailed EIA Study in accordance with the provisions of the EIA notification by MoEF&CC vide its letter dated 10/10/2019.

iv. Dismantling of existing units, 4 units of PH-I & PH-II are already decommissioned and dismantling of 2 units (30MW + 20MW) of PH-I are completed. Dismantling of 2x120MW of PH-II is in progress as per Construction and Demolition Waste Management Rules 2016. The details of installed capacity and current status of the power plant are as follows:

Phase	Units	Size (MW)	Commissioning Date	Current Status
PH-I	Unit I	30	1965	Decommissioned on 01/04/2009
	Unit II	20	1965	Decommissioned on 01/04/2009
PH-II	Unit III	120	1977-78	Decommissioned on 13/01/2015
	Unit IV	120	1977-78	Decommissioned on 01/05/2014
Total		**290**		
PH- III	Unit V	**210**	09/09/2009	Operating (adjacent)

v. **Project Location:**

Proposed project is planned to be located within existing Amarkantak Thermal Power Station (ATPS) boundary after dismantling PH-I & PH-II units. In addition to the proposed project, 1x210 MW TPP is in operation from year 2009 within ATPS boundary. The project site is located near Chachai village, Anuppur district, Madhya Pradesh. Boundary coordinates of proposed plant and existing ash pond are given below:

ID	Latitude	Longitude	ID	Latitude	Longitude
Proposed plant coordinates:					
A	23° 09' 56.1" N	81° 38' 31.3" E	N	23° 09' 22.1" N	81° 38' 25.1" E
B	23° 09' 50.8" N	81° 38' 24.2" E	O	23° 09' 29.5" N	81° 38' 14.1" E
C	23° 09' 50.0" N	81° 38' 20.2" E	P	23° 09' 49.4" N	81° 38' 10.2" E
D	23° 09' 46.1" N	81° 38' 21.1" E	Q	23° 09' 48.9" N	81° 38' 06.9" E
E	23° 09' 40.7" N	81° 38' 25.3" E	R	23° 09' 52.7" N	81° 38' 06.1" E
F	23° 09' 41.6" N	81° 38' 33.1" E	S	23° 09' 50.8" N	81° 37' 55.9" E
G	23° 09' 44.5" N	81° 38' 42.8" E	T	23° 09' 57.8" N	81° 37' 53.7" E
H	23° 09' 33.9" N	81° 38' 45.8" E	U	23° 09' 58.4" N	81° 37' 57.3" E
I	23° 09' 32.6" N	81° 38' 39.6" E	V	23° 10' 01.1" N	81° 37' 56.6" E
J	23° 09' 30.4" N	81° 38' 38.5" E	W	23° 10' 05.1" N	81° 38' 17.8" E
K	23° 09' 28.5" N	81° 38' 35.1" E	X	23° 10' 06.5" N	81° 38' 17.0" E
L	23° 09' 27.3" N	81° 38' 35.7" E	Y	23° 10' 08.5" N	81° 38' 28.3" E
M	23° 09' 24.3" N	81° 38' 34.3" E			
Existing ash pond coordinates:					
A1	23°10'46.9"N	81°36'45.3"E	A5	23°10'29.6"N	81°37'11.8"E
A2	23°10'43.7"N	81°37'09.2"E	A6	23°10'32.2"N	81°36'54.8"E

A3	23°10'41.5"N	81°37'11.0"E	A7	23°10'35.8"N	81°36'54.4"E
A4	23°10'40.2"N	81°37'17.6"E	A8	23°10'38.2"N	81°36'41.8"E

vi. **Salient features of the project site:**

Particulars	Details
Location	Chachai village, Anuppur district, Madhya Pradesh (within the existing ATPS complex/ boundary)
Ground elevation	Elevation of proposed site is 477 m to 498 m above MSL.
Land details	223*acres (within ATPS site boundary)
Survey of India (SOI) Toposheet No.	10 km radius : F44D11 & F44D12 10 to 15 km radius : F44D08 & F44D16
Latitude & Longitude	23°9'22.1"N to 23°10'08.5"N & 81°37'53.7"E to 81°38'45.8"E
Nearest Habitation	Chachai village - adjacent (NE)
Nearest town	Amlai – 5.5 km (NW)
Nearest Railway Station	Amlai Railway station – 3.6 km (NW)
Nearest Highway	SH-9A 4.4 km (W), NH -43- 4.3 km(N)
Nearest Air Port	Jabalpur Airport - 160 km (W)
Nearest water body	Suthna reservoir (Chachai lake) – adjacent (E); Sone River: 1.8 km (E)
Reserved/Protected Forest	Burhar RF- Adjacent (N) Mauhar RF 4.8 km (E) Near Mauhari Village RF 5.2 km (S)Lakhanpur RF 6.9 km (S)
Nearest Wildlife Sanctuary / National Park	None
Nearest Historical Places	No archeologically important places exist within 10 km of the project site
Surrounding industries	1x210 MW Plant within ATPS boundary; Orient Paper mill, 3.8 km (NW)-Amlai
Seismicity Zone	Seismic Zone-III as per IS 1893 (Part-1): 2005
# All distances are aerial distances * Existing Ash pond (67.70 acres) outside plant boundary to be utilized for ash disposal	

vii. **Land requirement:**

Total land requirement for proposed plant is 223 acres. Land for main plant & equipment will be available after dismantling of PH-I & PH–II units within the ATPS site boundary. For

proposed plant, land requirement is about 0.34 acres / MW against 0.35 acres / MW as per Central Electrical Authority (CEA) guidelines September, 2010. Forest area of 6.171 Ha (15.249 Ac) exists within proposed plant area. ATPS has submitted online application for diversion of forest area under Forest (conservation) Act, 1980, in line with the ministry's Office Memorandum dated, 31/03/2011. There is no additional land acquisition and no R&R involved in the project.

The land area breakup of existing & proposed plant with greenbelt and existing ash pond is provided is as follows:

S. No	Description	1x660 MW (acres)	1x210 MW (acres)
A. Inside plant boundary			
	Plant area	146.6	109.9
	Green Belt	76.4	35.1
	Total	**223**	**145**
B. Outside plant boundary (Existing ash pond)			
	Pond -1	As per TOR existing ashpond shall be used	32.52
	Pond- 2		35.18
	Total		**67.70**
C. Existing green belt developed outside plant boundary			
	Green belt along theroad		21
	Total		**21**
Total Green belt developed for 1x210 MW plant (A+C)			**56.1**
Note: Additional Green Belt developed in colony is 62.3 acres			

viii. **Fuel requirement:**

Project is based on 100% domestic coal supplied by Sangma & Korba side of South Eastern Coalfields Limited (SECL) with a coal linkage/ LOA of Representative grade G11; Indicative grade G9-G14; Annual coal consumption @85% PLF 4279 TPA/ MW; Normative requirement of 2.542 MTPA @90% as per CEA norms.

Fuel transportation: Coal is transported to project site by Indian Railways & own rail system of MPPGCL. Support fuel LDO of about 2730 KL per year @ 0.5 ml/KWh is required for boiler start-up/support and for subsequent low load operations. Support fuel will be transported to plant handling area by road tankers or by railway wagons.

ix. **Water requirement:**

Consumptive water requirement of proposed plant is drawn by dedicated intake from Suthna

reservoir (Chachai Lake)/Sone River water to Suthna reservoir. Proposed plant has a water allocation of 5.15 Million Cubic Meters per year (MCM) by Water Resource Department (WRD), Bhopal.

Plant has envisaged installation of Air-Cooled Condenser (ACC) instead of conventional Water-Cooled Condenser (WCC) technology to save consumptive water. Use of ACC in place of WCC technology has following benefits:

- Cooling Tower (CT) water requirement is reduced from 80,000 m3 to 4,200 m3 achieving about 94.8% reduction in water requirement.
- CT make up water requirement is reduced from 1457 m3 / h to 95 m3 / h achieving about 93.5% reduction in daily water requirement.
- To further optimize water requirement air cooled condenser is envisaged in place of conventional condenser cooling water system. However, for Auxiliary cooling system Induced Draft Cooling Tower (IDCT) is provided. Cooling water will be pumped to Auxiliary cooling water circuit and thereafter shall be discharged into IDCT having a cooling range of 90oC/100oC maintain a minimum Cycle of Concentration (COC) at 5.
- Water requirement of the plant is reduced from 2.5 m3 / MWh to < 1 m3 / MWh

Water requirement of 1x210 MW plant is drawn from Suthna reservoir by dedicated intake. Average fresh water requirement of plant is about 726 m3 /h that is 3.46 m3 /MWh (about 3.5 m3 /MWh).

x. **Ash Handling System (AHS)**

Ash formed due to combustion of pulverized coal in the steam generator will be collected as bottom ash in the bottom ash hopper, coarse ash in economizer, Ash Handling Plant (AHP) and duct hoppers and dry fly ash in ESP and stack hoppers. Bottom ash will be collected in the water impounded bottom ash hopper and conveyed to ash slurry sump through jet pumps and shall be dumped in ash dyke. The dry fly ash collected in silos, shall be transported by rail and road to prospective users/ consumers. The unit has envisaged installation of ACC instead of conventional WCC to save consumptive water.

Ash utilization:

To achieve ash utilization of at least 50% of ash generated within 1 year, 70% within 2 years, 90% within 3 years and 100% within 4 years from commissioning of the units (as per MoEF&CC notification dated 3rd November, 2009) ATPS shall make:

- Identity prospective cement, brick & tiles manufactures and construction companies within 100 km radius and place allocation order for lifting fly ash from the project site.
- Initiate correspondence with all district collectors, concerned state and central government agencies to help enhance utilization of fly ash as per 2009 notification for purposes such as embankment of roads, various construction works etc.

- Initiate correspondence with all identified underground and opencast mines within 40 km radius for placing allocation order for bulk lifting of from the plant. Ash can be utilized as a stowing material.

xi. **Baseline Environment Status:**

Field investigations were undertaken in the study area for collecting existing baseline data during pre-monsoon season (April to June 2019). During field investigations existing baseline data for Land Use Land Cover (LULC), air, water, noise, soil, hydrogeological & geological, ecological and socio-economic conditions were collected.

a. Land Use Land Cover (LULC)

LULC features of study area was collected by analyzing Survey of India (SOI) topo sheets, satellite imageries supplied by NRSC and ground validation for interpretation of False Color Composite (FCC) imageries through site visits. Land use pattern of study area mainly falls under following categories: Built-up: 11.17%; Agriculture: 63.03%; Forest: 11.76%; Waste land: 10.53%; Water bodies: 3.27% and others: 0.24%.

b. Meteorology (Climate)

Metrological data is collected from nearest IMD station at Pendra road and also at project site with the help of automatic weather monitoring station. Predominant wind direction recorded during monitoring period is NNW to SSE followed by N to S with average wind speed of 2.1 m/s and calm condition recorded is 13.71 %.

c. Ambient Air Quality (AAQ):

AAQ was monitored at 11 locations within study area. Monitoring locations were identified w.r.t upwind; cross wind and downwind direction of project site. Air pollutants monitored are Particulate Matter (PM2.5 & PM10), Sulphur Dioxide (SO2), Oxides of Nitrogen (NOx), Ozone(O3), Carbon Monoxide (CO) and Mercury(Hg) as per MoEF&CC guidelines and results were compared with NAAQ 2009 CPCB standards. The PM10 concentration levels (98th Percentile) recorded are in range of 54.5 to 68.6 µg/m3 against a standard of 100 µg/m3. The PM2.5 concentration levels (98th Percentile) are in range of 34.9 to 45.9 µg/m3 against a standard of 60 µg/m3. Hence PM10 & PM2.5 concentration levels observed in study area are well within standards for industrial, residential, rural & other areas. The SO2 and NOx 24 hr concentration levels (98th Percentile) observed are in the range of 11.4 to 17.1 µg/m3 and 18.9 to 26.3 µg/m3 respectively against a standard of 80 µg/m3. The observed SO2 and NOx concentration levels in the study area are well within the standards for industrial, residential, rural and other areas. The NH3 concentration levels (98th Percentile) recorded are in the range of 15.9 to 24.4 µg/m3 against a standard of 400 µg/m3. The O3 concentration levels (98th Percentile) recorded are in the range of 16.4 to 40.2 µg/m3 against a standard of 100

µg/m3. The CO concentration levels (98th Percentile) recorded are in the range of 660 to 940 µg/m3 against a standard of 2000 µg/m3. The observed NH3, O3 and CO concentration levels in the study area are well within the standards for industrial, residential, rural and other areas. The Hg concentration levels recorded are below detectable levels (less than 0.001 µg/m3).

d. Noise monitoring

Noise levels were monitored at 10 locations within study area of project site. Locations were identified for assessment of existing noise level status (keeping in view land use pattern, Industrial: 4 nos.; Residential: 2 nos.; Commercial: 2 nos.; Silence: 2 nos.). Day equivalent noise levels for industrial area are in range 53.3 to 63.3 dB(A) against a standard of 75 dB(A); Commercial area is 53.9 to 56.1 dB(A) against a standard of 65 dB(A); Residential area is 53.8 to 53.9 dB(A) against a standard of 55 dB(A); Silence zone is 49.5 to 49.9 dB(A) against a standard of 50 dB(A). Night equivalent noise levels for Industrial area are in range 42.6 to 47.9 dB(A) against a standard of 70 dB(A); Commercial area is 43.3 to 43.4 dB(A) against a standard of 55 dB(A); Residential area is 42.5 to 43.9 dB(A) against a standard of 45 dB(A);

e. Traffic survey

Traffic survey was carried out at 2 locations (Approach road to ATPS entrance & near Amlai village to NH-43 (Kotma road)). Two roads are 2 lane 2 way road with 7 m width. At approach road to ATPS entrance the maximum hourly PCU's/ h of 224 was calculated during 9 a.m to 10 a.m. As per IRC guidelines, Level of Service of this road falls under category "B" (Very good performance). At NH-43 (Kotma road), the maximum hourly PCU's/ h of 358 was calculated during 10 a.m to 11 a.m. As per IRC guidelines Level of service of this road falls under category "B" (Very good performance)

f. Water quality monitoring

10 samples of ground water and 3 samples of surface water were collected from different sources and analyzed for all important physico-chemical and biological parameters to establish quality of water prevailing in the study area. Ground water samples were collected from hand pumps and bore wells. Surface water samples were collected from Chachai lake & Sone River (upstream and downstream).

Ground water samples: The pH values are in the range of 6.8 to 7.8 indicating values within acceptable limits; TDS levels between 214 mg/l to 762 mg/l indicating values within permissible limits; Chloride concentrations between 22 mg/l to 158 mg/l indicating values within acceptable limits; Hardness observed between 132 mg/l to 528 mg/l indicating values within permissible limits; Fluoride concentrations below 0.5 mg/l indicating values within acceptable limits. All the groundwater samples collected are within acceptable limits or permissible limits of IS 10500: 2012 Drinking Water

Specifications

Surface water sample: Physico-chemical parameters of surface water samples collected were analysed for comparing with water quality criteria standards of CPCB, updated on 11 Sep, 2017 to identify their designated best use. Characteristics of Chachai lake water samples collected are: pH values are in the range of 7.4 to 7.8; Electrical conductivity (EC) values are in the range of 295 (µS/cm) to 395 (µS/cm); Dissolved oxygen values are in the range of 4.2 mg/l to 4.9 mg/ l; BOD values are less than 3 mg/l; SAR values are in the range of 0.24 to 0.44; Boron values are less than 1 mg/l; Total coliform values are in the range of 140 to 350 (MPN/100ml). Designated-Best-Use of water is drinking water source after conventional treatment and disinfection (Class of water C). Water is also suitable for Propagation of Wild life and Fisheries (Class of water D) and Irrigation, Industrial Cooling, Controlled waste disposal (Class of water E).

Characteristics of Sone river (Location: upstream of plant) water samples collected are pH is 7.3; Electrical conductivity (EC) is 278 (µS/cm), Dissolved oxygen is 4.2 mg/l, BOD is <3 mg/l, Boron <0.1 mg/l and Total coliforms (MPN/100ml) is 140; Based on above values Designated-Best-Use of water is drinking water source after conventional treatment and disinfection (Class of water C). Water is also suitable for Propagation of Wild life and Fisheries (Class of water D) and Irrigation, Industrial Cooling, Controlled waste disposal (Class of water E).

Characteristics of Sone river (Location: downstream of plant) water samples collected are pH is 7.8; Electrical conductivity (EC) is 2220 (µS/cm), Dissolved oxygen is 2.8 mg/l, BOD is 18 mg/l, Boron <0.1 mg/l and Total coliforms (MPN/100ml) is 350; Based on above values Designated-Best-Use of water are suitable for Irrigation, Industrial Cooling, Controlled waste disposal (Class of water E).

g. Soil quality

Soil samples were collected from 10 locations within study area. Locations were selected to assess the existing soil conditions representing various land use conditions and geological features. The important physical &chemical parameter concentrations were determined and compared with Standards of Indian Council of Agriculture Research, New Delhi.

The pH values is in the range of 6.4 to 7.4 indicating all soil samples fall under normal category (Neutral pH range). Electrical conductivity values are in the range of 73 µS/cm to 211 µS/cm indicating all soil samples fall under normal category. Organic carbon values are in the range of 0.13 % to 2.30 %. Soil samples collected from barren land at Deori village and Chachai village have low organic carbon content, Anuppur village sample has medium organic carbon content and rest of the sample have high organic carbon content.

Other important nutrients known as major elements used for characterization of soil for irrigation are primary nutrients: Nitrogen, Phosphorus and Potassium popularly known as NPK and secondary nutrients are Calcium, Magnesium and Sulphur.

- Available Nitrogen value of soil samples range from 249 to 325 kg/ha. Six samples have low nitrogen content and the remaining four samples have medium nitrogen content.

- Available Phosphorus value of soil samples collected range from 10.8 to 24.6 kg/ha indicting all samples have medium phosphorus content.

- Available Potassium value of soil samples range from 60 to 161 kg/ha. Six samples have low potassium content and remaining four have medium potassium content.

NPK values of soil samples collected are in low to medium category indicating need for fertilizers with high NPK values for agriculture and horticulture activities

h. Ecological environment

A detailed analysis was done in the study area which includes compilation of secondary data from published literature of Forest Division and Primary data generation through systematic studies. Primary data was collected through visual observation of species. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves and Important Bird Areas (IBA) within study area. There are no reports of occurrence of any rare or endangered or endemic or threatened (REET) fauna in study area. None of species reported or recorded from the study area are placed in Schedule I of the Indian Wildlife (Protection) Act, 1972.

i. Socio-Economic environment

Total population in study area as per 2011 census study is 149076 people with sex ratio of 943. In study area 36.7% of people belong to scheduled category, of which 26.2% belongs to Scheduled Tribes (ST) and 10.5% to Scheduled Castes (SC). Main workers & marginal workers constitute 22.7 & 11% respectively. Most of villagers surveyed are benefited by government schemes and are aware of welfare schemes and programs of government. Youth in area are devoid of employment opportunities & are potential source of workforce.

xii. **Impacts during operation phase**

a. **Impact on air quality**

Major source of pollution are flue gas emissions from stack (Dust particulates, SO2 and NOX), fugitive dust emissions from coal handling & material transfer points, fly ash dust particles from ash silos & ash disposal area and fly ash vented out during the unloading of

fly ash from ESP hoppers to silos

GLC of air pollutants released from 100 m height stack were estimated using study state dispersion model based on Gaussian Plume (AERMOD Version 7.0.3) software. Emission rates from stack for PM, SO2 and NOx with ESP, FGD and Advanced combustion technology with low NOx burners shall be within 30 mg/Nm3 , 100 mg/Nm3 and 100 mg/Nm3 respectively. With the above values, it can be concluded that the flue gas emissions from stack are within the prescribed outlet emission standards.

With control measures result of dispersion modeling shows increase in maximum Ground Level Concentration (GLC) is expected at a distance of 1.3 km from the stack. The maximum predicted / estimated increment in GLC for PM is 0.42 µg/m3 , SO2 is 1.3 µg/m3 and NOx is 1.3 µg/m3 . The post project AAQ of PM, SO2 and NOx levels at monitoring station within in study area are within the NAAQ standards.
The proposed mitigation measures are:

- Dust suppression/extraction facilities will be provided to mitigate the dust generated at coal transfer points and coal stockyard.
- Dust collection system will be provided in coal bunkers to evacuate dust and hazardous gases like methane from the coal bunkers.
- To reduce the dust nuisance while loading the ash into the trucks from fly ash silos, the fly ash would be conditioned with water spray
- To control PM, SO2 and NOx in flue gas with the standards, ESP, FGD and Advanced combustion technology with low NOx burners will be provided.

b. **Impact on water quality**

Waste water generated from plant operations like DM plant, cooling system blow down, runoff from coal pile area, service water sections and clarifier sludge. Proposed wastewater management system shall essentially involve collection, treatment and re-circulation of wastewater generated by proposed plant. Wastewater generated within plant is transferred through pumps to proposed Effluent Treatment Plant (ETP) for treatment. The treated water is reused for ash slurry generation, greenbelt and dust suspension within the plant. Domestic wastewater generated within the proposed plant shall be treated at Sewage Treatment Plant (STP) of capacity 10 KLD located within the plant. Treated water from STP shall be reused for greenbelt development thereby maintains Zero Liquid Discharge (ZLD).

c. **Impact on noise levels**

Main noise generating areas within plant boundary are coal handing, boiler & turbine generator, cooling system, ID & FD Fans, ESP & FGD, ETP & STP, ash silos, diesel generator set etc. The noise levels generated in these areas varies from 65 to 100 dB (A).

By implementing proposed protective and mitigative measures the impact will be minimal and within Noise pollution rules, 2000.

d. **Solid and hazardous wastes**

Plant being coal-fired would generate coarse (bottom ash) & fly ash. Ash management plan will be developed for 100% utilization of fly ash (will be sent to needy vendors) within time period prescribed by MoEF&CC. The unused ash, till such time, would be disposed in the existing ash pond.

Sludge generated from oil storage tank will be collected & stored in a safe and covered place to be disposed as per CPCB/SPCB/Hazardous wastes rules. Used lube oil & used oil from transformer will be sold to authorized re-processor registered with SPCB/ CPCB.

e. **Occupational safety and health**

Major noise generating sources at the project will be provided with noise mitigation measures through proper design precautions wherever possible such as acoustic enclosures for turbine generators, silencers to other equipment etc. It is proposed that all major noise sources will be restricted to 85 dB (A) at 1.5 m distance. The noise generated during operation phase would be at source itself. Different measures such as inspection, operation & maintenance at regular intervals; lubrication etc. will be followed strictly to control the noise impacts on work force. The occupational noise exposure to workers in the form of 8 hourly times weighted average will be maintained well within Occupational Safety and Health Administration (OSHA) stipulated noise levels of up to 90 dB(A). Adequate environment pollution control measures will be implemented at proposed plant as per regulatory standards. The environmental management and emergency preparedness plans are proposed to ensure that the probability of undesired events and consequences are greatly reduced and adequate mitigation are proposed in case of an emergency. The overall impact on human health would be insignificant during operation of the plant.

xiii. **Environmental monitoring program**

Environmental monitoring is systematic collection of samples of environmental parameters like air, water, soil, noise etc. to observe and study environmental changes if any due to project activity. Monitoring program will help project to maintain standards as per conditions specified in Environmental Clearance (EC), CPCB and SPCB. Monitoring will be carried out by either in-house laboratory or third party MoEF&CC approved laboratory. Monitoring program also gives an action plan for how to maintain standards for each parameter. Results of monitoring will be reviewed, analyzed statistically and submitted to concerned authorities. For implementation of EMP and periodic monitoring, a well-organized Environmental Management Group (EMG) consisting of competent workforce headed by senior level executive has been established by proponent to deal with various environmental and ash

utilization aspects. The activities of EMP include- follow up with SPCB, regional office of MoEF&CC and CPCB as well as to interact with inter-disciplinary groups responsible for maintenance and operation of pollution control equipment. Plant level environmental protection measures like dust suppression, treatment and recycling of wastewater, plantation and noise control in the plant premises, housekeeping, implementation of EMP and EC conditions will be monitored by the plant authorities in accordance with compliance to EC/CTE/CTO.

xiv. **Air pollution control equipment**

Stack: For dispersion of pollutants, single stack of 100 m height with top diameter of 4 m (inner) & 4.5 m (outer) and bottom diameter of 8.5 m (inner) & 9.2 m (outer) will be provided. Stack will have elevator, staircase inside windshield and pollution measuring apparatuses.

Electrostatic Precipitator (ESP): ESP is proposed to reduce Particulate Matter (PM) emissions from stack. ESP will be designed to limit PM outlet emissions from stack to less than 30 mg/ Nm3 as per standards.

Flue Gas Desulfurization (FGD): To reduce Sulfur Dioxides (SO2) emissions from stack FGD is proposed. FGD will be designed to limit SO2 outlet emissions from stack to less than 100 mg/ Nm3 as per standards.

Selective Catalytic Reduction (SCR): Primary control measure to reduce Oxides of Nitrogen (NOx) emissions from stack by modification of boiler is proposed. It is also proposed to install SCR system to limit NOx outlet emissions from stack to less than 100 mg/ Nm3 as per standards.

Mercury (Hg) abatement as co-benefit of reduction of NOx, SO2 and dust: Average mercury content in coal found in India is about 0.272 ppm as per CPCB. A typical power plant emits 90% of its mercury into air and 10% to land. The main reason for such high rate of emissions is that mercury boils at operating temperatures of power plant. Mercury exists in three forms in coal fired thermal power plants flue gas:

- Particle bound Hg (P): this fraction is relativity easy to remove from flue gas by ESP
- Oxidized Hg (2+): is water soluble and therefore a relatively high percentage can be captured by wet FGD system
- Elemental Hg (O): proposed SCR will promote oxidation of Hg(O) to Hg (2+) and enhance Hg capture in downstream FGD

Dust control at CHP: Dust suppression/extraction facilities as detailed below will be provided to restrict dust generated at coal conveying area, transfer points, stockyard, crusher house and bunkers

- Dry fog type DS/plain water type DS system will be installed for dust control. For coal stockpiles, plain water spray system via sprinklers is envisaged. Mobile dust suppression system is envisaged for stacker cum declaimer machine.
- At crusher house & coal bunkers, dust extraction (dry type) system with bag filter units provided at transfer points of vibrating screening feeder/ crusher discharge points etc.
- Fresh dry filtered air supply system with exhaust system is envisaged for ventilation of underground tunnels/underground portion of transfer towers & reclaim hopper.

xv. **Public Hearing (PH)**

PH was conducted by MPPCB, Shahdol on 17th December, 2020 at 11:30 am at Govt. high school premises, gram panchayat Kelhouri, tehsil & district – Anuppur (about 2 Km from project site). Information regarding public hearing was published 30 days before the scheduled date in the national level/ local level newspapers Times of India Jabalpur edition and Raj Express respectively distributed in the Amarkantak Thermal Power Station area. In addition to this publicity was made through announcement via public loud speakers/banners.

In the public hearing on dated 17.12.2020, Additional collector (ADM) Shri Sarodhan Singh as the representative of Collector/District magistrate Anuppur and Shri Sanjeev Mehra Regional Officer, Regional Office, MPPCB, Shahdol were present on the public hearing panel. Representatives of industry management and resident citizens and media representatives of the proposed project area were present.

xvi. **Project benefits:**

Contribution of the power plant on local social infrastructure is expected to be significant. The proposed power plant will stimulate the growth of industrial and commercial activities in and around the district, by improving the availability of the power. This Project will provide a significant amount of direct and indirect employment opportunities to the local people with different skills and trades.

The physical infrastructure and socio-economic status of the surrounding areas will be benefited as follows:

- Improvement in existing road & rail connectivity, educational, housing, banking, postal, medical, communication and recreation facilities.
- Improvement in power supply, water supply and sanitation.
- Improvement in the socio-economic status.
- Improvement in economic conditions and recreation facilities
- Training will be given to local people to improve employment potential
- Increase in revenue to State from taxes & duties from development of local businesses

xvii. **Environmental management plan**

Environmental Management Plan (EMP) is required to ensure a sustainable development of plant and surrounding areas. EMP will be integrated in all major activities of the project with clearly defined policies to ensure that the ecological balance of area is maintained and adverse effects are minimized. EMP requires multi-disciplinary approach with mitigation, management, monitoring and institutional measures taken during implementation and operation phases to eliminate adverse impacts or reduce them to acceptable levels. The mitigation measures are planned for construction and operation phases and the overall management plan helps to improve the supportive capacity of the receiving bodies. The EMP aims to control pollution at the source level to the possible extent with the available and affordable technologies followed by the standard treatments before getting discharged. The recommended mitigation measures will synchronize the economic development of the study area with the environmental protection of the region.

Estimated cost towards environmental mitigation measures for 1x660 MW unit is given below:

Attribute	**Particulars**	**Cost (in Rs. Crores)**	
		Capital	**Recurring**
Air	Chimney and chimney elevator	16.50	39.03
	Electrostatic precipitators (ESP)	120.00	
	Flue-Gas Desulfurization (FGD)	231.00	
	Selective Nitrogen Catalytic Reduction (SNCR)	279.00	
	Dust extraction / dust suppression system	4.00	
Water	Raw water treatment – Clariflocculator & DM plant	15.00	2.94
	Cooling tower – ACC & aux. (Aux. CT) ACC: 21	21.00	
	Effluent Treatment Plant (ETP)	7.00	
	Drainage, sanitary , sewage system (STP)	5.00	
	Roof top rain water harvesting system	1.00	
Ash	Ash handling plant	55.00	3.90
	Ash water recycling	10.00	
Others	Pollution monitoring equipment	2.50	0.26
	Greenbelt development, afforestation, etc.	1.75	
	Total	**768.75**	**46.13**
EMP costs are indicative costs for proposed mitigative measures. They can vary based on quality, make & procurement process, year of finalization etc			

xviii. **Project Cost:**

Total estimate cost of the project is Rs. 4665.87 Crores and EMP cost (Capital Cost): Rs. 768.75 Crores

xix. **Employment:**

Manpower required for project during construction phase shall be mostly sourced from neighboring villages. During operation phase existing manpower of decommissioned units shall be employed. Additional requirement of about 150 people will be taken from neighboring villages. Details of manpower required during construction & operation period is as follows:

S. No	Phase	Number of Employees		
		Permanent	On-Contract	Total
1	Construction Phase	100	3000	3100
2	Operation Phase	200	200	400*
* Additional manpower requirement will be about 150 people out of 400 required				

xx. **Corporate Environmental Responsibility (CER)**

Proposed project is a brown field project. Fund for CER activities are provided as per MOEF&CC OM dated 30.09.2020. Cost are based on the concerns/request received during PH & interaction with local communities and shall update as suggested by EAC/ SEAC.

CER funds will be utilized over a period of three years. Proposed CER activities and budget allocation are given below:

Activities	Details	Frequency	Yearly allocation			Total amount
			1st	2nd	3rd	
Health checkups & Medical facilities	Health checkup at nearby villages & distribution of medicines to needy	Once a quarter in villages in core zone & needy villages in other zones	0.9	0.9	0.9	2.7
Rainwater harvesting pits	Technical & financial assistance for rain water harvesting pits in villages	Need based	0.5	0.5	0.5	1.5
Installation of hand pumps	Hand pump & community water filter units in nearby villages	Need based	0.5	0.5	0.5	1.5
Installation of solar lights	Solar street lights will be installed in project area villages	Need based	0.5	0.5	0.5	1.5
Infrastructure development	Modernization of class rooms,	Need based				

of schools	provision of potable drinking water and improving sanitation, distribution of school dress and stationary in local Government schools		0.8	0.8	0.9	2.5
Plantation drives	Identified blocks of degraded forests, schools and community building in the project area	Once in six months in project area	0.5	0.5	0.5	1.5
Construction of communitytoilets	A total of 5 toilets will be constructed for the community use in the needy villages	5 villages will be targeted in the project area. SBM-Rural funding of Rs. 65,000/- for each community toilet will be mobilized. O&M will be provided for first 3 years	0.5	0.5	0.5	1.5
Vocational education training program	Identified youth for nearby villages to be trained in job oriented courses	Half yearly one batch	0.5	0.5	0.5	1.5
Strengthening agriculture	Enhancement of infrastructure in local mandis / markets	Once in a quarter/ Need based	0.5	0.5	0.5	1.5
	Total	**5.2**	**5.2**	**5.3**	**15.7**	

23.2.3 The EAC during deliberations noted the following:

The EAC in the present meeting (23rd meeting) deliberated on the additional information submitted by PP and noted that proposal is for grant of Environment Clearance (EC) to 1x660MW Amarkantak Supercritical Thermal Power Project (Expansion) in place of existing Amarkantak Thermal Power Station (Phase – I & II: 290 MW) in area of 90.24ha, Chachai Village, District Anuppur, Madhya Pradesh by M/s M. P. Power Generating Company Ltd.

Further, the Member secretary informed to the EAC that EIA consultant appointed by the PP is M/s Ramky Enviro Services Private Limited which has been debarred by the MoEF&CC vide letter no. J-110015/72/2016-IA.II (M) dated 09th March, 2022. Therefore, consultant was not present for presenting the proposal.

It was noted by the EAC that through kml it has been observed that project boundary is encroaching the water body i.e. Chachai lake, it was not cleared by the PP that Chachai lake belongs to Government of Madhya Pradesh or PP. Further, water is allocated from M. P. Govt. is from Sone River.

Further it was noted that the legacy ash is 32 LMT in the existing ash pond. Also, ash utilization in 2020-21 was 64.81% and 2021-22 (Upto Jan 22) 37.97% has been achieved. Further, it was also noted that there is no periphery/ boundary plantation done. Bottom ash will be collected in the water impounded bottom ash hopper and conveyed to ash slurry sump through jet pumps and shall be dumped in ash dyke. The dry fly ash collected in silos, shall be transported by rail and road to prospective users/ consumers.

It was also noted that 6.171 ha forest land is to be acquired by the PP and approx. 580 trees would be cut down for Combined Heat and Power (CHP) Systems for proposed project in particular forest area. Accordingly, the EAC suggested PP to avoid forest area and located different location for CHP systems.

23.2.4 *The EAC after detailed deliberations on information submitted by the project proponent* ***deferred*** *the proposal seeking additional information from the project proponent:*

i. *Re-orient CHP system location to avoid forest area and felling of trees due to proposed expansion.*
ii. *PP need to submit document from the State Government stating that PP is not encroaching the lake area.*
iii. *Status of green belt across the periphery of the project boundary shall be provided (including video using drone and photographs), along with action plan for future plantation.*
iv. *MoU signed with State Water Resource Department is about supply of water to TPP from Son River; therefore, necessary clarification/permission about drawing of water from Chachai lake be submitted.*
v. *Time bound action plan along with the financial allocation for lake rejuvenation and proportion of tourism.*
vi. *Justification for observed non-compliance regarding use of coal with high Sulphur*

contents.

*The project was **deferred** on above points.*

Agenda Item No. 23.3:

Discussion on issues regarding location of Neyveli Lignite Corporation Limited (NLCIL) Thermal Power Project related to Appeal No. 02/2021 in the matter of Prafulla Samantaray vs Union of India & Others before Hon'ble National Green Tribunal, Kolkata – reg.

23.3.1 The Member Secretary informed the EAC that :

1. Ministry has granted Environmental Clearance to the 3x800 MW NLC Talabira Thermal Power Project (NTTPP) at Kumbhari &Tareikela Villages in Jharsuguda, Odisha by M/s NLC India Ltd vide letter dated 02.02.2021 under the provision of Environmental Impact Assessment Notification, 2006, as amended subject to compliance of certain environmental safeguards.
2. Further, Environmental Clearance dated 02.02.2021 was challenged under Appeal No. 02/2021 in the matter of Prafulla Samantaray vs Union of India & Others before Hon'ble National Green Tribunal, Kolkata.
3. During examination of the issues raised by the petitioner in the aforesaid appeal, the Ministry has observed the following:

   i. The project proponent vide proposal no. IA/OR/THE/67938/2017 applied for grant of EC wherein it informed under Form No. 2 at S.no. 23.1 regarding 'Details of Ecological Sensitivity' that "*IB Valley which is 4 km away from the project site falls under SPAs*".

   ii. The EAC during appraisal of the proposal in its meeting held on 10.04.2020 observed that *"Project is part of IB valley and Jharsuguda critically polluted area. The additional precautionary measures to be proposed to prevent pollution load in the region".*

   iii. Further, the EAC during its meeting held on 28.07.2020 mentioned that *"Polluted areas stipulated 40% greenbelt instead of 33%. As the project is in IB valley critically polluted area, the extent of the greenbelt needs to be increased in line with the OM".*

   iv. However, during the EAC meeting held on 17.11.2020, it was observed that *"After reducing the ash pond area from 340 acres to 175 acres, the total project area is about 1282 acres (1447 acres- 165 acres). The proponent had earlier proposed greenbelt development in an area of 252 acres. In line with the Ministry's OM dated 31.10.2019, greenbelt shall be developed in an area of 40% of the total project area instead of 33% as the project is located near Ib valley critically polluted area. As proposed, the additional area is to be acquired for meeting the* target of 40% greenbelt of the total project area.

   v. "The State Pollution Control Board (SPCB) and Central Pollution Control Board (CPCB), Odisha vide email dated 10.02.2022 and 24.02.2022 subsequently has

confirmed that M/s Neyveli Lignite Corporation Ltd. (NLCIL) fall in Jharsuguda Industrial area.

4. Keeping in view the aforementioned inconsistent statements, the Ministry has decided to relook the facts in this regard in consultation with EAC/CPCB/SPCB, so as to submit an appropriate factual position before the Hon'ble Tribunal against the concerns raised by the Appellant.
5. Along with the EAC members and project proponent (PP) following members were present during the discussion:

i.	Shri Bijaya Kumar Behera	Additional Chief Environmental Engineer, State Pollution Control Board, Odisha
ii.	Shri Ajay Aggarwal	Scientist F, Central Pollution Control Board

23.3.2 EAC during deliberation noted the following:

i. **Issue raised by the appellant in Appeal No. 02/2021:**

"ix. That the site of expansion of the Thermal Power Station i.e. Talabira area is already critically polluted and operation of the TPP in question would have detrimental environmental effects as emissions from industries, mines, vehicular emissions and transportation activities."

ii. **Background of the Case:**

a. The Project envisages construction of Thermal Power Plant namely, M/s Neyveli Lignite Corporation Limited (NLCIL) having capacity of 3X800 MW in the area of Talaibira which is located in Jharsuguda district of Odisha
b. The project in question was granted Terms of Reference (hereinafter referred to as "ToR") on 27.12.2017 for preparation of EIA and EMP Report. Thereafter, the project proponent submitted an online proposal on 19.02.2020 for a grant of EC. The said proposal for grant of EC was deliberated by the Expert Appraisal Committee (EAC) for Thermal Sector in its meetings held on 10.04.2020, 28.07.2020 & 17.11.2020.
c. The Ministry has granted Environmental Clearance to the project on 02.02.2021 as per the provision of Environmental Impact Assessment Notification, 2006 as amended subject to the strict compliance of the environmental safeguards provided in the above said environmental clearance.

iii. **Prayers made by the Petitioner:** That the present Appeal seeks to quash the Environmental Clearance (hereinafter referred to as 'EC') dated 02.02.2021 granted by the the MoEF&CC.

iv. Project Proponent (PP) informed the EAC that the project site is located in Jharsuguda Polluted Industrial Areas (PIA) which is near to IB valley PIA and the project boundary does not fall inside the IB valley PIA.

v. The Representative form SPCB, Odisha informed that earlier in the year 2020, the SPCB, Odisha vide letter no. 7393/IND-II-(Misc)-1792 dated 17.08.2020 communicated to CPCB that the location of IB valley PIA and Jharsugada PIA has been demarcated.

vi. Further, as per decision in the EAC the SPCB, Odisha vide letter no. 6021/Ind-II-Misc-1762 dated 08.04.2022 submitted the kml file showing the demarcation of Jharsuguda PIA and Ib Valley PIA. It was also informed that "Ib Valley and Jharsuguda area have been identified by the Ministry of Environment, Forest & Climate Change, Govt. of India as two separate polluted industrial areas vide Office Memorandum No. J-11013/5/2010-IA.II (I) dated 13.01.2010. Physically these two areas are adjoining to each other and is divided by river Ib. flowing from North to South. The area on the Western side of river Ib is the Ib Valley area, and the area on the Eastern side of the river is Jharsuguda area. At the time of notification in the year 2010, the CEPI Score of Ib Valley and Jharsuguda were 74 and 73.34 respectively. The last CEPI score monitoring was done by Central Pollution Control Board in the year 2018 and the score for Ib Valley and Jharsuguda were 66.35 and 35.02 respectively.

vii. The Representative form CPCB informed the EAC that the coordinates of the project location (as mentioned in EIA report) were sent to SPCB, Odisha to confirm the project location whether it is falling in Jharsuuda PIA or Ib Valley PIA. The SPCB, Odisha has confirmed that the project location is falling in Jharsuguda PIA. It was further informed that after fresh assessment done in the year 2018, the IB valley PIA falls under 'Severally Polluted Area' and Jharsuguda PIA is identified as 'Other Polluted Area' meaning thereby it falls neither under the category of 'Severely Polluted Area' nor in 'Critically Polluted Area'.

viii. It was noted by the EAC that when Terms of Reference was granted by MoEF&CC in 27th December, 2017 then Jharsuguda PIA was under 'Critically Polluted Area' Category as per assessment done of CEPI Score in 2008. However, at the time of consideration of the proposal for grant of EC, the CPCB has conducted fresh CEPI monitoring of Identified Polluted Areas across the country in year 2018 and according to that IB valley PIA falls under 'Severally Polluted Area' and Jharsuguda PIA is identified as 'Other Polluted Area'.

23.3.3 *The EAC after detailed deliberations, based on revised document of CEPI score in 2018 and demarcated area by SPCB, it is noted that project boundary of 3x800 MW NLC Talabira Thermal Power Project (NTTPP) at Kumbhari &Tareikela Villages in Jharsuguda, Odisha by M/s NLC India Ltd. is located in Jharsuguda PIA which is neither a Critically Polluted Area nor 'Severally Polluted Area'. The inconsistency in the statement regarding location of the project in the Minutes of meeting of EAC meetings dated 10.04.2020, 28.07.2020 and 17.11.2020 probably*

due to change in CEPI score at the time of consideration of proposal for grant of ToR and EC. Accordingly, the EAC accepted correction in minutes dated 10.04.2020, 28.07.2020 and 17.11.2020 related to location of the 3x800 MW NLC Talabira Thermal Power Project i.e. project is located in Jharsuguda PIA (identified as 'Other Polluted Area') as under:

1. *The words "Project is part of IB valley and Jharsuguda critically polluted area" in the Para 39.3.5 subpart (o) on page 10 of the MOM of the 39th EAC meeting (Thermal Power) meeting held on 10.04.2020 may be read as "Project is located in Jharsuguda PIA (identified as 'Other Polluted Area')".*

2. *The statement "Further, inlight of Ministry's OM dated 31.10.2019, the mechanism to deal with projects in Critically Polluted areas stipulated 40% greenbelt instead of 33%. As the project is in Ib valley critically polluted area, the extent of greenbelt needs to be increased in line with the OM." in the Para (1.3.4) subpart iv on page 16 of the MOM of the 1st EAC (Thermal Power) meeting held on 28.07.2020 may be read as "Although project is in Jharsuguda PIA (identified as 'Other Polluted Area') however, the area for green belt will be 40% of the total project cover area, in view of the eco-sensitivity of the project location."*

3. *The words "In line with the Ministry's OM dated 31.10.2019, greenbelt shall be developed in an area of 40% of total project area instead of 33% as the project is located near Ib valley critically polluted area." in the Para (4.3.4) subpart xi. on page 8 of the MOM of the 4th EAC (Thermal Power) meeting held on 17.11.2020 may be read as "Although project is in Jharsuguda PIA (identified as 'Other Polluted Area') however, the area for green belt will be 40% of the total project cover area, in view of the eco-sensitivity of the project location."*

Agenda Item No. 23.4:

Kudgi Super Thermal Power Plant Stage-I (3x800MW) in an area of 2440 acres located at Village Masuti and Telagi, Tehsil Basavana Bagevadi, District Vijayapura (Karnataka) by M/s NTPC – Reconsideration of Amendment in Environment Clearance (EC) – reg.

[Proposal No. IA/KA/THE/250015/2022; F. No. J-13012/06/2009 IA.II (T)

23.4.1 The proposal is for grant of amendment in Environmental Clearance (EC) to Kudgi Super Thermal Power Plant Stage-I (3x800MW) in an area of 2440 acres located at Village Masuti and Telagi, Tehsil Basavana Bagevadi, District Vijayapura (Karnataka) by M/s NTPC.

The amendments sought by the Project Proponent are as under:

i. Divergence of 390 acres land for development of Industrial park out of total 2440 acres land available with Kudgi Super Thermal Power Plant Stage-I (3x800MW) located at Village Masuti and Telagi, Tehsil Basavana Bagevadi, District Vijayapura (Karnataka) by M/s NTPC.

ii. Amendment sought in Specific condition no (xi) of EC letter no J-13012/06/2009-IA.II(T) dated 25.01.2012:

Specific condition no (xi): ""A stack of 275 m height with flue gas velocity not less than 22 m/s shall be installed and provided with **continuous online monitoring equipments for** SOx, NOx, and **$PM_{2.5}$ & PM_{10}** Mercury emissions from stack may also be monitored on periodic basis."

Amendment sought:
The words ".....*continuous online monitoring* equipments for SOx, NOx, and **$PM_{2.5}$ & PM_{10}**....." may be amended as ".....*continuous online monitoring* equipments for *SOx, NOx, and PM*... ...".

23.4.2 The proposal was earlier considered by reconstituted EAC in its 20th EAC meeting held on 28th January, 2022 and the proposal was deferred seeking additional information from Project Proponent (PP) on following points:

1. The land use change document issued by Government of Karnataka as submitted by the PP is for 390 acres area only for proposed industrial park; however, during presentation PP informed that 410 acres area will be diverted. The PP shall submit clarification in this regard. If the land area to be diverted is 410 acres necessary permission for change in land use from Govt. of Karnataka for the land area to be diverted, need to be submitted.

2. Status of green belt across the periphery of the project boundary shall be provided, along with action plan for future plantation.

3. Ash Utilization since operation of plant and 100% ash utilization plan for next 5 years along with timeline need to be submitted

23.4.3 PP submitted Point-wise replies by the vide letter dated 14th March, 2022 in response to additional details sought (ADS) by EAC in its 20th meeting are as follows:

Query 1: The land use change document issued by Government of Karnataka as submitted by the PP is for 390 acres area only for proposed industrial park; however, during presentation PP informed that 410 acres area will be diverted. The PP shall submit clarification in this regard. If the land area to be diverted is 410 acres necessary permission for change in land use from Govt. of Karnataka for the land area to be diverted, need to be submitted.

Reply: NTPC wish to confirm that the land requirement for development of Kudgi Industrial Park is 390 acres only. Govt. of Karnataka vide Order No.CI 320 SPI 2021(E), Bengaluru, dated

11.11.2021 has accorded in-principle approval to the investment proposal of M/s NTPC Limited to establish "Industrial Park for Energy Intensive Industries" in an area of 390 acres of land acquired and allotted by KIADB as SUC consisting of the following Survey Nos. 291, 286, 290, 289, 295, 292, 293, 296, 305, 306, 307, 308, 309, 310, 313, 314, 315, 329, 328, 330, 331, 340, 327, 340, 341, 342, 326, 325, 288, 287, 285, & 316 of Masuti Village and Survey Nos. 93, 94, 106, & 107 of Telagi Village, Kolhar Hobli, Basavana Bagewadi Taluk, Vijayapura District. It is requested that the above survey Nos. may be excluded from the Environmental Clearance (EC) of Kudgi STPP.

Query 2: Status of green belt across the periphery of the project boundary shall be provided, along with action plan for future plantation

Reply: NTPC Kudgi has been carrying out afforestation activities in designated greenbelt areas in Plant and Township through Karnataka Forest Department (KFD) of Govt. of Karnataka since year 2013-14 on MoU route. So far, cumulative tree plantation of more than 3,00,000 saplings has been completed up to the end of FY 2021-22 in the periphery of the project, inside the Main Plant and Township areas, avenue plantation along the internal and external roads, and other available land spaces in a total area of around 230 acres involving indigenous native plant species. Certain areas which are currently under use for laydown of material and assemblies in the main plant area are being progressively vacated for taking up the afforestation activities. Copy of the General Layout Plan (GLP) earmarked with greenbelt and afforestation areas in and around Main Plant and Township area has been submitted along with photographs related to the afforestation carried out till date. In addition to the above, a tree massive plantation of more than 500000 saplings (including maintenance for subsequent 5 years) has been carried out through KFD in the four divisions of Karnataka Forest Dept. namely Shivamogga, Sagar, Hunsur and Mandya forest divisions. It is submitted that the land for Kudgi STPP is mostly barren and rocky and therefore rasing the green belt is a challenging task and the growth of saplings is also slow. However, NTPC is making its best efforts to increase the green cover through State Forest Department, which is the best experts in the area.

Action Plan for Future Plantation:

NTPC Kudgi has also planned for carrying out afforestation activities other than NTPC and/ premises. In this line, KFD was approached for taking up plantation/ afforestation outside NTPC i.e. in external available forest/ govt. land in the Bijapur District. KFD has proposed to carry out a total of 50,000 saplings during FY2022-23 and FY2023-24 in reserved forest area (including Govt. C&D land) spread in an area of 125 acres. Proposal is under approval at NTPC for taking up the activity as planned.

Query 3: Ash Utilization since operation of plant and 100% ash utilization plan for next 5 years along with timeline need to be submitted

Reply: The financial year-wise ash utilization details of Kudgi Station up to Jan-2022 are as follows:

Period (FY)	Qty of Ash Gen. (LMT/Annum)	Qty of Ash Utilization (LMT/Annum)	Area-wise Break-up of Utilization (%)				Total Utilization (%)
			Cement	Brick	RMC	Others	
2017-18	7.14	3.58	94.67	3.16	2.18	-	50.05
2018-19	13.70	8.86	97.25	0.76	1.99	-	64.65
2019-20	8.93	8.97	77.88	17.00	2.72	2.84	100.45
2020-21	9.82	4.47	93.98	2.59	3.42	0.01	45.57*
2021-22 (up to 31st Jan 2022)	8.90	5.17	93.60	1.56	4.84	-	58.12*

** COVID-19 Pandemic/ Lockdowns/ Travel Restrictions.*

Action Plan for Ash Utilization:

NTPC Kudgi has tied up with end users i.e. 15 Cement manufacturing industries, 02 Ready Mix Concrete (RMC) units and ash based product manufacturers for the sale of dry fly ash. The dry fly ash is supplied through closed HCSD silos in the closed bulkers.

Proposed Ash Utilisation Plan

Period (FY)	Ash Gen. (LMT/Annum)	Ash Utilization (LMT/Annum)	Ash Utilization (%)
2022-23	47.17	37.74	80
2023-24	47.17	42.45	90
2024-25	47.17	47.17	100
2025-26	47.17	47.17	100
2026-27	47.17	47.17	100

Action Plan for Utilization of Pond Ash:

The un-utilized fly ash and bottom ash sent to ash dyke i.e. pond ash is being issued to the cement and brick manufacturing units. NTPC Kudgi has tied up with 02 Cement Industries and 02 Brick Manufacturing industries through E-auction for sale of about 5 LMT of pond ash up to Dec-2022.

The above plan has been prepared based on 100% PLF of the Station. However, keeping in view the current energy scenario of thermal power in India, the actual PLF is likely to be much

lower than 100%. Further, there is no coal based thermal power plant in the vicinity of Kudgi STPP. Therefore, the utilisation of ash from Kudgi STPP is likely to be high.

PP along with ADS reply vide letter no CC:ESE:9573:2022:GEN dated 14.03.2022 further requested to amend following specific condition no (xi) of EC letter no J 13012/06/2009-IA.II(T) dated 25.01.2012:

EC Condition	Stipulation in EC	Amendment Requested	Justification for amendment
Specific Condition No.(xi)	"A stack of 275 m height with flue gas velocity not less than 22 m/s shall be installed and provided with **continuous online monitoring equipments for** SOx, NOx, and **$PM_{2.5}$ & PM_{10}** Mercury emissions from stack may also be monitored on periodic basis."	The para "continuous online monitoring equipments for $PM_{2.5}$ & PM_{10} " may please be amended with "**continuous online monitoring equipment for PM stack emission**"	Instruments for online monitoring of $PM_{2.5}$ & PM_{10} in stack emissions are not available. The amendment of similar condition in EC for Tanda STPP, Stage-II, FGUTPP Stage-IV, Meja TPP, Darlipalli STPP and Gadarwara STPP based on the above justification was already accorded by MOEF&CC.

Justification by NTPC for amendment of condition:

1. NTPC has already deployed online continuous monitoring instruments for PM2.5 & PM10 in ambient air in Automatic Ambient Air Quality Stations near its projects. However, the instruments for online continuous monitoring instruments for PM2.5 & PM10 in stack emissions are not available and at present, total particulate matter (PM) is being monitored online.

2. NTPC contacted all Vendors/Manufacturers/Suppliers of stack monitoring instruments such as Chemtrols, Durag India, Envea, Adage etc. who have expressed their inability to provide such equipment and confirmed that currently there is no suitable product/equipment available worldwide for continuous online monitoring of PM2.5 & PM10 in stack emissions.

3. NTPC also published Expression of Interest (EOI) for supply of suitable

technology/equipment for online continuous monitoring of PM2.5 & PM10 in the Stack emission of Thermal Power Stations through various Indian and International newspapers/journals of different countries *viz. Germany, USA, Italy, France, UK, Singapore, Japan etc.* and also through NTPC Website: www.ntpctender.com

4. In view of above, the following facts are submitted:

   i. Instruments for online monitoring of PM2.5 & PM10 in stack emissions are not available, as mentioned in Para 2 and 3 above.

   ii. MOEF&CC notification dated 7th December 2015, published on new environmental norms for coal-based power plants does not specify any emission standards for PM2.5 & PM10 and includes emission limits for particulate matter (PM) as whole.

   iii. MOEF&CC O.M. dated 19th November 2018, published on new standardized EC conditions for coal-based power plants stipulates the online monitoring of particulate matter (PM) as whole.

   iv. The emission levels of particulate matter from the stacks of thermal power projects is of the order of 30 – 50 mg/Nm3, leading to an incremental ground level concentration of the order of 1-2 micro gram/ m3, which is extremely low as compared to National Ambient Air Quality Standards (60 micro gram/ m3).

   v. The amendment of similar condition in EC for Tanda STPP, Stage-II, FGUTPP Stage-IV, Meja TPP, Dalripali, Gadarwara STPP based on the above justification was already accorded by MOEF&CC.

23.4.3 The EAC during deliberations noted the following:

The EAC in the present meeting (23rd meeting) deliberated on the additional information submitted by PP and noted that land requirement for development of Kudgi Industrial Park is 390 acres has been approved by the Govt. of Karnataka vide Order No.CI 320 SPI 2021(E), Bengaluru, dated 11.11.2021. The EAC observed that survival rate of plantation done is more than 85% and the species which are not able to survive it is getting replaced by another species in every 3 years.

23.4.4 *The EAC after detailed deliberation on the information submitted and as presented during the meeting accepted the amendments as requested by the Project Proponent in Environmental Clearance to Kudgi Super Thermal Power Plant Stage-I (3x800MW) in an area of 2440 acres located at Village Masuti and Telagi, Tehsil Basavana Bagevadi, District Vijayapura (Karnataka) by M/s NTPC under the provisions of EIA Notification, 2006 and as amended therein subject to compliance of following additional conditions:*

i. Increase plantation area to 33% in periphery of the plant boundary.
ii. Improve the soil quality in consultation with reputed institute so that plants can be

survive in the region.

iii. *Three row plantation along the boundary of 390 acres of land proposed to be diverted for development of Industrial park. The plantation work will be completed prior to diversion of land.*

iv. *24x7 online Continuous monitoring system for ambient air quality parameters SOx, NOx and PM shall be established with connected server to CPCB and SPCB.*

v. *Other conditions of the EC letter dated 25.01.2012 shall remain unchanged.*

The meeting ended with vote of thanks to the Chair.

*****

ANNEXURE

ATTENDANCE

S. No	Name	Role	Attendance
1.	Shri Gururaj P. Kundargi	Chairman	P
2.	Shri SuramyaVora	Member	P
3.	Dr. Santosh Kumar	Member	P
4.	Shri K. B. Biswas	Member	P
5.	Dr. Nandini. N	Member	P
6.	Shri M. P. Singh	Member (Representative of CEA)	P
7.	Prof. S. S. Rai	Member Representative of IIT/ISM Dhanbad	P
8.	Representative from CPCB	Member	A
9.	Shri Yogendra Pal Singh	Member Secretary	P

Following members were present in the meeting for Agenda Item No. 23.3:

Discussion on issues regarding location of Neyveli Lignite Corporation Limited (NLCIL) Thermal Power Project related to Appeal No. 02/2021 in the matter of Prafulla Samantaray vs Union of India & Others before Hon'ble National Green Tribunal, Kolkata – reg.

1.	Shri Bijaya Kumar Behera	Additional Chief Environmental Engineer, State Pollution Control Board, Odisha
2.	Shri Ajay Aggarwal	Scientist F, Central Pollution Control Board

APPROVAL OF THE CHAIRMAN

Fwd: Draft MOM of the EAC (Thermal) meeting held on 07.04.2022 for perusal and comments-Reg
2 messages

Yogendra Pal Singh <yogendra78@nic.in>
To: geetdeepbisht <geetdeepbisht@gmail.com>

From: gpkundargi@gmail.com
To: "Yogendra Pal Singh" <yogendra78@nic.in>
Sent: Friday, April 22, 2022 3:34:59 PM
Subject: Re: Draft MOM of the EAC (Thermal) meeting held on 07.04.2022 for perusal and comments-Reg

Dear Yogendra ji
Draft minutes are in order & approved. Yoy may take further necessary action.
G P Kundargi

On Thu, 21 Apr, 2022, 12:04 pm Yogendra Pal Singh, <yogendra78@nic.in> wrote:
> Dear Sir,
>
> Please find attached the draft MOM of the EAC (Thermal) meeting held on 07.04.2022 for perusal and comments, if any.
>
> With Regards,
>
> **Yogendra Pal Singh**
> **Scientist 'E'**
> **M/o Environment, Forest and Climate Change**
> **Room No. 236, 2nd Floor, Vayu Wing**
> **Indira Paryavaran Bhawan**
> **Jor Bagh, New Delhi-110003**
> **Tele-fax: 011-20819364**