REPORT OF THE OVERSIGHT COMMITTEE, NGT, U.P, LUCKNOW

IN THE MATTER OF:-

ORIGINAL APPLICATION NO. 164/2018

ASHWANI KUMAR DUBEY

VERSUS

UNION OF INDIA & ORS.

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REPORT OF OVERSIGHT COMMITTEE IN COMPLIANCE WITH ORDER OF HON'BLE NATIONAL GREEN TRIBUNAL, PASSED IN O.A. NO. 164/2018 (EARLIER O. A. NO. 276/2013)
IN RE: ASHWANI KUMAR DUBEY VS. UNION OF INDIA & ORS.

I. INTRODUCTION

The Hon'ble National Green Tribunal in the matter of OA No. 164/2018 (earlier O.A. No. 276/2013 in re: *Ashwani Kumar Dubey Vs. Union of India &Ors.* has dealt with the issue of pollution being caused by Thermal Power Plants. The grievance of the applicant in the case was against pollution caused in District Singrauli in the State of Madhya Pradesh and District Sonbhadra in the State of Uttar Pradesh. The issue for consideration is that there are thermal power plants in the above districts and on account of their activities, acute pollution is caused resulting in continued destruction of environment. The industries are discharging mercury beyond prescribed norms affecting the nervous system causing disorders and other ailments to inhabitants. The mentioned areas are critically polluted as per the **'Comprehensive Environmental Pollution Index Report'.** According to the studies, fly ash stored by the industries creates high pollution. High pollution is also caused in the process of transportation of coal by the trucks from the coal companies.

Various issues as pointed out in the orders of Hon'ble National Green Tribunal orders dated 06.04.2018, 28.05.2018, 12.07.2018, 28.08.2018, 03.01.2019, 21.05.2019 and 05.11.2019 passed in OA No. 164/2018 in re: *Ashwani Kumar Dubey Vs. Union of India & Ors.* were discussed and status of the action taken by the concerned authorities in compliance of the orders reviewed.

II. ORDERS OF THE HON'BLE NGT IN O.A. NO. 164/2018 (EARLIER O. A. NO. 276/2013)

1. **Vide order dated 24.05.2016,** Hon'ble NGT sought a factual and action taken report from the Joint Committee comprising of MOEF & CC, CPCB, UPPCB and MPPCB with reference to the allegation that Thermal Power Stations operating in the Districts of Singrauli and Sonbhadra in the States of Madhya Pradesh and Uttar Pradesh being Northern Coalfields Limited (NCL) Singrauli; NCL Kakri Project, Kakri, Sonbhadra, U.P.; NCL Bina Project, Bina, Sonbhadra; NCL Krishnashila Project; NCL Khadia Project, Khadia, Sonbhadra; NCL Dudhichuwa Project, Khadia, Sonbhadra, U. P. were causing damage to the environment.

The violation of environmental norms resulted in damage to water bodies, including Rihand Reservoir. Surface and underground water was polluted affecting rivers like Son, Renu, Bijul, Kanhar, Gopad, Pankagan, Kathauta Kachan, etc. and streams/nalas like Ballia Nala, Chatka Nala, Kahuwa Nala, Tippa Jharia, Dongia Nala, etc. Water had been contaminated by toxic effluents discharged, chemicals and fly ash and was not fit for consumption.

2. **Vide order dated 28.05.2018,** Hon'ble NGT directed CPCB to serve Notice in O.A. No. 164 of 2018 which was registered upon the report filed by the Core Committee regarding monitoring of potential hazards of industrial development in Singrauli area in compliance to the directions as per order dated 06.12.2017 passed in O.A. No. 276 of 2013.

3. **Vide order dated 12.07.2018,** the report filed was registered as O.A. No. 164/2018 (earlier O.A. No. 276/2013). The Hon'ble NGT directed various polluting industries vide order dated 06.12.2017, to comply with the recommendations of the report of the Core Committee. Moreover, two Committees were directed to be constituted for the purpose. It was also directed that supply of potable water for drinking purpose should be ensured and online monitoring system be introduced.

Hon'ble NGT directed the Stone Crushers to shut down in absence of the valid consent. The operative part of the order dated 06.12.2017 was as follows:

> "*1. Hon'ble NGT accepts the interim report dated 07-07-2014 and final report dated 20-08-2015 filed by the Core Committee before the Tribunal as there are no objections raised by any of the stakeholders before us to the acceptance to the said reports. Consequently, we accept the reports.*
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> *2. Keeping in view of the facts and circumstances of the case, the Core Committee shall conduct a fresh inspection within four weeks from today and all the industries located in the area in question as well as localities around those industries. It will examine whether the recommendations made by the Core Committee already in its report dated 14-02-2014, 07-07-2014 and20-08-2015 have been implemented or not and how they need to be. If any stakeholders to be found deficient in compliance in taking action, what action should be taken against that industries or authorities or State Government for that default.*
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> *3. We hereby constitute two separate committees for appropriate implementation of the recommendations made by the Core Committee in their reports and these committees in their respective States shall be responsible for implementation of*

those directions without any further delay. The Committee shall consist of the followings in each States: -
i) Secretary Environment of the respective States
ii) Member Secretary of the Pollution Control Board of the concerned States
iii) District Magistrate of the concerned district who shall be conveners of the meeting.
iv) Zila Panchyat Adyayksh of the District in which the village falls inspection of which is being conducted by the Team.
v) Nominee of the Mayor in the case of urban areas.
vi) Senior Officer from the Coal Mine Department of the States

4. This Supervisory Committee shall perform dual functions. First, is with regard to supervision of the implementation and recommendations issued by the Core Committee. Secondly, would also suggest to the Core Committee such further steps that have to be taken in the interest of environment, ecology and public health.

5. The Supervisory Committee shall submit a monthly report of the Core Committee and the Core Committee in turn shall submit the report to the Tribunal every three months.

6. We direct that the Member Secretary of the respective State Pollution Control Boards, the District Magistrate of the concerned district and the Director/Partner/Executive Officer of the industry-thermal plant shall ensure that every village in the region of Singrauli region including coal mining area, every village is provided with an RO plant and if the population of the village so demands at least two or even more plants shall be provided in that village to ensure that residents of the village get potable water for drinking purposes at any cost. All the industries shall be liable to bear the cost in discharge of their corporate social responsibility as well as on the fact that the existing pollution is attributable to them in one way or the other. The Principle of polluter pays has to be invoked but we make it clear that at this stage we are not returning the findings that these industries are causing pollution, as of now. We will leave it to the inspection team to return their findings in that behalf with complete analysis report.

7. Since this region falls both in the State of Uttar Pradesh and in the State of Madhya Pradesh, both the State Pollution Control Boards along with the Department of Environment of the State Government shall fix on-line air monitoring system. They shall also ensure that water quality monitoring system is also provided wherever the water body or the river is there near to village/industrial complexes etc.

8. We further order and direct that Core Committee upon recommendations of the Supervisory Committee may consider and providing of further time for compliance or directions provided that it is shown that effective steps have already been taken by the industries and they are in the process of compliance of the directions may be like installation of ETP or any other anti- pollution devises that has been recommended or directed.

9. For installation of RO plant, land would be provided by the Government/Gram Panchayat and entire cost for installation or maintenance would be borne by the industries.

10. The Supervisory Committee would be at liberty to take input/advise or opinion of any authority or body including Director General of Mines Safety.

11. All the stone crushers which are operating in these regions without obtaining consent of the Board and permission from the competent authority shall be shut down without further notice. The stone crushers which are permitted to operate would also be responsible for installation of RO system at the place where there are number of stone crushers running and they would be guided by the same directions as we have afore recorded in the case of industries."

4. **Vide order dated 28.08.2018,** Hon'ble NGT constituted a Core Committee and four Sub-Committees. The **Core Committee was headed by Justice Rajes Kumar, a former Judge of the Allahabad High Court** and it was to prepare a time bound action plan to deal with the problem and monitor the hazards of industrial development in Singrauli area comprising of the representatives from different departments, viz:

(1) Central Pollution Control Board, Madhya Pradesh Pollution Control Board, Uttar Pradesh Pollution Control Board

(2) Director of Indian Agricultural Research Institute

(3) Director of Indian Council of Forestry Research and Education

(4) Director of National Institute of Hydrology

(5) Director of Indian Institute of Toxicology Research

(6) Dr. I. M Mishra, Chemical Engineering, Department, IIT Roorkee

(7) Dr. Vinod Tare, Professor Environmental Engineering, IIT Kanpur

(8) Dr. T. Chakrabarti, Visvesvaraya National Institute of Technology, Nagpur

(9) Prof. Kanchan Chopra, Institute of Economic Growth

(10) Nominee of Director, All India Institute of Medical Sciences

(11) Nominee of Director, National Institute of Occupational Health, Ahmedabad.

(12) Joint Director, EIA Division, Ministry of Environment and Forests.

(A) First Sub-committee for assessing the potential impact of pollution on water resources:

(i) Representative of the Central Ground Water Authority- having experience in Water Quality

(ii) Representative of the Ministry of Water Resources- having experience in Water Quality

(iii) Representative of State Irrigation Department- having experience in Water Quality

(iv) Representative of National Institute of Hydrology from Water Quality Laboratory

(B) Second Sub-Committee for assessing impact on land resources:

(i) Representative of Indian Institute of Toxicology Research, Lucknow.

(ii) Representative of Central Pollution Control Board, Madhya Pradesh State Pollution Control Board and Uttar Pradesh State Pollution Control Board not below the rank of Regional Officer.

(iii) An Expert of Soil Science from Indian Institute of Soil Science, Bhopal.

(iv) An Expert on Forest Soil from Indian Council of Forestry Research and Education, Dehradun.

(C) Third Sub-Committee to assess impact on air quality:

(i) Representative of the Central Pollution Control Board

(ii) Representative of the Madhya Pradesh Pollution Control Board

(iii) Representative of the Uttar Pradesh Pollution Control Board

(iv) An expert on Air Quality from National Environmental Engineering Research Institute, Nagpur.

(v) An expert on Air Quality from IIT, Kanpur.

(D) Fourth Sub-Committee to assess impact on health:

(i) Committee to have at least one Doctor each from Uttar Pradesh and Madhya Pradesh

(ii) One Social Scientist from each of the state and involve Panchayati Raj Institutions for collection of primary data.

The Committee (headed by Justice Rajes Kumar) submitted its report on 06.12.2017 to the Hon'ble NGT, but Hon'ble NGT directed the Committee for a fresh inspection. Two Supervisory Committees were constituted for implementation of recommendations of the

Core Committee Report. The two Supervisory Committees included the following members:

(i) Secretary Environment of the respective States

(ii) Member Secretary of the Pollution Control Board of the concerned States

(iii) District Magistrate of the concerned district who shall be conveners of the meeting.

(iv) Zila Panchyat Adhyaksh of the District in which the village falls inspection of which is being conducted by the Team.

(v) Nominee of the Mayor in the case of urban areas

(vi) Senior Officer from the Coal Mine Department of the States.

In the same order, the Supervisory Committees were directed to submit monthly report to the Core Committee and the Core Committee was required to submit the report to the Tribunal quarterly. Directions passed by Hon'ble Tribunal to the committee were as follows:

- To ensure that every village is provided with a RO plant and if necessary two or more plants so that every resident can get potable water for drinking (the cost to be borne by the industries).
- To fix on-line air monitoring systems as well as water quality monitoring systems. (Land was to be provided by the Government or the Gram Panchayat and the cost of installation or maintenance was to be borne by the industries)
- The stone crushers working without permission were directed to be closed down. They were permitted to operate with RO system and install the same wherever required.

Accordingly, a report dated Feb., 2018 was filed before the Hon'ble NGT on 03.04.2018 by the Core Committee headed by former Director, NEERI, Dr. Tapan Chakraborty and also comprising representatives of other expert bodies. The recommendations included installation of Ash Water Recycling System (AWRs) and Electrostatic Precipitators (ESPs) in the thermal power plants, renovation of ash dykes, better utilization of fly ash, safeguards in transportation and maintenance of pipelines. Further recommendations in reference with individual industries related to reduction of emission levels, regulating seepage of leachates from red mud dumps in the groundwater, proper operation of ETP, utilizing fly ash for back-filling the abandoned mines and pollution control measures to be taken by the stone crushers in the area.

It was also suggested that carrying capacity of region be assessed before any expansion of existing industries and also to have proper monitoring systems for air quality monitoring at appropriate locations. The District Administrations were advised to take measures to neutralize the adverse effect of coal transportation, to take steps for restoration of the Rihand reservoir, to take care of the demand for potable water and also to take steps to deal with the health issues of the inhabitants.

5. **Vide order dated 28.08.2018,** as per the above directions, the Hon'ble NGT constituted an Oversight Committee comprising the following:

a) Justice Rajes Kumar, Allahabad High Court and former Chairman of Debt Recovery Appellate Tribunal - Chairman

b) Representative of Central Pollution Control Board- Member.

c) A representative each from the Madhya Pradesh Pollution Control Board and Uttar Pradesh Pollution Control Board – Members.

d) District Magistrates of Districts Sonbhadra and Singrauli - Members.

The Committee was directed to take the following steps:

- Take stock of all actions taken so far
- Prepare time bound action plan to deal with the problem and ensure its implementation.

6. **Vide order dated 03.01.2019,** report dated 14.12.2018 was received from the Chairman of the Oversight Committee. The Committee gave the status of compliance of the recommendations of the Core Committee. It observed that-

- AWRs and ESPs were reported to be functional.
- Online Continuous Emission Monitoring Systems (OCEMS) were connected to the CPCB/SPCB servers.
- Three Continuous Ambient Air Quality Monitoring System (CAAQMS) were to be installed.
- Ash ponds were overflowing in the Rihand reservoir which was illegal.
- TPPs were advised to explore use of fly ash in road constructions.
- TPPs to supply fly ash free of cost or as per prescribed norms.
- Steps be taken to explore transportation by railway and until then precaution be taken in the transportation by road.

- Precautions were required in disposal of the red mud. Steps were required to be taken for achieving ZLD by M/s. Hindalco Industries Ltd. M/s. Aditya Birla Chemicals to maintain hazardous waste in safe manner.
- M/s. Northern Coalfields Limited to consider the issue of Gorbi mine for filling of fly ash. The conclusion of the Committee is as follows which was accepted by Hon'ble NGT:

"Conclusion: The Committee has deliberated all the issues with Private stake holders (Industries), Public Sector Units (TPPs, NCL), NGOs and local District Administrations. The status of outcome of meetings and field visits are tabulated above. Time line has been defined for compliance of each direction issued by Hon'ble NGT. The follow-up is needed by the Oversight Committee with stake holders through meetings and field visits for timely implementation of various directions."

The Oversight Committee was directed to continue to oversee the execution of directions of Hon'ble NGT. The Committee had suggested that there are other thermal power plants and stone crushers in other districts of the State of Uttar Pradesh where similar problems exist and where due attention is not being paid, including Bara Thermal Power, Allahabad; Meja Thermal Plant, Allahabad; Dadri Thermal Power Plant, Dadri District, Allahabad and stone crushers at Meja, District, Allahabad. Hon'ble NGT directed that the District Magistrates of the concerned districts will be the co-ordinators. The SPCB and CPCB have statutory powers to take remedial steps to check air and water pollution. Moreover, the units which had been found to be polluting were to take steps within the prescribed timelines and to ensure adherence to such timelines, the said units must furnish Performance Guarantees to the extent assessed by the Committee. The Performance Guarantee is furnished to the satisfaction of the CPCB.

7. **Vide order dated 21.05.2019,** the applicant referred to the observations of the Oversight Committee. The applicant while seeking permission to continue coal transportation made no mention about any mitigation measures and did not indicate the extent of coal to be transported.

8. **Vide order dated 19.07.2019,** Grasim Industries Limited (earlier Aditya Birla Chemical Industries Limited) filed **I.A. No. 155/2019** for modification of the order dated 28.08.2018, *inter alia* directing to shift the hazardous waste to the TSDF. According to the applicant it

generated hazardous waste in the course of its activities of manufacturing Caustic Soda which was stored in its premises since 2010. The waste had Mercury bearing brine sludge which was to be disposed of as per Rule 16 of the Hazardous Waste Management Rules, 2016. However, the waste continued to be stored in the premises.

Hon'ble NGT had constituted a Core Committee and Sub-Committees on 24.08.2014 to assess the potential impact of pollution and further action. The Core Committee gave its report on 03.04.2018 which was considered and accepted by the order dated 28.08.2018. In respect of the applicant, it was *inter-alia* observed:

> **"(*iii) M/s Aditya Birla Chemicals, Renukoot***
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> *a) Industry shall ensure proper operation of effluent treatment plant so as to ensure the compliance of the effluent discharge standard. The industry shall also ensure that no untreated/partially treated effluent finds its way in to the Nallah leading to the Rihand Reservoir. The channel leading to Rihand Reservoir has to be intercepted, diverted and treated within the industry. The nallah presently passing through the factory should be isolated so that the industry cannot discharge any treated/partially/treated/untreated effluent which is being done now.*
>
> *b)* ***There is also an urgent need for the preparation of an action plan by the industry to shift the mercury bearing brine sludge and the muck contaminated with chlorinated chemicals from the factory premises to the TSDF in consultation with the UP State Pollution Control Board.*** *It may be stated here that storage of hazardous mercury bearing brine sludge and the muck contaminated with chlorinated chemicals inside the premises is not permitted by the prevailing Hazardous Waste Management Rules, 2016 and, therefore, to be shifted to a suitable TSDF immediately."*

The Committee in its meeting dated 07.06.2019 considered the compliance of the said direction in respect of the applicant unit as follows:

> *"**Shifting of Mercury bearing brine sludge:***
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> *M/s Grasim Industries Ltd. is manufacturing Caustic Soda. Admittedly, in the manufacturing of Caustic Soda, Mercury was one of the items which were obtained as sludge in the process of the manufacturing. On the objection being raised, it is the case of the Company that they have completely changed the process of manufacturing of Caustic Soda, in which no Mercury is coming out as a bye product in the form of sludge since 2012.* ***However, admittedly a huge stock of the mercury bearing brine sludge/waste which was obtained as a bye product during the course of***

manufacturing prior to 2012, has been stored in the premises of the Company. Mercury is hazardous goods*. The Hon'ble NGT in its order dated28.08.2018 directed the industry to shift the mercury from the factory premises to TSDF immediately. The direction was as follows:*

"There is also an urgent need for the preparation of an action plan by the industry to shift the mercury bearing brine sludge and the muck contaminated with chlorinated chemicals from the factory premises to the TSDF in consultation with the UP State Pollution Control Board. It may be stated that storage of hazardous mercury bearing brine sludge and the muck permitted by the prevailing Hazardous Waste Management Rules, 2016 and, therefore, to be shifted to a suitable TSDF immediately".

Admittedly, the aforesaid direction has not been complied with. In some of the meetings, the Company requested time to take steps but subsequently its representative stated that they have stored the mercury sludge properly in a place. He further stated that it would be difficult to shift the mercury from the premises to the TSDF. He also stated that TSDF will also store mercury sludge in the same manner in which they have stored. Today, the representative of the Company stated that they have moved an Application before the Hon'ble NGT for the modification of the order dated 28.08.2018 and the said application is on the board for hearing on 19.07.2019. He requested that the matter may be taken up after 19th July, 2019.

It may be stated that in the meeting dated 23.11.2018 held by Oversight Committee the Company expressed their difficulty in shifting the mercury waste/ sludge from the premises to TSDF. The Committee categorically stated that they have no power to modify the order and the Company can approach the Hon'ble NGT for the modification of the order. It may be mentioned here that in the earlier meetings the R.O. Sonbhadra was directed to get the sample of the Dongia nallah and also find out the source of the water.

The sample of the Dongia nallah was analysed by the Central Pollution Control Board in their lab in which mercury was found. The mercury level was .0452 mg per litre while the permissible limit is .01 mg per litre as per the E/Rules 1986.In the ***survey report of Dongianullah*** *prepared by Shri Rajesh Singh, Scientific Assistant, Senior Engineer, Dr. S. C. Shukla Assistant Scientific Officer and submitted by Shri Radhey Shyam, R.O. Sonbhadra, it was reported that* ***the waste water discharge was found to be taking place from M/s Grasim Industries Ltd.***

The Committee was of the view that most probably the discharge of mercury in the Dongia- nullah may be from Grasim Industries wherein the mercury sludge is stored. The Committee observed that considering the facts and circumstances the Hon'ble NGT had categorically directed the industry to shift the mercury waste brine sludge from the premises to TSDF, Kanpur. The order of the Hon'ble NGT remained non-complied. The company was not able to show that Hon'ble NGT had modified its order and, in such circumstances, the Committee concluded that the Company had clearly violated the order of the Hon'ble NGT. Thus, it proposed to levy penalty/ compensation of rupees one crore which shall be subject to the approval by the Hon'ble NGT

9. **Vide order dated 17.10.2019,** I.A. No. 558/2019 was filed for taking up I.A. No. 384/2019 filed by M/s Hindalco Industries Limited, Renukoot on 30.04.2018 to the effect that the emission from boilers be reduced to the level of 50 mg/Nm3 from the existing norms of 150 mg/Nm3 by December 31, 2019, retrofitting of existing ESPs and also meet emission limit of SO2 & NOx notified for industrial boilers. The report prepared by an Expert Committee regarding the recommendations and objections raised by the applicant was duly accepted and considered by the Tribunal vide order dated 28.08.2018.

10. Vide Order dated 05.11.2019, Second report of the Committee dated 28.06.2019 was considered on 19.07.2019. The report recommended ban on manufacturing of red bricks by use of clay/soil and by burning of coal so that more fly ash in brick manufacturing could be utilized. This aspect was directed to be looked into by the MoEF&CC and the CPCB. The Committee was to give further report setting out recommendations cumulatively at one place. The Hon'ble NGT directed compliance of observations of the CPCB with reference to operation of STP, establishment of Peizometers and remote calibration as well as other deficiencies. CPCB was also directed to assess compensation for the damage to the environment.

11. The MPPCB and UPPCB filed reports dated 21.08.2019 and 23.08.2019. In *O.A. No. 453/2019*, a direction was sought for implementation of the reports on the issue of environmental compensation regarding **11 units in the State of Madhya Pradesh** and **10 units in the State of Uttar Pradesh**. The Hon'ble NGT also directed the SPCB to proceed in accordance with law to recover the compensation assessed.

12. The report was filed on 29.10.2019 by Justice Rajes Kumar dealing with the issue of management of fly ash by thermal power stations, the damage caused to Rihand reservoir which is a source of water for operation of thermal power plants, other industries and also for drinking purposes by the inhabitants. As per the observation, the capacity of the reservoir was reduced due to draining of effluents and fly ash which required desilting. Fly ash dykes of Essar Power were breached on 07.08.2019 and of NTPC on 06.10.2019. Slurry was flowing on the ground causing damage to the crops. Slurry also travelled upto Rihand reservoir. On an urgent basis, the Committee prepared its agenda on the subject as follows:

> *"Generation and storage of Fly-ash in Thermal Power Plants is becoming a great cause of concern affecting the environment. Due to the regular storage of Fly-ash in Flyash Dykes since long, affecting air pollution, has led the Ministry of Environment, Forest and Climate Change, Government of India to declare the Sonbhadra and Singrauli area as a most critically polluted area. No proper roadmap has been presented for its proper disposal by the Thermal Power Plants.*
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> *It has been noticed that in recent times there had been breach of Ash Dykes of two Thermal Power Plants in Singrauli district of Madhya Pradesh, which has resulted in discharge of Ash slurry to the river as well as to Rihand Reservoir adversely affecting their water quality. These Ash Dyke pertains to Thermal Power Plants (TPPs) namely M/s Essar Power Ltd and NTPC, Vindhya Nagar. This incidence is of serious concern and indicates improper and non-scientific design of Ash Dykes. The Oversight Committee constituted by Hon'ble NGT has taken this matter very seriously and also discussed in the previous meeting. In this regard, a meeting of the Committee is convened on October 22, 2019 at 11:00 AM in Circuit House at Prayagraj to discuss various issues related to handling of Ash and their disposal. The agenda of the meeting is as below: -*
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> *All Thermal Power Plants have to talk about the structural design of their Ash Dykes to prove that their Ash Dykes are proper and scientifically designed.*
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> 1. *To discuss with all the Thermal Power Plants about structural details of their Ash Dykes and their adequacy for handling of Fly Ash generated. Whether submitted the details of ash dykes to SPCBs and taken permissions from SPCB.*
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> 2. *All Thermal Power Plants have to talk about the structural design of their Ash Dykes to prove that their Ash Dykes are proper and scientifically designed.*

3. *Submission of affidavit by TPPs in compliance of decisions taken in the last meeting of Committee regarding adequacy of Fly Ash Dyke. The status will also be shared about the action taken by TPPs for third party assessment of Ash Dyke of their plants through expert institutions like NEERVIITs.*

4. *Thermal Power Plants may submit their roadmap for the future disposal of the stored Fly-Ash as well as the currently generated Fly-Ash.*

5. *What effort has been made to fill up the Fly-Ash in the abandoned Coal Mines and Stone Mines?*

6. *Whether any letter has been written to the Mine owners or to the concerned Authority in this regard, seeking permission in light of the discussion in the earlier meeting(s)?*

7. *To provide opinion about option of developing mounts of Ash Dyke as done by NTPC Thermal Power Plant, Dadri, where green cover has been developed by covering it with the top soil.*

8. *Submission of status by NTPC Vindhya Nagar about necessary clearance from Madhya Pradesh Pollution Control Board about Gorbi mines and disposal of Fly Ash.*

9. *Preparation of DPR for project of desilting the Rihand Reservoir and bearing of such expenditure by Thermal Power Plants of the area on polluter pay principle.*

All the Thermal Power Plants situated in the State of U.P. and M.P., Members of the Committee, District Magistrate of concerned districts may be informed to attend the meeting with relevant information as per Agenda."

13. **Vide order dated 05.11.2019**, the deliberations of the Committee were as following:

"Thermal Power Plants- Ash Utilization:

NTPC-Vindhyanagar*: Shri V.K. Maurya, Deputy General Manager (Civil Design) NTPC, New Delhi along with Shri Debashis Sen, Executive Director (Vindhyanagar) states that they could not comply the direction given by the Committee in the earlier meeting and could not submit the affidavit till today. They could not file any reply to the points raised in the Agenda of notice. However, Shri V.K. Maurya tried to explain that their Fly Ash Dyke was constructed in accordance to the norms and time to time, when the height of the Dyke was raised, the technical advices were also taken from the experts. However, no evidence in this regard has been produced before us. Despite asking from us that whether they have brought any reply to the points detailed in the agenda, Mr. Jain another officer states that they have everything. The periodical inspection has been made by the various internal department officers but he admitted that no assessment or report by third party agency has*

been obtained with regard to Fly Ash Dyke. Prima facie, the Committee is off the view that the officers of the NTPC are still not serious. They have not complied with the direction given by the Committee in the earlier meeting. The affidavit has not been filed. Recently, we came to know that there was a breach of Flyash Dyke on 06.10.2019 due to which huge quantity of fly ash slurry travelled along with the ground causing damage to crops and the fly ash travelled up to the Rihand Reservoir. If as per the version of Mr. Jain and Mr. Maurya everything was perfectly all right and time to time dykes have been checked why this incident happened. The incident itself shows that there was some deficiency in the construction of Fly Ash Dyke. The whole purpose for asking the affidavit in the earlier meeting was to get their dykes checked properly from the third-party experts inasmuch as these dykes were originally constructed much earlier, in the present case in the year 1981. Plant is notable to produce any roadmap for the disposal of the stocked Flyash and the currently generated Fly Ash. A continuous process of stocking the Fly Ash is going on, which is causing environmental effect every day. In this view of the matter, the Committee is of the view that the Plant is liable for the compensation/penalty for causing environmental damage everyday.

Later on, at the end, they have provided an affidavit. The averments made in the affidavit are vague and casual. The paragraphs are sworn on the 'personal knowledge' and not on the basis of documents. We are not satisfied with the averments made in the affidavit. Sri Jain submitted that sometime may be allowed to get the Fly Ash Dyke inspected by the third-party agencies. He prays and is allowed one month time to get the Fly Ash Dyke inspected by the third-party agencies like IIT or any other agencies, who are experts on the subject. He further submitted that he may be allowed a week's time thereafter to give the reply of each and every point of the agenda of the meeting.

***NTPC Shaktinagar**: Shri Debashish Chattopadhyay, Chief General Manager submitted an affidavit in respect of the Fly Ash Dyke. From perusal of the affidavit, it appears that the averments are vague and general in nature. The averments are sworn on the basis of personal knowledge and not on the basis of the documents. The Committee is not satisfied with the affidavit. Let the Plant may file a fresh affidavit after getting the report from the third-party technical agency. He further submitted that due to the breach of the Fly Ash Dyke of NTPC Vindhyanagar and on account of the heavy pressure, their recycled water pipeline has been damaged resulting overflow of the water from the Dyke. He fairly admitted that some quantity of the over-flown water is going to Rihand Reservoir. He, however, assured that within a week the recycled water pipeline will be repaired and they may also get the technical structural stability report about their Fly Ash Dyke from third party agencies namely IIT etc. He submitted that he will submit the Affidavit within a period of one month giving reply of each and every point raised in the agenda.*

***NTPC Rihand**: Shri Ranjan Kumar, G.M. NTPC Rihand submitted an affidavit. The averments made in the affidavit are vague and casual. The paragraphs are sworn on the 'personal knowledge' and not on the basis of documents. We are not satisfied with the averments made in the affidavit. He states that their Plant has already engaged IIT, Kanpur for the inspection and*

report in respect of the Fly Ash Dykes. The report may likely be obtained within one month. The Committee is of the view that let one opportunity may be given to the Plant to file a better affidavit along with the documents to demonstrate the action taken by the Plant in this regard and also the report of the third-party agency in regard to the structural stability of the Fly Ash Dykes.

Lanco Anpara & U.P. State Power Corporation Ltd.*: An affidavit has been submitted by the Anpara Thermal Project, a Unit of U.P. State Power Corporation Ltd. The affidavit is vague and general in nature. In support of the averments in the affidavit, no document has been annexed. There is no report of the third-party technical agency. They are directed to give a better and detailed affidavit. It is stated that they have only one Fly Ash Dyke in which their fly ash as well as the fly ash of Lanco are being drained. The maintenance of the said Fly Ash Dyke is the responsibility of the Anpara Thermal Project, U.P. State Power Corporation Ltd. In this way, so far as the construction, stability and maintenance of the Fly Ash Dyke is concerned, Lanco is not responsible. The entire responsibility is upon U.P. State Power Corporation Ltd. The officer of U.P. State Power Corporation Ltd. submitted a report of 2018 wherein the structural stability of the Fly Ash Dyke has been examined. In the said report, it is approved that their Fly Ash Dyke is suitable for further raising of height up to 5 meters. The copy of the said report has been submitted before us. The Committee is of the view that after raising the height, the Plant may get a further report in respect of structural stability in order to overrule any possibility of technical flaw. Shri A.K. Rai, Executive Engineer states that in the Fly Ash Dyke the rainy water of the catchment area also flows and in such a situation during the rainy season when the Fly Ash Dyke is full of water due to heavy rainfall etc. Sometimes the fly ash along with the water also flows to Rihand Reservoir. The Management of the Plant is very serious about this issue and has asked the District Administration to divert the Nala of the catchment area to somewhere to avoid any flow of fly ash in the Rihand Reservoir. The District Magistrate, Sonbhadra states that the Administration is very serious and taking all possible steps to get the Nala diverted. The work is likely to be completed within two months. Both Lanco and U.P. State Power Corporation Ltd. are directed to furnish their reply by filing a fresh affidavit in regard to each and every point of the agenda of the meeting.*

Hindalco Industries — Mahan Aluminium Project*: The Company is engaged in the manufacturing of Aluminium from Alumina and has a Power Plant of 900 MW capacity. It is submitted that they have 02 Fly Ash Dykes, one dyke has been completely filled to the capacity and the other is being used now. For the purposes of raising height of the Fly Ash Dykes they have engaged the BHU for technical advice and on the basis of the advice they will proceed further in the matter. The Committee is of the view that they may also get the report from the third-party agency about the initial structural stability of the two Flyash Dykes. The Company has submitted an affidavit. The averments in the affidavit are general in nature. They are also directed to file a fresh affidavit giving reply of each and every point raised in the agenda within one month.*

A consolidated Paper Book has been submitted in respect of all the Units. However, they have not submitted any Affidavit with regard to the Fly Ash Dykes and also the Certificate of the third-party agency who are the Technical expert. The officers of the Company pray for one month time to submit the affidavit and the certificate. They have also submitted a roadmap for the disposal of the Fly Ash. A perusal of the roadmap reveals that in comparison to the other Power Plants, their Unit-wise disposal is quite satisfactory.

However, they admit that even after more than 90% disposal, the stock of Fly Ash still remains and they are making efforts to dispose it by negotiating with the Cement Plants and approaching the Government for permission to fill the Fly Ash in the abandoned Mines. It is submitted that they are hopeful to achieve the target shortly. Let the Company may file the affidavit and the certificate in respect of the structural stability of the FlyAsh Dykes within one month.

***Obra Thermal Power Plant, Obra**: The representative of the Plant submitted an affidavit in pursuance of the direction given by the Committee in the earlier meeting. We have perused the affidavit. The manner in which the affidavit has been submitted is not acceptable. It is, in fact, not an affidavit and nothing has been stated properly, supported by any document, as required by the Committee. Let the Company may file a fresh affidavit stating that their Fly Ash Dykes are structurally stable and there is no possibility of any breach, and also annexing the certificate in respect of the structural stability of the Fly Ash Dykes from a third-party technical agency. The representative submitted that the Plant is raising the height of the Fly Ash Dykes after taking the advice from the IIT Roorkee. Committee directs that after the completion of the work, they will further get their Dykes inspected by the third-party technical agency, namely, NEERI to get the certificate that the Dyke is fully structurally stable and there is no possibility of any breach. He submitted that although, at present, the Fly Ash Dykes is not operational but the Plant has negotiated with the NHAI and also got allotment of abandoned mines from the concerned Authorities. After getting the N.O.C. from the Department, they will fill the Fly Ash in the abandoned mines. In this way, they will be able to dispose off sufficient quantity of the Fly Ash. Let the Company may file a fresh affidavit, supported by documents, stating their Fly Ash Dykes are structurally stable and technically sound and also submit reply of the issues raised in the agenda within one month.*

***Prayagraj Thermal Power Plant**: The representative states that although they have two Fly Ash Dykes but since their disposal of Fly Ash is at present 100%, there is no occasion to store the Fly Ash. The Plant is not facing any problem with regard to the Fly Ash Dyke. The Plant is, however, not operating in full capacity due to lack of coal in adequate quantity. Since their disposal of Fly Ash is to the nearby Industries, there may not be much problem of storage of fly ash in the Dykes.*

***Jaypee Bina Thermal Power Plant**: The representative of the Company filed an affidavit. We have perused the affidavit. Let the Company may file a fresh affidavit within one month enclosing the certificate from the third-party*

technical agency that their Fly Ash Dykes are structurally stable and there is no possibility of any breach. They may also submit the reply to each and every point of the agenda in the said affidavit.

***NTPC Meja**: The representative of the Plant stated that their Plant has been commissioned in the year 2019. After commissioning of the Plant, the production of the Plant has not been properly carried on initially, for the shortage of the coal and at present due to technical fault. The production may likely to start very soon. Therefore, they are not facing any problem relating to the Fly Ash.*

***NTPC Dadri**: The representative of the Plant states that there is no Fly Ash Dyke in their Plant. In the Plant premises, they have developed a huge Fly Ash Mount wherein they are directly sending dried fly ash from the Plant to the Fly Ash Mount through the pipeline. The permissible height of the Fly Ash Mount is 55 Meters. The Fly Ash Mount is full of trees which works as a binding of fly ash and avoids any damage during the rainy season. The creation of the Fly Ash Mount is a continuous process. There is no effect of Fly Ash effluents and affecting any air pollution and environment. On the contrary, due to heavy growth of plantation, which is about 2,00,000, over the Fly Ash Mount, the entire area is full of greenery and creates a better environment."*

In the above matter, the Committee observed that fly ash could be managed by developing a fly ash mound.

14. **Vide order dated 14.07.2020,** the Committee gave its reports including reports dated **14.12.2018 (Ist Report), 28.06.2019 (IInd Report), 21.08.2019 & 23.08.2019 (IIIrd Report) and 29.10.2019 (IVth Report).** The IVth report focused on the **damage to the Rihand Reservoir on account of breach of fly ash dykes of Essar Power and NTPC on 07.08.2019 and 06.10.2019 respectively.** Slurry travelled up to the reservoir giving rise to emergent situation and ultimately requiring remedial measures.

Hon'ble NGT directed CPCB to prepare an action plan for de-silting of the reservoir and improvement of the dykes. The issue of recovery of compensation was deferred to the extent that there was stay by the Hon'ble Supreme Court. In pursuance of the above, Hon'ble NGT considered the matter further in the light of following: -

I) Report of Justice Rajes Kumar dated 20.12.2019

II) Report of the CPCB dated 28.02.2020

III) Objections to the report by the Vindhyachal Super Thermal Power Station, R-10

IV) Comments to the observations of the OC report dated 20.12.2019 by the UPVUNL.

With regard to the NTPC, the Committee observed that on account of the breach of its ash dyke, the fly ash travelled up to the reservoir for which interim compensation of Rs. 10 Crore was liable to be deposited. NTPC was also required to take remedial measures. UPUVN was also found to be liable as follows:

> *"On the spot inspection, the Committee found that a large portion of Ash Dyke had been breached with the result huge quantity of fly ash had spread all over the land. It has travelled up to the Rihand reservoir. Prima facie, the interim environmental compensation demanded by the MPPCB at Rs. 10.00 Crore cannot be said to be excessive. The said amount ought to be deposited. We are of the view that the furnishing of bank guarantee of Rs. 1.00 Crore is not sufficient. MPPCB may issue the notice asking the Plant to deposit the entire Rs. 10.00 Crore. Bank guarantee cannot be said to be deposit, it can only be treated as the security.*
>
> *The committee is of the view that to strengthen the ash dyke the plant should consider developing RCC wall around the fly ash dyke. The structure should be of RCC having a layer of PVC, 4 tiles to ensure the stability of the dyke. At present the dyke is being made out of the fly ash putting boulder pitching outside wall and brick lining inside the dyke. The storage of fly ash is very important aspect in the context of Environment. Improper storage of fly ash results in air pollution and water pollution affecting the Environment.*
>
> *In the last meeting we have asked the thermal power plants to explore the possibility of developing the fly ash mount as has been developed by NTPC Dadri. Neither any interest has been shown in this regard nor has any step been taken to develop the fly ash mount. In the face of status stated above, we direct NTPC-Vindhyachal to be very sincere and implement the directions given by the committee and by the Hon'ble NGT in a shorter time."*
>
> ***UPVUN, Anpara:*** *On the information being received from the various sector that there is a continuous flow of the water carrying fly ash from two sides towards Rihand Reservoir since more than one year. On 15.12.2019 night at about 6:30 PM committee visited the spot and found that the information given is true. There is continuous flow of water coming from plant along with the fly ash filling in Rihand Reservoir. On a query being made that why this is happening, Shri Pratul Gupta, Senior Engineer states that this flow is not continuous, it is mainly during the rainy season and this happened because of fulfilment of the ash dyke therefore the water is overflowing. It also carries catchment water. It is stated that they are raising the height of the dyke which may likely to take one year at least. He further submitted that they are also developing another compartment which may likely to take six months and they*

are also making effort to divert the nala which carries natural water to reduce the quantity of water.

We do not find explanation satisfactory. The fact is that the water carrying fly ash are continuously flowing towards the Rihand Reservoir, the volume of the flowing water is very high and it carries fly ash, it is continuous since last more than one year. Discharge of fly ash to the Rihand Reservoir pollutes the water of reservoir which is the only source of water of the area. We find that the information about the flow of huge water along with fly ash had not been conveyed to SPCB authorities and they have deliberately concealed the facts. It is mentioned here that these two areas are in a very interior and we have to reach these places after travelling about 18 KM kaccha road through forest. ***Act of pollution amounts to violation of various laws and polluter is liable to be punished.*** *The committee is of the view that since the flow of water along with fly ash is continuous, and there is no possibility for its immediate stoppage. The only way to stop the flow is to close operation of the unit and their unit is liable to be closed until they make arrangements and ensure that no water with ashes may go to the Rihand Reservoir.* ***The committee is also of the view that they are liable for the environment compensation as well as cost of desilting of the ashes from the reservoir on the principle of polluter pay. The UPPCB is directed to assess environmental compensation and take all stringent actions under the provision provided in the various Acts."***

15. Report of the CPCB on the issue of de-silting and restoration of Rihand Reservoir refers to pre-existing guidelines of CPCB on **ash disposal in mounds and backfilling of ash in abandoned mines.** With regard to the cost apportionment for de-silting/restoration of Rihand Reservoir, the CPCB had concluded:

"In absence of verified records in these respects, an assessment of contribution of each plant by this approach is difficult. Therefore, ***the contribution of each power plant might also be revealed by the proposed study to assess sediment volume at various places in the reservoir.***
To begin with, the total ash slurry volume generated by each plant on the periphery of Rihand reservoir can be considered as the basis of sharing of the cost of the study to assess sediment volume at various places in the reservoir. For this purpose, the information on annual power generation and coal consumption, average ash content, and annual ash generation as well as annual ash slurry generation based on ash to water ration power plants and collated (Report of CPCB: Annexure-III). ***Total ash quantity and ash slurry volume generated over the years by individual thermal power plants located on the periphery of Rihand reservoir on the basis of information collected is presented below:***

Table 1

Thermal Power Plant	***Capacity (MW)***	***Total ash disposed in Ash Pond till 31.03.2019 (MMT)***	***Total ash slurry disposed in Ash Pond till 31.03.2019 (MMT)***	***Relative share in total Ash of plants (multiple of least)***	***Relative share in total Ash Slurry of plants (multiple of least)***	***Share in total Ash of plants (% of total)***	***Share in total Ash Slurry of plants (% of total)***
Anpara TPS UPRVUNL	*2630*	*81.313*	*569.225*	*31.7*	*66.3*	*22.9%*	*19.6%*
Lanco Anpara	1200	10.870	46.395	4.2	5.4	3.0%	1.6%
Renusagar, Hindalco	820	2.564	8.584	***1***	***1***	0.7%	0.3%
Singrauli NTPC	2000	89.295	803.654	34.8	93.6	25.1%	27.6%
Vindhyachal NTPC	4760	104.937	953.855	40.9	111.1	29.6%	32.8%
Rihand NTPC	3000	66.136	529.008	25.8	61.6	18.6%	18.2%
Total / combined	**12610**	**355.115**	**2910.801**	**138.4**	**339**	**100%**	**100%**

It is submitted that *U.P. Irrigation Department may be directed to coordinate the study to assess sediment volume at various places in the reservoir.*

It is further submitted that *Anpara TPS and Lanco-Anpara power plants may be directed to stop ash pond overflow discharge into Rihand reservoir."*

16. Some important recommendations by the Oversight Committee taking into account the inspection report by the joint Committee of the CPCB and the State PCB were as following:

1. M/s NTPC Shaktinagar to repair the AWRS dislodged pipeline within 07 days & to stop discharge of decant water of S1 & S2 dyke immediately by pumping in M/s NTPC Vindhnagar AWRS 03 system immediately.

2. M/s NTPC Vindhnagar shall collect back the spread over ash from 53 Ha area with minimal fugitive emission & dispose it in operating dyke. Unit shall submit the time bound action plan in this regard.

3. M/s NTPC Vindhnagar to stop the probable mixing of slurry in Rihand reservoir & Surya drain near decanting pond with no further delay.

4. M/s NTPC Vindhnagar may be asked to deposit 01 Crore to CPCB or MPPCB towards an interim environmental compensation w.r.t Aryavart Foundation v. M/s Vapi Green Enviro Ltd & Ors. Hon'ble NGT O.A 95/2018 orders dated 11.1.2019.

17. Hon'ble NGT considered the stand of the NTPC Vindhyachal Super Thermal Power Station as well as the UPUVNL. Hon'ble NGT noted that issue of compliance of Notification dated 31.12.2018 issued by the MoEF&CC requiring 100% utilization of fly ash vide order dated 12.02.2020 in OA No.117/2014, *Shantanu Sharma v. Union of India & Ors.* The directions of Hon'ble NGT were as follows:-

"a. The TPPs may take prompt steps for scientific disposal of fly ash in accordance with the statutory notification issued by the MoEF&CC under the provisions of EP Act requiring 100% utilization and disposal of fly ash.

b. For the non-compliant TPPs, environmental compensation needs to be determined w.e.f. the cut-off date of 31.12.2017 as stipulated in the Notification dated 27.01.2016. c. CPCB may accordingly compute and levy Environmental Compensation in accordance with the formula referred to above w.r.t. individual TPPs in accordance with law and submit compliance report to this Tribunal before the next date.

d. CPCB Guidelines of May 2019 for Utilization/Disposal of Fly ash for Reclamation of Low-Lying Areas and in Stowing/Back filling of Abandoned Mines/Quarries may be complied.

e. Task Force of Ministry of Power and Ministry of Coal may recommend list of abandoned mines/quarries for mine back filling purposes to the CPCB. CPCB may notify the same accordingly for use by the TPPs as per applicable guidelines and permission from State PCBs/PCCs.

f. A Committee comprising of CPCB and IIT Roorkee may assess the environmental damage with regard to the breach sites at Vidhyanchal TPP an Essar TPP in Singrauli area and submit its recommendation within three months. CPCB shall be at liberty to engage any other technical expert for this purpose.

g. The Committee comprising of Collector, CPCB and Member Secretary of MP State Pollution Control Board may assess the damage with regard to the breach sites at Vindhyachal TPP and Essar TPP in Singrauli area to the crop and agricultural productivity and ensure effective restoration/remediation of affective sites within three months.

h. CPCB may ensure implementation of action plans approved by it in accordance with timeline as provided in the statute.

i. A joint Committee comprising of MoEF&CC, CPCB, IIT Roorkee and any other member considered necessary may submit quarterly progress report on recommendations of Expert Committee of Niti Aayog for enhanced utilization of fly ash in various sectors: mines, roads, cement, industries and bricks etc., along with its implementation status.

j. The present order is subject to proceedings pending before the Hon'ble Supreme Court and where stay is operative, this order will not operate till stay continues and thereafter abide by orders of Hon'ble Supreme Court."

18. In view of the above, Hon'ble NGT **vide order dated 14.07.2020** directed the following:

i. Fly ash disposal may be undertaken as per the directions in the order of this Tribunal dated 12.02.2020.

ii. Fly ash disposal in mounds and backfilling of ash in abandoned mines may be undertaken as per the CPCB guidelines If necessary, Indian Bureau of Mines, Dhanbad may also be consulted so that latest technology is utilized and all necessary safeguards are adopted.

iii. Report of CPCB regarding Cost apportionment for desilting/restoration of Rihand Reservoir is accepted and further steps, including further study be undertaken as recommended by CPCB. The U.P Irrigation Department may coordinate such study.

iv. Anpara TPS and Lanco-Anpara power plants may stop ash pond overflow discharge into Rihand Reservoir to the extent the work remains unexecuted.

v. NTPC, Vindhyachal may deposit amount of Rs. 10 Crores as recommended by the Oversight Committee with the State PCB towards interim compensation, deducting the mount already deposited. The plant may also develop RCC wall around the plant in the matter recommended.

vi. The liability for environmental compensation in respect of UPVUN, Anpara and NTPC Vindhyachal may be assessed by joint Committee of CPCB and State PCB within two months. The nodal agency will be the State PCB for coordination and compliance.

vii. The transportation measures may be adopted as per suggestions of the Committee and directions of the Hon'ble Supreme Court.

III. THE GEO- COORDINATES OF DIFFERENT POWER PLANTS

(A) Geo Coordinates of A&B Power Plant, Anpara, Sonbhadra

Sl. No.	Latitude	Longitude	Remarks
1	24°12'30.69"	82°47'32.38"	Near BTPS Switchyard
2	24°12'32.26"	82°46'50.30"	In between Switchyard and Kashi more
3	24°12'30.08"	82°46'43.07"	Near Kashi more
4	24°12'4.57"	82°46'45.00"	Near Power house entry Gate
5	24°11'49.14"	82°46'42.81"	Near Urja dwar
6	24°11'42.79"	82°46'40.96"	Near Railway bridge
7	24°11'40.56"	82°46'44.30"	In between Railway bridge and Lanco track hopper
8	24°11'44.02"	82°47'34.91"	Near Lanco Track Hopper
9	24°11'38.62"	82°47'43.93"	In between Lanco track hopper and exit gate of MGR
10	24°11'34.79"	82°47'45.66"	In between Lanco track hopper and exit gate of MGR
11	24°11'39.57"	82°47'46.42"	In between Lanco track hopper and exit gate of MGR
12	24°11'29.69"	82°47'48.81"	Near exit gate of MGR
13	24°11'29.05"	82°47'47.25"	In between exit gate of MGR and Intake Channel
14	24°11'34.61"	82°47'51.66"	In between exit gate of MGR and Intake Channel
15	24°11'38.31"	82°47'52.26"	In between exit gate of MGR and Intake Channel
16	24°11'45.60"	82°47'81.31"	Near Intake Channel
17	24°11'49.66"	82°47'57.97"	In between Intake Channel and outer side auxiliary pond
18	24°11'47.54"	82°48'0.60"	In between Intake Channel and outer side auxiliary pond
19	24°11'49.09"	82°48'16.15"	Near outer side auxiliary pond
20	24°12'8.27"	82°48'13.81"	In between outer side auxiliary pond and BTPS Chimney
21	24°12'6.17"	82°47'34.59"	Near BTPS Chimney

(B) Geo Coordinates of "D" Power Plant, Anpara, Sonbhadra

Sl. No.	Latitude	Longitude	Remarks
1	24°12'8.34"	82°48'13.93"	Near Permanent WTP
2	24°11'58.69"	82°48'14.53"	In between Permanent WTP and Entry gate of DTPP
3	24°11'49.08"	82°48'16.34"	In between Permanent WTP and Entry gate of DTPP

4	24°11'47.21"	82°48'0.78"	In between Permanent WTP and Entry gate of DTPP
5	24°11'48.49"	82°48'14.09"	Near entry gate of DTPP
6	24°11'42.61"	82°48'1.87"	Near Intake channel
7	24°11'8.72"	82°48'22.05"	In between Intake channel and Track hopper DTPP
8	24°11'5.32"	82°48'27.10"	Near Track hopper DTPP
9	24°11'5.29"	82°48'33.75"	In between Track hopper DTPP and Admn Building
10	24°11'9.90"	82°48'41.95"	In between Track hopper DTPP and Admn Building
11	24°11'14.33"	82°48'43.46"	In between Track hopper DTPP and Admn Building
12	24°11'20.53"	82°48'43.51"	Near Admn Building
13	24°11'36.54"	82°48'48.15"	In between Admn Building and time office
14	24°11'47.17"	82°48'42.31"	In between Admn Building and time office
15	24°11'50.44"	82°48'48.90"	In between Admn Building and time office
16	24°12'0.14"	82°48'41.16"	Near time office
17	24°12'2.72"	82°48'35.65"	In between time office and Permanent WTP
18	24°12'4.65"	82°48'34.08"	In between time office and Permanent WTP
19	24°12'5.59"	82°48'23.15"	In between time office and Permanent WTP

(C) <u>Geo Coordinates of Residential Colony of Power Plant, Anpara, Sonbhadra</u>

Sl. No.	Latitude	Longitude	Remarks
1	24°12'29.71"	82°46'42.32"	Near Kashi more
2	24°12'26.77"	82°46'23.63"	In between Kashi more and Police Station
3	24°12'25.96"	82°46'12.66"	Near Police Station
4	24°12'30.54"	82°46'5.46"	Near Auri more
5	24°12'0.54"	82°45'58.54"	Near Shopping gate
6	24°11'41.11"	82°46'7.34"	Near Church
7	24°11'43.01"	82°46'14.77"	In between Church and market Railway bridge
8	24°11'39.59"	82°46'33.90"	In between Church and market Railway bridge
9	24°11'41.76"	82°46'40.05"	Near market Railway bridge
10	24°12'3.46"	82°46'44.27"	Near Anpara market gate

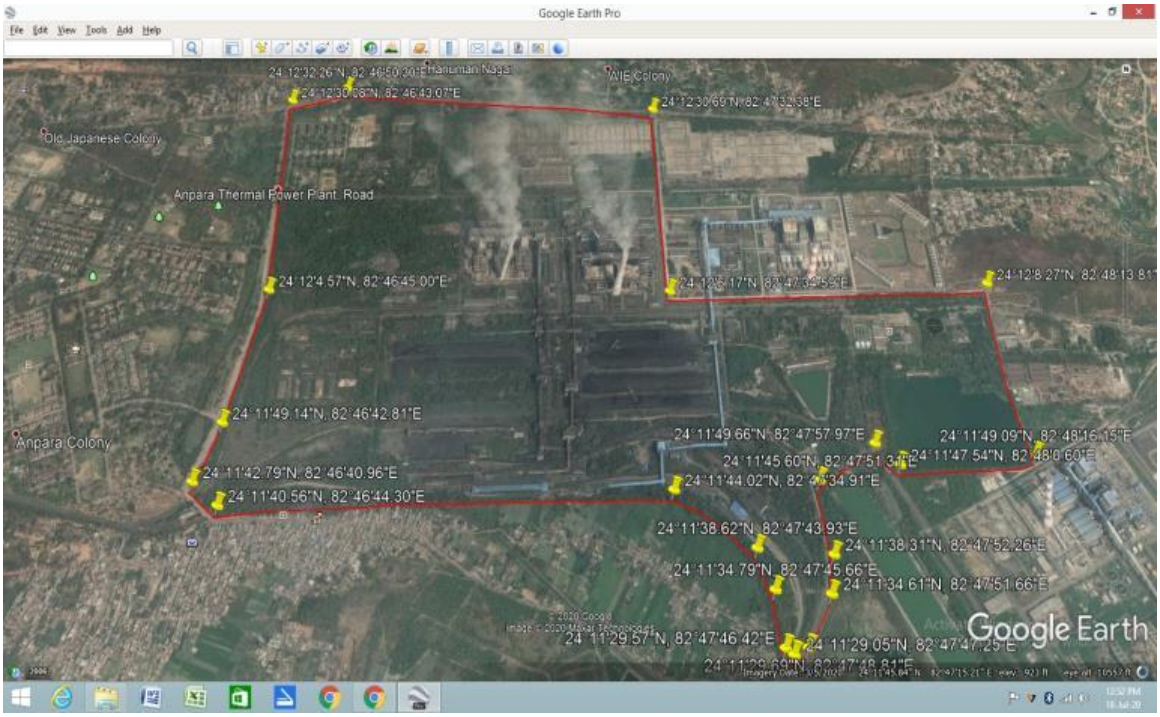

Fig-1: Map of Anpara- A & B Thermal Power Stations, Sonbhadra

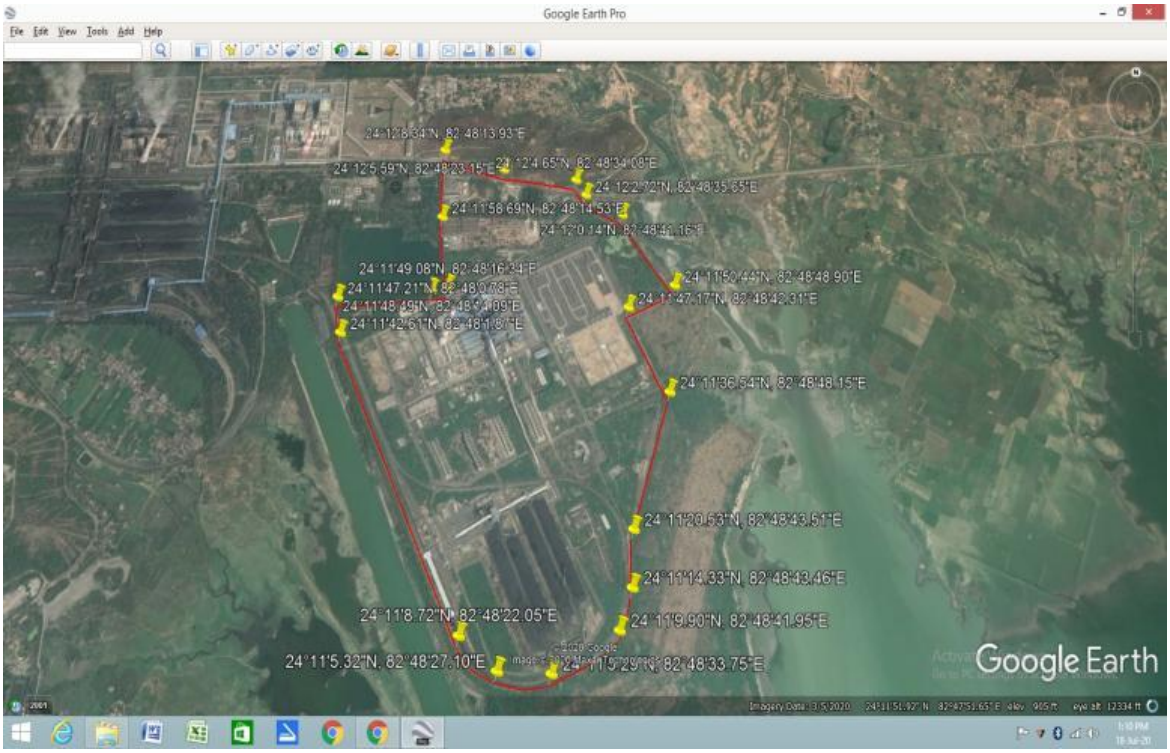

Fig-2: Map of Anpara- D Thermal Power Stations, Sonbhadra

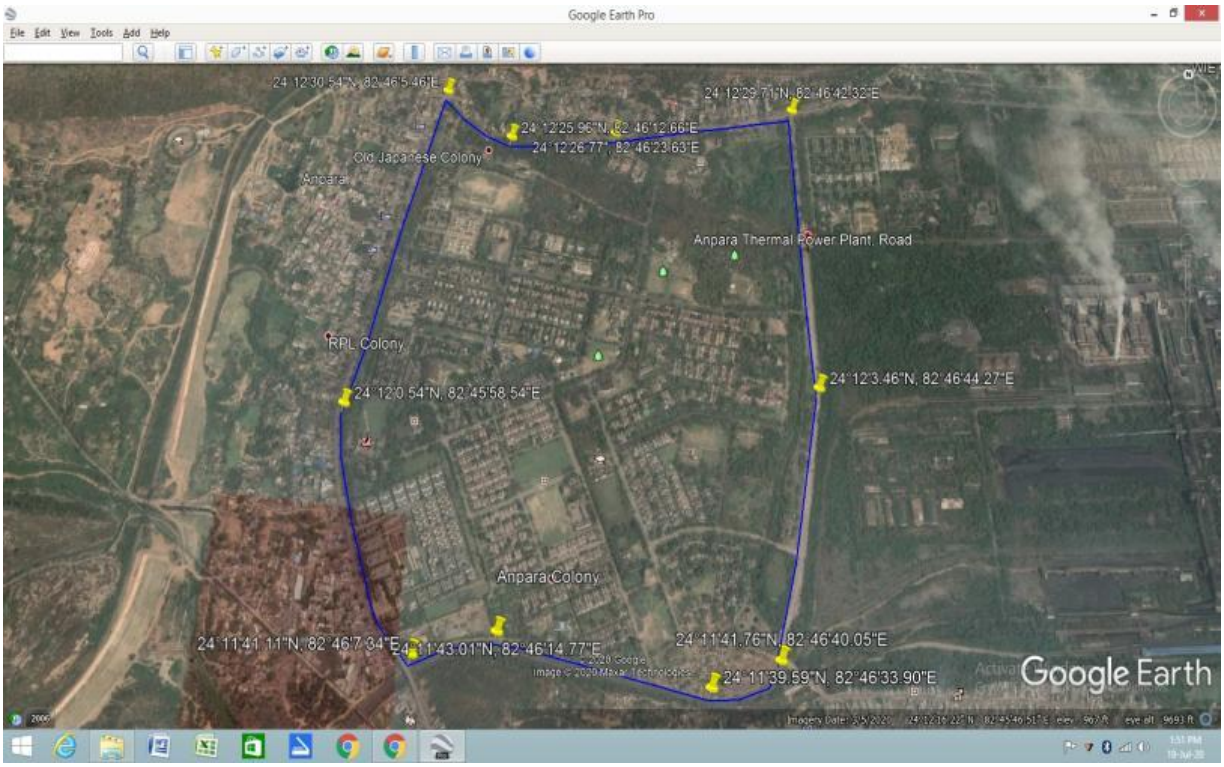

Fig-3: Map of Anpara Colony, Sonbhadra

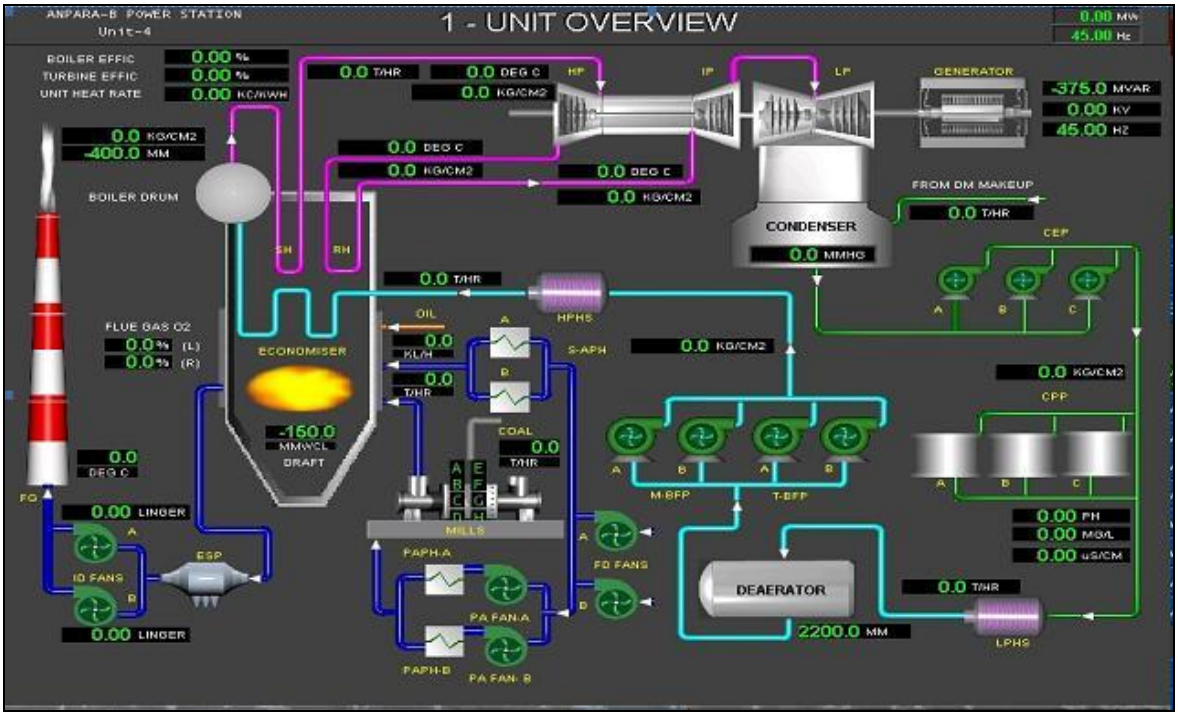

Fig-4: Flow Diagram of working Principle of Anpara- B-TPS

(D) Geo Coordinates of "Lanco" Power Plant, Anpara, Sonbhadra

Sl. No.	Latitude	Longitude	Remarks
1	24°12'30.68"	82°47'32.78"	Near Switchyard Lanco
2	24°12'6.33"	82°47'34.69"	Near WTP Lanco
3	24°12'8.23"	82°48'9.39"	Near Cooling Tower

4	24°12'22.03"	82°48'8.38"	Near Cooling Tower
5	24°12'21.38"	82°47'57.48"	Near Cooling Tower
6	24°12'28.82"	82°48'1.46"	Near entry gate of Lanco Power house
7	24°12'31.49"	82°48'1.21"	Near entry gate of Lanco Power house

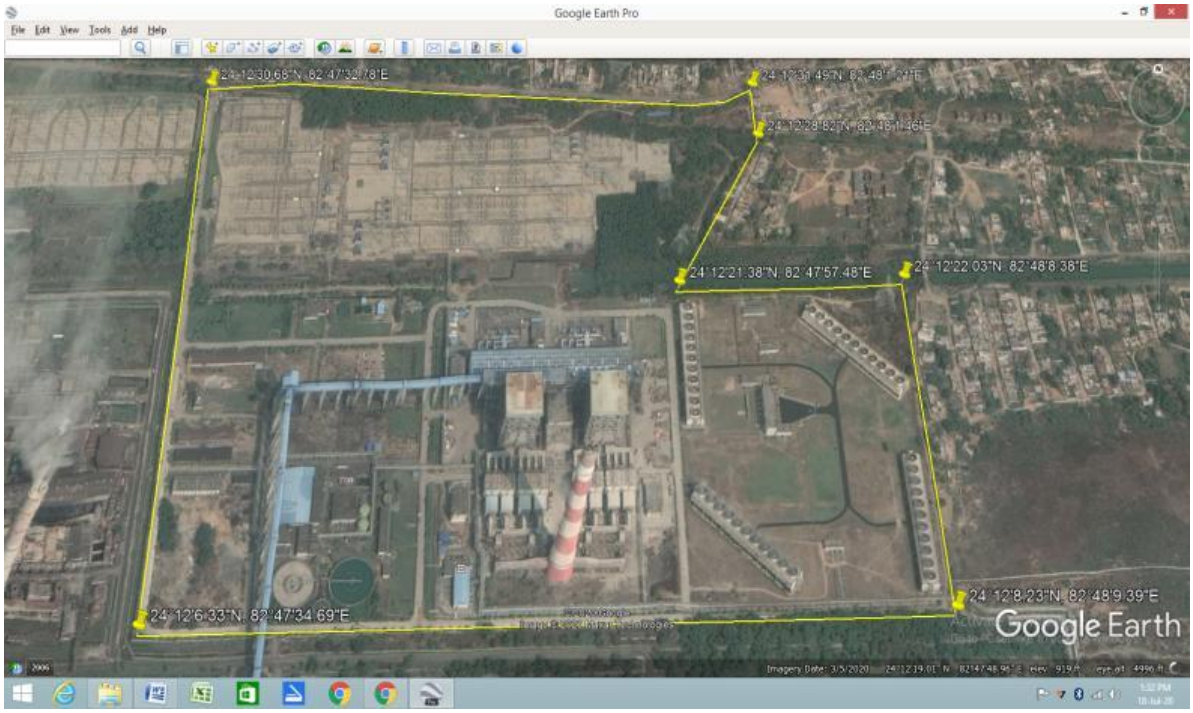

Fig-5: Map of Lanco-Anpara Thermal Power Station, Sonbhadra

(E) Geo Coordinates of Hindalco Industries Ltd., Renusagar (Power Division)

1	Longitude	82º 47'05" E to 82º 47'25" E
2	Latitude	24º 10'41" N to 24º 11' 06" N

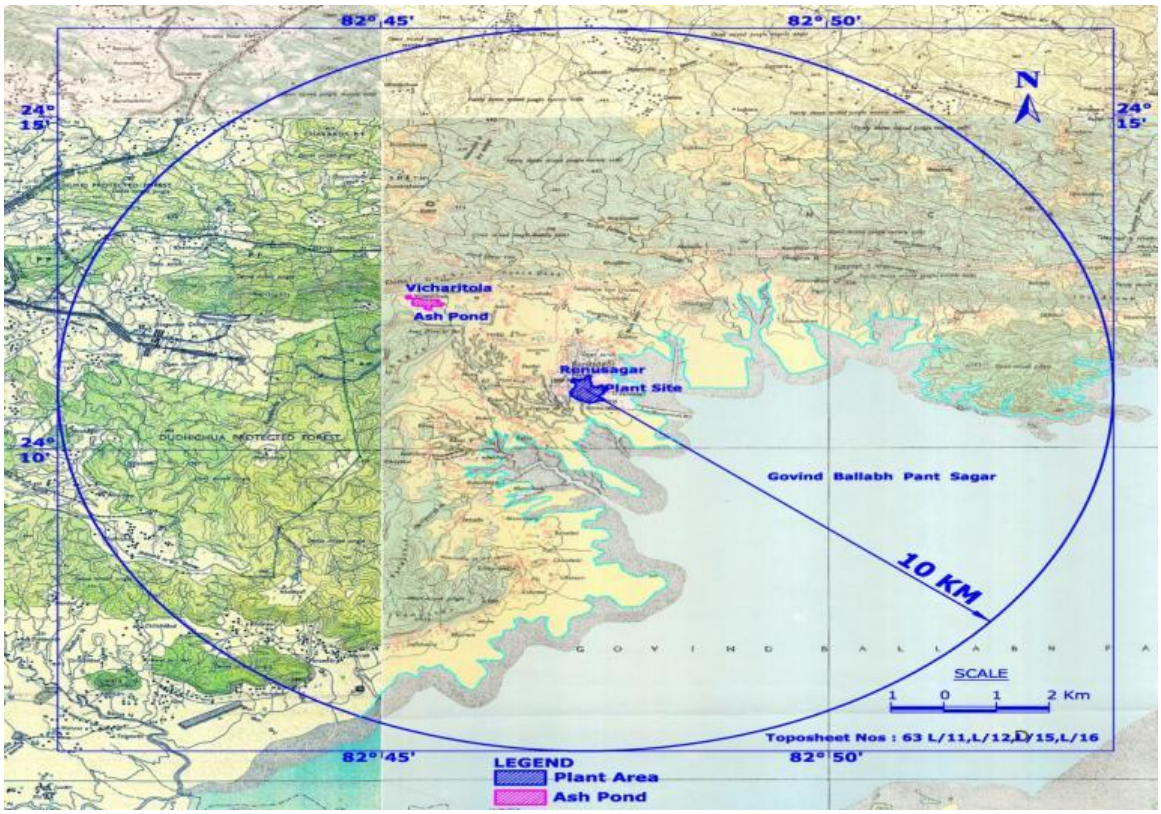

Fig-6: 10 km radius map of Hindalco Industries Ltd., Renusagar (Power Division)

(F) Geo Coordinates of Hindalco Industries Ltd., Renukoot

1	Longitude	83.032263º E
2	Latitude	24.220725º N

Fig-7: Location Map of Hindalco Industries Ltd., Renukoot

IV. MINUTES OF THE MEETING IN OA NO. 164/2018

A) Various issues and directions were discussed in orders of the Hon'ble NGT under **Chairmanship of Hon'ble Justice (Retd.) Shri Rajes Kumar, Allahabad High Court** held at Circuit House, Prayagraj in Compliance of Hon'ble NGT order dated 28.08.2018 in O.A. No. 164/2018 in re: *Ashwani Kumar Dubey Vs. Union of India and others* on **31.01.2019 (Appendix- I); 15.03.2019 (Appendix- II); 29.03.2019 (Appendix- III); 12.09.2019 (Appendix-IV) & 08.01.2020 (Appendix- V).**

B) A **brief report dated 02.02.2020** was received from UPPCB. The report details out the minutes of meetings on 25.10.2018; 23.11.2018; 27.12.2018; 31.01.2019; 01.03.2019; 07.06.2019; 31.07.2019; 09.09.2019; 22.10.2019; 25.11.2019 and 17.12.2019. **(Refer Appendix- VI).**

C) **Vide Meeting dated 07.02.2020**, various issues and directions were discussed in orders of the Hon'ble NGT under Chairmanship of Hon'ble Justice (Retd.) Shri Rajes Kumar, Allahabad High Court held at Circuit House, Prayagraj in Compliance of Hon'ble NGT order dated 28.08.2018 in O.A. No. 164/2018 in re: *Ashwani Kumar Dubey versus*

Union of India and others and order dated 12.02.2019 passed in O.A. No. 670/2018 in re: *Atul Singh Chauhan versus MoEF & CC and others* **(Appendix- VII).**

D) The First meeting regarding O.A. No. 164/2018 was held **on 23.07.2020** by new Oversight Committee (headed by Justice SVS Rathore), NGT, UP through Video-Conferencing. Various issues and directions were discussed in orders of the Hon'ble NGT in Compliance of order dated 28.08.2018 in O.A. No. 164/2018 **(Appendix-VIII).**

E) The Second meeting regarding O.A. No. 164/2018 was held **on 25.09.2020** by Oversight Committee, NGT, UP through Video-Conferencing. Various issues and directions were discussed in orders of the Hon'ble NGT in Compliance of O.A. No. 164/2018 **(Appendix-IX).**

F) The Third meeting regarding O.A. No. 164/2018 was held **on 29.01.2021** by the Oversight Committee, NGT, UP through Video-Conferencing. Various issues and directions were discussed in orders of the Hon'ble NGT in Compliance of O.A. No. 164/2018 **(Appendix- X).**

V. INSPECTION REPORTS IN OA NO. 164/2018

The Oversight Committee directed Regional Officer of Jhansi, Raebareli and Sonbhadra to conduct an inspection survey immediately. The questionnaire for inspection survey with reference to OA No. 164 of 2018 was sent to them on 07.08.2020.

1. Parichha Thermal Power Project, Jhansi (Report received on 21.07.2020)

The inspection of Jhansi was done by Mr. Niranjan Sharma, RO, UPPCB, Jhansi. The report shows 920 MW of total installed capacity (2 x 210MW + 2 x 250 MW= 920 MW).The total flyash generation is 2253 MT per day. The disposal of flyash is done by dry flyash extraction system. Flyash is also utilized for manufacturing of bricks, cement and filling in road construction. In the NTPC, coal is used as a fuel and it is transported by railway. The detailed inspection report is given in **Appendix- XI.**

2. NTPC Unchahar, Raebareli (Report received on 21.07.2020)

The inspection report of NTPC Unchahar, Raebareli shows total six units which has total installed capacity i.e., 1550 MW (5 x 210MW + 1 x 500 MW= 1550 MW). The total flyash

generation is 5932.63 MT per day. The disposal of flyash is done by dry flyash evacuation system. The flyash is also utilized for manufacturing of ash bricks/ blocks/ tiles, cement and asbestos. In NTPC, coal & oil are used as a fuel and is transported by railway. The detailed inspection report is enclosed as **Appendix- XI.**

3. NTPC Sonbhadra (Report received on 22.07.2020) (Refer Appendix- XI)

The inspection report of NTPC Sonbhadra was done jointly by Mr. Radhey Shyam, RO, UPPCB; Dr. Mrs. Satya, Scientist- D, MOEF&CC, Regional Office, Lucknow and Dr. R. K. Singh, Scientist- E, CPCB, Regional Directorate, Lucknow from 29.07.2020 to 02.08.2020. The inspection survey was done in six different NTPCs viz., M/s NTPC Ltd. Shaktinagar, Sonbhadra (2000 MW); M/s NTPC Ltd. Rihandnagar (Stage- I, II & III), Sonbhadra (3000 MW); M/s UPRVUNL Anpara- A, B & D, Sonbhadra (2630 MW); M/s Hindalco Industries Ltd. (Power Division), Renusagar, Sonbhadra (840 MW); M/s Lanco-Anpara Power Ltd. Anpara, Sonbhadra (1200 MW) and M/s UPRVUNL Obra Unit-B, Sonbhadra (1000 MW). All the power plants have installed CAAQMS except M/s UPRVUNL Anpara- A, B & D and M/s UPRVUNL Obra. All the power plants have AWRs and ESPs.

As far as flyash generation is concerned, NTPCs viz., M/s NTPC Ltd. Shaktinagar generated 5800 TPD flyash followed by M/s NTPC Ltd. Rihandnagar (Stage- I, II & III) (12000 TPD); M/s UPRVUNL Anpara- A, B & D (11000TPD); M/s Hindalco Industries Ltd. (Power Division), Renusagar (4240 TPD); M/s Lanco Anpara Power Ltd. Anpara (5000 TPD) and M/s UPRVUNL Obra Unit-B (4580 TPD). All the power plants have installed CAAQMS except M/s UPRVUNL Anpara- A, B & D and M/s UPRVUNL Obra. The system for disposal of flyash in all the power plants is weight disposal in ash dyke and dry ash disposal by silo. All the power plants have utilized flyash for manufacturing of bricks and cement plants. Diesel is used as a fuel and transported by railway and/ or road.

The utilization/ disposal of Red Mud and Shifting of Mercury bearing brine sludge is taking place only in M/s Hindalco Industries Ltd. (Aluminium Division), Renukoot and M/s Grasim Industries Ltd. (Chemical Division), Renukoot, M/s Hindalco Industries Ltd. (Aluminium Division), Renukoot has utilized about 30215.5 Ton Per Month (TPM) but unit has stored huge quantity of red mud in open and there is no disposal mechanism. M/s Grasim Industries Ltd. (Chemical Division), Renukoot was based on membrane cell technique and mercury bearing brine sludge. Now unit have changed the manufacturing process. Some important points are-

- Mercury bearing brine sludge generated earlier is disposed off in safe manner inside the premises.
- EC of Rs 1.0 Cr. had been imposed and unit has deposited it in CPCB account.
- CPCB has recommended for EC of Rs. 155,42,85,300.00 Hon'ble NGT have deferred the proceedings till the matter is decided by Hon'ble Supreme Court vide order dated 05.11.2019.

4. The Oversight Committee directed UPRVUNL, NTPC, UPPCB and CPCB to conduct an inspection survey as per given questionnaire. The questionnaire for inspection survey with reference to OA No. 164 of 2018 was sent to them on 28.10.2020.

- **Inspection Report Received from UPRVUNL on 09.11.2020 (Appendix- XII)**

The inspection survey done by UPRVUNL are as follows:

- There are four TPPs viz., Anpara TPS, Obra TPS, Parichha TPS and Harduaganj TPS under the UPRVUNL.
- UPRVUNL is enhancing the generation capacity by installation & construction of following TPPs i.e., Harduganj, Aligarh (1 x 660 MW); Panki, Kanpur (1x 660 MW); Obra, Sonbhadra (2 x 660 MW) and Jawaharpur, Etah (2 x 660 MW). Apart from above following TPP is being establish in Joint ventures of UPRVUNL: -

Sl. No.	Project	Ownership	Location	Capacity	Capacity share of UPRVUNL
1	Meja TPS	NTPC and UPRVUNL	Meja Allahabad	2 x 660 MW	990 MW (75% of installed capacity)
2	Ghatampur TPS	NLC and UPRVUNL	Ghatampur Kanpur	3 x 660 MW	1275MW (64.39% of installed capacity)

- The current status of implementation of Joint report of MoEF&CC, CPCB, IIT-Roorkee for enhanced utilization of fly ash in various sectors: mines, roads, cement, industries and bricks etc. are summarized in Point- 3 of **Appendix- XII.**
- As far as flyash generation is concerned, in all the four TPS viz., Anpara TPS, Obra TPS, Parichha TPS and Harduaganj TPS, there is 80 % generation of TPS and 20% is bottom ash & coarse ash. But out of these, only Parichha TPS has 100% ash utilization.
- The current status of unit-wise EC levied on TPS under the UPRVUNL is put on by Hon'ble Supreme Court and also summarized in Point- 5 of **Appendix- XII.**

- The unit-wise status of implementation of CPCB Guidelines, 2019 for Utilization/Disposal of Fly Ash for Reclamation of Low-Lying Areas and in Stowing/ Back filling of Abandoned Mines/ Quarries are summarized as follows:
  a) **Anpara TPS-** Applied for NOC from UPPCB which is still awaited
  b) **Obra TPS-** Applied for NOC from UPPCB which is still awaited
  c) **Parichha TPS**- Tender for disposal of 5.0 lac MT Pond ash for stowing/backfilling in 04 abandoned mines/quarries near Jhansi is in process
  d) **Harduaganj TPS**- Pond ash is being issued for filling of low-level areas as per requirement firms free of cost.
- The status of CPCB's Action Plan implemented under the UPRVUNL are as follows:
  a) **Anpara TPS-** Partially implemented
  b) **Obra TPS-** Partially implemented
  c) **Parichha TPS-** Implemented
  d) **Harduaganj TPS**- Implemented
- The status of Fly ash disposal in mounds and/or backfilling of ash in abandoned mines as per the CPCB Guidelines are as follows:
  a) **Anpara TPS & Obra TPS-** Anpara TPS is initiating proposal for developing ash mound in its vicinity for landscaping work. UNL has requested MoEF&CC to direct NCL for allotment of abandoned coal mines to pit head stations. 7 abandoned stone quarries in Billi Markundi area (Area 8.4 Acre) out of which 04 mines (Area 3.6 acre) are undisputed. In these four mines approximately 3.0 Lac MT ash can be filled. NOC from revenue, mining and forest department has been taken. Applied for NOC from UPPCB which is still awaited.
  b) **Parichha TPS-** Mining department Jhansi has allotted 4 abandoned stone quarries to Parichha at Village Dangariya Kund, Jhansi for filling of 5.0 lac MT Pond ash. Tender for disposal of 5.0 lac MT Pond ash for stowing/backfilling in 04 abandoned mines/quarries near Jhansi is in process.
  c) **Harduaganj TPS**- Pond ash is being issued for filling of low-level areas as per requirement firms free of cost.

- The status of Structural Safety of Fly ash dykes in TPPs are as follows:
  a) **Anpara TPS-** The fly ash dyke is structurally safe. The soil investigation of ash dyke was done be MNIT Allahabad and on the basis of investigation report IIT Roorkee has designed the ash dyke raising work using Gabion Wall. All safety

measures such as Sand filter, Chimney Filter, Geo grid, Geo textile, Brick pitching with pointing, grass turfing on outer slope, decantation well etc has been taken to ensure that no breach will take place.

b) **Obra TPS-** The fly ash dyke is structurally safe. The soil investigation of ash dyke was done by IIT BHU and on the basis of investigation report IIT Roorkee has designed the ash dyke using Gabion Wall. All safety measures such as Sand filter, Chimney Filter, Geo grid, Geo textile, Brick pitching with pointing, grass turfing on outer slope, decantation well etc has been taken to ensure that no breach will take place.

c) **Parichha TPS**- The fly ash dyke is structurally safe. For raising of ash dyke, consultancy has been obtained from IIT-Roorkee and according to their direction raising work was executed.

d) **Harduaganj TPS**- The fly ash dyke is structurally safe. At present work for raising of ash dyke is under progress along with raising width of ash dyke is also increased for safety of ash dyke. The consultancy for dyke raising has been obtained from IIT Roorkee

- All the TPPs under the UPRVUNL are used coal as a fuel and transported it by Railway. All the power plants have installed CCTV camera but there is no reduction in coal transportation as the coal is being transported by railway wagon.

- The steps taken for Ash dyke management in TPPs are as follows:

a) **Anpara TPS & Obra TPS-** At present raising of ash dyke is being done. Regular maintenance of mother dyke is being done.

b) **Parichha TPS**- Regular maintenance of mother/ base dyke is being done.

c) **Harduaganj TPS**- At present raising of ash dyke is being done. Regular maintenance of mother/ base dyke is being done.

- All the TPPs under UPRVUNL have zero discharge but do not have their own reservoir. Water is being utilized from Rihand Reservoir (Anpara & Obra TPS), Betwa River (Parichha TPS) and from upper Ganga Canal (Harduaganj TPS).
- Regarding the air and water quality of the reservoir and other water bodies including ground water, monthly third-party test is being conducted for air and water quality in Anpara and Harduaganj TPS. Likewise, monthly third-party test is being conducted

by IITR Lucknow in Obra and Parichha TPS. All the TPPs under the UPRVUNL have installed AWRS and ESPs but only Harduaganj TPS do not have AWRS.

- Efforts to fill up the Fly-ash in the abandoned coal mines and stone mines are as follows:
  a) **Anpara TPS-** UNL has requested MOEF & CC to direct NCL for allotment of abandoned coal mines to pit head stations.
  b) **Obra TPS-** District Administration has allocated 7 abandoned stone quarries in Billi Markundi area (Area 8.4 Acre) out of which 04 mines (Area 3.6 acre) are undisputed. In these four mines, approximately 3.0 Lac MT ash can be filled. NOC from revenue, mining and forest department has been taken. After taking NOC from UPPCB, UNL will start backfilling these mines with flyash.
  c) **Parichha TPS-** Tender for disposal of 5.0 lacs MT Pond ash for stowing/backfilling in 04 abandoned mines/quarries near Jhansi is in process.
  d) **Harduaganj TPS**- Harduaganj TPP almost achieved the target of 100% ash utilization

- **Inspection Report Received from NTPC on 18.11.2020 (Appendix- XIII)**

NTPCs situated in U.P. under administrative control of Northern Region Head Quarter (NRHQ) are NTPC Singrauli, NTPC Rihand, NTPC Tanda and NTPC Unchahar. MUNPL (Meja Urja Nigam Private Limited) is one of the Joint Venture Company of NTPC Ltd; and Uttar Pradesh Rajya Vidyut Utpadan Nigam Ltd. (UPRVUNL). The inspection report of NTPCs is received on 18.11.2020. Flyash is also utilized for manufacturing of bricks, cement and filling in road construction. Furthermore, coal is used as a fuel and it is transported by rail route. The detailed inspection report is given in **Appendix- XIII.**

VI. SUMMARY OF THE COMPLIANCE STATUS AS PER THE DIRECTIONS GIVEN BY HON'BLE NGT IN O.A. NO. 164/ 2018

The Oversight Committee constituted by Hon'ble NGT held a meeting with concerned administrative officials on 23.07.2020. Various issues as pointed out in the orders of Hon'ble National Green Tribunal were discussed and status of the action taken by the concerned authorities was reviewed. The details are as follows:

1. Vide letter dated 28.04.2019, various issues and directions were reported in Compliance of the Hon'ble NGT order dated 28.08.2018 in O.A. No. 164/2018 in re: *Ashwani Kumar Dubey versus Union of India and others* under Chairmanship of Hon'ble Justice Shri Rajes Kumar (Retd.), Allahabad High Court held at Circuit House, Prayagraj. The Progress Report dated 28.06.2019 are attached with minutes of meeting dated 07.06.2019 **(Refer Appendix- XIV).**

2. The report regarding TPP had been received from UPPCB on 27.06.2020, it is noticed that there are 24 total Thermal Power Plant which are monitored by the concerned department. Out of 24 TPPs, only 3 TPPs do not have flyash management system and other 3 TPPs have problem of ESP establishment. The details of TPPs, its capacity and management system are given in **Appendix- XV.**

3. A detailed report had been received from DM, Sonbhadra on 24.08.2020. Letter no. G-114651/C-58/SBD/2020 dated 07.08.2020, includes the detailed compliance status with different letters regarding varied aspects of OA No. 164/2018 and the condition of 22 stone crusher units in district Sonbhadra.

No. of Stone Crusher Units which have submitted document after due time and are **covered** in 264 list, submitted in Hon'ble High Court	**10**
No. of Stone Crusher Units which have submitted document after due time and are **not covered** in 264 list, submitted in Hon'ble High Court	**12**
Total Units	**22**
No. of Stone Crusher Units which have submitted document after due time and are established before 05.08.2000 and documents are verified	**22**
No. of Stone Crusher Units which have submitted document after due time and are claiming to be established before 05.08.2000 and but documents are not verified	**00**
Total Units	**22**

The other details are enclosed as **Appendix- XVI.**

4. The Compliance Status in OA No. 164/2018 on different issues was received from Regional Office, UPPCB, Sonbhadra on 22.07.2020, 25.09.2020 **(Appendix- XVII) and on 28.01.2021 (Appendix- XVIII)** as per given questionnaire. The details are summarized in the table given below.

5. The compliance status of the different issues in OA No. 164/2018 has been reported by CPCB. The details are enclosed as **Appendix- XIX & XX.**

6. The SOP for fly ash filling as per MOEF & CC and CPCB Guidelines has been submitted by SE, UPRVUNL Anpara on 24.09.2020 and annexed as **Appendix- XXI.**

7. The Guideline for use of Fly ash, bottom ash or pond ash in the manufacture of bricks and other construction activities for utilization of ash by the Thermal Power Plants are enclosed as **Appendix- XXII**.

8. The present status regarding concerned TPPs is annexed as following:

a) Report of Anpara TPS as **Appendix- XXIII & XLIV**

b) Report of Obra TPS as **Appendix- XXIV, XXXVIII & XL**

c) Report of NTPC Rihand as **Appendix- XXV, XXXVIII & XXXIX**

d) Report of NTPC Shaktinagar as **Appendix- XXVI & XXXVIII**

e) Report of M/s Lanco Anpara Power Ltd. as **Appendix- XXVII & XXXVIII**

f) Report of M/s Grasim Industries as **Appendix- XXVIII & XXXVIII**

g) The action plan for supply of Coal to Thermal Power Plant through Railway wagons/ MGRs/ Belt Pipe Conveyors submitted by General Manager, Krishnashila Area, Northern Coal fields Limited is enclosed as **Appendix- XXIX.**

h) The Report on Raising of Ash Dykes in Anpara Thermal Power Stations submitted to Oversight Committee by Krishna Mohan, Chief Engineer (Administration), Sonbhadra on 01.10.2020 is enclosed as **Appendix- XXX.**

i) The Report regarding steps being taken for reduction of coal transportation of Khadia Project through road mode submitted by CGM, Khadia Project, NCL is received on 05.10.2020 and enclosed as **Appendix- XXXI.**

j) Report of M/s Hindalco Industries as **Appendix- XXXII.**

k) The inspection report of M/s Hindalco Industries Ltd. regarding zero discharge was submitted by Regional Officer, UPPCB, Sonbhadra and the detailed inspection report is enclosed as **Appendix- XXXIII.**

l) The Report regarding overflow site of fly ash was inspected by RO, Sonbhadra. The inspection of the main ash dam at Belvadah of Anpara Thermal Project was done by the officers on 29.09.2020 as per the direction given by Oversight Committee. The detailed inspection report of Ash Dyke is enclosed as **Appendix- XXXIV.**

m)The copy of the **Civil Appeal Diary no. 15397/ 2020** to grant stay against EC in Hon'ble Supreme court is enclosed as **Appendix- XXXV.**

9. Minutes of the meeting regarding Stone Quarry on 30.09.2020 under the Chairmanship of DM, Sonbhadra with representatives of M/s NTPC Ltd., Shaktinagar; M/s NTPC Ltd., Rihand Nagar; M/s Hindalco Industries Ltd.; M/s Hindalco Industries Ltd. (Power Division), Renusagar; M/s UPRVUNL, Anpara; M/s UPRVUNL Obra; M/s Lanco-Anpara, Sonbhadra (**Refer Appendix- XXXVI)**

a) It was informed by DM, Sonbhadra that in the meeting held on 25.09.2020, the Oversight Committee had directed to safely dispose off the flyash originating from thermal plants in the Stone Quarry.

b) It was directed to the District Officer to appraise the actual position on the subject related to the issue of NOC from Divisional Forest Officer, Obra, Sonbhadra. The Divisional Forest Officer, Obra informed that the industry does not require NOC of Forest Department to safely dispose off flyash on their own land as per SOP by CPCB.

c) Representatives from different Thermal Power Plants present in the meeting requested DM, Sonbhadra to allot stone quarries for disposal of flyash. M/s NTPC Ltd., Rihand Nagar; M/s Hindalco Industries Ltd., Renukoot, Sonbhadra submitted a report to the District Magistrate, Sonbhadra in writing for allocation of stone quarry. District Magistrate, Sonbhadra informed that UPRVUNL Obra has been allotted 4 stone quarries for the safe disposal of flyash.

d) Mr. Anil Singh, AGM (Env.) M/s Hindalco Industries Ltd., Renukoot, Sonbhadra informed that he has sought permission for conducting study work regarding disposal of red mud from the Stone Quarry located in the boundary of the Forest Department. The Divisional Forest Officer, Obra was informed that the study work can be done without causing any damage to the forest wealth, but no change in the basic structure of the forest land will be allowed.

e) District Magistrate, Sonbhadra suggested that the stone quarry outside the land of the Forest Department can be used for flyash disposal. It was informed by the Divisional Forest Officer, Obra that it is mandatory to obtain permission under the provisions of the Forest (Conservation) Act, 1980 before disposal of flyash in the stone quarries available on the land owned by Forest Department. District Magistrate, Sonbhadra sought information from the mining officer about the stone quarries currently available outside the forest department land. It was informed by the District Mines Officer that

there are 05 such mines, which are within 100 meters of the forest department land but no mining work is possible on them in future. District Magistrate, Sonbhadra directed the Mining Officer to survey all such stone quarries and submit a list within one week, so that the allotment of the said stone quarries can be done for flyash disposal to the entrepreneurs. After receiving the list of the above 05 stone quarries from the Mining Department, the District Magistrate, Sonbhadra gave oral approval. The details are presented below:

Sl. No.	Name of the Industry	No. of Stone Quarries allotted to the Industry
1	M/s NTPC Ltd., Shaktinagar, Sonbhadra	**02**
2	M/s NTPC Ltd., Rihand Nagar, Sonbhadra	**01**
3	M/s Hindalco Industries Ltd. (Power Division), Renusagar, Sonbhadra	**01**
4	M/s Lanco- Anpara, Sonbhadra	**01**

f) The District Magistrate, Sonbhadra also informed that after getting proper information about other stone quarries, allotment will be done to the industries. Considering the process of issuing NOC for the allocation of stone quarries DM, Sonbhadra directed representatives from Forest department, Mining department and Deputy Collector, Obra to take joint action. This would facilitate the entrepreneurs to obtain NOC from all the three departments as per **Single Window System**.

g) The Divisional Forest Officer, Obra apprised that under the provisions of the Forest (Conservation) Act, 1980, the stone quarries available on the land of the Forest Department were allocated for disposal of flyash. Entrepreneurs were not interested in the said case.

h) Mr. A. K. Rai, Executive Engineer, UPRVUNL Anpara, Sonbhadra informed that the stone quarry made from mining work done at the time of construction of Rihand Dam can be used for disposal of flyash and the said stone quarry is at a short distance from Anpara, Sonbhadra to whom it is allotted to be done. It was informed by the Divisional Forest Officer, Obra that the said stone quarry is on the land of the Forest Department. Therefore, its allocation can be done as per the procedure laid down in the Forest (Conservation) Act, 1980.

i) It was informed by the Regional Officer that the CPCB's letter dated 12.05.2020 promulgated CTO mechanism for permission for the Stone Quarry, a copy of which will be sent to all entrepreneurs by e-mail.

j) District Magistrate, Sonbhadra directed the representatives of all industries to submit a detailed description of the drinking water supply being made in the area under CSR in compliance with the instructions given by the Oversight Committee regarding drinking water supply. The representative of M/s Hindalco Industries Ltd., Renukoot (Mr. Anil Singh) informed that R.O. plants were set up by the industries for supply of drinking water, but keeping in view the problem of disposal of rejected water of R. O. plant; entrepreneurs were required to supply drinking water through tankers as per earlier directives. Currently, this system is being followed.

10. The Summary Chart of 384 Stone Crusher Unit Established in district Sonbhadra was submitted by RO, Sonbhadra on 02. 11. 2020. The details are enclosed as **Appendix-XXXVII.**

11. The Quarterly Status Report (QPR) (From August, 2020 to Oct., 2020) was submitted by RO, Sonbhadra on 25.01.2021 to the Oversight Committee. The detailed report is enclosed as **Appendix- XXXVIII.**

12. The Compliance Status Report in OA 164 of 2018 was submitted by Mr. D. C. Pandey, DGM, NTPC, Lucknow on 25.01.2021 to the Oversight Committee. The detailed report is enclosed as **Appendix- XXXIX.**

13. The Compliance Status in OA No. 164/2018 on different issues was received from CE, UPRVUNL on 29.01.2021 as per given questionnaire. The details are summarized in the table given below and also enclosed as **Appendix- XL.**

14. The Joint Compliance Report in OA No. 164/2018 on implementation of action plan to achieve 100% fly ash utilization by the Thermal Power Plants (TPPs) was received from CPCB on 01.02.2021. The details are enclosed as **Appendix- XLI.**

15. The Compliance Report in OA No. 164/2018 were received from Grasim Industries Ltd. (Chemical Division), Renukoot on 01.02.2021. The details are summarized as **Appendix- XLII.**

16. Minutes of the meeting regarding Disposal of flyash and Stone Quarry on 02.02.2021 under the Chairmanship of DM, Sonbhadra with representatives of M/s UPRVUNL Obra; Mining Officers; UPPCB, Sonbhadra; NCL Bina; NCL Khadia; M/s UPRVUNL, Anpara; M/s Hindalco Industries Ltd. (Power Division), Renukoot; M/s NTPC Ltd., Rihand Nagar; NCL Krishnashila; NCL Kakri; M/s Lanco- Anpara, Sonbhadra (**Refer Appendix- XLIII).** The points were discussed are as given below:

a) It was informed by Regional Officer, UPPCB that in the meeting held on 29.01.2021, the Oversight Committee was informed about the allocation of 04 stone quarries out of 07 stone quarries in the district. But due to the information not being presented to the OSC for the allocation of 03 stone quarries, the DM Sonbhadra has been directed by the OSC to clarify the status of the ownership disputes between the Revenue & Forest Department of the remaining 03 stone quarries and allot it within one week.

b) The DM Sonbhadra directed Mines Officer, Sonbhadra to apprise him on the actual situation in the case. Mines Officer, Sonbhadra informed that 07 stone quarries were marked before publication of Section-20. After the publication of Section-20, 04 stone quarries have been allotted to M/s Obra, Sonbhadra. Out of the remaining 03 stone quarries, 02 stone quarries have not been declared as derelict mines by the Department of Mining, Sonbhadra due to the availability of sufficient mineable sub-mineral and being outside the 100 m radius of the forest land. Notice of e-tender cum e-auction invitation has been published for approval of mining lease in these two mines. Hence, these 02 stone quarries cannot be allocated for storage of flyash.

c) It was informed by the Divisional Forest Officer, Obra that after the publication of Section-20 of the Indian Forest Act, 1927, a stone quarry has been covered in a protected forest area, so it is not possible to allocate this stone quarry for the storage of flyash.

d) It was also informed by the Mines Officer, Sonbhadra that two mines are on private land, one of which has expired and the other will expire within one week. The connected land owners are being contacted to dispose of fly ash in the said mine. After the consent of the land owners, the allotment of the said mines can be taken. DM Sonbhadra was directed to the Mines Officer to talk to the landowners in the case and convey the final decision of the landowners, so that the allotment of the said stone quarries can be taken. All the officers were informed by the Mining Officer that at present there is no stone quarries available for allocation.

e) It was apprised by Mr. G. K. Dutta, Mine Inspector, that in Gata no. 7536-D of village-Billi Markundi, mining leases were earlier sanctioned for mining of DOTO stone quarry, which currently exists as a mine. The average depth of these mines is 50-70 meters and about 1.20 million cubic meters of flyash can be disposed of. At present, most of the mines are water- logged. The said mines are of dolomite stone, which makes the water leakage problem in them negligible. Keeping the Forest Conservation Act and

Environment Act in these mines, work can be done for planting saplings after filling flyash.

f) Divisional Forest Officer, Obra informed that the disposal of flyash after regulating the land equivalent to the area of stone quarries to Forest Department under the Provision of the Forest Conservation Act, on the Gata no. 7536 D under the Forest Department, Under the Provision of Forest Protection Act. There is a provision to be allocated to do. In the previous meeting, entrepreneurs were suggested to apply online for the demand for stone quarry, but so far, no interest has been shown by any entrepreneur in this direction. A brief description of the procedure to be followed by the Divisional Forest Officer, Obra under the Forest Conservation Act, 1980, with respect to the permission of the stone quarry, has been made available to all the entrepreneurs. DM Sonbhadra directed all the entrepreneurs to coordinate with the Divisional Forest Officer, Obra and take necessary action as per the rules for allocation of stones set up under the Forest Department.

g) The representatives from M/s NTPC Rihand. Shaktinagar, M/s Hindalco Industries Ltd., Renusagar (Power Division) & M/s Lanco Anpara have demanded the DM Sonbhadra to allot stone quarries and low-lying areas. Through the Joint Committee of Forest Department and Revenue Department, the DM was directed to work out the phase of all the low-lying areas located in the district and to provide the list of all low-lying area.

Based on the above reports in OA No. 164 of 2018, the present compliance status is divided into major seven parts as follows:

A. Thermal Power Plants
B. Coal Mines of M/s Northern Coalfields Limited (NCL)
C. Aluminum Smelters: M/s Hindalco Industries Limited, Renukoot, Sonbhadra
D. M/s Grasim Industries Limited (Chemical Division), Renukoot, Sonbhadra
E. Stone Crusher
F. Pollution Control Board and MOEF&CC
G. District Administration of Respective States

A. THERMAL POWER PLANTS

S. No.	Issues/ Directions by Hon'ble NGT	Compliance Status	Compliance Status/ Reason for Non- Compliance
1.	**Flyash Disposal as per order dated 12.02.2020**		

<table>
<tr>
<td>1.a</td>
<td>Status of steps taken by the TPPs for scientific disposal of fly ash in accordance with the statutory notification issued by the MoEF &CC under the provisions of EP Act requiring 100% utilization and disposal of fly ash.</td>
<td>Partially Complied</td>
<td>
<u>I. M/s NTPC Rihandnagar</u> (Refer Appendix-XXV, XXXVIII & XXXIX) The unit has achieved 51.45% flyash utilization during 2020-2021. The remaining ash was disposed into the ash dyke. CPCB has submitted affidavit to Hon’ble NGT, wherein the amount of EC to be recovered for non-compliance of Hon’ble NGT is stated.

• The ash generation and ash utilization at NTPC Rihand is as following (Refer Appendix- XXV):

<table>
<tr><th>Year</th><th>Ash Generated (MT)</th><th>Ash Utilized (MT)</th><th>Ash Utilization %</th></tr>
<tr><td>2016-2017</td><td>4854028</td><td>750825</td><td>15.47%</td></tr>
<tr><td>2017-2018</td><td>4345599</td><td>1348941</td><td>31.04%</td></tr>
<tr><td>2018-2019</td><td>3515893</td><td>1304383</td><td>37.10%</td></tr>
<tr><td>2019-2020</td><td>3901727</td><td>1684947</td><td>43.18%</td></tr>
<tr><td>April, 2020 to Dec., 2020</td><td>3093475</td><td>1578763</td><td>51.04%</td></tr>
</table>
Following actions are being taken at NTPC Rihand for enhancing ash utilization:

i. NTPC Rihand has installed 02 semi-automatic flyash brick plants and 02 fully automatic flyash brick plants. Presently, approximately 24000 flyash bricks/day are being manufactured at NTPC Rihand. These bricks are fully utilized in plant, townships, ash dykes and CSR work undertaken by NTPC Rihand. All buildings of NTPC Rihand are being constructed using flyash bricks only. (Appendix-XXV)
NTPC further proposed that manufacturing, transportation and use of clay bricks shall be banned by concerned authorities in the region to promote manufacturing and use of fly ash bricks as per the provisions of Fly Ash Notification. (Appendix-XXV & XXXIX)
ii. Procurement of 03 BTAP rakes: To promote offtake of dry flyash, NTPC Rihand has procured 03 BTAP rakes at the cost of Rs. 67 crores for transportation of flyash in bulk quantity by cement industries and other potential users in economical and environment friendly manner. 1st rake comprising of 53 BTAP wagons has been delivered by the manufacturer in July,2020, second rake has been delivered by the manufacturer in December, 2020. MoU has been signed with M/s Reliance Cement (RCCPL) on 12.06.2020 for supply of approximately 1.2 Lac MT fly ash per annum
</td>
</tr>
</table>

			through BTAP rakes. First rake of 53 BTAP wagons containing approx. 3000 MT of fly ash has been flagged off on 09.12.2020 for NTPC Dadri from where the fly ash has been supplied to the user. Second rake of fly ash has been sent on 22.12.2020 to RCCPL cement plant. Delivery of 3rd BTAP rake is expected by 31.03.2021. **Supply of fly ash through BTAP wagons by NTPC Rihand is the first of its kind initiative in the country.** **iii. Supply of pond ash to road construction projects:** Following initiatives have been taken for utilization of pond ash of Rihand in road construction works. The entire cost of ash transportation is borne by NTPC Rihand for road projects. • **MoU has been signed with NHAI**- Varanasi for supply of 02 lac CuM, of pond ash to NH-56 bypass road at Varanasi. Supply of flyash under MoU has been started from 26.06.2020. Till date approx. 1.5 Lac MT of pond ash has been supplied to NHAI– Varanasi. **(Refer Appendix-XXXIX)** • **Approval has been obtained from NHAI-** Varanasi for supply of 10 lac CuM, of pond ash to NHAI road projects at Varanasi in NH-29. Tendering has already been done and the bids are under evaluation. • **Contract for supply of 5.5 Lac** Cubic Meter of pond ash to NH-56 bypass road project of NHAI at Varanasi. Work is in progress. • **Contract awarded for s**upply of 0.5 lac CuM, of pond ash to PWD Chhattisgarh for its utilization in construction of bypass road near Wadrafnagar. The work is in progress. **iv. Pilot project for transportation of wet flyash in BOXN railway wagons:** In order to establish a new avenue of ash utilization, NTPC Rihand has given permission to M/S ACC Ltd. for transportation of flyash in 10 rakes of tarpaulin covered BOXN wagons. **This initiative of NTPC Rihand is first of its kind** and 07/05 rakes of fly ash have been dispatched to different cement plants of ACC Ltd., located in M.P., U.P., Punjab and Uttarakhand. Approx. 35000 MT of ash utilization is envisaged in above pilot project. In addition to the above, NTPC Rihand has also given permission

			to M/s Dalmia Cement Bharat for transportation of flyash through BOXN wagons to their plant located near Guwahati and till date 02 rakes of BOXN wagons have been dispatched to M/s Dalmia Cement Plant located as Nagaon, Assam. Based on the outcome of pilot project regular permission will be given to cement industries for transportation of wet fly ash through BOXN wagons. (**Appendix-XXV & XXXVIII)** v. **Providing flyash to brick manufacturer upto 300 kms radius:** To promote manufacturing and utilization of flyash bricks in the region, NTPC Rihand has already moved proposals for supply of flyash to brick manufacturer located within 300 kms from NTPC Rihand. Above proposal is under re-tendering. vi. **Low lying area filling using pond ash:** As per the provision of Flyash Notification of MOEF & CC, NTPC Rihand is undertaking the works of low-lying area filling on NTPC land as well as Private Land using pond ash and making earth cover on ash filled area. In order to enhance flyash utilization levels, NTPC Rihand has proposed for low lying area filling upto the distance of 100 kms from the Plant with entire cost of ash filling to be borne by NTPC Rihand. It was further submitted that District Administration may also provide the list of wastelands available within 100 kms of NTPC Rihand for using pond ash. vii. **Backfilling of abandoned stone quarries:** In compliance of directives of Oversight Committee, an application dated 11.09.2019; 30.09.2020 and 29.10.2020 to District Administration, Sonbhadra for allocation of abandoned stone quarries of Dalla area. Follow up meeting were held with District Collector on 20.09.2019; 27.02.2020 and in meeting dated 30.09.2020, 01 stone quarry has been allocated. Letter of allocation of abandoned stone quarries for backfilling purpose is awaited. It is further requested that NTPC Rihand is the largest power plant of Uttar Pradesh with higher responsibilities towards society, as a central PSU, it requires more avenues of ash utilization in comparison to other power plants of the region to comply with the directions of Hon'ble NGT. Hence, NTPC Rihand requested to approve allocation of at least 02 abandoned stone quarries to NTPC Rihand for its back filling with pond ash.

			(Refer Appendix- XXV & XXXIX) **viii. Development of Ash Park at Varanasi:** To enable clay brick manufacturers of Varanasi region to switch over to ash brick manufacturing NTPC Rihand has developed an Ash Park at Varanasi from where flyash is supplied in 40 kgs bag to Ash Bricks manufacturing units of Varanasi region so that use of flyash bricks can be promoted in Varanasi. First lot of flyash packed in bags was dispatched to Varanasi on 06.06.2019 and Ash Park Depot-Varanasi has been formally inaugurated and made functional on 13.06.2019. However, no substantial flyash offtake was taken from the ash brick manufacturers of Varanasi region due to which the NTPC forced to closed the Ash Park Contract. **II. NTPC Shaktinagar** has achieved 25.47% flyash utilization during 2020-2021.The remaining ash was disposed into the ash dyke. NTPC Shaktinagar started supply of pond ash to NHAI road project NH-7 (between Varanasi to Hanumana) and cost borne by NTPC. Ash bricks being manufactured with 05 ash brick machines. Remaining ash is being disposed in ash dyke in scientific manner in wet form. NTPC Shaktinagar has installed five ash brick manufacturing plants in its own premises. Contract is under tendering process for two more ash brick plants. CPCB has submitted affidavit to Hon'ble NGT, wherein the amount of EC to be recovered for non-compliance of Hon'ble NGT direction is stated. **(Refer Appendix- XXVI & XXXVIII).** **III. M/s UPRVNL, Anpara** has utilized 27.69% flyash utilization during 2020-2021. The remaining ash was disposed into the ash dyke. CPCB has submitted affidavit to the Hon'ble NGT, wherein the amount of environmental compensation to be recovered for non-compliance of Hon'ble NGT. **(Refer Appendix- XXIII & XXXVIII)** Anpara TPS is situated in power hub area where 20,000MW (approx.) electricity is being generated resulting in huge quantities of ash being produced. At present in the vicinity of Anpara Thermal Power Project there is no cement factory is available. Also, there is no major road project running in the vicinity of TPS due to which the fly ash utilization from Anpara TPS is poor. **(Appendix- XL)**

ANPARA TPS (Appendix-XXIII)

Year	Total Ash Generated Lac MT	Total Ash Utilized Lac MT	Remaining ash disposed in ash pond	Percentage Ash Utilization
2015-16	38.67	0.12	38.55	0.32%
2016-17	40.30	0.30	40	0.75%
2017-18	42.13	0.73	41.4	1.74%
2018-19	43.99	2.23	41.76	5.07%
2019-20	36.24	1.41	34.83	3.69%
2020-21 (upto Dec., 2020)	25.289	6.77	18.516	27.69 %

(Refer Appendix- XXIII & XL).

However, following efforts have been made by Anpara TPP for achieving 100 % fly ash utilization: -

- After getting NOC from Mining department, UPPCB, Forest department and Revenue department tender be filled for fly ash filling in the stone quarries and that area may be developed.
- District Administration has allocated 7 nos. abandoned stone quarries in Billi Markundi area (Area 8.4 Acre) out of which 04 mines (Area 3.6 acre) are undisputed. NOC for 4 mines (Area 3.6 acre) has been taken from UPPCB, revenue, mining and forest department has been taken. The ownership on rest 03 mines is under dispute which is to be resolved. However, for filling of ash in abandoned 04 No. stone quarry, various studies by MNIT, Allahabad are being done which will take about 5 months. After completion of above study, tender for filling of ash in these mines shall be process. **(Appendix- XL)**

- Anpara TPS has also applied to NCL for allotment of abandoned Gorbi mines for disposal of fly ash. **(Appendix- XXIII)**

<u>Ash Utilization Plan of Anpara TPS (Refer Appendix- XLIV):</u> The following steps has been taken by thermal power plant of UNL for utilization of ash- **Annual ash generation from Anpara TPS is 40.26 lac MT**

Sr. No.	Place of Ash utilization	Expected quantity of ash
1	The consultancy work awarded to IIT, BHU for safe disposal of ash in the form of ash mound. The report of the same has been submitted by IIT, BHU to UPRVUNL. At present the case has been processed for obtaining the administrative approval for inviting the tender.	9.11 lakh MT
2	Ash will be utilized in raising of ash dyke at Anpara TPP	5.00 lakh MT
3	Fly ash is being issued to Brick manufacturers	0.02 Lac MT
4	UPRVUNL requested to NCL for allotment of abandoned coal mines of Gorbi having 48 Hectare (Pit No. 1 & 2) area and depth up to 60 meters. NCL assure that they will allot the above mines to UPRVUNL.	2.88 crore MT
5	UNL also trying to get abandoned stone quarry at Sindur near Pipri, Renukoot. for allotment of this abandoned stone	20.00 lakh MT

				quarry a request has been made to DM Sonebhadra.	

Comments by UPPCB: District Magistrate, Sonbhadra has allotted 07 stone quarries to M/s UPRVUNL Anpara and Obra for utilization of fly ash. There was dispute between forest department and revenue department of title of abandoned mines, which have been resolved.

NOC for one site has been issued to M/s UPRVUNL Anpara, Sonbhadra for disposal for fly ash for reclamation of Low-Lying Area. NOC for three sites have been issued to M/s UPRVUNL Obra, Sonbhadra for disposal for fly ash for reclamation of Low-Lying Area. **(Appendix- XVIII)**

Other avenues for ash disposal/utilization- of Anpara TPS (Refer Appendix- XXIII & XL)

i. Anpara TPS is initiating proposal for developing ash mound in its vicinity for landscaping work. This is in process of study.
ii. Anpara TPS has invited Expression of Interest through newspaper and uploaded UPRVUNL web site three times in a year for lifting of fly ash from the users.
iii. The capacity DFAES of B-TPS is to be enhanced along with augmentation in DFAES of ATPS.
iv. About 5.0 Lac MT Pond Ash has been utilized in raising of ash dyke and approx. 5.0 Lac MT pond ash will be used in next 3-4 months.
v. Fly ash is being issued to Brick manufacturers.
vi. UPRVUNL has requested to NCL for allotment of abandoned coal mines at Gorbi.

- **NTPCs to promote offtake of dry fly ash as well as the problem of transportation of fly ash in bulk quantity:** Some firms have shown their interest for lifting of ash from Anpara TPS through railway rakes. They have been requested by UPRVUNL to visit the Anpara TPP for the feasibility of ash transportation through railway rakes. **(Appendix- XL)**

IV. M/s Hindalco Industries Ltd. Renukoot and Renusagar, Sonbhadra utilized about 100% fly ash in financial year 2019-20. Currently, fly ash generation is 1280536 TPA and bottom ash is 320134 TPA for FY20. This quantity may vary depending on the coal quality and running of units. The details of current

			flyash generation are as under: • Fly ash is being utilized by Cement making companies (M/S Jaypee Cement, M/S Prism Cement, M/S Shree Cement, M/S Eco Cement, M/S Ultratech Cement, Dalla; M/S Birla Corporation and some other cement making companies) in closed bulkers/ capsules to avoid any environmental pollution. • Pond ash is being supplied to Brick-kiln making Companies (M/S Suresh Enterprises, M/S Power Engg. Associates & M/S Manish Enterprises) to use it in place of sand for making red bricks. • Fly ash and Bottom ash is also utilized in Brick making plant for making flyash bricks. • Enhancement of capacity of own brick making plant from 30,000 to 60,000 bricks per day. • Supply of Fly ash and Bottom ash to external Brick making plant in the surrounding area. • Fly ash and Bottom ash is also being utilized in Techplast Plant for making Ready mix plaster materials. • Flyash is being supplied and used by Cement sheet making Companies (M/S Ramco Industries, M/S UAL, Jaunpur & M/S Hyderabad Industries) and also used internally in Cement plastering on a regular basis for civil jobs. • Flyash is also being supplied to Road Projects- Rewa to Varanasi and Purvanchal Expressway projects. **Actions taken by Hindalco Industries Ltd. Renukoot and Renusagar to increase utilization of fly ash in the Future:** • Enhanced capacity of own brick making plant from 60,000 bricks per day. • Enhance the Fly ash and Bottom ash supply quantity to external Brick making plant. • Use in reclamation of low-lying areas for which permission shall be granted by the UPPCB. • Use Fly ash to backfill mines/ stone quarry for which application has been made to the Department of Mines to carry out feasibility study. Steps will be taken upon receipt of due approvals. • **Scientific Management of Ash Dyke:** Ash Dyke at Bichari is around 8 kms from Renusagar Power Plant which was constructed in the year 2004 as per the approved design of CBRI, Roorkee and is maintained strictly as per the standard operating procedure with round the clock monitoring. • The stability analysis of the Ash Dyke is being constructed by reputed agencies i.e. CBRI, Roorkee/

IIT BHU/ MIT Moradabad.

- In compliance with the conditions of Consent to Operate granted to us by the UPPCB and the industries have a robust process of storing the fly ash in ash dyke which is monitored on a regular basis.
- The industries are compelled to acquire the land, create scientifically designed ash dykes and continue to store. There are several productive uses of fly ash including building and construction, highways etc. **(Refer Appendix- XXXII)**
- **M/s Hindalco Industries Ltd., Renusagar** has achieved 65.61% flyash utilization during 2020-2021. The remaining ash was disposed into the ash dyke and filling of low-lying area. CPCB has submitted affidavit to Hon'ble NGT, wherein the amount of EC to be recovered for non-compliance of Hon'ble NGT is stated. **(Appendix- XXXVIII).**

V. M/s Lanco Anpara Power Ltd., Anpara, Sonbhadra has utilized 21.44% (2020-2021), **28.39% in financial year 2019-20** and 27.07% till June, 2020. The industry also approaches to NCL and NHAI for fly ash utilization. **(Refer Appendix-XXVII & XXXVIII)**

The ash generation and ash utilization at **M/s Lanco Anpara-C TPS (Refer Annexure-2 of Appendix-XXVII)**

Financial Year	Ash Generation (MT)	Fly Ash Generation (MT)	Fly Ash Utilization (MT)	% Ash Utilization	% Fly Ash Utilization
2019-2020	1577909	1262327	358340	22.71	28.39
2020-2021 (Till Dec., 2020)	434104	1059670	213720	21.65	20.17

Lanco Anpara-C TPS: CPCB has submitted affidavit to Hon'ble NGT, wherein the amount of EC to be recovered for non-compliance of Hon'ble NGT directions are mentioned. **(Refer Appendix-XXXVIII)**

Efforts made for Utilization of Flyash in Cement Plants:

- Agreement/MOU signed with M/s J. S. Enterprises, Renusagar to coordinate with cement industries for utilization of flyash generated in the plant. Through this agreement, presently supplying ash to different

			cement companies. **(Refer Annexure- 1 A of Appendix- XXVII)** • Agreement signed with K. J. S. Cement Ltd., Satna for lifting of ash about 1500 MT/day on 19th Dec., 2013 but the company didn't turn up due to distance factor. **(Refer Annexure- 1 B of Appendix- XXVII)** **Efforts made for Utilization of ash in Brick Manufacturing:** • Agreement/MOU signed with two brick manufacturing units for utilization of flyash. • **Brick Manufacturing Agreement:** o M/s Jai Bricks, Pipri, Anpara dated 20.11.2018 **(Refer Annexure-1 C of Appendix- XXVII).** o M/s Birendra Singh Inta Bhatta dated 20.11.2018 **(Refer Annexure-1 D of Appendix- XXVII).** o LANPL has also approached Jila Panchayat Udyog for supplying of fly ash for their Fly ash brick manufacturing plant. **(Refer Annexure-1 E of Appendix- XXVII).** **Ash Utilization in Road Construction:** • Road agencies are not responding for utilization of fly ash as per MOEF&CC, Flyash Notification dated 03.11.2009 clause no. 5. A letter on 23.11.2015 was sent to the agency engaged for construction of Varanasi- Hathinala road project regarding use of fly ash but the agency didn't respond to the request **(Refer Annexure- 1 F of Annexure- I)**. • A letter on 07.02.2019 was sent to Regional Office of NHAI at Varanasi for entering into an MOU to take flyash from the company for road construction projects. Response is still awaited. **(Refer Annexure- 1 G of Appendix- XXVII).** **Ash Utilization in Open Cast Mines:** • As per MOEF&CC, Flyash Notification dated 03.11.2009 clause no. 8(i), several letters have been sent to Northern Coalfields Ltd., (NCL) to approve slowing of mines with using 25% of fly ash. Company is making repeated requests to concerned authorities for allotment of abandoned mines for utilization of flyash. Several request letters dated 18.11.2015; 24.02.2016; 16.05.2016; 20.11.2018 & 01.07.2020 have been sent to NCL for allotment of abandoned mines **(Refer Annexure- 1 H of Appendix- XXVII).** Company is still wating for a suitable response from NCL.

- DM, Sonbhadra (UP) has also been approached as per Hon'ble NGT order dated 05.11.2019 for allotment of abandoned stone and coal mines for enhancement of the plant's flyash utilization level. **(Refer Annexure- 1 I of Appendix- XXVII).**
- Due to the above reasons, Lanco-C Anpara is not able to utilise 100% flyash.

VI. <u>M/s Obra Thermal Power Plants, Obra, Sonbhadra</u> informed that the unit has achieved 6.89% utilization of fly ash during 2020-21. The remaining ash was safely disposed into the ash dyke. Moreover, CPCB has submitted affidavit to Hon'ble NGT, wherein the amount of EC to be recovered for non-compliance of Hon'ble NGT directives. **(Refer Appendix- XXXVIII)**

Obra TPS is situated in power hub area where 20,000MW (approx.) electricity is being generated resulting in huge quantities of ash being produced. At present, in the vicinity of Obra Thermal Power Project there is only one cement factory available which takes only 400 MT/day. Also, there is no major road project running in the vicinity of TPS due to which the fly ash utilization from Obra TPS is poor. (**Appendix- XL)**

The ash utilization of Obra TPS is as per table below: (Refer Appendix- XXIV)

Year	Total Ash Generated Lac MT	Total Ash Utilized Lac MT	Remaining ash disposed in ash pond	Percentage Ash Utilization
2015-16	14.77	2.92	11.85	19.77 %
2016-17	13.85	3.83	10.02	27.66 %
2017-18	13.26	2.25	11.01	16.97 %
2018-19	7.80	0.90	6.9	11.58 %
2019-20	11.14	0.86	10.28	7.71 %
2020-21 (upto June, 2020)	2.99	0.18	2.81	6.02 %
2020-21 (upto Aug.,	5.687	0.30	5.387	5.28 %

			2020)

For increasing Fly ash utilization following efforts are being made: -

a) Average ash generation during last 4 months has been 3800 MT/day. (114000 MT/month)
b) Average utilization of fly ash through UltraTech cement factory is 400 MT/day (12000 MT/month)
c) Average utilization through Brick manufacturer is 4 MT/day (120 MT/month)
d) Remaining ash is being safely disposed in the Ash dyke in the form of Ash slurry.

Following efforts have been made by Obra TPP for achieving 100 % fly ash utilization: -

a) Agreement for lifting 4500 MT/day fly ash is almost in final stage with M/s ACC Limited. After agreement ash lifting will be done from 5X200MW Obra BTPS, 4 Units of which are under operation as well as from 2X660 MW Obra C Units upon their synchronization. M/s ACC Limited is going to establish its cement plant at Salai Banwa which is approx. 8-10 km away from Obra Thermal Power Station.
b) District Administration has allocated 7 nos. abandoned stone quarries in Billi Markundi area (Area 8.4 Acre) out of which 04 mines (Area 3.6 acre) are undisputed. In these four mines approx. 3.0 Lac MT ash can be filled. NOC from UPPCB, revenue, mining and forest department has been taken. Various studies by MNIT, Allahabad are being done which will take about 5 months. After completion of above study, tender for filling of ash in these mines shall be process.
c) District Administration has provided a low-lying area near Lodhi Toll Plaza near Circuit House for reclamation and development by backfilling with fly ash. NOC from UPPCB has already been obtained. Various studies by MNIT, Allahabad are being done which will take about 5 months. After completion of above study, tender for filling of 1.5 Lac MT

ash in this area shall be process.

d) Obra Colony has low lying area in Sector 2 and 3. Approx. 2.4 Lakh cum ash can be fill in first phase and subsequently about 5-10 Lakh cum shall also be fill in this low-lying area. NOC from UPPCB has already been obtained for filling of ash in low lying area in Sector 2 and 3. Various studies by MNIT, Allahabad are being done which will take about 5 months. Tender for aforesaid work has already been invited. **(Appendix- XL)**

M/s Obra Thermal Power Plants, Obra, Sonbhadra has informed that average utilization of fly ash through M/s Ultratech Cement Factory is about 12000 MT/Month and average utilization of fly ash through brick manufacture is about 150 MT/Month. Remaining ash is being safely disposed in the ash dyke in the form of ash slurry. The industry has informed that MOU for lifting 4500 MT/Day fly ash almost is in final stage with M/s ACC Limited. Industry has also informed that study work through MNNIT Allahabad is going on for back filling of ash in low lying areas of Lodhi Toll Plaza and Obra Sector-2 & 3 and also in abandoned Stone Quarries. After getting Technical Feasibility Report from MNNIT, Allahabad tendering process for backfilling of ash in these areas shall be finalized. **(Appendix- XVIII)**

Ash Utilization Plan of Obra TPS (Refer Appendix- XLIV): Annual ash generation from Obra TPS is 11.63 lac MT

Sr. No.	Place of Ash utilization	Expected quantity of ash which is to be filled in this area
1	CTEs from UPPCB have been obtained for back filling of ash in low lying areas of Lodhi Toll Plaza and Obra	1.50 Lakh MT
2	Sector-2 &3	Total capacity of this area is about 63.00 lakh MT. In first phase 2.4 Lakh

		MT will be disposed of.
3	Abandoned Stone Mines	7.00 Lac MT
4	At present there is only one cement factory available in the vicinity of Obra TPS i.e. M/s Ultra Tech Cement Factory, Dala which is lifting 12000MT/ month Fly Ash while Ash Bricks Manufacturers are lifting around 150 MT/ month Fly Ash.	1.45 lakh MT per year
5	Agreement with M/s ACC Ltd for lifting of fly ash @ 4500 MT/day is to be done for which the case is under process for approval .	16.42 lakh MT per year

Parichha TPS- (Appendix- XL)

i. Parichha TPS is situated on Jhansi –Kanpur highway almost 25 km away from Jhansi railway station. A cement factory named M/s Heidelberg Cement is situated nearly 5 km away from the project. Two separate agreements have been made with Heidelberg cement for utilization of dry fly ash generated from units of 210 MW and 250 MW. Presently Heidelberg cement has enhanced its production capacity, to mete out additional fly ash requirement for production of cement M/s Heidelberg cement also using pond ash.

ii. Approval for awarding the work of disposal of 5.0 lac MT Pond ash for stowing/backfilling in 04 Nos. abandoned mines/quarries near Jhansi is in process.

iii. For package no 4&5 of Bundelkhand Expressway a tender for 30,000.00 cum pond ash transportation in each package i.e., total 60,000.00 cum has been invited. The

			part-2 has been opened and the case is under negotiation. iv. Pond ash from Parichha ash dyke is being used in Jhansi- Khajuraho expressway for filling. v. Pond ash from Parichha ash dyke is also being used by local users for filling and other purposes. **Harduaganj TPS- (Appendix- XL)** i. Silos are installed in all three units and are in operation. Agreement is made with M/s Kannodia Cement Ltd, M/s Ashtech India Pvt. Ltd., M/s Mangalam cement Ltd. and M/s Macfinn Infra, Dadri for disposal of dry fly ash and they are lifting fly ash from silo. ii. Dry Fly ash is being issued for Brick/ Block manufacturers free of cost. **Action Taken by CPCB:** CPCB vide letter dated 09.09.2020 requested UPPCB & MPPCB to take appropriate action for ensuring compliance of these directions of Hon'ble NGT by the concerned power plants. **NTPC TANDA (Appendix- XXXIX)** To achieve the target of the 100% ash utilization NTPC Tanda is making sincere efforts for ash utilization in following area: 1. Pond ash utilization for construction of road projects being executed by NHAI and UPEIDA. **NTPC Tanda has signed MOU with NHAI and UPEIDA as detailed below:** • **NHAI Varanasi NH-233 Pkg-II & III:** The MOU was signed on 20.03.2018 with NHAI Varanasi for NH-233 Pkg-II &III for transportation of 11.70 Lacs M3 of pond ash for one year which was further extended for one-year upto 19.03.2020. Out of above approx. 6.50 Lacs M3 has been utilized till March 2020. To meet its commitment NTPC-Tanda has awarded the balance work for NH-233 for ash transportation of approx. 5.40 Lacs M3. The work has already been started by the

			agency since 14.09.2020. • **NHAI Gorakhpur:** MOU was signed with NHAI Gorakhpur on 06.04.2018 for transportation of approx. 3.50 Lacs M3. Out of which approx. 3.05 Lacs M3 has been transported upto Jan., 2020. • **UPEIDA-PIU-IV to VIII:** Five MOUs were signed on 21.06.2019 for transportation of approx. 16.73 Lacs M3 of ash. The ash transportation for all the five packages is in progress. However, for economical utilization of funds NTPC Tanda has adopted competitive bidding and is in the advance stage of finalization of tendering process. • **NHAI Varanasi - Ghazipur Section of NH-29, Package-II, III & IV:** Under this initiative, NTPC Tanda is in the process of awarding the contract for 12.09 Lacs M3 of ash for NHAI Varanasi - Ghazipur Section of NH-29. For Pkg-II the work has already been started. 2. **Dry Fly Ash utilization in Cement Industry:** Auctions for sale of Approx. 4.0 Lacs MT of Fly Ash for utilization in cement industry on annual basis. NTPC Tanda has signed long term MOU on 18.02.2019 for 15 years for selling 2.40 Lacs MT of fly ash to M/s UltraTech Cement Ltd. and balance of Approx. 1.60 Lacs MT of Fly ash is being issued to other agencies. 3. **Ash filling being used as backfill in low lying areas:** NTPC Tanda is using ash as back fill material in its low-lying plant & township areas and issuing pond ash free of cost to various agencies for using as backfill material in the various residential, commercial and industrial units coming up in the vicinity of NTPC-Tanda. During Financial Year 2019-20 approx. 1.70 Lacs MT of ash were used in low lying areas. 4. **Use of fly ash in brick manufacturing and providing fly ash to brick manufacturers:** NTPC Tanda has installed 02 fully- automatic fly ash brick plants. Presently approx. 25000 fly ash bricks / day are being manufactured. These bricks are fully utilized in plant,

			townships, ash dykes and CSR work undertaken at station. All buildings at station are being constructed using fly ash bricks only. Also, to promote manufacturing and utilization of fly ash bricks in the region, NTPC Tanda is issuing fly ash to brick manufacturer free of cost. **VIII. NTPC Unchahar (Appendix- XXXIX)** • 100% Fly ah is being utilized in the manufacturing of bricks, tiles, construction of road projects by NHAI/UPEIDA and also supplied to cement industries and brick manufacturers etc. • **4** brick manufacturing machines are installed in the premises of NTPC Unchahar. About 8 to 10 thousand bricks are manufactured per day which are fully utilized in the construction activities of the Plant/Township premises. • Pond ash is being utilized in the construction of roads by NHAI/UPEIDA under National Asset Building Program. **IX. NTPC Singrauli (Appendix- XXXIX)** • NTPC Shaktinagar has installed 05 semi – automatic fly ash brick plants and 02 are in procurement stage. Presently approx. 15,000 fly ash bricks / day are being manufactured. These ash bricks are fully utilized in township, ash dykes, plant and CSR work by NTPC Shaktinagar. Only ash bricks are being used in construction activity at NTPC Shaktinagar. • Supply of pond ash for road construction projects: Following initiatives has been taken for utilization of pond ash of Shaktinagar in road construction works. The entire cost of ash transportation is being borne by NTPC Shaktinagar for these road projects. • MoU has been signed with NHAI for supply of 7.5 LMT of pond ash to NHAI - Varanasi to Hanumana road project NH-7. Supply of fly ash under MoU has been

			started from 27.06.2020. • Proposal for Additional quantity of 4.5LMT pond ash also to be transported to NHAI – Varanasi to Hanumana road project NH-7 received is under tendering stage. • **Ash filling in abandoned stone quarries:** As per directives of Oversight Committee and on request, DM Sonbhadra has proposed to allocate 2 stone queries for ash filling during meeting held on 30.09.2020. Details awaited for further necessary clearances. • **Providing fly ash to brick manufacturers upto 300 Kms radius:** To promote manufacturing and utilization of fly ash bricks in the region, NTPC Shaktinagar has contracts for supply of fly ash with brick manufacturer located up to 300 Kms from NTPC Shaktinagar. **Note: Refer Appendix- XXIII, XXIV, XXV, XXVI, XXVII, XXXVIII, XXXIX & XL.**
1.b	**Status of EC imposed or realized on the non-compliance TPPs**	**Partially Complied**	**Details of EC Imposed on TPPs: - (Refer Appendix-XXXVIII)** ➢ **M/s NTPC Rihandnagar (Stage-I, II, III), Sonbhadra (U.P.)** EC of Rs 45,90,000/- imposed on NTPC Rihand due to non-compliance of Air (Prevention & Control of Pollution) Act, 1981 & Water (Prevention & Control of Pollution) Act, 1974. With reference to the Hon'ble NGT order dated 12.02.2020 in *OA No. 117/2014 in re: Shri Shatanu Sharma Vs. Union of India & Ors.,* CPCB vide letter dated 02.07.2020 has **imposed EC of Rs 15.39 crores.** In this regard, it is submitted that NTPC Ltd. has filed Civil Appeal No. 2713/2020 in Hon'ble Supreme Court against the order dated 12.02.2020 of Hon'ble NGT. Hon'ble Supreme Court vide order dated 21.07.2020 has granted stay for submission of EC as directed by Hon'ble NGT. **(Refer Appendix-XXV)** ➢ **M/s NTPC Ltd. Shaktinagar, Sonbhadra** **EC of Rs 27,00,000/- imposed** due to non-compliance

			of Air (Prevention & Control of Pollution) Act, 1981. **A levy of Rs. 10.76 crore has been imposed as EC** and CPCB have asked to submit vide letter dated 02.07.2020. NTPC raised an appeal against which stay has been granted by Hon'ble Supreme Court vide order dated 21.07.2020. **(Refer Appendix- XXVI)** ➢ **M/s UPRVUNL Anpara-A, B, D, Anpara, Sonbhadra (Refer Appendix- XXIII)** **(a) EC of Rs 6,11,40,000/- imposed** due to 1986, Air (Prevention & Control of Pollution) Act, 1981 & Water (Prevention & Control of Pollution) Act, 1974 (b) On the basis of inspection made by Hon'ble Chairman and Member of Oversight Committee dated 15.12.2019, show cause notice was issued on 16.01.2020 for imposing Environmental Compensation of Rs 41,10,000 to Thermal Power Plants and stay has been granted by Hon'ble Supreme Court. ➢ **M/s Lanco Anpara Power limited, Anpara, Sonbhadra** **EC of CPCB share of Rs. 14,22,000/-**(i.e., 60% of Total Amount of EC of Rs. 23,70,000/-) imposed on 02.01.2020 and **EC of UPPCB share of Rs. 9,48,000/-** (i.e., 40% of Total Amount of EC of Rs. 23,70,000/-) imposed on 30.12.2019 due to non-compliance of Water (Prevention & Control of Pollution) Act, 1974. The recovery has already been stayed by Hon'ble Supreme Court of India. The details are enclosed as **Annexure-4 of Appendix- XXVII.** ➢ **M/s UPRVUNL Obra Unit-B, Sonbhadra** **EC of Rs 6,11,40,000/- imposed** due to non-compliance of EPA 1986, Air (Prevention & Control of Pollution) Act, 1981 & Water (Prevention & Control of Pollution) Act, 1974. **(Refer Appendix-XXIV)** ➢ **M/s Hindalco Industries Ltd. (Power division) Renusagar, Sonbhadra:** Utilization/disposal of fly ash for reclamation of Low-Lying area and Stowing/ back filling of abandoned Mines/ Quarries is under process. M/s Hindalco Industries Ltd. (Aluminum division), Renukoot & M/s UPRVUNL Anpara, Sonbhadra have applied for CTE from UPPCB for filling of Low-Lying Area.

<table>
<tr><td></td><td></td><td></td><td>Note: Refer Appendix- XXXVIII.</td></tr>
<tr><td>1.c</td><td>CPCB may levy Environmental Compensation in accordance with the formula referred to above w.r.t. individual in accordance with law</td><td>Partially Complied</td><td>Action taken by CPCB: In compliance of the Hon’ble NGT order dated 12.02.2020, CPCB computed the amount of EC for individual TPPs for non-utilization of 100% fly ash for years 2018 (2018-19) and 2019 (2019-20), respectively, and informed EC amount to the concerned TPPs vide letter dated 02.07.2020. The details of Environmental Compensation amount computed w.r.t. the 05 TPPs located in Sonbhadra, U.P. namely NTPC Singrauli STPS, NTPC Rihand STPS, UPRVUNL Anpara A, B & D TPS, Lanco Anpara C TPS and UPRVUNL Obra TPS are presented below:
<table>
<tr><th>Name of TPPs</th><th>Capacity 2018-19 (MW)</th><th>% Ash Utilization in 2018-19</th><th>EC for 2018 (2018-19), (in Rs.)</th><th>Capacity 2019-20 (MW)</th><th>% Ash Utilization in 2019-20</th><th>EC for 2019 (2019-20), (in Rs.)</th><th>Total EC for 2018 (2018-19) & 2019 (2019-20), (in Rs.)</th></tr>
<tr><td>NTPC Singrauli STPS</td><td>2000</td><td>35.21</td><td>5,55,37,327</td><td>2000</td><td>39.24</td><td>5,20,78,177</td><td>10,76,15,504</td></tr>
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UPRVUNL Anpara A, B & D TPS	2630	5.29	10,67,54,945	2630	3.90	10,83,17,861	21,50,72,805
NTPC Rihand STPS	3000	37.10	8,08,71,807	3000	43.18	7,30,48,312	15,39,20,119
UPRVUNL Obra TPS	1000	11.59	3,78,90,660	1000	7.94	3,94,54,554	7,73,45,215
Lanco Anpara C TPS	1200	22.03	4,00,99,031	1200	22.71	3,97,49,245	7,98,48,276

The Environmental Compensation (EC) in accordance with the formula by the NTPC, U.P. are as follows: **(Refer Appendix- XXXIX)**

1. **NTPC Singrauli**

a. With reference to the NGT order dated 12.02.2020 *in OA No. 117/2014 in re: Shri Shantanu Sharma Vs. Union of India & Ors,* CPCB vide letter dated 02.07.2020 has imposed EC of Rs. 10.76 Crores on NTPC Shaktinagar. In this regard it is submitted that NTPC Ltd. has filed Civil Appeal No. 2713/2020 in Hon'ble Supreme Court for the order dated 12.02.2020 of Hon'ble NGT. Hon'ble Supreme court vide order dated 21.07.2020 has **granted stay** for payment of EC as directed by Hon'ble NGT **(Annexure – 5 of Appendix- XXXIX).**

b. Hon'ble NGT vide order dated 11.10.2019 in *O.A. No. 453/2019 in re: Shri Anjani Jaiswal vs. Union of India & Ors.* has imposed an Environmental Compensation of Rs. 27.00 Lacs on NTPC Shaktinagar. NTPC Shaktinagar has filed Civil Appeal vide Diary No. 1197/2020 and case no. 2983/2020 in Hon'ble Supreme Court for the order dated 11.10.2019 of Hon'ble NGT. Hon'ble Supreme court vide order dated 08.10.2020 has **granted stay** for submission of EC as directed by Hon'ble NGT **(Annexure-6 of Appendix- XXXIX)**.

2. NTPC Rihand

a. With reference to the Hon'ble NGT order dated 12.02.2020 in *OA No. 117/2014 in re: Shri Shantanu Sharma Vs. Union of India & Ors,* CPCB vide letter dated 02.07.2020 has imposed EC of Rs. 15.39 Crores on NTPC Rihand. In this regard it is submitted that NTPC Ltd. has filed Civil Appeal No. 2713/2020 in Hon'ble Supreme Court for the order dated 12.02.2020 of Hon'ble NGT. Hon'ble Supreme court vide order dated 21.07.2020 has granted stay for submission of EC as directed by Hon'ble NGT **(Annexure – 5 of Appendix-**

			XXXIX). b. Hon'ble NGT vide order dated 11.10.2019 in O.A. No. 453/2019 in the matter of Shri Anjani Jaiswal vs. Union of India & Ors. has imposed an Environmental Compensation of Rs. 45.90 Lacs on NTPC Rihand. NTPC Rihand has filed Civil Appeal vide Diary No. 1197/2020 and case no. 2983/2020 in Hon'ble Supreme Court for the order dated 11.10.2019 of Hon'ble NGT. Hon'ble Supreme court vide order dated 08.10.2020 has granted stay for submission of EC as directed by Hon'ble NGT **(Annexure-7 of Appendix- XXXIX)**. **3.NTPC Tanda:** No Environmental Compensation has been levied on NTPC Tanda Super Thermal Power Station. **4. Feroze Gandhi Unchahar Thermal Power Plant:** With reference to the Hon'ble NGT order dated 12.02.2020 in OA No. 117/2014 regarding, Environmental Compensation of Rs 63.95 Lakh was levied on NTPC Unchahar for non-utilisation of 100% fly ash by Thermal Power Plants by CPCB vide letter Ref No.: B-33014/7/2020/IPC-II/TPP/ dated 02.07.2020. In this regard it has been submitted that NTPC Ltd. has filed Civil Appeal No. 2713/2020 in Hon'ble Supreme Court for the order dated 12.02.2020 of Hon'ble NGT. Hon'ble Supreme court vide order dated 21.07.2020 has granted stay for deposition of EC as directed by Hon'ble NGT **(Annexure- 5 of Appendix- XXXIX).** **5. MUNPL (Meja):** With reference to Hon'ble NGT order dated 12.02.2020 in CPCB vide letter dated 02.07.2020 has imposed EC of Rs. 5.65 Crores on MUNPL, Meja. In this regard a letter dated 11.08.2020 is submitted as per NTPC Ltd. filed Civil Appeal No. 2713/2020 in Hon'ble Supreme Court for the order dated 12.02.2020 of Hon'ble NGT. Hon'ble Supreme court vide order dated 21.07.2020 has granted stay for submission of EC as directed by Hon'ble NGT. **(Annexure -8 of Appendix- XXXIX)** **Note: Refer Appendix- XXXIX.**
1.d	**Implementation of CPCB Guidelines of May, 2019 for Utilization/Disposal of Fly Ash for Reclamation of Low-Lying Areas and in Stowing/Back filling of Abandoned**	**Partially Complied**	➢ NTPC approached Hon'ble Supreme Court against the imposition of EC on its Plants and stay order has been granted to all. Several other plants, including UPRVNL also approached Hon'ble Supreme Court**.** ➢ **<u>M/s NTPC Anpara</u>** **i. Reclamation of abandoned stone quarry/ mines:** As per the direction of the Oversight Committee vide meeting dated 25.09.2020, DM-Sonbhadra has conducted a meeting on 30.09.2020 with all stakeholders to have a sustainable solution for

	Mines/Quarries		utilization/ disposal of fly ash in district Sonbhadra. During the meeting, the number of void stone quarries has been suggested by DMO, Sonbhadra for the purpose of filling of flyash/ red mud. Consequently, DM-Sonbhadra has allotted one void stone quarry inter-alia to Hindalco Industries Limited for filling of ash/red mud. Then, a request letter submitted to DMO, Sonbhadra on 05.11.2020 with a copy to DM-Sonbhadra to allot the specific mine. After allotment of specific mines, the industries ready to do a site suitability study etc. to get requisite approval from the concern regulatory authorities. The industry is still waiting response from DMO, Sonbhadra **(Refer Appendix- XXXVI)** **ii. Reclamation of low-lying area by ash:** A low-lying area was identified in Dibulganj village near Anpara TPS to dispose off about 7.0 lac MT ash for which online application was filed on 29.04.2020 to UPPCB for obtaining NOC to develop low-lying area approx. 1.25 hectare of Private land by filling of ash/pond ash in village Murdhawa, Sonbhadra. The UPPCB has raised a number of quarries specifically to get NOC from Forest Department, Mode of transport, Disaster Management Plan, Land used certificate etc. on 03.07.2020; 29.09.2020; 02.11.2020; 21.11.2020 & 18.12.2020. the reply of all quarries has been submitted and also uploaded NOC letter issued by DFO, Sonbhadra on 22.12.2020. The copy of NOC letter from Forest Department is enclosed. The UPPCB has rejected the NOC application on 06.01.2021 with new reasons. **(Refer Appendix- XXXVI).** **iii.** District Administration has assured to provide 07 abandoned stone quarries/mines in Billi Markundi, Sonbhadra area (Area 8.4 Acre) out of which 04 mines are undisputed in which UNL will start filling ash after allotment. In these four mines, approximately 4.0 Lac MT ash can be filled. Other 03 mines have dispute of ownership between Revenue department and Forest department after resolving the dispute UPRVUNL will fill the ash approx. 3.0 Lac MT in these mines. **(Refer Appendix- XXIII)** **iv.** After getting consent from UPPCB, Anpara TPS is disposing ash slurry in low lying area (village-Dibulganj). About 1.75 Lac MT coal-ash has been filled upto Dec-2020. **(Appendix- XXIII)**

			Following area has been identified for filling of ash in low lying area and in abandoned Stone quarry: - 1. 04 mines (Area 3.6 acre) in Billi Markundi 2. Low lying area near Lodhi Toll Plaza and near Circuit House. 3. Low lying area in sector 2 & 3 at Obra colony. In compliance of CPCB guidelines, various studies are being done by MNIT, Allahabad which will take about 5 months. After completion of above studies, tender for filling of ash in these mines shall be process. **(Appendix- XL)** ➢ **M/s NTPC Obra** According to CPCB Guidelines NOC from Concerned departments i.e., Mining, Forest and Revenue had been obtained for Abandoned Stone mines and an online application had been applied through Nivesh Mitra on 3 Sep 2020. For filling ash in low lying area at location near Lodhi Toll plaza and low-lying area of Obra Sector 2 and 3 an online application had been applied through Nivesh Mitra on 6 Aug 2020 and 5 Aug 2020 respectively. **(Refer Appendix- XXIV)** ➢ **M/s NTPC Rihand** It is submitted that an application submitted to Hon'ble District Collector, Sonbhadra on 11.09.2020 for allocation of abandoned stone quarries of Dalla region. However, no abandoned mines were allocated to NTPC Rihand for stowing/ backfilling with pond ash/ flyash. **(Refer Appendix- XXV)** 01 stone quarry has been allotted to Rihand. Location and area details of stone quarry is awaited. It is further requested that NTPC Rihand is the largest power plant of Uttar Pradesh with higher responsibilities towards society, as a central PSU, it requires more avenues of ash utilization in comparison to other power plants of the region to comply with the directions of Hon'ble NGT. Hence, NTPC request to approve allocation of at least 02 abandoned store quarries to NTPC Rihand for its back filling with pond ash. **(Refer Point 6 of Appendix- XXXIX)** In compliance of directives of Oversight Committee, NTPC Rihand submitted the application dated 11.09.2019, 30.09.2020 and 29.10.2020 to District Administration for allocation of abandoned stone quarries of Dalla area. Letter of allocation of abandoned stone quarries for back filling purpose is

			awaited. CPCB guidelines shall be followed. (**Appendix- XXV)** ➢ **<u>M/s NTPC Shaktinagar</u>** Mine or voids filling work have not materialised. Pond ash being utilised in road construction work NHAI (Varanasi to Hanuman road part). **(Refer Appendix-XXVI)** ➢ **<u>M/s Hindalco Industries Ltd., Renukoot, Sonbhadra</u>** An abandoned mine in a forest land means that the land is devoid of any forest growth while the title of the land in the revenue records is forest. In this regard, the industry seeking permission to backfill abandoned mines; put a top soil cover, plant saplings for future, which would result in creation of a forest. There is no requirement of deforestation for such purpose and it does not attract the provisions of Forest (Conservation) Act. The Government could consider issuing only permission to carry out the backfilling process under due supervision of the UPPCB/ Forest Department. (**Refer Appendix-XXXII)** **Comments by UPPCB:** M/s UPRVUNL Anpara, Sonbhadra and M/s Hindalco Industries have applied one application each for disposal of fly ash for reclamation of low-lying area. Similarly, M/s UPRVUNL Obra, Sonbhadra have applied 03 applications for disposal of fly ash for reclamation of low-lying area. All applications are under consideration. **(Refer Appendix- XVII).** **Comments by CPCB:** MoEF&CC issued Office Memorandum dated 28.08.2019 to all SPCBs/PCCs regarding "Guidelines for disposal/utilization of Fly Ash for reclamation of Low-Lying Areas and in stowing of Abandoned mines/ Quarries" **(Refer Appendix- XIX).** Ash Utilization action plan mentioned at Sr. No.3. Regarding reclamation of Low-Lying Areas and in Stowing/ Back filling of Abandoned Mines/ Quarries the pit head stations status is as below: **(Refer Point-6 of Appendix- XXXIX)** • **NTPC Singrauli:** NTPC Shaktinagar has been allotted 02 stone queries. Location and area details of stone quarry waited for further necessary NOC.

			• Stowing/ Back filling of Abandoned Mines/ Quarries are not applicable to NTPC Tanda, **Unchahar (FGUTPP) and Meja (MUNPL)**
1.e	**Task Force of Ministry of Power and Ministry of Coal may recommend list of abandoned mines/quarries**	-	**NTPC Rihand** requested the concerned authorities to provide the list of abandoned coal mines & stone quarries so that the work of back filling of these mines is done in phased manner. Additionally, it has been further directed by Oversight Committee to provide the over burden dumps of operating coal mines of NCL for mixing of 25% fly ash as per the provisions of 'Fly Ash Notification' of MoEF & CC dated 03.11.2009. **(Appendix- XXV)** UPRVUNL has requested NCL for allotment of abandoned coal mines at Gorbi. **(Appendix-XL)**
1.f	**Implementation of CPCB Action Plan**	**Partially Complied**	Action Plan has been submitted to joint committee. Utilization/disposal of fly ash for reclamation of Low-Lying area and in Stowing/ Back filling of abandoned Mines/ Quarries are under process. M/s Hindalco Industries Ltd. (Aluminum division), Renukoot & M/s UPRVUNL Anpara, Sonbhadra have applied for CTE from UPPCB, for filling of Low-Lying Area which is under process. ➢ **<u>M/s NTPC Anpara</u>** • NOC from UPPCB for filling of ash in abandoned stone quarries is still awaited. After getting the approval from UPPCB the filling of ash shall be done in accordance with guideline issued by CPCB in March, 2019. **(Refer Appendix- XXIII).** • A CTE application has been submitted for scientifically disposed of flyash generated by the industry in the low-lying area of Arazi no. 16238, Dibulganj, Sonbhadra. According to RO, the proposed site is located near Rihand Reservoir. The industry has been directed for online clarification to provide the Irrigation Department information regarding the distance of the proposed site from HFL, which is still awaited. **(Refer Appendix- XVII)** • The **Anpara Action Plan** is being implemented and is enclosed as **Appendix- XVII.** • As per the guidelines of CPCB, study is being done by MNIT Allahabad. After getting the recommendation of MNIT same shall be followed at site for filling of ash in low lying area/abandoned

			stone quarry. **(Appendix- XL)** ➢ **<u>M/s NTPC Obra</u>** NOC from UPPCB for filling of ash in abandoned stone quarries/ Lodhi Toll plaza/ low lying area of **Obra Sector 2 and 3** is still awaited. After getting the approval from UPPCB the filling of ash shall be done in accordance with guideline issued by CPCB in March 2019. **(Refer Appendix- XXIV)** **For Sector- 2 & 3,** the online clarification is to be required for the following points: **a)** Industry has not uploaded the land use certificate issued by competent authority. **b)** As per **Regional Office Report, Renuka River** is situated as a distance of approximately 400 meter in North-west direction from the proposed site. Report regarding HFL of water body of irrigation department is not submitted by the industry. **c)** Industry has not submitted the detail design drawing and Technical Report for disposal of dry ash at proposed site. **d)** The technical feasibility report of reputed technical institution is required for scientific disposal of dry ash as per the MOEF&CC Notification dated 28.08.2020 regarding ash disposal. **e)** Detailed proposal of APCS for controlling emission from the disposal of dry ash in low lying area. **On receipt of the above information from the industry, the application can be disposed off on the basis of quality defect. (Refer Appendix- XVII)** A CTE application has been submitted by the industry to be scientifically disposed off in the low ash area of Dry ash near Lohari toll plaza and Circuit House, Sonbhadra. The online clarification is to be required for the following points: ▪ Proposed site is at a distance of about 500 meters from Bhilahi Dam and about 100 meters from school and forest land. Proponent has not submitted NOC of Forest department and land records. ▪ Technical study report from any reputed organization about safely disposal of flyash is required to ensure that there is no possibility of leaching of the contaminant into the Bhilahi Dam and Ground Water. ▪ Detailed proposal of APCS for controlling emission from the disposal of dry ash in low lying

			area. ▪ Industry has not uploaded the land use certificate issued by competent authority. ▪ As per **Regional Office Report, Bhilahi Reservoir (water body)** is situated as a distance of approximately 500 meter in North-west direction from the proposed site. Report regarding HFL of water body of irrigation department is not submitted by the industry. ▪ Industry has not submitted the detail design drawing and Technical Report for disposal of dry ash at proposed site. **On receipt of the above information from the industry, the application can be disposed of on the basis of quality defect. (Refer Appendix- XVII)** ➢ **M/s NTPC Rihandnagar** Ash utilization action plan submitted to joint committee in the subject case is being implemented. **(Refer Appendix- XXV)** ➢ **M/s Hindalco Industries Ltd., Renukoot, Sonbhadra** A CTE application has been submitted for scientific disposal of industry generated dry ash/ bottom ash in low-lying area of Arazi no. 445 & 447 village- Murdhwa Tehsil- Duddhi, Sonbhadra. According to the RO, NOC has been sent from the Forest Department for disposal of dry ash at the proposed site. The industry has been directed to make online verification of the NOC of the Forest Department, which is currently unavailable. **Comments by CPCB**: These points pertain to action plans to achieve 100% ash utilization within two years i.e., 2019-20 and 2020-21. However, Hon'ble NGT also decided to levy penalty after the cutoff date 31.12.2017. Accordingly, CPCB computed the EC for two years 20118-19 and 2019-20. **(Refer Appendix- XIX)** **Note: Refer Appendix- XVII, XIX & XXXVIII.**
1.g	**Status of a joint committee quarterly progress report on recommendation**	**-**	**-**

	of Expert Committee of NITI Aayog for enhanced utilization of fly ash in various sectors		
1.h	**Fly ash disposal in mounds and backfilling of ash in abandoned mines as per the CPCB Guidelines and also cost apportionments for desilting and restoration of Rihand reservoir**	**Partially Complied**	**As per information given by the UPPCB, the status is as follows:** ➢ Information has not been provided by any industry under jurisdiction of UPPCB regarding filling of fly ash in Gorbi mines. ➢ District Magistrate, Sonbhadra have allotted 05 abandoned stone quarries to M/S UPRVUNL, Anpara and Obra for filling of fly ash. ➢ Ministry of Water Resources River Development and Ganga Rejuvenation Central Water & Power Research have assessed amount of Rs. 69.09 lac for the Hydrographic/ capacity survey of Rihand Reservoir **(Note: Refer Appendix- XVII). Latest information is required from EE, Irrigation Department, Rihand Reservoir.** **I. M/s NTPC Anpara** Following action has been taken for ash disposal in the abandoned mines/stone quarries: i. 7 abandoned stone quarries in Billi Markundi area of Sonbhadra have been assured to UNL by District Administration for backfilling and development of area. ii. Total area of 7 mines is 8.4 Acre and average depth is about 20m having capacity of approx 7 lakh cum. iii. NOC from Revenue, Mining, Forest and UPPCB for backfilling is under process. iv. Anpara TPS has initiated proposal for developing ash mounds in its vicinity for landscaping work. **(Refer Appendix- XXIII).** v. Anpara TPS is initiating proposal for developing ash mounds in its vicinity for landscaping work. For this IIT-BHU has submitted feasibility report regarding development of ash mound at the vicinity of ash dyke. Work for preparation of design/drawing/ estimate of mound has been completed and sent for Admn. approval to UPRVUNL-HQ-Lko for inviting tender. **(Appendix-XXIII)**

			vi. District Administration has allocated 7 nos. abandoned stone quarries in Billi Markundi area (Area 8.4 Acre) out of which 04 mines (Area 3.6 acre) are undisputed. In these four mines approx. 3.0 Lac MT ash can be filled. NOC from UPPCB, revenue, mining and forest department has been taken. Various studies by MNIT, Allahabad are being done which will take about 5 months. After completion of above study, tender for filling of ash in these mines shall be processed. **(Appendix- XL)** **II. M/s NTPC Obra** District Administration had marked 07 abandoned stone quarries in Billi Markundi area (Area 8.4 Acre) out of which 4 mines of Area 3.6 Acre has been allotted by Mining department and NOC from Revenue department and Forest department has been obtained for filling dry fly ash/Pond Ash. For obtaining NOC from UPPCB an online application was applied through Nivesh Mitra on 3 Sep 2020, in which UNL will start filling ash after NOC and tendering process. In these 4 mines approximately 3.0 Lac MT ash can be filled. **(Refer Appendix- XXIV)** **III. M/s NTPC Rihandnagar (Refer Appendix- XXV)** NTPC Rihand conducted third party audit of its all-ash dykes by IIT- Roorkee. As per the report of IIT-Roorkee the ash dykes are 'Safe and Stable'. Identification of land for creation of ash mound is in progress. It is submitted that for developing ash mound detailed scientific and engineering studies are required in addition to the additional land requirement and huge capital expenditure. Hence, it is requested that development of Ash mounds may also be considered as ash utilization by MOEF and Hon'ble NGT. CPCB may issue guidelines for creation of ash mound. Application dated 11.09.2019 submitted to Hon'ble District Collector, Sonbhadra for allocation of abandoned stone quarry. Presently no stone quarry is available for backfilling with pond ash. Further, at NTPC Singrauli and Rihand, identification of land for creation of ash mound is to be done. It is submitted that for developing ash mound detailed scientific and engineering studies are required in addition to the additional land requirement and huge

			capital expenditure. Hence, it is requested that development of Ash Mound may also be considered as ash utilization by MoEF&CC and Hon'ble NGT. CPCB may issue guidelines for creation of ash mound. **(Appendix- XXXIX)** It is also submitted that NTPC Rihand conducted third party audit of the all-ash dykes by IIT – Roorkee during the year 2020. As per the report of IIT – Roorkee the ash dykes are 'Safe & Sustainable'. It is also submitted that NTPC Rihand already awarded the assignment of ash dyke stability study for the year 2021 to IIT – Hyderabad. Visit of experts of IIT – Hyderabad is expected in third week of Feb'21. **(Appendix- XXV)** It is submitted that for developing ash mound detailed scientific and engineering studies are required in addition to the additional land requirement and huge capital expenditure. Hence it is requested that development of Ash Mound may also be considered as ash utilization by MoEF&CC and Hon'ble NGT. CPCB may issue guidelines for creation of ash mound. In compliance of directives of oversight committee, NTPC Rihand submitted the application dtd. 11.09.2019, 30.09.2020 and 29.10.2020 to District Administration for allocation of abandoned stone quarries of Dalla area. Letter of allocation of abandoned stone quarries for back filling purpose is awaited. It is further requested that NTPC Rihand is the largest power plant of Uttar Pradesh with higher responsibilities towards society, as a central PSU, it requires more avenues of ash utilization in comparison to other power plants of the region to comply with the directions of Hon'ble NGT. Hence, NTPC Rihand requested to approve allocation of at least 02 abandoned stone quarries to NTPC Rihand for its back filling with pond ash. **(Refer Appendix- XXV)** • As per information given by Executive Engineer Rihand Dam, Civil Division, Pipari vide letter no. 297/R.C.D./camp-16 date 18.06.2019, an estimate Rs. 69,09,000 is received from Ministry of Water Resources, River Development & Ganga Rejuvenation Central Water & Power Research Station, Pune dated 06.06.2019 to Executive Engineer, Rihand Dam, Sonbhadra for acceptance and approval. Letter has been issued on dated 18.06.2019 by Executive Engineer, Rihand Dam, Sonbhadra to Executive Engineer, Electricity

			Generation, Division, U.P. Hydro Power Nigam Ltd. Pipari, Sonbhadra for its full payment. As per MoM of Oversight Committee held on dated 27.12.2018, it has been directed to polluters that expenses should be afforded by the polluters which are mainly surrounding companies. **(Appendix- XVIII)** • As per information given by Executive Engineer Rihand Dam, Civil Division, Pipari, payment of Rs. 69,09,000 have been made to Central Water and Power Research Station (CWPRS) Khadakwasla Pune Maharashtra for study. Study work has been postponed due to COVID19 and high-water level in Rihand Reservoir. Work is expected to start in Jan.,2021. Further information is awaited from Executive Engineer Rihand Dam, Civil Division, Pipari. **(Appendix- XVIII)** **IV. M/s NTPC Shakti Nagar:** NIL Gorbi mine allotted to NTPC, NTPC Vindhyachal has taken steps for study. Studies like EIA, Flora, fauna in progress. (**Refer Appendix- XXVI)** **Action Taken by CPCB:** CPCB vide letter dated 09.09.2020 requested UPPCB & MPPCB to take appropriate action for ensuring compliance of these directions of Hon'ble NGT by the concerned power plants. The comments are as follows (**Refer Appendix-XIX)**: i) **Cost apportionment** formula for siltation study for possible desilting and restoration of Rihand reservoir accepted by Hon'ble NGT. ii) **Backfilling of the abandoned mines:** MoEF&CC has issued Office Memorandum dated 28.08.2019 to all SPCBs/PCCs regarding "Guidelines for disposal/utilization of Fly Ash for reclamation of Low-Lying Areas and in stowing of Abandoned mines/Quarries". **Comments by UPPCB: (Appendix-XVIII)** • District Magistrate Sonbhadra has allotted 5 abandoned stone quarries to M/s UPRVUNL Anpara and Obra for filling of fly ash. Another 5 abandoned stone quarries have been orally allotted to NTPCs, Lanco and Renusagar TPP. • Study work through MNNIT Allahabad is being carried out by UPRVUNL Obra for back filling of ash in low lying areas of Lodhi Toll Plaza and Obra Sector-2 & 3 and also in abandoned Stone

			Quarries. After getting Technical Feasibility Report from MNNIT, Allahabad tendering process for backfilling of ash in these areas shall be finalized. • As per information given by Executive Engineer Rihand Dam, Civil Division, Pipari, payment of Rs. 69,09,000 has been made to Central Water and Power Research Station (CWPRS) Khadakwasla Pune Maharashtra for study. Study work has been postponed due to COVID19 and high-water level in Rihand Reservoir. Work is expected to start in Jan.,2021. Further information is awaited from Executive Engineer Rihand Dam, Civil Division, Pipari.
1.i	**Status of RCC wall around the flyash dyke**	**Partially Complied**	**UPRVUNL Anpara:** The ash made by UPRVUNL Anpara, Sonbhadra is situated in the village-Baldevah. The fly ash generated from the thermal project is disposed off in the said Ash Dyke Pond. The RR Wall with gate has been constructed to prevent overflow of ash slurry from the secondary spill-way of Ash dyke pond. Anpara Thermal Power Station has got prepared the design and drawing of first raising of ash dyke by IIT Roorkee and the work is under progress. **(Appendix-XXIII)** The fly ash dyke is structurally safe. The soil investigation of ash dyke was done by MNIT Allahabad and on the basis of investigation report IIT Roorkee has designed the ash dyke raising work using Gabion Wall. All safety measures such as Sand filter, Chimney Filter, Geo grid, Geo textile, Brick pitching with pointing, grass turfing on outer slope, decantation well etc has been taken. The ash dyke is being raised on IIT Roorkee Report in which all safety measure has been taken therefore, there is no any chances of breaching of ash dyke. Hence RCC wall is not required around the ash dyke. **(Appendix- XL)** **Obra TPS-** The fly ash dyke is structurally safe. The soil investigation of ash dyke was done by IIT BHU and on the basis of investigation report IIT Roorkee has designed the ash dyke using Gabion Wall. All safety measures such as Sand filter, Chimney Filter, Geo grid, Geo textile, Brick pitching with pointing, grass turfing on outer slope, decantation well etc has been taken. The ash dyke is being raised on IIT Roorkee Report in which all safety measure has been taken

			therefore, there is no any chances of breaching of ash dyke. Hence RCC wall is not required around the ash dyke. **(Appendix- XL)** **NTPC Rihand:** Ash dykes of NTPC Rihand has been constructed with approved engineering design provided by corporate centre. Construction of RCC wall around the dyke is not envisaged in the engineering design. Third party assessment of ash dykes has also been carried out through IIT – Roorkee and as per the assessment report ash dykes of NTPC Rihand are "Technically Sound and Structurally Sustainable". Copy of the certificate of IIT – Roorkee is enclosed as Annexure – 01. It is also submitted that NTPC Rihand already awarded the assignment of ash dyke stability study for the year 2021 to IIT – Hyderabad. Visit of experts of IIT – Hyderabad is expected in third week of Feb'21. **(Appendix- XXV)**
1.j	**Flyash mound as has been developed by NTPC Dadri**	**-**	**-**
2.	**Report of the CPCB regarding Cost-apportionment**	**Not Complied**	**U.P. irrigation (Report Awaited)** A letter has been sent to Executive Engineer/ Suptd. Engineer, Rihand Dam, Civil division, Irrigation Department, Pipari, Sonbhadra on 24.12.2019 for its compliance. No reply is received by State Board till now from Irrigation Department. (**Refer Appendix-XVII)**

2.a	**Status of contribution of each power plant to assess sediment volume at various places in the reservoir/ Report of the CPCB regarding Cost apportionment for desilting/restoration of Rihand Reservoir**	**Partially Complied**	As per the information given by Executive Engineer/ Suptd. Engineer, Rihand Dam, Civil Division, Irrigation Department, Pipari, Sonbhadra vide letter no. 297/R.C.D./camp-16 dated 18.06.2019, an estimate Rs. 69,09,000/-is received from Ministry of Water Resources, River Department & Ganga Rejuvenation Central Water & Power Research Station, Pune dated 06.06.2019 to Executive Engineer, Rihand Dam, Sonbhadra for acceptance and approval. Letter has been issued on 18.06.2019 by Executive Engineer, Rihand Dam, Sonbhadra to Executive Engineer, Electricity Generation Division, U.P. Hydro Power Nigam Ltd., Pipari, Sonbhadra for its full payment. As per MOM of Oversight Committee held on dated 27.12.2018, it has been directed to polluters that expanses should be afforded by the polluters which are mainly surrounding companies. (**Refer Appendix- XVII & XVIII)** U.P. Hydro Power Nigam Ltd. has made payment of Rs. 69,09,000 to Central Water and Power Research Station (CWPRS) for capacity survey of RR. Work is getting late due to COVID 19 epidemic and flood in RR. Further information is awaited from Executive Engineer Rihand Dam, Civil Division, Pipari. **(Appendix- XVIII)** **Action Taken by CPCB:** CPCB vide letter dated 09.09.2020 requested the Irrigation & Water Resources Department, U.P. to take appropriate action for ensuring compliance of the direction of Hon'ble NGT. **(Refer Appendix- XIX)**
2.b	**Status of the Total ash slurry volume generated by each plant on the periphery of Rihand Reservoir**	**Partially Complied**	Overflow site of fly ash was inspected by RO, Sonbhadra. The inspection of the main ash dam at Belvadah of Anpara Thermal Project was done by the officers on 29.09.2020 as per the direction given by Oversight Committee. Shri A. K. Rai, Executive Engineer and Shri P.K. Gupta, Superintending Engineer was present at the time of inspection. The detailed inspection report of Ash Dyke is as follows **(Refer Appendix- XXXIV):** 1. The fly ash generated from the thermal project is disposed off in the said Ash Dyke Pond. The RR Wall with gate has been constructed to prevent overflow of ash slurry from the secondary spill-way of Ash dyke pond.

			2. A total of 09 water pumps of water of 750 kl/hour capacity have been installed in unit number A and B to reuse water from ash dyke pond, one of which is used as a stand by pump. Unit No. D has 02 water pumps installed of 1350 kl/hour capacity, one of which is used as a standby pump. The total capacity of the water pump installed in the above three units is 7350 kl/hour. 3. At the time of inspection, the slurry effluent from the ash dam was not found to be discharged into the Rihand Reservoir. It was informed by the industry representatives that between 24.09.2020 to 26.09.2020, there was heavy rainfall in the region, due to which large amount of rainwater in the ash dam was overflowed and disposed off overflowing in Rihand reservoir. The slurry flow overflow was soon controlled by operating the AWRS at full capacity. It was also informed by the industry representative that two natural drains (i.e., Morcha Nala and Mokha Nala) meet at Ash dyke pond. Through these two drains, a large area of rainwater falls into the ash dam, which sometimes makes it impossible to recirculate the water from the ash dam.  

Fig-8: Ash Slurry overflows into Rihand Dam (1. Huge amount of water of Morcha Nala is flowing inside the ash dyke. AWRS system is capable of recycling only slurry water. Excess water overflowing is due to rain water coming from Morcha Nala; 2. Rain water in huge quantity of very large catchment area of ash dyke and many small & big natural nallah coming in ash dyke in rainy season is uncontrollable due to ash dyke raising work.)

			 Latitude: 24.189701 Longitude: 82.88768 Elevation: 278.36 m Accuracy: 7.5 m Time: 09-26-2020 12:40 Note: spillway  Latitude: 24.189641 Longitude: 82.887636 Elevation: 264.87 m Accuracy: 9.6 m Time: 09-26-2020 12:38 Note: spillway  Latitude: 24.189662 Longitude: 82.887567 Elevation: 264.02 m Accuracy: 10.7 m Time: 09-26-2020 12:38 Note: spillway

Fig-9: Scene of 29.09.2020: During Normal days i.e., without Rain water condition of zero discharge (water from natural drains discharging water into the ash dyke reduced to minimum. As a result, zero discharge was re-attained.)

4. At the time of inspection, it was informed by the industry representatives that construction work of new and improved gate is being done on the spill-way to restrict saline flow in Rihand reservoir, which is expected to be complete Oct., 2020. It was also informed that two new decantation well were also present in Lagoon- 2. Construction of the pipeline up to the secondary pond at dictation well will be complete by the month Dec., 2020, after which it will be possible to stop any kind of impact in the Rihand Reservoir.

5. For diversion of Morcha Nala, a meeting was conducted on 04.11.2020 in the chairmanship of Additional Chief Secretary, Department of Irrigation and Water Resource, GoUP. In the above meeting irrigation department has denied to divert the Morcha nala due to geographical conditions of the area. However, it was suggested that UPRVUNL may seek

			consultation from Central Water and Energy Research Centre, Pune or Central Water Institute, New Delhi. Accordingly, vide letter nos. 944 &945 /CE(L-1)/ATP/Camp dated 31.12.2020 and 84 & 85/CE(L-1)/ATP/Camp dated 27.01.2021, requests for consultancy service offer have been made from aforesaid institute. However, the offers are still awaited. **(Appendix- XL & XLIV)**   **Fig-10: Construction of New Decantation Well** 6. It was informed by the industry representative that the work of upgradation of Lagoon-3 is being done, which has been set to be completed by March, 2021. 7. According to the information received from the industry representative, the study of changing the direction of natural drain has been done from IIT, BHU, Varanasi. The said institute has presented a detailed design and drawing to change the direction of the drain, according to which the total cost of the work of changing the direction of the drain has been

<table>
<tr><td></td><td></td><td></td><td>estimated as Rs.32.18 crore. Assessment report received from IIT, BHU has been sent to Corporation HQ. Action is being taken by the Corporate HQ to wait for the said proposal from the Irrigation Department.

8. CCTV cameras were found installed near the spill way gate at the time of inspection. The industry representative informed that CCTV cameras have not been linked to online servers due to network problems in the area. With the CCTV camera made online, the overflow in flyash Rihand Reservoir can be effectively monitored.</td></tr>
<tr><td>2.c</td><td>Share in Total Ash Slurry of plants (% of total)</td><td>Partially Complied</td><td><u>Status of Total Ash Slurry:</u>
<table>
<tr><th>Thermal Power Plant</th><th>Capacity (MW)</th><th>Total ash disposed in Ash Pond till 31.03.2019 (MMT)</th><th>Total ash slurry disposed in Ash Pond till 31.03.2019 (MMT)</th><th>Relative share in total Ash of plants (multiple of least)</th><th>Relative share in total Ash Slurry of plants (multiple of least)</th><th>Share in total Ash of plants (% of total)</th><th>Share in total Ash Slurry of plants (% of total)</th></tr>
<tr><td>Anpara TPS UPRVUNL</td><td>2630</td><td>81.313</td><td>569.225</td><td>31.7</td><td>66.3</td><td>22.9 %</td><td>19.6 %</td></tr>
<tr><td>Lanco Anpara</td><td>1200</td><td>10.870</td><td>46.395</td><td>4.2</td><td>5.4</td><td>3.0%</td><td>1.6%</td></tr>
<tr><td>Renusagar, Hindalco</td><td>820</td><td>2.564</td><td>8.584</td><td>1</td><td>1</td><td>0.7%</td><td>0.3%</td></tr>
<tr><td>Singrauli NTPC</td><td>2000</td><td>89.295</td><td>803.654</td><td>34.8</td><td>93.6</td><td>25.1 %</td><td>27.6 %</td></tr>
<tr><td>Vindhyachal NTPC</td><td>4760</td><td>104.937</td><td>953.855</td><td>40.9</td><td>111.1</td><td>29.6 %</td><td>32.8 %</td></tr>
<tr><td>Rihand NTPC</td><td>3000</td><td>66.136</td><td>529.008</td><td>25.8</td><td>61.6</td><td>18.6 %</td><td>18.2 %</td></tr>
<tr><td>Total / combined</td><td>12610</td><td>355.115</td><td>2910.801</td><td>138.4</td><td>339</td><td>100 %</td><td>100 %</td></tr>
</table></td></tr>
<tr><td>3.</td><td>Status of Anpara TPS and Lanco-Anpara power</td><td>Partially Complied</td><td><u>M/s NTPC Anpara</u>

a) Show cause notice vide letter no. dated 16.01.2020</td></tr>
</table>

	plants to stop ash pond overflow discharge into Rihand Reservoir		have been issued by UPPCB to M/S UPRVUNL Anpara, Sonbhadra to stop ash pond overflow discharge into Rihand Reservoir and imposed EC of Rs 41.10 Lakh. Confirmation has been sent to Head Office, UPPCB, Lucknow vide letter no. G114035/Anpara Thermal/ 2020 dated 29.02.2020 to take action against aforesaid TPP under section 33A of Water (Prevention & Control of Pollution) Act. 1974 with imposing EC for Rs. 41.10 Lac. **(Refer Appendix- XVII & XVIII)** i. Ash Dyke is being raised to the extent of 5 meter for disposal of wet ash. One compartment of ash dyke is likely to be complete by November, 2020. About 75-80% work has been completed for one lagoon/compartment. Over flow from ash dyke into the reservoir has been arrested w.e.f. 17th Feb., 2020. AWRS system at Anpara TPS are installed and are working effectively **(Refer Appendix- XXIII)** In order to ensure zero discharge from Ash Pond to Rihand reservoir, UPRVUNL has taken following preventive actions: 1. First height raising of ash dyke (up to 05 meters) is presently being carried out, which has been divided in two separate lagoons. The first lagoon shall be charged in May, 2021, before onset of monsoon season. Ash dyke raising has enabled sufficient water detention time, leading to passage of clear water to auxiliary pond, which shall be re-circulated for reuse in the plant through AWRS system. Apart from above following is being made to arrest the overflow: - i. Increasing the height of main spillway ii. Construction of RR wall with steel gate in auxiliary pond. iii. AWRS of A, B, D and Lanco TPs is in operation. iv. For Morcha Nala diversion offer from following department has been invited (a) Central Water and Energy Research centre, Pune (b) Central Water Institute, New Delhi. 2. The ash slurry will be discharged in first lagoon, while the other lagoon will be kept ready after its proper maintenance. 3. Discharge of ash slurry into the lagoon, which observes discharge of Morcha Nala shall be stopped during the monsoon season, while the other lagoon shall be utilized for disposal of ash slurry from the plant. **(Appendix-XLIV)**

Fig-11: Gabbion wall work in Lagoon-1 of Ash Dyke

			 **Fig-12: Gabbion wall work in Lagoon-2 of Ash Dyke** • During the visit of Hon. MP & RO, Sonbhadra on dt 23.01.2021, there is no discharge from ash dyke into the Rihand reservoir observed by them. **(Appendix- XXIII)** • Joint Recommendation of CPCB & UPPCB have been send to head office UPPCB for imposing EC of Rs.60.60 Lac (From dated 01.08.2019 to 18.02.2020) for violation of Environmental norms. • Presently unit has stopped the ash pond overflow discharge into Rihand reservoir. **(Appendix- XVIII)** **Action Taken by CPCB:** CPCB vide letter dated 09.09.2020 requested UPPCB & MPPCB to take appropriate action for ensuring compliance of these directions of Hon'ble NGT by the concerned power plants. **(Refer Appendix- XIX)** **M/s Lanco Anpara Power Ltd.** • The LANPL has entered into 'Facilities and Services Agreement' with UPRVUNL on 12.11.2006 for the use of ash dyke as one of the common facilities. As per Agreement, the ownership of the ash dyke lies with UPRVUNL and owner shall operate and maintain the common facilities. LANPL against the 'Facilities and Services Agreement' is paying UPRVUNL **a sum of Rs. 7.2 Cr + 18% GST + Adjustment w.r.t. WPI on annual basis.** • LANPL's Ash Water Recovery System is fully functional to recover the water from secondary pond. **(Refer Appendix- XXVII)**
3.a	**Status of other compartments to divert the nala**	**Not Complied (Under Process)**	According to the information received from the industry representative, the study of changing the direction of natural drain has been done from IIT, BHU, Varanasi. The said institute has presented a detailed design and drawing to change the direction of the drain, according to which the total cost of the work of changing the direction of the drain has been estimated as Rs.32.18 crore. Assessment report

			received from IIT, BHU has been sent to Corporation HQ. Action is being taken by the Corporate HQ to wait for the said proposal from the Irrigation Department.
3.b	**Status of way to stop the unit and liable for the environmental compensation**	**-**	**-**
3.c	**Status of liability for Environmental Compensation in respect of UPRVUNL Anpara assessed by Joint Committee of CPCB and UPPCB**	**Partially Complied**	It was submitted that Anpara TPS filed a Civil Appeal before Hon'ble Supreme Court against imposed EC and Hon'ble Supreme Court has granted stay on the same. **(Refer Appendix- XXIII)** **Comment by UPPCB:** On the basis of inspection made by Hon'ble Chairman and Members of Oversight committee on dated 15.12.2019 Show cause notice dated 16.01.2020 had been issued by UPPCB to M/S UPRVUNL Anpara, Sonbhadra to stop ash pond overflow discharge into Rihand Reservoir and imposed EC of Rs 41.10 Lakh. Confirmation letter vide letter no. G114035/Anpara Thermal/ 2020 dated 29.02.2020 had been sent to UPPCB, Head Office, Lucknow for imposing EC of Rs 41.10 Lakh. Earlier EC of Rs 6,11,40,000/- had been imposed in compliance of Joint Committee recommendations. The units have given explanation of show cause notice that overflow took place due to heavy rain in the area and they have started raising the height of the ash dyke walls. **UPRVUNL Anpara:** Environmental compensation amounting to Rs 6.114 Cr and of Rs 21.507 Cr was imposed which has been stayed by Hon'ble Supreme Court. **(Appendix- XXIII)** **Action taken by CPCB:** CPCB vide letter dated 09.09.2020 requested the Irrigation & Water Resources Department, U.P. to take appropriate action for ensuring compliance of the direction of Hon'ble NGT. **(Refer Appendix- XIX)**
4.	**Transportation measures as per Suggestions of the Committee and directions of the Hon'ble Supreme Court.**	**Partially Complied**	➢ **M/s NTPC Rihandnagar** and **M/s NTPC Shaktinagar-** NTPC Rihand is transporting coal from the linked mines of Northern Coalfield Ltd. (NCL) through Merry-Go-Round (MGR) Railway system. NTPC Rihand is not transporting any coal through road. **(Refer Appendix- XXV & XXVI)** ➢ **M/s Anpara TPP (Unit-A, B & D) Anpara, Sonbhadra-** Coal transportation is being done by

			railway wagon (MGR system). Anpara Thermal Power Project never transported coal through road. **(Refer Appendix- XXIII)** ➢ **M/S Obra TPP (Unit-C) Obra, Sonbhadra-** Coal transportation is being done by railway wagon. Obra thermal power project never transported coal though road. **(Refer Appendix- XXIV)** ➢ **M/S Lanco Anpara Power Ltd., Anpara, Sonbhadra-** Approximately 90% Coal is being transported by railway wagon and balance 10% coal is being transported through road. **(Refer Appendix- XXVII)** ➢ **M/S Hindalco Industries (Power Division)** has installed belt pipe conveyor (BPC) system from Krishnashila coal mine of about 4.65 km for coal transportation. Industry is transporting approximate 80% Coal through BPC and balance 20% transported through road. ➢ NCL has approached Hon'ble Supreme Court for obtaining relaxation in transportation of coal by road against Hon'ble NGT order dated 28.0.2018 and 24.01.2019. ➢ Hon'ble Supreme Court has passed the following order: **"……Status quo, as of today, shall be maintained in the meantime."** ➢ Deadline given by Oversight Committee was dated 30.04.2019 and in the meantime vide order dated 22.04.2019 Hon'ble Supreme Court has ordered for status quo. ➢ Notices were issued to NCLs & RTO, Sonbhadra vide Regional Office, UPPCB, Sonbhadra letter dated 30.04.2019 & DM, Sonbhadra letter dated 02.05.2019 for compliance of orders passed by Hon'ble Supreme Court and Hon'ble NGT. ➢ NCLs had stopped the transportation of coal by road after the Oversight Committee meeting on 07.06.2019. ➢ Coal transportation has been restarted by NCL's in compliance of order passed by Hon'ble Supreme Court in Civil Appeal Diary No.(s) 17015/2019 dated 01.07.2019 **(Refer Appendix- XXIII).** Content of the

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<td></td>
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<td>order is as follows:

“Status quo order passed by this court on 22.04.2019 is verified to mean that transportation by road will continue in the meanwhile.”

Action Plan for supply of Coal to Thermal Power Plant through Railway Wagons/ MGR/ Belt Pipe Conveyors: Krishnashila Project of M/s Northern Coalfields Limited has sufficient capacity to supply/ dispatch of coal to Thermal Power Plant through Railway Wagons and Belt Pipe Conveyors. The present dispatch capacity for Krishnashila Project through different modes against the annual production capacity of 7 MTPA is given below (Refer Appendix-XXIX):
<table>
<tr><th>Sl. No.</th><th>Mode of Despatch other than Road</th><th>Annual Capacity (MTY)</th></tr>
<tr><td>1</td><td>Through Railway Wagons</td><td>3 MTY</td></tr>
<tr><td>2</td><td>Through Belt Pipe Conveyors</td><td>3.5 MTY</td></tr>
<tr><td colspan="2">Total</td><td>6.5 MTY</td></tr>
</table>
Further, coal handling plant of 4 MTY capacity is under construction and will be completed by December, 2020. It will further enhance the dispatch capacity by Rail Mode. Presently, coal is being supplied through road mode (less than 10%) under e-auction scheme to small consumers which are unable to get coal through rail mode and are only dependent/rely on road mode. (Refer Appendix- XXIII)

Action Taken by CPCB: CPCB vide letter dated 09.09.2020 requested UPPCB & MPPCB to take appropriate action for ensuring compliance of these directions of Hon’ble NGT by the concerned power plants. (Refer Appendix- XIX)</td>
</tr>
<tr>
<td>5.</td>
<td>Ash dyke management of Anpara TPS</td>
<td>Partially Complied</td>
<td>Ash dyke management of Anpara TPS (Appendix-XXIII)
Table- Installed Capacity of Anpara TPS
<table>
<tr><th>S. No.</th><th>Capacity of Units</th><th>Date of Commercial Generation of Electricity</th></tr>
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			<table><tr><td>**1**</td><td>**Anpara 'A' TPP (3 x 210 MW)**</td><td>Unit 01- (01.01.1987) Unit 02- (01.08.1987) Unit 03- (01.04.1989)</td></tr><tr><td>**2**</td><td>**Anpara 'B' TPP (2 x 500 MW)**</td><td>Unit 04- (01.03.1994) Unit 05- (01.10.1994)</td></tr><tr><td>**3**</td><td>**Anpara 'D' TPP (2 x 500 MW)**</td><td>Unit 06- (08.05.2016) Unit 07- (18.10.2016)</td></tr></table> • Fly ash generated from the above units are partly utilized by issuing fly ash free of cost to cement industries/ash brick industries and balance quantity is discharged to ash dyke where ash accumulated in pond and settled water is being recirculated by AWRS to plant for its reuse in Ash handling system. • Ash collected in the ash pond is partly utilized in raising of ash dyke in scientific manner. • Area of the ash dyke is approx. 1200 acres. The above dyke was constructed in 2003. • To enhance the capacity of ash dyke its first raising work has been started from August, 2019. Raising of the dyke is being done as per the technical specification/drawing/scope of work finalized by expert Civil Engg. of IIT Roorkee (Renowned Institute of India for Civil Engineering).

- The pond has been divided into two lagoons; one is under raising and other in service. This shall facilitate timely raising of the ash dyke and to operate it in scientific manner.

Fig-13: Construction of Divider Bund (View without coal picks stone pitching)

Fig-14: Construction of Divider Bund with coal picks stone pitching (Lagoon-1)

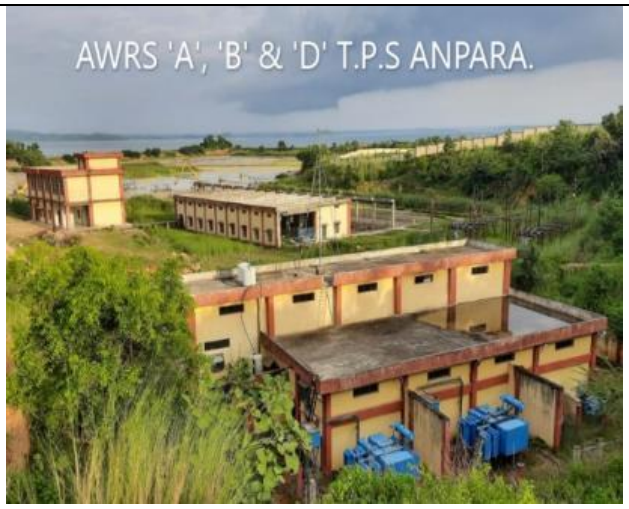
Fig-15: Construction of Divider Bund with coal picks stone pitching (Lagoon-2)

- Ash water recirculation system (AWRS) facilitates

			for recirculation of ash pond water. Ash from the plant is mixed with water to form ash slurry which with help of pumps and piping system is being discharge to ash pond where ash is settled in the pond and water with the help of decanted well is transferred to auxiliary pond/overflow lagoon. Auxiliary pond is functioning as a sump for ash water pumps of AWRS system, from the above pumps water is being transferred to plant with help of pumps and pipes for its reuse in ash handling system. • LOI No. 767/pd-ii/btps/o-1 dated 18.12.2020, M/s Endress+ Hausser (India) Pvt. Ltd., Mumbai has been issued for supply, installation, commissioning Electromagnetic flow meters &Ultra sonic flow meters to measure the quantity of water to be mixed to ash to form ash slurry disposed in the ash-dyke and amount of water recycled from the ash pond. Flow meters are expected to be installed by Sep., 2021. **(Refer Appendix- XXIII)** • The unit is yet to install flow meters to measure quantity of ash slurry disposed off in the ash dyke and amount of water recycled from the ash pond. **(Refer Appendix- XXXVIII)** 

			 • Auxiliary pond is also being maintained by using dredging machine for removal of settled ash which partially comes through ash pond water.  **Fig-16: Pondage Capacity created in Auxiliary Pond** • To maintain zero discharge from ash dyke all the system i.e. ash slurry pump, ash dyke and AWRS System all should work well. • To maintain all three systems regular work is being done.



I. NTPC Shaktinagar (Appendix- XXXVIII)

- The unit has installed flow meters to measure quantity of ash slurry disposed off in the ash dyke and amount of water recycled from the ash pond.
- As per the records, the unit has discharged 6190530 KL ash slurry and recycled 551477 KL water during the quarter ending 31.10.2020.

II. NTPC Rihand (Appendix- XXXVIII)

- The unit has installed flow meters to measure quantity of ash slurry disposed in the ash dyke and amount of water recycled from the ash pond.
- As per the records, the unit has discharged 1122526 MT ash in the form of slurry and recycled 9052800 KL water during the quarter ending 31.10.2020.

III. M/s Lanco Anpara-C TPS: The unit has not yet installed flow meters to measure quantity of ash slurry disposed in the ash dyke and amount of water recycled from the ash pond. **(Appendix- XXXVIII)**

IV. M/s Hindalco Industries, Renusagar (Appendix- XXXVIII)

- The unit has not yet installed flow meters to measure quantity of ash slurry disposed in the ash dyke and amount of water recycled from the ash pond.
- As per the records, the unit has discharged 1024519 KL ash slurry and recycled 780420 KL water during the quarter ending 31.10.2020.

V. Obra TPS (Appendix- XXXVIII)

- The unit has installed flow meters to measure quantity of ash slurry disposed in the ash dyke and amount of water recycled from the ash pond.

			• As per the records, the unit has discharged 2569483 KL ash slurry and recycled 1457280 KL water during the quarter ending 31.10.2020.
6.	**Necessary renovation of the ash dykes needs to be carried out in order to prevent breaching of ash pond and spreading of slurry into surround environment and Rihand Reservoir**	**Partially Complied**	**I. <u>NTPC Shaktinagar</u> (Appendix- XXXVIII)** • The inspection team observed some under water flow of ash slurry discharge into the Rihand Reservoir near ash dyke of the unit. Probably, it must be underground pipeline from the ash dyke discharging ash slurry into the reservoir. • The damage caused to the environment due to such unidentified discharge is not measurable and irreversible. • The Committee also referred to Google Earth Satellite Image dated 20.03.2019 and 10.12.2016 wherein the discharge of ash slurry from ash dyke into the Rihand Reservoir is clearly visible. **II. <u>NTPC Rihand</u> (Appendix- XXXVIII)** • It was informed that all the precautions are taken to ensure safety of ash dykes. • The third-party evaluation was also carried out regarding stability and safety of the ash dyke. **III. <u>M/s Anpara TPS</u> (Appendix- XXXVIII)** • The ash dyke raising work was in progress at the time of visit. • During the visit, the team observed such discharge from ash dyke into Rihand reservoir was not observed. The camera was also installed to monitor the discharge. • The Committee also referred Google Earth Satellite Image dated 13.06.2018 and 27.05.2016 wherein the discharge of ash slurry from ash dyke into the Rihand Reservoir was clearly visible. • The unit was asked to submit CCTV footage of the said camera since April, 2020 to UPPCB in order to verify the claim of the unit. **IV. <u>M/s Lanco Anpara-C TPS</u> (Appendix-XXXVIII):** The unit is discharging ash slurry into the ash pond operated by M/S Anpara TPS. **V. <u>M/s Hindalco Industries, Renusagar</u> (Appendix-XXXVIII)** • It is informed that all the precautions are being taken to ensure safety of ash dykes. • The third-party evaluation was also carried out regarding stability and safety of the ash dyke.

			VI. <u>Obra TPS</u> (Appendix- XXXVIII) • The Committee refer to Google Earth Satellite Image dated 26.05.2020 and 29.11.2018 wherein the discharge of ash pond overflow is clearly visible.
7.	**Status on ban of manufacturing of red bricks by use of clay/soil and by burning of coal with a view to facilitate more disposal of fly ash in brick manufacturing**	**Partially Complied**	▪ As per given by **M/S Hindalco industries Ltd. (Power Division) Renusagar, Sonbhadra** they are supplying fly ash free of cost to brick kiln owners, brick making plant anf low lying areas ash filling and road projects. ▪ **M/S NTPC Shaktinagar** has installed five brick manufacturing plants in its own premises. Further contract is under process of tendering for two more ash brick plant for enhance production capacity of fly ash bricks. **(Refer Appendix- XXVI)** ▪ **M/S NTPC Rihandnagar** has 02 semi-automatic fly ash bricks manufacturing plants and 02 fully automatic fly ash brick manufacturing plants. About 24000 Fly ash bricks/ day are being manufactured at NTPC Rihand. These bricks are fully utilized in plant, townships, ash dykes and construction activities under C.S.R. works undertaken by NTPC Rihand. All buildings of NTPC Rihand are being constructed using fly ash bricks only. **(Refer Appendix- XXV & 6)** **Note: Refer Appendix- XIII.** **Comments by CPCB:** Draft notification dated 25.02.2019 is under finalization in MoEF&CC **(Refer Appendix- XIV).**
8.	**Zero discharge from ash dyke and constraints in Anpara TPS**	**Partially Complied**	**Anpara TPS**: For safety of ash dyke there is a spillway which facilitate the ash dyke to discharge water when level of water raises above free board level. This happens in two cases: - 1. If AWRS is not working. 2. If outside water comes in the dyke. To ensure AWRS System functional UPRVUNL is doing preventive overhauling work time to time but at Anpara ash dyke water is coming from its nearby catchment area (Through Morcha Nala) due to its geographical location. This excess water sometimes results in overflow from the ash pond through spillway. The owner of Morcha Nala is irrigation department. Matter has been taken up with irrigation department for its diversion and if it is diverted/ prevented to flow water into ash pond then UPRVUNL can ensure 100% zero liquid discharge from ash pond.

			For the diversion of Morcha Nala a letter no. 965/UNL/E&S dated 27.07.2020 has been written to Additional Chief Secretary, Irrigation and Water resources U.P. from Additional Chief Secretary, Energy, U.P. **(Refer Appendix-XXIII & XL)**   

Fig-17: Zero Liquid Discharge at Main Spillway

Ash Dyke is being raised to the extent of 5 meter for disposal of wet ash. One compartment of ash dyke is likely to be completed up to November 2020. About 75-80% work has been completed for one lagoon/compartment. Over flow from ash dyke into the reservoir has been arrested w.e.f. 17th Feb – 2020. AWRS of Anpara TPS and Lanco TPS are under full operation. A team of Regional Officer, Sonbhadra UPPCB have also inspected the site on 17.02.2020 for checking of zero discharge from Anpara TPS. **(Refer Appendix- XXIII)**

Anpara TPS is committed to achieve zero discharge (ZLD). (Refer Appendix- XXIII)

i. **DTPS Plant:** Process water and storm water are reaching into plant- ETP. Treated plant- STP water is separately used for horticulture works and it is not mixed with ETP and storm water.

			ii. Plant area ETP & STP effluent is not being discharged outside the premise, it is recycled and used in sprinkling in coal handling plant, making ash slurry and utilizing in horticulture etc. **iii. A & B TPS Plants:** Work for installing ETP is under tendering process at HQ-Lucknow. Part quantity of this water is being used in Coal Handling Plant for sprinkling and dust separation. **iv. STP Colony (Existing):** The work for joining of CISF complex (which is inside plant area) to STP is under progress. This work also includes recirculation of treated water through pipeline from existing STP to ash slurry pump for its reuse. The work is likely to be completed upto March, 2021. Domestic effluent is treated through STP and the parameters are within the specified limits and partially used for horticulture.   **Fig-18: Zero Liquid Discharge at Secondary Spillway** **Anpara TPS** has sent feasibility report submitted by IIT-BHU to Corporation HQ. In reference to this MD-

			UPRVUNL has organised the high-level meeting with P.S. Irrigation Dept. and P.S. Forest Dept. According to decision of the meeting letter has been written to Chairman, CWC-New Delhi & CW&ERC, Khadagwasala, Pune (MS) for technical, financial & environmental study for diversion of various natural drains. (Morcha-nalla etc.) From 17.02.2020 to till date, there is zero discharge from ash dyke into the Rihand reservoir. During the last visit of CPCB/UPPCB zero discharge from ash dyke into the Rihand reservoir was observed. **(Appendix- XXIII)** Raising of ash pond of Anpara is being done which will be completed up to March 2021.Entire ash pond is divided in two parts. The one part i.e., lagoon 02 is almost completed in which ash slurry will be disposed in next 02 months. Apart from above UNL following is being made to arrest the overflow: i. Increasing the height of main spillway ii. Construction of RR wall with gate in auxiliary pond. iii. AWRS of A, B, D and Lanco TPs is in operation. iv. For Morcha Nala diversion offer from the following department has been invited: a. Central Water and Energy Research Centre, Pune b. Central Water Institute, New Delhi (Reply still awaited) v. At present there is no any overflow from ash pond to Rihand reservoir. **(Appendix-XL)** **Constraints**- Apart from above a big natural drain are discharging huge quantity of water in ash pond which is to be diverted by irrigation department, UP as the drainage and water management is in the scope of irrigation department. **Comments by UPPCB:** As per the latest inspection, unit is maintaining Zero discharge from ash dyke. **(Appendix- XVIII)**
9.	**Ash Utilization in stone quarry of Anpara TPS**	**Partially Complied**	District Administration has allocated 7 nos. abandoned stone quarries in Billi Markundi area (Area 8.4 Acre) out of which 04 mines (Area 3.6 acre) are undisputed. In these four mines approx. 3.0 Lac MT ash can be filled. NOC from UPPCB, revenue, mining and forest department has been taken. Various studies by MNIT, Allahabad are being done which will take about 5 months. After completion of above study, tender for

			filling of ash in these mines shall be process. **(Refer Appendix- XXIII &XL)**
10.	**Ash filing in Low lying area of Anpara TPS**	**Partially Complied**	Low lying area was identified in village Dibulganj near Anpara TPS to dispose of coal ash. About 1.75 MT coal ash has been filled in Dec., 2020. **(Refer Appendix-XXIII)** Dibulganj low lying area- After obtaining NOC from UPPCB low lying area Dibulganj has been filled up with ash. **(Appendix- XL)**
11.	**Achieving ZLD in ETP & STP**	**Partially Complied**	**I. NTPC Shaktinagar (Refer Appendix- XXXVIII)** • The unit is recycling the treated wastewater from ETP and has also installed flow meter to measure amount of waste water received treated through ETP. • The unit is asked to provide water balance chart of ETP &STP along with details of ZLD adopted for STP. **II. NTPC Rihand (Refer Appendix- XXXVIII)** • The unit is recycling the treated wastewater from ETP and also installed flow meter to measure amount of waste water received treated through ETP. **III. M/s Anpara TPS (Refer Appendix- XXXVIII)** • The unit is recycling the treated wastewater from ETP installed in the new units, whereas the waste water from neutralization pit from old units are discharged outside the plant premises. • Similarly, the treated waste water from the STP is also discharged into the drain. **IV. M/s Lanco Anpara-C TPS (Refer Appendix-XXXVIII):** The unit is recycling the treated wastewater from ETP and also installed flow meter to measure amount of waste water received treated through ETP. **V. M/s Hindalco Industries, Renusagar (Refer Appendix- XXXVIII)** • The unit has installed ETP for recycling the treated waste water. However, proper sludge drying beds are not provided in the ETP. • Flow meters are installed to measure amount of waste water received treated through ETP. **VI. Obra TPS (Refer Appendix- XXXVIII):** The unit is yet to achieve ZLD for ETP & STP.

12.	**Zero discharge at M/s Hindalco Industries Ltd. (Aluminium Division), Renukoot, Sonbhadra**	**Partially Complied**	In compliance with the above, the industry was inspected by the officials on 29.09.2020. Mr. Mukesh Mittal, Vice President (Environment & Safety) and Mr. Anil Singh, AGM (Environment) was present as the industry representative at the time of inspection. Detailed inspection report is as follows **(Refer Appendix- XXXIII):** **1. <u>Industrial Flow</u>: 7000 kl/day** **a) ETP:** An 11500 kl/day capacity ETP is set up in the industrial complex to purify the effluent generated by the industrial process. The following units are installed in the ETP Plant set up in the industry premises- (i) Collection Tank, (ii) pH correction cum oil removal tank, (iii) Coagulation Tank, (iv) Clarifier, (v) Clarified Water Storage Tank, (vi) Dual media filter, (vii) Fluoride Adsorption Column, (viii) Treated Water Storage Tank & (ix) Centrifuge. All ETP units were found to be operational at the time of inspection. **b) PWRP (Process Water Recycling Plant):** A 4000 kl/day capacity PWRP is installed in the industry for purification of process water. The following units are installed in the PWRP in the industry premises- (i) Equalization Tank, (ii) pH correction tank, (iii) Reaction Tank, (iv) Clarifier, (v) Multigrade Filter, (vi) Activated Carbon Filter, (vii) RSF Resin Sand Filter & (viii) Treated Water Storage Tank. All PWRP units were found to be operational at the time of inspection. According to the industry representatives PWRP's Resin Sand Filter is experiencing problems with effluent due to technical fault, due to which partial rectified effluent is not being reused. Resin cleaning is done on average five days a month and in that period, the industry has to be disposed of outside the purified effluent drainage. Resin regeneration plant is being set up for regular cleaning of resins by M/s Ion Exchange Company to solve the above problem coming to the purification plant which has been reported to be completed by March, 2021. According to the industry representatives, after the operation of the said unit, the entire rectified industrial effluent can be reused and a system of zero discharge can be ensured. **The partial effluent treated in the ETP and PWRP established in the industry is reused in the process, ash slurry, irrigation of plants, dust suppression**

			etc. in the industry. **2. <u>Domestic Effusion</u>: 12000 kl/day** A 24 MLD capacity STP is installed in the residential colony of the industry for purification of effluents generated as a result of water used in domestic purpose. The following units are installed in the industry premises- (i) Collection Tank, (ii) Bar Screen/ Grit Chamber, (iii) F. A. B. Reactor- I & II, (iv) Clari Tube Settler, (v) Dual Media Filter, (vi) Treated Water Storage Tank & (vii) Centrifuge. All STP units were found to be operational at the time of inspection. At the time of inspection, the rectified effluent in the STP was found to be transmitted through the pump for reuse in the industry. According to the Logbook organized on STP, the quantity of inlet and outlet outflow in the last 24 hours at STP was found to be 4750 KL and 4561 kl respectively, which is clear that STP is not being operated at full capacity. According to the industry representative, the rectified effluent in STP (approx. 5000 kl/day) is used in the processes of cooling, gardening, flushing etc. and the residual effluent (approx. 6000 kl/day) is discharged through the drain after treatment. At the time of inspection, two safety valves were found installed at the inlet and outlet points of STP. Safety valve is used to discharge the effluent through a drain in unavoidable conditions. **At present, the disposal of zero effluent is not being followed by the industry.**
13.	**Installation of FGD for control of gaseous emission**	**Partially Complied**	**I. NTPC Shaktinagar** • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions. **II. NTPC Rihand** • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions. **III. M/s Anpara TPS** • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions. **IV. M/s Lanco Anpara-C TPS** • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions.

			V. M/s Hindalco Industries, Renusagar • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions. **VI. Obra TPS** • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions. • **Note: Refer Appendix- XXXVIII.**
14.	**Status of the breach of Flyash dyke in UPRVUN Anpara, Lanco Thermal Power Plant and its measures**	**Partially Complied**	➢ **M/s NTPC Anpara** No breach of ash dyke has ever taken place in Anpara-TPS. The ash dyke raising work is in progress and has been started from 12 August 2019. The work of one lagoon is likely to be completed upto March-2021 and 2nd lagoon is to be completed upto June-2021. During the visit of Hon. MP & RO –Sonbhadra on dt 23 Jan 2021, there is no discharge from ash dyke into the Rihand reservoir observed by them. **(Refer Appendix- XVIII & XXIII)** The fly ash dyke is structurally safe. The soil investigation of ash dyke was done by MNIT Allahabad and on the basis of investigation report IIT Roorkee has design the ash dyke raising work using Gabion Wall. All safety measures such as Sand filter, Chimney Filter, Geo grid, Geo textile, Brick pitching with pointing, grass turfing on outer slope, decantation well etc has been taken to ensure for all the safety of ash dyke. There is no breach from ash dyke of Anpara till date. **(Appendix- XL)** ➢ **M/s UPRVUNL Anpara-A, B, D, Anpara, Sonbhadra** EC of Rs 6,11,40,000.00 imposed due to non-compliance of EPA 1986, Air (Prevention & Control of Pollution) Act, 1981 & Water (Prevention & Control of Pollution) Act, 1974. On the basis of inspection made by Hon'ble Chairman and Members of Oversight committee on dated 15.12.2019 show cause notice has been issued on dated 16.01.2020 for imposing of Environmental Compensation of Rs 41,10,000 to Thermal Power Plants. ➢ **M/s Lanco Anpara Power limited, Anpara, Sonbhadra** has already paid EC of Rs. 23,70,000/- for both UPPCB and CPCB shares: • The payment of CPCB share of Rs. 14,22,000/- @ 60% of Rs. 23,70,000/- as EC has been made

			on 02.01.2020. The details are enclosed as **Appendix- XXVII.** • The payment of Rs. 9,48,000/- @ 40% of Rs. 23,70,000/- as EC has been made to UPPCB on 30.12.2019. The details are enclosed as **Appendix- XXVII.** ➢ **<u>NTPC Shaktinagar</u>:** No dyke breach in NTPC Shaktinagar. Dyke stability study got conducted from IIT Roorkee Report submitted to UPPCB. **(Refer Appendix- XXVI)** **Comment by UPPCB:** The overflow of fly ash dyke pond of M/s Anpara has not been fully stopped.
15.	**Status of the breach of Flyash dyke in NTPCs and its measures**	**Partially Complied**	**NTPC Singrauli, NTPC Rihand & NTPC Unchahar: (Refer point-9 of Appendix- XXXIX)** All the Ash dykes in NTPC are constructed with approved Engineering design & drawings. Third party assessment of ash dykes done through IIT- Roorkee. As per the report of IIT- Roorkee ash dykes of **NTPC Singrauli, Rihand and Unchahar** ash dykes are 'Technically Sound and Structurally Sustainable Report is attached as **Annexure-9, Annexure-10, Annexure-11**). The Status with respect to ash dykes of Tanda and Meja (MUNPL) are given below: ❖ **Tanda-** For structural safety of dykes, Dr. N. K. Samadhiya, Expert (Professor of Geotechnical department) from IIT - Roorkee has visited site on 03.10.2020 and submitted report on 12.12.2020. ❖ **Meja (MUNPL)**- The third-party assessment through IIT – Roorkee scheduled in March'2021 **Following are the details of ash dyke design, operation and maintenance practices to avoid any type of breaches:** **NTPC Singrauli** • Ash dykes of NTPC Shaktinagar are of 'Up Stream Raising' with good foundation base of earth and rocks pitching. • The dedicated Corporate Engineering team is having technical expertise of designing the ash dykes as per relevant Indian Standard Codes. • Ash dykes of NTPC Shaktinagar are designed considering factor of safety of more than 1.5. Corporate Engineering team after site visit and survey provided the detailed engineering design and specifications for each dyke and also for its

			subsequent raisings. • Ash dykes are designed by CC Engg. as pervious entity and for lean ash slurry discharge. The residual water is expected to go to overflow lagoon from ash dyke through decanting wells. Ash slurry discharge is done through 300/350 mm diameter MS pipes in garlanding fashion from all sides of dyke in such a manner so that the ash slurry is filled near dyke bund first in order support the dyke structure's stability. During this initial phase, the seepage water, which is coming in the toe drain collected in low lying area pit and is pumped to Over Flow lagoon for recycling. is pumped back to dyke/Overflow lagoon. After some time, when all the adjacent area is filled, then negligible water comes out in toe drains and all the water flows directly from dyke to overflow lagoon and subsequently recycled through AWRS pumps. • Additionally, the ash dyke management team of NTPC Shaktinagar is continuously monitoring and maintaining the ash dyke on regular basis. • The toe drain & outer slope of dykes are regularly cleaned of ash/bushes to keep watch on ash dykes. An ash dyke committee comprising of senior members visits the dyke on fortnightly basis to assess its condition. • Necessary stock of sand, sand bags, aggregate, boulder etc. is kept at site to counter any emergency situation. Regular ash utilization is being done to keep the ash dykes in healthy condition. **NTPC Rihand:** Following are the details of ash dyke design, operation and maintenance practices to avoid any type of breaches: • Ash dykes of NTPC Rihand are of 'Central Line Design' with good foundation base of rocks and earth. • The dedicated Corporate Engineering team is having technical expertise of designing the ash dykes as per relevant Indian Standard Codes. • Ash dykes of NTPC Rihand are designed considering factor of safety of more than 1.5. Corporate Engineering team after details site visit and survey provides the detailed engineering

			design and specifications for each dyke and also for its subsequent raisings. • Ash dykes are designed by CC Engg as pervious entity and for lean ash slurry discharge. The residual water is expected to go to overflow lagoon from ash dyke through decanting wells. Ash slurry is discharge is done through 450/400 mm dia MS pipes & 512 mm dia cast basalt pipes in garlanding fashion from all sides of dyke in such a manner so that the ash slurry is filled near dyke bund first. During this initial phase, the seepage water, which is coming in the toe drain is pumped back to dyke/overflow lagoon. After some time, when all the adjacent area of bund is filled, then negligible water comes out in toe drains and all the water flows directly from dyke to overflow lagoon and subsequently to plant through AWRS pumps. • Additionally, the ash dyke management team of NTPC Rihand is continuously monitoring and maintaining the ash dyke on regular basis. • The toe drain & outer slope of dykes are regularly cleaned of ash/bushes to keep watch on ash dykes. An ash dyke committee comprising of senior members visits the dyke on monthly basis to assess its condition. • Necessary stock of sand, sand bags, aggregate, boulder etc. is kept at site to counter any emergency situation. Regular ash utilization is being done to keep the ash dykes in healthy condition. **NTPC Tanda** • The dedicated Corporate Engineering team is having technical expertise of designing the ash dykes as per relevant Indian Standard Codes. • Monthly visit of Dyke is being done by Ash Dyke Management Committee for ensuring the healthiness of Dyke and records maintained. • Necessary stock of sand, sand bags, aggregate, boulder etc. is kept at site to counter any emergency situation. Regular ash utilization is being done to keep the ash dykes in healthy condition. • The toe drain & outer slope of dykes are regularly

			cleaned of ash/bushes to keep watch on ash dykes. An ash dyke committee comprising of senior members visits the dyke on monthly basis to assess its condition. **NTPC Unchahar (FGUTPP)** • Ash slurry is being discharged in Umaran and Arkha dyke Lagoon-2, the decanted water is recycled to Plant through AWRS system. • Raising of ash dyke lagoon-1 is being done for increasing the capacity of dyke. • Monthly visit of Dyke is being done by Ash Dyke Management Committee for ensuring the healthiness of Dyke and records maintained. • Necessary stock of sand, sand bags, aggregate, boulder etc. is kept at site to counter any emergency situation. Regular ash utilization is being done to keep the ash dykes in healthy condition. • The toe drain & outer slope of dykes are regularly cleaned of ash/bushes to keep watch on ash dykes. An ash dyke committee comprising of senior members visits the dyke on monthly basis to assess its condition. **Meja (MUNPL):** Following are the details of ash dyke design, operation and maintenance practices to avoid any type of breaches: • The dedicated Corporate Engineering team is having technical expertise of designing the ash dykes as per relevant Indian Standard Codes. • Ash dykes of MUNPL, Meja: Lagoon-I-HCSD (for fly ash disposal); Lagoon-II-BA (for Bottom ash disposal); Lagoon-III-BA (for Bottom ash disposal); are designed considering factor of safety of more than 1.5. Corporate Engineering team after details site visit and survey provides the detailed engineering design and specifications. • Additionally, the ash dyke management team of MUNPL, Meja is continuously monitoring and maintaining the ash dyke on regular basis. • The toe drain & outer slope of dykes are regularly inspected to keep watch on ash dykes, an ash dyke committee comprising of senior members visits the

			dyke on monthly basis to assess its condition. As the plant is new and fully operational since May'2020, the ash dykes toe drains are in dry condition. **Note: Refer Appendix- XXXIX.**
16.	**The maintenance of the capacity and quality of the water of Rihand Reservoir along with its preservation**	**Partially Complied**	**I. M/s NTPC Anpara (Refer Appendix- XXIII)** i. At Anpara TPS there is no breach of ash pond. ii. ETP has been installed at DTPS Power House. After treatment of effluent the treated water is being reused. iii. AWRS for A, B and D TPS has been installed and recirculation of decanted water is being used for making ash slurry. Hence in view of above Anpara TPS is not polluting the water body/Rihand Reservoir. **II. M/s NTPC Rihand** It is submitted that NTPC Rihand is not discharging any pollutant to Rihand reservoir and ZLD is being maintained. **(Refer Appendix- XXV)**
17.	**Status of the Performance Guarantee to furnish the existing status of ambient air quality and water quality of Rihand reservoir and other water bodies including groundwater and Details status of CAAQMS installed in industries**	**Partially Complied**	**Performance Guarantee:** Following Bank Guarantee have been deposited by the TPPs as a Performance Guarantee regarding ambient air quality and water quality of Rihand Reservoir and other water bodies including ground water are as: • Bank Guarantee of Rs. 30 lacs have been submitted by M/s UPRVUNL, Anpara- A, B & D for utilization of fly ash & installation of OCEMS etc. **(Appendix- XVIII)** • Bank Guarantee of Rs. 18.36 lacs have been submitted to UPPCB by M/s NTPC Rihand Nagar as share of the total compensation amount of Rs. 45.90 lacs imposed by Hon'ble NGT vide order dated 11.10.2019 in OA No. 453/2019. NTPC Rihand has also filed a petition in Hon'ble Supreme Court vide diary no. 1197/2020 dated 09.01.2020 and case no. 2983/2020 against above order. Hon'ble Supreme Court vide order dated 08.10.2020 has granted stay for above order dated 11.10.2019 of Hon'ble NGT. **(Refer Appendix- XXV & XVIII)** • Bank Guarantee of Rs. 10.8 lacs have been submitted

by M/s NTPC Shaktinagar for compliance of CTO condition. **(Refer Appendix- XXVI & XVIII)**

Obra TPS: Obra TPS has installed Continuous Ambient Air Quality Monitoring Systems (CAAQMS) at three places viz. VIP Guest House, ETP and CHP, ATPS which are operational. **(Appendix- XL)**

Anpara TPS: The Anpara TPS has installed three CAAQMS for ambient air quality monitoring. All the three CAAQMS are working effectively and with CPCB server. The location of CAAQMS equipment is Anpara colony near Aurimore, Anpara Admin building near Bajrang Nagar and Anpara DTPS coal Handling Plant. Performance guarantee for water quality has been submitted to UPPCB. **(Appendix- XL)**

Status of the Ambient Air Quality around the Anpara, Sonbhadra is as follows (Data from annual monitoring system): (Refer Appendix-XVIII)

S. N.	Month	PM 10 (µg/Nm^3) (100 µg/Nm^3)	PM 10 (µg/Nm^3) (100 µg/Nm^3)	PM 10 (µg/Nm^3) (100 µg/Nm^3)
1	March,2020	162.0	27.40	17.58
2	April, 2020	126.5	21.35	13.45
3	May, 2020	129.0	24.48	14.76
4	June, 2020	122.5	24.20	14.76
5	July, 2020	115.0	23.67	14.49
6	August,2020	107.6	23.46	14.01
7	Sep., 2020	110.0	24.05	13.51
8	Oct., 2020	126.0	26.20	16.81
9	Nov., 2020	163.47	28.85	17.97
10	Dec., 2020	196.0	28.67	18.70
Average Value		126	24.09	14.84

For status of the Water Quality of Rihand Reservoir Up Stream & Down Stream refer Appendix- XVIII.

Status of CAAQMS installed/under process by Thermal Power Plants situated in district- Sonbhadra are as follows: -

			I. M/s NTPC Rihandnagar has already been installed three CAAQMS for ambient air quality and connected with server of CPCB. **(Refer Appendix-XXV).** One of the CAAQMS into temple premises was visited. During the visit, it was found that the CAAQMS site was not open from all the directions and large tress located very close to CAAQMS are the barriers for horizontal air movement. Thus, the ambient air quality monitored at that station is not representative. **(Refer Appendix- XVIII & XXXVIII)** As per the information given by NTPC, there is no reservoirs at NTPC Singrauli and NTPC Rihand and NTPC Unchahar. Rest are as follows: **NTPC Tanda: Details of Reservoir** **Reservoir-A**: Capacity-217000 M3 **Reservoir-B:** Capacity - 154000 M3 Water quality testing is done by third party. **Meja (MUNPL): Details of Reservoir** Lagoon-I: Capacity: 2 Lakhs Cum; Lagoon-II: Capacity: 1.6 Lakhs Cum. Air and Water quality testing is done by third party and reports are submitted to UPPCB regularly. **Note: Refer Appendix- XXXIX.** **II. M/s NTPC Shaktinagar** has already been installed three CAAQMS in U.P. for ambient air quality monitoring. One of the CAAQMS was visited and found that the CAAQMS site was not open from all the directions and large tress located very close to CAAQMS are the barriers for horizontal air movement. Thus, the ambient air quality monitored at that station is not representative. **(Refer Appendix-XXXVIII)** **III. M/s Lanco Anpara Power Ltd., Anpara** has already been installed only 02 CAAQMS for ambient air quality monitoring & one CAAQMS is jointly installed and operated by M/s Lanco Power Project Limited and M/s Hindalco Industries (Power division) Renusagar. **(Refer Appendix- XXVII & Appendix- XVIII & XXXVIII)** Both the CAAQMS were visited. It was found that the CAAQMS at one of the sites was not open from all the directions and large tress located very close to

			CAAQMS which are the barriers for horizontal air movement. Similarly, the other CAAQMS is installed on the top of the adjacent hill which is at 80 m elevation w.r.t. the plant area and the impact of the TPP cannot be assessed through said CAAQMS. Thus, the ambient air quality monitored at that station is not seem to be representative. **(Appendix-XXXVIII)** **IV. M/s UPRVUNL Anpara (Appendix- XXIII & Appendix- XXXVIII)** The unit has installed three CAAQMS for ambient air quality monitoring and all are working effectively and linking with CPCB server. The locations of CAAQMS equipment are: **i. Anpara Colony near Aurimore** (Latitude:24.204249; Longitude: 82.769957) **ii. Anpara ADMIN Building near Bajrang Nagar** (Latitude: 24.208065; Longitude: 82.783432) **iii. Anpara DTPS Admin Building Coal Handling Plant** (Latitude: 24.191762; Longitude: 82.810439) **V. M/s UPRVUNL Obra: In Obra**, industrial effluent is being treated in ETP to ensure the quality of water and parameters such as pH, TSS and temperature are being continuously monitored through EQMS. The unit has installed three CAAQMS for ambient air quality monitoring. **(Refer Appendix- XXIV & XXXIX)** **<u>Comments by UPPCB: (Appendix- XVIII)</u>** M/s UPRVUNL Anpara & M/s UPRVUNL Obra have installed CAAQMS. A survey has been conducted by officials of UPPCB, Sonbhadra regarding installation of two additional CAAQMS each in Anpara (near railway station/ Hanuman mandir/ old Japani Colony) and another in Renusagar residential Area by Hindalco Industries Ltd. (Power Division), Renusagar, Sonbhadra. Regarding this context recommendation has already been sent to Hon'ble Justice (Rtd.) Shri Rajes Kumar, Chairman, Oversight Committee. The Ambient Air Quality around Anpara, Sonbhadra is as below (Data from manual monitoring system):-

Month	PM 10 (µg/MNM^3)	NO_2 (µg/MNM^3)	PM 10 (µg/MNM^3)
March, 2020	162	27.40	17.58
April, 2020	126.5	21.35	13.45
May, 2020	129	24.48	14.76
June, 2020	122.5	24.20	14.76
July, 2020	115	23.67	14.49
August, 2020	107.58	23.46	14.01
Average volume	**127**	**24.09**	**14.84**

The Water Quality of Rihand Reservoir and Water bodies are as enclosed as **Appendix- XVII.**

UPPCB, Sonbhadra officials has collected water samples from Rihand Reservoir on 10.06.2020 and deposited to Central Lab. UPPCB, Lucknow for analysis. Analysis report is enclosed. Regular monitoring of Rihand Reservoir is conducted by UPPCB under NWMP on monthly basis and data uploaded on NWMP Portal of CPCB. **(Refer Appendix- XVII)**

VI. M/s Hindalco Industries Limited (Aluminium Division), Renukoot, M/s Grasim Industries Ltd., Renukoot and M/s Birla Carbon (India) Pvt. Ltd., Renukoot have commonly installed one CAAQMS at Renukeshwar temple, Renukoot and link with server of CPCB. **(Appendix- XVIII)**

VII.M/s Ultratech Cement Ltd. has installed one CAAQMS ain residential premises. **(Appendix- XVIII)**

VIII. M/s Hindalco Industries Limited (Power Division), Renusagar has installed one CAAQMS for ambient air quality which is jointly installed and operated along with M/s Lanco TPP.

The said CAAQMS is installed on the top of the adjacent hill which is at 80 m elevation from the plant area and the impact of the TPP cannot be assessed through said CAAQMS. Thus, the ambient air quality monitored at that station is not seem to be representative. **(Appendix- XXXVIII)**

18.	**To ensure continuous operations of ESPs installed in TPPs. Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission**	**Partially Complied**	**I. <u>NTPC Shaktinagar</u>** • It is informed that for effective operations ESPs are ensured. • OCEMS installed in all the operational stacks and connected with CPCB server. • As per the OCEMS data on CPCB server, during the period 1st August, 2020 to 31st Oct., 2020; the unit is found **non-complying for 15 days during which 466 SMS alerts** are generated through OCEMS. **II. <u>NTPC Rihand</u>** • It is informed that the effective operations of ESPs are ensured. • OCEMS installed in all the operational stacks and connected with CPCB server. • As per the OCEMS data on CPCB server, during the period 1st August, 2020 to 31st Oct., 2020; the unit is found to be **non-complying for 19 days during which 104 SMS alerts** are generated through OCEMS. **III. <u>M/s Anpara TPS</u>** • It is informed that the effective operations of ESPs are ensured. • OCEMS installed in all the operational stacks and connected with CPCB server. • As per the OCEMS data on CPCB server, during the period 1st August, 2020 to 31st Oct., 2020; the unit is found **non-complying for 86 days during which 24371 SMS alerts** are generated through OCEMS. **IV. <u>M/s Lanco- C Anpara TPS</u>** • It is informed that the effective operations of ESPs are ensured. • OCEMS installed in all the operational stacks and connected with CPCB server. • As per the OCEMS data on CPCB server, during the period 1st August, 2020 to 31st Oct., 2020; the unit is found **non-complying for 15 days during which 466 SMS alerts** are generated through OCEMS. **V. <u>M/s Hindalco Industries Ltd., Renusagar</u>** • It is informed that the effective operations of ESPs are ensured. • OCEMS installed in all the operational stacks and connected with CPCB server.

			• As per the OCEMS data on CPCB server, during the period 1st August, 2020 to 31st Oct., 2020; the unit is found **non-complying for 86 days during which 18483 SMS alerts** are generated through OCEMS. **VI. <u>Obra TPS</u>** • It is informed that the effective operations of ESPs are ensured. • OCEMS is installed in all the operational stacks and connected with CPCB server. • As per the OCEMS data on CPCB server, during the period 1st August, 2020 to 31st Oct., 2020; the unit is found **non-complying for 85 days during which 20548 SMS alerts** are generated through OCEMS. **Note: Refer Appendix- XXXVIII.**
19.	**Status of Health of citizens of the affected areas and the trend of diseases related to pollution**	**-**	**Report awaited from Health Department**
20.	**Status of utilization of Bauxite Residue (BR) (Red Mud)/ Flyash in Hindalco Industries Ltd., Renukoot and Renusagar**	**Partially Complied**	As per the information given by the Vice President (Safety & Environment), Hindalco Industries Ltd., **Bauxite Residue- BR** is capable of being used for mine backfilling. The industry already initiated the process with CPCB and NEERI in one of its units in Odisha. At Hindalco, during Alumina Refining Process, a high-volume low effect waste known as Bauxite Residue-BR gets generated. Over the years, the industry has been storing BR in identified disposal/ storage sites. These sites are constructed at the earmarked area following the guidelines. The industry is running out of space for storage of BR and had been exploring various alternatives for disposal/ storage as well as use of BR. One such solution is exploring backfilling of BR in mine voids/ stone quarries as against using virgin land for storage of BR. In Renukoot as well as in Belagavi (Karnataka), the industry has taken expert help and has successfully created green patch/ vegetation over BR reclaimed land. The industry has also explored the possibility of utilizing BR in cement industry in place of Laterite

			which is obtained by mining. However, in relation to the quantity of BR generated and current consumption levels by the cement industries, the industry still needs to find ways for large scale use of BR. **Flyash** from Renukoot and Renusagar is being sent to various cement industries and brick manufacturing units. The remaining flyash/ bottom ash is being stored at the existing ash pond situated at Bichari around 8 kms from Renusagar which is almost full. The request for acquisition of additional land is in process with the State Government. At Renusagar, the industry has efficient ESPs in which Flyash collected in the hopper is evacuated into ash silos in dry form. To facilitate the loading of flyash into the bulkers of cement manufacturers, the industry has Dry Fly Ash Transporting System (DFAT System) within the plant premises which comprises of 8 ash silos from where ash is loaded in closed ash bulkers through telescopic chutes. From silos, cement manufacturers are taking it for making of Potland Pozzolana cement. Dry Flyash is available free of cost to nearby cement manufacturers, ash brick manufacturers and other bulk users. The bottom ash coming out of the boiler bottom hopper is pumped to ash dyke in the form of slurry through long distance ash disposal system (LDAD). The Company has made all efforts and in fact has achieved significantly high percentage of Flyash utilization through supplying Fly ash to various cement companies in closed Bulkers/ Capsules and production of flyash Bricks/ Blocks in its own Brick Making Plant. The industry is also supplying fly ash bricks to all the sister concerns in the vicinity and various other projects. Fly ash utilization and disposal at Renusagar for FY 20 and April to August 2020 is 100%. **Note- Refer Appendix- XXXII.**
21.	**Status of Industry to achieve emission limit of 50 mg/nm3 for particulate matter in respect of all Baking Furnaces for HIL Renukoot &**	**Partially Complied**	It is submitted that the Industry has achieved emission limit of 50mg/Nm3 for particulate matter in respect of all Baking Furnaces. **(Refer Appendix- XXXII)**

	Renusagar		
22.	**ZLD to be established for HIL Renukoot & Renusagar**	**Partially Complied**	The industry has commissioned PWRP for establishing ZLD. Plant is in operation and they informed that they are able to maintain ZLD for around 25 days in a month. However, in spite of the best efforts, they are not getting consistent result of desired treated water quality, this may be due to teething problem in PWRP & unforeseen fluctuation in manufacturing process. Presently, R&D team of M/s Ion Exchange is working extensively to establish 100% ZLD concept by overcoming teething problem for the remaining days also by suitably modifying the process. It was targeted to establish by June, 2020 but progress in this direction have been halted due to Covid -19 precautions. Now, some of the balancing equipment are expected to arrive in Nov, 2020 and same to be erected & commissioned by Feb'2021. **(Refer Appendix- XXXII)**
23.	**Road transportation of coal by covering with metal sheet on vehicle. Subject to decision of Hon'ble Supreme Court.**	**Partially Complied**	In transportation of coal by road, the industry ensured that all trucks are completely covered by water proof thick tarpaulin tagged with heavy rope, sealed and fix with Dalla in such a manner that it will not fly so that coal is not scattered on road. The industry has filed a CA before the Hon'ble Supreme Court of India and Hon'ble Supreme Court vide its order dated 08.11.2019 has directed the Oversight Committee to hear all the stakeholders in this regard and submit the report in sealed cover to Hon'ble Supreme Court and in the meantime, stay was given on transportation of trucks containing steel plates. The matter is pending before the Hon'ble Supreme Court of India. **(Refer Appendix-XXXII)** Transportation of coal is being done through MGR system. In this system there is no any pollution to environment. **(Appendix- XL)**
24.	**Control of pollution during coal storage, transportation and handling**	**Partially Complied**	**I. NTPC Shaktinagar** • The unit mostly receive coal through rail and covered shed is provided for uploading. • The unit has also installed water sprinklers in coal storage area and dust suppression system at loading unloading points. • The fugitive emission in coal handling area is around 1000 µg/Nm^3. Though, it is in the range of prescribed norms, the unit is in process of further improvement. **II. NTPC Rihand** • The unit receives coal through rail and

			transportation only and covered shed is provided for uploading. • The unit has also installed water sprinklers in coal storage area and dust suppression system at loading unloading points. **III. M/s Anpara TPS** • The unit receives coal through rail and road. • The unit has also installed water sprinklers in coal storage area and dust suppression system at loading unloading points. • Substantial fugitive emissions were observed in the coal handling areas. The unit was asked to submit the time bound action plan to control and reduce the fugitive emissions during the coal handling and storage. **IV. M/s Lanco Anpara-C TPS** • The unit mostly receive coal through rail and covered shed is provided for unloading. • The unit has also installed water sprinklers in coal storage area and dust suppression system at loading unloading points. **V. M/s Hindalco Industries, Renusagar** • The unit receives coal through rail and road. • The unit has also installed water sprinklers in coal storage area and dust suppression system at loading unloading points. • Substantial fugitive emissions were observed in the coal handling areas. The unit was asked to submit the time bound action plan to control and reduce the fugitive emissions during the coal handling and storage. **VI. Obra TPS** • The unit mostly receive coal through rail and covered shed is provided for unloading. • The unit has also installed water sprinklers in coal storage area and dust suppression system at loading unloading points. **Note: Refer Appendix- XXXVIII.**
25.	**Utilization of Fly Ash/Red Mud for backfilling low-lying areas and mine voids in HIL Renukoot & Renusagar**	**Partially Complied**	The industry has consistently been engaging with the State Government as well as Central Government for guidelines regarding backfilling of mine voids as well as of low-lying areas. In fact, the industry has successfully executed several projects in the State of Odisha with all due permissions from the relevant authorities. The list of permissions as well as the policy

			issued by the Odisha State Pollution Control Board has been shared with the State Government with a request for a similar policy for the State of Uttar Pradesh so that utilization of fly ash and/or Red Mud can be accentuated. The industry has also given a request to the State Government for permission to carry out a suitability study in the open mine voids particularly stone quarry. The study would be conducted by an IIT BHU / NEERI and on the basis of their report further steps for approval to backfill the mine voids could be initiated. The industry continues to wait for clearance regarding evaluation of suitability of the site. In fact, a similar study by the Company is currently underway in the State of Odisha. Expeditious approval for the same would go a long way in freeing up precious land which is otherwise used for safe storage of fly ash and red mud. Another submission that would merit consideration of the Hon'ble Committee is absence of any statutory obligation on the industries that could potentially utilize the fly ash/red mud. While obligation is being cast on the industries operating coal-based power plant to ensure utilization, in the absence of any collateral obligation, the industry face immense practical and financial difficulty in ensuring such utilization. The industry had submitted its representation on reclamation of void mines/queries/low lying areas to DM, Sonbhadra on September 30, 2020 during the meeting held at DM Office, Sonbhadra. At Renukoot, they have applied to UPPCB on April 29, 2020 to develop low-lying area approx. 1.25 hectare by filling of ash/pond ash in Village Murdhawa. Approval is still pending. **(Refer Appendix- XXXII & XXXIII)**
26.	**RO Plant installed and operational in Sonbhadra**	**Partially Complied**	The industry has installed 13 RO Plants at allotted villages and providing pure drinking water from January 2015 onwards in compliance of Hon'ble NGT order dated 13.05.2014. All plants are currently operational. The industry has also started supplying of drinking water through SS Tanker at allotted village Kushma/ Kirvani as per letter issued by SDM Dudhi, Sonbhadra on January 13, 2018. **(Refer Appendix-XXXII)**
27.	**Status of shifting of Mercury brine sludge and muck**	**Partially Complied**	➢ As per information given by the industry in compliance of Hon'ble NGT order dated 19.08.2019 in OA No. 164/2018, the industry has deposited Rs. 1.0 Crore to CPCB vide letter dated 29.07.2019. ➢ As per information given by the industry regarding shifting of hazardous waste mercury bearing brine sludge stay order have been taken from Hon'ble

			Court on 05.11.2019. The main content of the order is as below: "…. The CPCB has given report dated 26.09.2019 in compliance to order dated 19.07.2019. The CPCB has recommended payment of compensation of Rs. 155,42,85,300/- (One hundred fifty-five crore forty-two lac eighty-five thousand three hundred). Since it is pointed out that vide order dated 04.11.2019 the Hon'ble Supreme Court has directed deferment of the proceedings, the industry defer the proceedings till the matter is detected by the Hon'ble Supreme Court……" (**Refer Appendix- XVII)** Further information given by **M/S Grasim Industry, Renukoot, Sonbhadra** are as follows **(Refer Appendix- XXVIII):** ➢ As per information given by M/S Grasim Industry, Renukoot, Sonbhadra "plant is presently operating on the latest environment friendly proven latest Membrane Cell Technology is being used or production of caustic in which Mercury is not used". ➢ Mercury Cell Technology from the plant was completely phased out from Sep., 2011 which was conveyed to CPCB/ UPPCB. ➢ The hazardous waste stored was capped as per the guidelines and is properly maintained. Regular monitoring in the vicinity of capped storage site is done and as per the results there is no mercury contamination detected in the ground water and surface water samples. Regular analysis is done by IITR, Lucknow and the reports are submitted to UPPCB offices. As per the reports, no mercury is detected in the samples drawn in the vicinity of the secured landfill for brine sludge storage. ➢ Sample of Dongia Nala is regularly collected and analysed. No mercury has been found in the near past. ➢ Regarding capped hazardous waste, after receiving the advice for shifting of mercury in view of order of Hon'ble NGT. Regarding that a letter sent to CPCB on 15th Sep., 2018 for explaining the concern and requesting to advise action to be taken by the industry since no guideline is available for opening the capped SLF. **(Appendix- XXVIII & Annexure-1 of Appendix- XLII)** ➢ Vide letter dated 14.11.2018, the industry requested Hon'ble Chairman, OSC, Allahabad for conducting a feasibility study by a reputed independent agency like IIT/NEERI etc. for safe storage, packing, transporting and disposing the Mercury brine sludge. **(Refer Annexure-2 of Appendix- XLII**)

			➢ After getting no advice/ reply of the letter, the industry engaged CSIR- NEERI in 2019 under intimation to Pollution Board Environmental Risk Assessment for Hazardous Waste Disposal in SLF of the unit. **(Refer Appendix- XLII**) ➢ Vide letter dated 22.08.2019, the industry requested CPCB to provide the copy of the report regarding mercurial content in the Dongia Nallah, but the industry did not get the rely/report. **(Refer Annexure-3 of Appendix- XLII**)
28.	**Industry shall ensure proper operation of effluent treatment plants so as to ensure the compliance of the effluent discharge standard. The industry shall also ensure that no untreated/partially treated effluent find its way into the nallah leading to Rihand reservoir. The channel leading to Rihand Reservoir has to be intercepted, diverted and treated within the industry. The nallah presently passing through the factory should be isolated so that the industry cannot discharge any treated/partially treated/untreated effluent.**	**Partially Complied**	Industry has already installed ETP, RO, MEE and STP to treat effluent as well as sewage to achieve Zero Liquid Discharge as per directive of Board of CPCB/UPPCB and Core Committee. This has already been communicated through letter no. GIL/ENV/17-18/204 dated 17th November, 2017 which was also verified by Core Committee on 9th Jan., 2018 during their visit to the plant. Thus, the industry is not discharging any effluent whatsoever into the Dongia nallah and is a ZLD unit. Furthermore, as per the guideline, it has already installed cameras at the point where the drainage of the ETP meets the nallah. Cameras capture and transmit photographs to CPCB/UPPCB on 24 hrs basis. Accordingly, the CPCB and UPPCB are also able to monitor the discharge point of the ETP at all times and verify that the industry is ensuring that no discharge whatsoever is made by the industry into Dongia Nallah. Moreover, it is very unlikely that any discharge into the Dongia Nallah is happening from the Aditya Birla Chemicals own residential colony (where its employees live) and other residential settlements located nearby, but outside the industry premises. The Core Committee's past recommendations have only pertained to the recommendation with respect to Aditya Birla Chemicals own residential colony. However, as a responsible corporate citizen, the Aditya Birla Chemicals has already installed STP having capacity of 1000 m^3/day for its own residential colony (i.e., where its employees live and which have also been Commissioned in 24th Nov., 2019). Thus, it needs to be further evaluated if diversion of the Dongia nallah would be required. Further, it should be noted that the recommendation of the Core

			Committee regarding diversion of the Dongia nallah is a new recommendation, and was not there either in the Core Committee's interim Report dated January, 2015 or its Final Report dated July, 2015. But, if the Core Committee, UPPCB and or the CPCB are still of the view that it would be beneficial to divert the Dongia nallah, the same be done after conducting ecological and environmental studies. This is because the diversion of the nallah may lead to many environmental and ecological problems. The reason is that this nallah has been present much before the plant came into existence. It acts as a drain for flow of storm water during the monsoon season. Given that Renukoot is a hilly terrain and the plant is at the height of 316 Mtr. (1036.74 feet), this nallah acts as an outlet for carrying storm water to the Rihand Dam, which is at a height of 252.98 Mtr. (830 feet). If the course of the nallah is disturbed then the same will cause grave flooding in the area around the industry, including the nearby residential settlements and the railways- because it is a natural nallah not only for the complex, but to complete nearby vicinity including the residential settlements and Dept. of Railways. Presently, the nallah is not being used by Grasim Industries Limited- Chemical Division (Formerly named as Aditya Birla Chemicals) for discharging any water to Dam, however being a natural nallah, it may not be feasible to stop it as it may lead to flooding during Monsoon which will be dangerous for railway lines and the nearby residential settlements and will lead to closure of the plant. It is pertinent to note that the Core Committee itself, in its report dated Feb., 2018, has recommended that studies be carried out in connection with interception and diversion of all streams joining the Rihand reservoir. **(Refer Appendix- XXVIII)**
29.	**All Thermal Power Plants have been directed by Hon'ble NGT to discuss about the structural design of their Ash Dykes to prove that their Ash Dykes are proper**	**Partial Complied**	**I. M/s NTPC Anpara** Anpara Thermal Power Station has coordinated with IIT-Roorkee to prepared the design and drawing of raising of ash dyke **(Refer Appendix- XXIII).** **II. M/s NTPC Obra** Obra Thermal Power Station has got prepared the design and drawing of raising of ash dyke by IIT Roorkee. Affidavit regarding stability of Ash dyke has also been submitted to UPPCB **(Refer Appendix-**

	and scientifically designed.		**XXIV).** **Note: Refer Appendix- XIII.**
a)	**Structural details of Ash Dykes and their adequacy for handling of Fly Ash generated**	**Partially Complied**	**I. M/s NTPC Anpara** The fly ash dyke is structurally safe. The soil investigation of ash dyke was done be MNIT Allahabad and on the basis of investigation report IIT Roorkee has design the ash dyke raising work using Gabion Wall. All safety measures such as Sand filter, Chimney Filter, Geo grid, Geo textile, Brick pitching with pointing, grass turfing on outer slope, decantation well etc has been taken to ensure that no breach will take place. **(Refer Appendix- XL)** **II. M/s NTPC Obra** The fly ash dyke is structurally safe. The soil investigation of ash dyke was done by IIT BHU and on the basis of investigation report IIT Roorkee has designed the ash dyke using Gabion Wall. All safety measures such as Sand filter, Chimney Filter, Geo grid, Geo textile, Brick pitching with pointing, grass turfing on outer slope, decantation well etc. has been ensured so that no breach takes place. **(Refer Appendix- XL)** **Parichha TPS-** The fly ash dyke is structurally safe. For the raising of ash dyke consultancy has been obtained from IIT-Roorkee and according to their direction raising work was executed. (**Appendix- XL)** **Harduaganj TPS-** The fly ash dyke is structurally safe. At present work for raising of ash dyke is under progress along with raising width of ash dyke is also increased for safety of ash dyke. The consultancy for dyke raising has been obtained from IIT Roorkee**. (Appendix- XL)** **III. M/s NTPC Rihand** The details of structural details and adequacy for handling of fly ash generated are enclosed as **Appendix- XXV.** **Note: Refer Appendix- XXV & XL.**

b)	**Status of the action taken by TPPs for third party assessment of Ash Dyke of their plants through expert institutions like NEERI, IITs.**	**Partially Complied**	**I. M/s NTPC Anpara & M/s NTPC Obra:** UPRVUNL raised their ash dyke on the suggestion of IITs. **(Appendix- XL)** **Anpara TPS-** Presently the ash dyke of Anpara is under raising. The consultancy work for design and engineering was awarded to IIT Roorkee. On the basis of IIT Roorkee report the raising of ash dyke is being done. For the raising of ash dyke soil investigation of ash dyke has been done by MNIT Allahabad. For raising of ash dyke following structures has been constructed at site. 1. The ash dyke is being raised by gabion wall method. 2. Sand filter 3. Chimney Filter 4. Geo grid 5. Geo textile 6. Brick pitching with pointing, grass turfing on outer slope, 7. Decantation well 8. Raising of spillway In continuation to above it is to intimate that IIT Roorkee is one of the best institutes in the field of civil engineering and they have made all precaution for the safety of dam. However, UPRVUNL will make stability study after completion of work. **(Appendix- XLIV)** **Obra TPS-** The first raising work of ash dyke has been completed at Obra site. The stability study of ash dyke will be done by IIT Roorkee. The team of IIT Roorkee visited the site in the first week of February, 2021. Report is awaited. **(Appendix- XLIV)** **II. M/s NTPC Rihand** NTPC Rihand conducted third party audit of all-ash dykes by IIT- Roorkee. As per the report of IIT-Roorkee the ash dykes are 'Technically Sound and Structurally Sustainable'. It is also submitted that NTPC Rihand has already awarded the assignment of ash dyke stability study for the year 2021 to IIT-Hyderabad. Visit of experts of IIT- Hyderabad is expected on second or third of Feb'21. Copy of affidavit regarding safety of ash dykes is enclosed as Annexure-6 of **Appendix- XXV.** **III. Parichha TPS-** The third raising of ash dyke will be done in consultation with IIT Roorkee. The

			tender specification has been prepared by IIT Roorkee. The stability of ash dyke will be conducted after the completion of raising work. **(Appendix- XLIV)** **IV. Harduaganj TPS-** At present raising of ash dyke is being done at Harduaganj. The design and engineering of ash dyke has been prepared by IIT Roorkee. After completion of work the stability of ash dyke will be checked. **(Appendix- XLIV)** **Comment by UPPCB:** Information regarding third party assessment of ash dyke is requiring from industries. (**Refer Appendix- XVII.**
c)	**Roadmap of Thermal Power Plants for the future disposal of the stored Fly-Ash as well as the currently generated Fly-Ash**	**Partially Complied**	**I. M/s NTPC Anpara** Anpara TPS is situated in power hub area where 20,000MW (approx.) electricity is being generated resulting in huge quantities of ash being produced. At present in the vicinity of Anpara Thermal Power Project there is no cement factory is available. Also, there is no major road project running in the vicinity of TPS due to which the fly ash utilization from Anpara TPS is poor. However following efforts have been made by Anpara TPS for achieving 100 % fly ash utilization: - i. Anpara TPS is initiating proposal for developing ash mound in its vicinity for landscaping work. Which is in process of study. ii. Anpara TPS has invited Expression of Interest through newspaper and uploaded UPRVUNL web site three times in a year for lifting of fly ash from the users. iii. About 5.0 Lac MT Pond Ash has been utilized in raising of ash dyke and approx. 5.0 Lac MT pond ash will be used in next 3-4 months. iv. Fly ash is being issued to Brick manufacturers v. UPRVUNL has requested to NCL for allotment of abandoned coal mines at Gorbi. **(Refer Appendix- XL)** **II. M/s NTPC Obra** Obra TPS is situated in power hub area where 20,000MW (approx.) electricity is being generated resulting in huge quantities of ash being produced. At present in the vicinity of Obra Thermal Power Project there is only one cement factory is available which

			takes only 400 MT/day. Also, there is no major road project running in the vicinity of TPS due to which the fly ash utilization from Obra TPS is poor. For increasing Fly ash utilization following efforts are being made: - i. Presently only 4 units of 200 MW of Obra BTPS is under operation. ii. Average ash generation during last 4 months has been 3800 MT/day. (114000 MT/month) iii. Average utilization of fly ash through UltraTech cement factory is 400 MT/day (12000 MT/month) iv. Average utilization through Brick manufacturer is 4 MT/day (120 MT/month) v. Agreement for lifting 4500 MT/day fly ash is almost in final stage with M/s ACC Limited. After agreement ash lifting will be done from 5X200MW Obra BTPS, 4 Units of which are under operation as well as from 2X660 MW Obra C Units upon their synchronization. M/s ACC Limited is going to establish its cement plant at Salai Banwa which is approx. 8-10 km away from Obra Thermal Power Station. vi. District Administration has allocated 7 nos. abandoned stone quarries in Billi Markundi area (Area 8.4 Acre) out of which 04 mines (Area 3.6 acre) are undisputed. In these four mines approx. 3.0 Lac MT ash can be filled. NOC from UPPCB, revenue, mining and forest department has been taken. Various studies by MNIT, Allahabad are being done which will take about 5 months. After completion of above study, tender for filling of ash in these mines shall start. vii. District Administration has provided a low-lying area near Lodhi Toll Plaza near Circuit House for reclamation and development by backfilling with fly ash. NOC from UPPCB has already been obtained. Various studies by MNIT, Allahabad are being done which will take about 5 months. After completion of above study, tender for filling of 1.5 Lac MT ash in this area shall start. viii. Obra Colony has low lying area in Sector 2 and 3. Approx. 2.4 Lakh cum ash can be filled in first phase and subsequently about 5-10 Lakh cum shall also be fill in this low-lying area. NOC from UPPCB has already been obtained for filling of ash in low lying area in Sector 2 and 3. Various studies by MNIT, Allahabad are being done which will take about 5 months. Tender for aforesaid work has already been invited.

			Parichha TPS- (Appendix- XL) i. Parichha TPS is situated on Jhansi –Kanpur highway almost 25 km away from Jhansi railway station. A cement factory named M/s Heidelberg Cement is situated nearly 5 km away from the project. Two separate agreements have been made with Heidelberg cement for utilization of dry fly ash generated from units of 210 MW and 250 MW. Presently Heidelberg cement has enhanced its production capacity, to mete out additional fly ash requirement for production of cement M/s Heidelberg cement also using pond ash. ii. Approval for awarding the work of disposal of 5.0 lac MT Pond ash for stowing/backfilling in 04 Nos. abandoned mines/quarries near Jhansi is in process. iii. For package no 4&5 of Bundelkhand Expressway a tender for 30,000.00 cum pond ash transportation in each package i.e., total 60,000.00 cum has been invited. The part-2 has been opened and the case is under negotiation. iv. Pond ash from Parichha ash dyke is being used in Jhansi- Khajuraho expressway for filling. v. Pond ash from Parichha ash dyke is also being used by local users for filling and other purposes. **Harduaganj TPS- (Appendix- XL)** i. Silos are installed in all three units and are in operation. Agreement is made with M/s Kannodia Cement Ltd, M/s Ashtech India Pvt. Ltd., M/s Mangalam cement Ltd. and M/s Macfinn Infra, Dadri for disposal of dry fly ash and they are lifting fly ash from silo. ii. Dry Fly ash is being issued to Brick/ Block manufacturers free of cost. ***In view of above it is clear that Parichha and Harduaganj TPP achieved 100% ash utilisation. In case of Anpara and Obra it is to intimate that there are no ample avenues for mass ash utilisation near Anpara and Obra TPS due to which the ash utilisation of these projects is poor.*** ***In this context for increasing ash utilisation from pit head TPS, the suggestions are as under-*** ***The manufacturing of Red Bricks (clay brick) should be stopped in the radius 100 km from the Thermal Power Station. UPRVUNL's Power stations shall provide dry fly ash/ pond ash to these brick manufacturers free of cost. However, the transportation cost of ash is to be borne by brick manufacturers.***

			The major avenues of ash utilization are filing of ash in abandoned coal mines situated near pit head thermal power stations but due to the condition of many long duration's studies and tests, it is getting delayed and not possible to utilise ash in these mines. Hence in this regard following guideline should be issued by MoEF&CC. ***I. Mandatory allotment of abandoned coal mines to pit head station for filling of ash.*** ***II. A simple and well-defined transparent SOP to be made for filling of ash in shortest possible time.*** ***Bearing of transportation cost of ash by TPPs for road projects up to 300 km will have huge impact on tariff and will ultimately affect the affordability and energy empowerment. As the road construction agencies are commercial entities, putting the responsibility on coal/lignite plants may not be a correct option. The transportation cost may be reimbursed through toll tax.*** **(Appendix- XL)** **<u>III. M/s NTPC Rihand</u> (Refer Appendix- XXV)** **Supply of pond ash to road construction projects:** Following initiatives has been taken for utilization of pond ash of Rihand in road construction works. The entire cost of ash transportation shall be borne by NTPC Rihand for these road projects. • **MoU has been signed with NHAI:** Varanasi for supply of 02 lac CuM, of pond ash to NH-56 bypass road at Varanasi. Supply of flyash under MoU has been started from 26.06.2020. • **Approval has been obtained from NHAI-** Varanasi for supply of 15.5 lac CuM, of pond ash to NHAI road projects at Varanasi in NH-29 & NH-56. Contracts proposals for pond as transportation is under tendering and award. • **Contract awarded for s**upply of 0.5 lac CuM, of pond ash to PWD Chhattisgarh for its utilization in construction of bypass road near Wadrafnagar. **Comment by UPPCB:** Information regarding roadmap for the future disposal of the stored fly ash as well as the currently generated fly ash is required from industries. (**Refer Appendix- XVII)**
d)	**Efforts made to fill up the Fly-Ash in the abandoned Coal Mines and**	**Partially Complied**	**<u>I.</u> <u>M/s NTPC Anpara**</u> For the allotment of abandoned stone mines many letters have been written to DM, Sonbhadra. 04

	Stone Mines? Whether any letter has been written to the Mine-owners or to the concerned Authority		abandoned stone mines allotted by district administration to UNL for which NOC from Revenue, Mining and Forest department has been taken. NOC from UPPCB is still awaited. **(Refer Appendix-XXIII)** **II. M/s NTPC Obra** The NOC from various departments i.e., Mines, Revenue and Forest has been obtained for 04 abandoned stone mines of area 3.6 acre. An online application for getting NOC from UPPCB has also been submitted through Nivesh Mitra on 3rd Sep., 2020. **It is informed that the District administration has applied online** application at Obra Project for getting NOC for 04 abandoned stone mines allotted to Obra Project. **(Refer Appendix- XXIV)** **III. M/s NTPC Rihand** NTPC Rihand is continuously pursuing District Administration for allocation for abandoned stone quarries for backfilling with fly ash. It is also submitted that the application dated 11.09.2020 to Hon'ble District Collector, Sonbhadra for allocation of abandoned stone quarry. Presently, no stone quarry is available with us for backfilling with pond ash. **(Refer Appendix- XXV)** **IV. M/s Lanco Anpara Power Ltd.** • With reference to Hon'ble NGT order dated 05.11.2019 a Communication has been made to DM, Sonbhadra regarding the allotment of abandoned stone and coal mines for enhancement of the plant's ash utilization level. **(Refer Annexure-3 (I) of Appendix- XXVII)** • Different communication has been made to Northern Coalfields Limited since Year 2015 regarding allotment of abandoned mines for enhancement of the plant's ash utilization level. **(Refer Annexure-3 (II) of Appendix- XXVII)** **Comment by UPPCB:** Information has not provided by any industry of Sonbhadra regarding filling of fly ash in Gorbi mines. District Magistrate, Sonbhadra has allotted 05 abandoned stone quarries to M/s UPRVUNL Anpara and Obra for filling fly ash. (**Refer Appendix- XVII)**

<table>
<tr><td>e)</td><td>Preparation of DPR for project of desilting the Rihand Reservoir and bearing of expenditure by TPPs of the area on polluter pay principle</td><td>Not Complied</td><td>Comment by UPPCB: Electricity Generation, Division, U.P. Hydro Power Nigam Ltd. Pipari, Sonbhadra has paid an amount of Rs. 69,09,000 to Central Water & Power Research Station (CWPRS) Pune for study and preparation of DPR for project of de-silting the Rihand Reservoir and bearing of expenditure. Further information is required from irrigation department. (Refer Appendix- XVIII)</td></tr>
<tr><td>f)</td><td>Whether the dispute of title of abandoned mines between Forest Department and Revenue Department has been resolved due to which its allotment is being delayed? Please mention the name of vacant mines.</td><td>Partially Complied</td><td>I. <u>M/s NTPC Anpara</u>

The issue of ownership dispute for the 04 abandoned stone quarries has been resolved. (Refer Appendix- XXIII)

The technical study for the main ash dam of the Anpara Thermal Project by IIT Roorkee and an affidavit for the complete safeguarding of the ash dyke structure are sent to the committee. The 09 R. O. Plants established and operated by Anpara Thermal Project is located at following stations (Refer Appendix- XXX):
<table>
<tr><td>Audi turn near permanent colony</td><td>01</td></tr>
<tr><td>Kashi turn</td><td>01</td></tr>
<tr><td>Anpara Village near temporary colony</td><td>01</td></tr>
<tr><td>Village Belvadah</td><td>03</td></tr>
<tr><td>Village Kundabhati</td><td>03</td></tr>
</table>
Work for making ash mount, invoice, drawing etc. has been sent to IIT, BHU, Varanasi to be constructed in Village- Belvadah.

II. <u>M/s NTPC Obra</u>

04 mines in Dala- Bari area had been identified as undisputed and District Administration has allotted these mines to UPRVUNL in which Obra TPS of UPRVUNL will start filling ash after obtaining NOC from UPPCB. Dispute of ownership between Revenue department and Forest department for other mines is still to be resolved. (Refer Appendix- XXIV)

Comment by UPPCB:
i- As per information of Forest & Mine department, after publication of section 20 of Forest Act in the month of March 2020, the dispute of abandoned mines (located at Arazi no. 7536 having area about 60 hectare) between Forest Department and Revenue Department has been resolved,</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>ii- Now all 52 abandoned stone quarries are under the jurisdiction of forest department.
iii- DFO Obra has informed that NOC has been issued to M/s UPRVUNL Obra for filling flyash into abandoned stone quarries.
iv- Three CTE have been issued to M/s UPRVUNL Obra for filling flyash into abandoned stone quarries.
v- Further information is required from UPRVUNL. (Refer Appendix- XVII)</td></tr>
<tr><td>27.</td><td>Steps being taken for reduction of coal transportation of Khadia Project through road mode submitted by CGM, Khadia Project, NCL</td><td>Partially Complied</td><td>With regard to coal transportation through road mode, a stay order has been issued vide order dated 22.04.2019 by Hon'ble Supreme Court stating "Status quo, as of today, shall be maintained, in the meantime" (Refer Appendix- XXIII).

Further, vide order dated 01.07.2019, it was clarified that "Status quo order passed by this court on 22.04.2019 is clarified to mean that transportation by road will continue in the meanwhile" (Refer Appendix- XXIII).

Further, in order to reduce the coal transportation through road mode by Khadia Project of NCL, it was informed that Khadia Project of NCL has already installed 02 Coal handling Plants having capacity of 04 million tons per annum and 06 million tonne per annum through which coal is being dispatched through Merry-Go-Round (MGR) System. For further increase in the dispatch capacity of Khadia Project through rail mode, a wharf wall (railway siding) of 04 million tonne per annum capacity is proposed and Letter of Award for the same has already been issued on 26.09.2020. It is likely to be made operational by December, 2021. (Refer Appendix- XXXI)</td></tr>
<tr><td>28.</td><td>Status of the reports on the issue of environmental compensation regarding 10 units in the State of Uttar Pradesh the committee seeks information from SPCB in accordance with law to recover the compensation assessed</td><td>Partially Complied</td><td>EC regarding 10 units in the State of Uttar Pradesh are as follows (Refer Appendix- XXXV):
<table>
<tr><th>Sr. no.</th><th>Name of Industry</th><th>EC Imposed (in Rs.)</th><th>EC amount received</th><th>Remarks</th></tr>
<tr><td>1.</td><td>M/s NTPC Ltd. Shaktinagar, Sonbhadra</td><td>Rs. 27,00,000/-</td><td>Not received</td><td>The Industry has filed a civil appeal vide diary no. 1197/2020 seeking stay order against</td></tr>
</table></td></tr>
</table>

								imposing EC, in Hon'ble Supreme court on 09.01.2020. **Order is awaited**. Rs. 10.8 lac Bank Guarantee (BG) submitted to UPPCB.	
				2.	**M/s NTPC Ltd. Rihandnagar (Stage-I, II, III), Sonbhadra**	Rs. 45,90,000/-	Not received	The Industry has filed a **civil appeal vide diary no. 1197/2020** to grant stay against EC in Hon'ble Supreme court **on 09.01.2020. Order is awaited.**	
				3.	**M/s UPRVUNL Anpara-A, B, D, Anpara, Sonbhadra**	Rs. 6,11,40,000/-	Not received	--	
				4.	**M/s Lanco Anpara Power limited, Anpara, Sonbhadra**	Rs. 23,70,000/-	Already paid the require EC to UPPCB & CPCB **(Refer Annexure-4**	Lanco Anpara TPS filed a **Civil Appeal No. 13336/2020** before Hon'ble	

							& 5 of Appendix-XXVII)	Supreme Court against imposed EC and Hon'ble Supreme Court has granted stay on the same.	
				5.	**M/s UPRVUNL Obra Unit-B, Sonbhadra**	Rs. 6,11,40,000/-	Not received	In this regard it is submitted that Obra TPS filed a **Civil Appeal** before Hon'ble Supreme Court against imposed EC and Hon'ble Supreme Court has granted stay on the same.	
				6.	**M/s NCL Khadia Project, khadia, Sonbhadra**	Rs. 1,24,80,000/-	Not received	Hon'ble Supreme Court has passed following order in **civil appeal no. 9035/2019 on 06.12.2019** ".....There shall be stay of recovery in the meantime....."	
				7.	**M/s NCL,**	Rs. 64,50,000/-	Not receive	Hon'ble Supreme	

					Bina Project, Bina, Sonbhadra		d	Court has passed the following order in **civil appeal no. 9035/2019 on 06.12.2019** ".....There shall be stay of recovery in the meantime....."	
				8.	**M/s NCL Duddhichua Project, Duddhichua, Sonbhadra**	Rs. 1,30,20,000/-	Not received	Hon'ble Supreme Court has passed the following order in **civil appeal no. 9035/2019 on 06.12.2019** ".....There shall be stay of recovery in the mean time....."	
				9.	**M/s NCL Kakari Project, Kakari, Sonbhadra**	Rs. 64,50,000/-	Not received	Hon'ble Supreme Court has passed the following order in **civil appeal no. 9035/2019 on 06.12.2019** ".....T	

								here shall be stay of recovery in the meantime....."
				10.	**M/s NCL Krishnshila Project, Krishnshila, Sonbhadra**	Rs. 6,11,40,000/-	Not received	Hon'ble Supreme Court has passed the following order in **civil appeal no. 9035/2019 on 06.12.2019** ".....There shall be stay of recovery in the meantime....."
				Total		**23,14,80,000/-**		
				Refer Appendix- XVII, XIX & XVIII.				
29.	**Details of Court Cases**	**Partially Complied**	**Details of Court Cases are as follows (Refer Appendix- XLIV):**					

Sl No.	Project Name	Filed Before	Court Case No.	Matter	Current Status
1	Anpara TPS	Hon'ble Supreme court of India	Hon'ble NGT OA No. 164/2018 (Earlier OA No. 276/2013) In Re: Ashwani Kumar Dubey V/s Union of India and others	Environment Compensation of Rs. 21 Crore 50 Lac has been imposed for non-utilization of 100% fly ash	Hon'ble Supreme court of India has passed the stay order on the NGT order.
2	Anpara TPS	Hon'ble Supreme court of India	Hon'ble NGT OA No. 453/2019 In Re: Anpara Thermal Power Station V/S Anjani	Environment Compensation of Rs. 6,11,40,000.00	Hon'ble Supreme court of India has passed the stay order on the NGT order.

							Jaiswal & Ors.		
				3	Obra TPS	Hon'ble Supreme court of India	Hon'ble NGT OA No. 164/2018 (Earlier OA No. 276/2013) In Re: Ashwani Kumar Dubey V/s Union of India and others	Environment Compensation of Rs. 7 Crore 73 Lac has been imposed for non-utilization of 100% fly ash	Hon'ble Supreme court of India has passed the stay order on the NGT order.
				4	Obra TPS	Hon'ble Supreme court of India	Hon'ble NGT OA No. 453/2019 In Re: Obra Thermal Power Station V/S Anjani Jaiswal & Ors.	Environment Compensation of Rs. 6,11,40,000 .00	Hon'ble Supreme court of India has passed the stay order on the NGT order.
				5	Hardua ganj TPS Unit no. 08& 09	Hon'ble Supreme court of India	W.P. 13029/1985 date of filing 07.07.2020 In Re: MC Mehta V/s Union of India and others	Non-compliance of CPCB guidelines for installation of FGD and Combustion Modification in the boiler of Unit to reduce SOx and NOx up to December 2019	Hon'ble Supreme court of India has passed the stay order on the NGT order.
				6	Anpara, Obra, Hardua ganj and Parichha TPS	Hon'ble Supreme court of India	Hon'ble NGT OA No. 117/2014, OA No. 499/2014 and OA No. 102/2014 (Appeal against the order of Hon'ble NGT)	Non-utilization of 100% fly ash and breach of ash dyke	Hon'ble Supreme court of India has passed the stay order on the NGT order.
30.	**Status of enhance fly ash utilization levels, to provide the list of wastelands available within 100 kms of NTPCs in the State**	**Not Complied**	**NTPC Rihand** requested District Administration to provide the list of wastelands available within 100 kms of the power plant to take up the wok of its filling with pond ash in phased manner. **(Appendix- XXV)** Anpara TPS has requested the District Administration to allot abandoned stone quarries situated in Village-Sendur which is 20 km far from Anpara TPS. D M have instructed the concerned department to explore suitability / NOC for it. **(Appendix-XXIII)**						

			UPRVUNL identified some land in the vicinity of thermal power project whose details are as under- **Anpara TPS- (Appendix-XL)** • Dibulganj low lying area- After obtaining NOC from UPPCB ash filling work started. • Saddle Dam Area- This area is abandoned ash pond which is identified for ash mound area. This is in process of study. **Obra TPS- (Appendix- XL)** • District Administration has allocated 7 nos. abandoned stone quarries in Billi Markundi area (Area 8.4 Acre) out of which 04 mines (Area 3.6 acre) are undisputed. In these four mines approx. 3.0 Lac MT ash can be filled. NOC from UPPCB, revenue, mining and forest department has been taken. Various studies by MNIT, Allahabad are being done which will take about 5 months. After completion of above study, tender for filling of ash in these mines shall be process. • District Administration has provided a low-lying area near Lodhi Toll Plaza near Circuit House for reclamation and development by backfilling with fly ash. NOC from UPPCB has already been obtained. Various studies by MNIT, Allahabad are being done which will take about 5 months. After completion of above study, tender for filling of 1.5 Lac MT ash in this area shall be process. • Obra Colony has low lying area in Sector- 2 and 3. Approx. 2.4 Lakh cum ash can be fill in first phase and subsequently about 5-10 Lakh cum shall also be fill in this low-lying area. NOC from UPPCB has already been obtained for filling of ash in low lying area in Sector 2 and 3. Various studies by MNIT, Allahabad are being done which will take about 5 months. Tender for aforesaid work has already been invited.
30.	Steps taken by NTPCs to promote offtake of dry fly ash as well as the problem of transportation of fly ash in bulk quantity	**Not Complied**	Some firms have shown their interest for lifting of ash from Anpara TPS through railway rakes. They have been requested by UPRVUNL to visit the Anpara TPS for the feasibility of ash transportation through railway rakes. **(Appendix- XL)**
31.	Action taken by NTPCs for supply of fly ash to brick manufacturers located within 300	**Not Complied**	UPRVUNL frequently call LOI for lifting of ash from brick manufacturers/Tile manufactures etc. Apart from above, for maximum ash utilization many letters have been issued to UPPWD/UPRNN/UPEIDA/NHAI/ U.P. Irrigation etc to lift the ash from ash pond of TPS free

	kms radius from NTPCs in the State of UP		of cost. But these agencies didn't show their interest to lift the ash from ash pond. **(Appendix- XL)**
• CPCB vide letter dated 09.09.2020 requested UPPCB & MPPCB to ensure timely submission of quarterly reports by reconstituted OCs to Hon'ble NGT, with first such report giving status as on 31.10.2020 by 15.11.2020.			

B. Coal Mines of M/S Northern Coalfields Limited (NCL) (Refer Appendix-XXXVIII)

S.No.	Issues/ Directions by Hon'ble NGT	Compliance Status	Compliance Status/ Reason for Non-Compliance
a)	**As per the provision of the Notification of 2009, 25% of flyash should, along with Over Burden (OB) generated in the mines of NCL, be used for back filling the abandoned mine.**	**Not Complied**	**NCL Dudhichuwa Project, Sonbhadra; NCL Bina Project, Sonbhadra; NCL Krishnashila Project; NCL Kakri Project; NCL Khadia Project** • The unit is yet to comply with the provision of the said Notification. • The Committee directed that the unit be asked to submit the time bound action plan for compliance of the same.
b)	**The norms of ash content equal to or below 34% is not strictly complied with by the NCL and ash content is going as high as 40% and beyond. Coal beneficiation is, therefore, be initiated to obtain coal having less than 34% ash.**	**Not Complied**	**NCL Dudhichuwa Project, Sonbhadra; NCL Bina Project, Bina, Sonbhadra; NCL Krishnashila Project; NCL Kakri Project; NCL Khadia Project** • The Committee referred MOEF&CC Notification dated 21.05.2020 regarding the use of coal by TPPs, without stipulations as regards ash content or distance. • The Committee will review the notification and will take up the matter accordingly.
c)	**Control of Air Pollution during coal storage, handling and transportation**	**Partially Complied**	**I. NCL Dudhichuwa Project, Sonbhadra** • It is informed that around **96.64% coal is transported through rail and remaining 3.36% coal is transported through road.** • The proponent has installed **silo system** for loading of coal into the rail that caters **72%** of coal transported through rail and for the remaining coal, **Warf wall system** in open is provided. Substantial fugitive emission was observed in the Warf wall loading area. • Committee observed Huge fugitive emission was observed in the coal crusher area, coal

			loading and unloading area and connecting roads. The provisions taken by the proponent for control of fugitive emission are not effective. **II. NCL Bina Project, Bina, Sonbhadra** • It is informed that around **85.22% coal is transported through rail and remaining 14.78% coal is transported through road.** • The proponent has installed **silo system** for loading of coal into the rail that caters **48.25%** of coal transported through rail and for the remaining coal, **Warf wall system** in open is provided. Substantial fugitive emission was observed in the Warf wall loading area. • Dust Suppression system is installed in coal loading silo area. The spraying through fixed pipeline is installed along the most of the transport roads and remaining area is covered through tankers. **III. NCL Krishnashila Project** • It is informed that around **36% coal is transported through rail; 48.56% coal is transported through Belt Piped Conveyor (BPC) and remaining 15.44% coal is transported through road.** • The proponent has **not installed silo system** for loading of coal into the rail. **Warf wall system** in open is provided. Substantial fugitive emission was observed in the Warf wall loading area. • Dust Suppression system is installed in coal loading silo area. Spraying through fixed pipeline is done along the transport roads and remaining area is covered through tankers. **IV. NCL Kakri Project** • It is informed that around **73.17% coal is transported through rail and remaining 26.83% coal is transported through road.** • The proponent has **installed silo system** for loading of coal into the rail that caters 73.17% of coal transported through rail and for the remaining coal. **Warf wall system** in open is provided. Substantial fugitive emission was observed in the Warf wall loading area. • Dust Suppression system is installed in coal loading silo area. The spraying through fixed

			pipeline is installed along the most of the transport roads and remaining area is covered through tankers. **V. NCL Khadia Project** • It is informed that around **71.09% coal is transported through rail and remaining 28.91% coal is transported through road.** • The proponent has **installed silo system** for loading of coal into the rail that caters 71.09% of coal transported through rail and for the remaining coal. **Warf wall system** in open is provided. Substantial fugitive emission was observed in the Warf wall loading area. • Dust Suppression system is installed in coal loading silo area. Spraying through fixed pipeline is done along the transport roads and remaining area is covered through tankers.
d)	**Installation of the camera at the exit of coal mines**	**Partially Complied**	**NCL Dudhichuwa Project, Sonbhadra; NCL Bina Project, Bina, Sonbhadra; NCL Krishnashila Project; NCL Kakri Project; NCL Khadia Project:** It is informed that camera is installed at the exit of the coal mine to monitor the status of coal transport.
e)	**Management of wastewater generated from different processes and achieving ZLD.**	**Partially Complied**	**I. NCL Dudhichuwa Project, Sonbhadra** • The proponent has installed ETP of 30 MLD capacity to treat the waste water generated from different sources. But the operation and maintenance of the said ETP is not upto the mark. The flow meters are also not installed to measure the amount of waste water received and treated. The treated effluent from the ETP is used for spraying along the transport roads through tankers. • The effluent from VHP and workshop is taken into the collection tank and then directly discharged into the Balia Nallah which finally meets Rihand Reservoir. • Thus, the proponent is yet to achieve ZLD. **II. NCL Bina Project, Bina, Sonbhadra** • The proponent has installed ETP having 31.2 MLD capacity to treat the waste water generated from different sources. The treated effluent from the ETP is used for spraying along the transport roads through tankers. **III. NCL Krishnashila Project** • It was informed that new ETP is recently constructed. At the time of the visit, ETP of

			coal mine was under trial. • Thus, the unit effectively in operation without any operational ETP system. **IV. NCL Kakri Project** • The proponent has installed ETP having 27.6 MLD capacity to treat the waste water generated from different sources. The treated effluent from the ETP is used for spraying along the transport roads through tankers. **V. NCL Khadia Project** • The proponent has installed ETP having 27.6 MLD capacity to treat the waste water generated from different sources. The treated effluent from the ETP is used for spraying along the transport roads through tankers.
f)	**Fire in the coal over burden/ reject**	**Partially Complied**	**I. NCL Bina Project, Bina, Sonbhadra** • The Committee observed that the fire in the coal reject storage generated from the deshaling plant. Such a fire incident is hazardous as well as one of the sources for air pollution. • The unit is asked to submit the time bound action plan for controlling the fire in the stored coal reject. **II. NCL Krishnashila Project** • The Committee observed that the fire in the coal over burden stored in the mine area. Such a fire incident is hazardous as well as one of the sources for air pollution. • The unit is asked to submit the time bound action plan for controlling the fire in the stored coal reject.

C. <u>Aluminum Smelters: M/s Hindalco Industries Ltd., Renukoot, Sonbhadra</u>

<u>(Refer Appendix- XXXVIII)</u>

S.No.	Issues/ Directions by Hon'ble NGT	Compliance Status	Compliance Status/ Reason for Non-Compliance
i.	**Industry shall achieve emission limit of 50 mg/Nm^3 for particulate matter in respect of all Baking furnaces.**	**Partially Complied**	• As the said recommendation was not in consonance with EPA notified standard of Boiler emission, the Company challenged it before Hon'ble Supreme Court on December 07, 2019 which is registered as dairy no. 44191- 2019 and the Hon'ble Supreme

	The emission from boilers shall be reduced to the level of 50 mg/Nm^3 from the existing norms of 150 mg/Nm^3 by December 31, 2019 by retrofitting of existing ESPs and also meet emission limit of SO_2 and NOx notified for industrial Boiler for HIL Renukoot & Renusagar (Vide order dated 17.10.2019)		Court of India vide order dated 17.12.2019 stayed the operation of order and matter is pending before the Hon'ble Supreme Court of India. However, for SOx & NOx, third party monitoring is in place on quarterly basis. Moreover, they have already installed online SOx & NOx analyzers at Boilers. The equipments have been commissioned. The connectivity with CPCB server has not been established yet, due to postponement of engineer visit as per COVID-19 precautions. **(Refer Appendix- XXXII)** • The unit has made provisions for achieving the Notified norms in the emission through Baking furnaces. Whereas, the unit approached Hon'ble Supreme Court regarding emission norms imposed on industrial boiler and the said application is pending with Hon'ble Court. • The unit has installed OCEMS and connected it with CPCB boiler. • As per the OCEMS data on CPCB server, during the period August 01, 2020 to Oct., 31, 2020; the unit is found **non-complying for 55 days during which 718 SMS alerts** are generated through OCEMS. **(Refer Appendix- XXXVIII)**
ii.	**Industry shall ensure that no red mud is leached out to ground water during monsoon and post monsoon period.** **Piezometers/monitoring wells should be installed in and around the red mud disposal sites in consultation with the CGWB/SGWB.** **Regular monitoring of the leachate should be carried out as per the sampling and analysis plan as proposed by the concerned SPCB. Besides, industry**	**Partially Complied**	• The industry stored red mud (65-70% solid) as per CPCB guidelines surrounded by earthen dam. Company took a challenge and made intensive efforts to advocate its gainful use in various cement industries even in far asway location. The Company has also developed its rail head and other infrastructure to support time bound logistic. With the above mentioned efforts company was able to supply 362275 MT red mud during April 2019 to March 2020 to various Cement manufacturers including that of Madhya Pradesh by rail/road. **(Refer Appendix- XXXII)** • Red mud is listed as Hazardous Waste under Hazardous Waste (MH & TM) Rules, 2008 and Hazardous and Other Waste (M & TM) Rules, 2006 and it is categorized as high-volume low effect waste. Being hazardous in nature, its safe disposal needs to be assured without any compromise. As per the Rule, CPCB was to issue separate guideline management of such a waste.

	shall facilitate utilization of red mud in nearby cement industries, including those located in MP. The industry shall also explore the possibility of extraction of titanium and other heavy metals from the red mud.		• As per the unit representative, they contacted Head Office, CPCB, Delhi for providing guideline for management of red mud, but they have yet to receive any such guideline. Hence, they adopted their own mechanisms for management of red mud. • The unit has developed several dumpsites/ landfills for storage and disposal of the red mud generated. The unit is asked to provide the design details of each dumpsite and year wise amount of quantity disposed in it. • The Committee referred Google Earth Satellite Image of the said dumpsite areas. As per these images, thick plantation/forestation is observed in some of the areas during 2009 on which red mud disposal sites is developed. Similarly, one of the water body is located in close proximity of the site. • In absence of any camera on these sites, the monitoring w.r.t. status of fugitive dust emission and spillage during rainy season is not possible. • It was informed that around 67.92% (i.e., 426550 MT) red mud is utilized since April, 2020 and remaining 32.08% (i.e., 201477 MT) red mud is disposed in those dumpsites/ landfills. **(Refer Appendix-XXXVIII)**
iii.	**To achieve ZLD**	**Not Complied**	• As per the condition of consent issued by UPPCB, the unit was instructed to achieve ZLD for industrial effluent and reuse of domestic effluent. In no case, the unit is allowed to discharge effluent outside the premises. • At the time of inspection/ visit, the treated industrial was partially utilized and remaining is discharged outside the plant premises. It is also informed that the domestic treated effluent is also discharge outside the plant premises. • Thus, the unit is violating the condition of ZLD imposed on them.
iv.	**Control of air pollution during coal storage, handling and transportation**	**Partially Complied**	The transportation of coal is mainly done through road and necessary precautions are taken to control emissions during coal transportation, storage and handling.

v.	**Fly ash and bottom ash management**	**Partially Complied**	• Approximately 85834 MT flyash is generated since April, 2020 and 69411 MT flyash was utilized. The remaining flyash is stored in unit premises. • A very big heap of bottom ash was found inside the plant premises. The said bottom ash was stored on land in haphazard manner since several years. • The unit was asked to provide details regarding year wise generation of bottom ash and its storage on the open land. **(Refer Appendix- XXXVIII)**

D. M/s Grasim Industries Ltd. (Chemical Division), Renukoot, Sonbhadra (Refer Appendix- XXXVIII)

S.No.	Issues/ Directions by Hon'ble NGT	Compliance Status	Compliance Status/ Reason for Non-Compliance
i.	**To achieve ZLD for ETP & STP**	**Partially Complied**	• The unit has achieved ZLD through reuse and recycling for both industrial and domestic effluent.
ii.	**There is also an urgent need for the preparation of an action plan by the industry to shift the mercury bearing brine sludge and the muck contaminated with chlorinated chemicals from the factory premises to the TSDF in consultation with the UPPCB. It may be stated that storage of Hazardous Mercury bearing brine sludge and the muck contaminated with chlorinated chemicals inside the premises is not permitted by the prevailing Hazardous Waste Management Rules,**	**Partially Complied**	Aditya Birla Chemicals has not generated any mercury bearing brine sludge since 22.09.2011, when it implemented its membrane cell technology. The mercury bearing brine sludge generated prior to 22.09.2011 has been placed in a secured landfill having proper lining and monitoring facility by the Aditya Birla Chemicals as per then prevailing Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2008 ("2008 Hazardous Waste Management Rules"), instructions and guidelines of CPCB and the order of the Hon'ble Supreme Court dated 14.10.2013 in W.P.(C) No. 657 of 1995 titled "*Research Foundation for Science, Technology Natural Resource Policy vs. Union of India".* This is also noted by the Core Committee at paragraph 4(I)(2) of the minutes of meeting of Core Committee dated 16.10.2014 annexed as Annexure II (a) of Volume II of the July 2015 Report. Also, even Rule 16 of the Hazardous Waste Management Rules, 2016, permits disposal of Hazardous Waste in a secured landfill inside the factory premises. Furthermore, the said landfill has been

	2016 and therefore, to be shifted to suitable TSDF immediately. (Vide order dated 19.07.2019)		recognized to be a safe and secured landfill by the Core Committee itself in its July, 2015 Report and is also being monitored by CSIR-IITR Lucknow and CPCB/ UPPCB on a regular basis. But, if the Core Committee, UPPCB and/or the CPCB are still of the view that it would be more beneficial to shift the mercury bearing brine sludge and the muck contaminated with chlorinated chemicals from the factory premises to the TSDF. The industry assure that the industry takes up this job after having instruction/ guidance of CPCB/ UPPCB and with their support. The industry requested CPCB and UPPCB, vide attached letter dated 15.09.2018, to provide guidelines to shift the quantity from the plant to TSDF, as the quantities are huge and when it will be opened it should not damage the environment since shifting will require longer period. Regarding transfer of capped mercury bearing brine sludge stored, the industry approached NEERI for site of capped secured landfill to study in details the feasibility and practibility for transferability from captive SLF to TSDF with relevant information. NEERI team has conducted Environmental Risk Assessment and provided a detailed study report with comments. The NEERI report concludes that: *"In conclusion the Mercury is not leaching from the secured landfill and also not contaminating the ground water. This is evident from the comprehensive analysis. In view of the above facts and figures, it is not recommended to decommission the stabilized SLF for shifting the mercury contaminated sludge disposed in the closed SLF. Decommissioning the capped, stabilized, and compacted not only unnecessary but also pose some safety risks. As a precautionary measure storm water drainage may be constructed around the SLF. This water may be treated in the existing ETP, even though the possibility of mercury leaching is not evident".* **(Refer Annexure- 4 of Appendix- XLII)** • The aforesaid Report by NEERI was submitted by the industry vide letter dated 17.09.2019 to UPPCB. **(Refer Annexure- 5**

			of Appendix- XLII) • On the basis of the aforesaid Report of NEERI, Hon'ble Supreme Court has pleased to grant a stay against the proceeding vide order dated 04.11.2019 i.e., **Civil Appeal Diary no. 37833/2019 (Refer Annexure-6 of Appendix- XLII)** • In terms of letter no. H52509/C-2/NGT Cell dated 02.09.2020 by UPPCB, the industry engaged CSIR- NEERI to conduct study in the vicinity of Mercury Bearing Sludge Secured Landfill site to collect samples of soil, waste, ground water, sediments and anlyze chemicals of concern with general parameters and heavy metals. **(Refer Annexure-7 of Appendix- XLII**) • As per advice given in the meeting dated 25.09.2020, the water sample from Dongia Nallah was collected by RO, UPPCB, Sonbhadra on 29.09.2020 & the mercury level was found BDL (Below Detectable Limit). **(Refer Annexure-8 of Appendix- XLII**) • NEERI has completed the detailed study in October, 2020, for which the Report is expected to be received by the end of the Feb., 2021. **(Refer Appendix- XLII**)
iii.	**Control of pollution during coal storage, transportation and handling**	**Partially Complied**	• Transportation of coal is mainly done through road and necessary precautions are taken to control emissions during coal transportation, storage and handling. • Fugitive emissions are observed in the coal handling areas. **(Refer Appendix- XLII)**
iv.	**Flyash and Bottom ash Management**	**Partially Complied**	• As per information, around 64257 MT flyash is generated since April, 2020 and all the flyash generated was utilized.

E. STONE CRUSHER (Refer Appendix- XXXVIII)

S.No.	Issues/ Directions by Hon'ble NGT	Compliance Status	Compliance Status/ Reason for Non-Compliance
i.	**All stone crushers in Singrauli area have not taken adequate pollution control measures as the level of air pollution in**	**Partially Complied**	• There is a cluster of 350 stone crusher units in area about 12 km^2 in Tehsil- Obra, Sonbhadra.71 stone crushers units are sealed/dismantled by UPPCB and District Administration. • In operational stone crushers, closed metal

<table>
<tr><td></td><td>the vicinity of stone crusher is high and causes a health hazard. Most of the crushers are located in habited area or very near to the roads/ highways. All such stone crushers which are not suitability located as well as which do not have adequate pollution control system should be immediately closed. Relocation of stone crushers may also be explored. (Vide order dated 12.07.2018)</td><td></td><td>sheet enclosures are installed at all dust emitting points and Water sprinkling system are also installed for dust suppression.
• However, the Committee observed very dusty and hazy environment in the area where stone crushers are situated. This indicates that several stone crushers are not operating the water sprinkling system and air pollution control systems effectively.</td></tr>
<tr><td>ii.</td><td>Status of 384 stone crusher units established in district Sonbhadra</td><td>Partially Complied</td><td>Status of 384 stone crusher units established in district Sonbhadra are as follows:
<table>
<tr><td>Total no. of Stone Crusher Units identified</td><td>384</td></tr>
<tr><td>Total no. of Stone Crusher Units has installed proper APCS & have CTO from UPPCB</td><td>236</td></tr>
<tr><td>Total no. of Stone Crusher Units which have not installed proper APCS & are sealed</td><td>76</td></tr>
<tr><td>Total no. of Stone Crusher Units not in working conditions & plant/ industry are damaged</td><td>09</td></tr>
<tr><td>Total no. of Stone Crusher Units dismantled</td><td>19</td></tr>
<tr><td>Total no. of Stone Crusher Units self since long time</td><td>36</td></tr>
<tr><td>Total no. of Stone Crusher Units Applied for CTO</td><td>08</td></tr>
</table>
• The other details are enclosed as Appendix-XXXVII.</td></tr>
</table>

F. <u>POLLUTION CONTROL BOARD & MOEF&CC (Refer Appendix-XXXVIII)</u>

<table>
<tr><th>S.No.</th><th>Issues/ Directions by Hon'ble NGT</th><th>Compliance Status</th><th>Compliance Status/ Reason for Non-Compliance</th></tr>
<tr><td>i.</td><td>The regional carrying capacity of the entire Singrauli region is to be assessed before any expansion scheme with respect to the existing industries. This assessment is the prerequisite for such consideration in future.
(Vide order dated 28.08.2018)</td><td>Not Complied</td><td>• No new expansion of any project/ industries is being allowed in Singrauli (U.P.) region.
• Assessment of regional carrying capacity of the Singrauli region is yet to be started.</td></tr>
<tr><td>ii.</td><td>The SPCB must ensure that all the major stacks from all the industries are being continuously monitored and these are linked with CPCB/SPCB server for online data transmission</td><td>Partially Complied</td><td>• OCEMS have been installed by all the industries for continuous monitoring of source emissions and effluent discharge.
• The OCEMS are linked with the CPCB/SPCB server for online data transmission. (Refer Appendix- XXXVIII)</td></tr>
<tr><td>iii.</td><td>The existing network of monitoring system for AAQ monitoring in both the districts of UP & MP need to strengthened and expanded to get representative air quality status of Singrauli area. Industries in the area should install at least three CAAQMS forthwith on 'Polluter Pays Principle' at such locations as may be decided by CPCB in consultation with the respective SPCBs. The data generated should be transferred to SPCB, CPCB and</td><td>Partially Complied</td><td><u>Status of CAAQMS installed/under process by TPPs in district-Sonbhadra are as follows:</u>
<table>
<tr><th>Name of Industry</th><th>No. of CAAQMS installed</th></tr>
<tr><td>M/s UPRVUNL Anpara</td><td>03</td></tr>
<tr><td>M/s UPRVUNL Obra</td><td>03</td></tr>
<tr><td>M/s NTPC Ltd., Rihandnagar</td><td>03</td></tr>
<tr><td>M/s NTPC Ltd., Shaktinagar</td><td>03</td></tr>
<tr><td>M/s NCL Khadia</td><td>01</td></tr>
<tr><td>M/s NCL Bina & Krishnashila installed jointly</td><td>01</td></tr>
<tr><td>M/s NCL Kakri</td><td>01</td></tr>
<tr><td>M/s NCL Dudhichuwa</td><td>01</td></tr>
<tr><td>M/s Hindalco & Grasim Industries Ltd., (Chemical Division) Renukoot have installed Jointly</td><td>01</td></tr>
<tr><td>M/s Lanco- Anpara & Hindalco (Power Division) Industries Ltd., (Power Division) have installed</td><td>03</td></tr>
</table></td></tr>
</table>

	MOEF&CC on continuing basis.		**Jointly** • Irrespective of Hon'ble NGT directives vide its order dated 28.08.2018, some of the stakeholders are yet to install required three continuous ambient air quality stations forthwith on 'Polluters Pays Principle'. **(Refer Appendix- XXXVIII)**
iv.	**It is also essential that at least three continuous monitoring systems for mercury (Hg) monitoring in the ambient air should be installed at suitable locations in Singrauli area by the industries on Polluters Pays Principle. CPCB & SPCB shall guide the industries regarding the locations of the monitoring stations. Besides mercury in surface and ground water should also be monitored manually once in three months.**	**Not Complied**	• Mercury in surface and ground water is being monitored by UPPCB/ third party once in three months. • M/s Hindalco Industries Ltd., Renukoot have upgraded CAAQMS for monitoring Mercury (Hg), whereas M/s Lanco Anpara Power Ltd. And M/s Hindalco Industries Ltd. (Power Division) have proposed to upgrade CAAQMS for monitoring by 31.12.2021. **(Refer Appendix- XXXVIII)**

G. DISTRICT ADMINISTRATION OF RESPECTIVE STATES (Refer Appendix- XXXVIII)

S.No.	Issues/ Directions by Hon'ble NGT	Compliance Status	Compliance Status/ Reason for Non-Compliance
i.	**The Awdi-Shaktinagar Marg and Singrauli-Audi-Dibulganj Marg are extensively used for heavy traffic and for clandestine coal transport leading to dust pollution. Further, the dense**	**Partially Complied**	• NCL mines are transporting coal through covered trucks and stringent action will be taken against the defaulters. • CCTV cameras are installed by all coal mines at all exit points to record the violation. • However, the Committee observed some of the truck transporting the coal without proper covering.

	population which are residing along these roadsides are severely affected by dust pollution. The coal transportation by open truck is to be banned forthwith. CCTV cameras are to be installed at strategic location to record any violation in this regard.		
ii.	**To improve the prevailing situation, these roads are required to have 4/6 lanes and the pavements should be furnished with inter locking bricks of suitable quality to arrest air entrainment of dust.**	**Partially Complied**	• Widening and strengthening of Aurimore to Shaktinagar four lane road is in progress and the work is awarded to M/s Jawar Construction Ltd., Haryana. • Though the maintenance of potholes free roads for free flow of traffic is being considered by the company, the pavements with inter locking bricks of suitable quality to arrest air entrainment of dust is not proposed by the construction company. • The Committee observed that the condition of the said road is terrible and requires immediate attention. **(Refer Appendix-XXXVIII)**
iii.	**Since there is no strategy for disposal of the RO reject in an environmentally friendly manner, prevailing practice of dumping of RO reject shall affect nearby land as well as water resources with long term consequences leading to irreversible ecological damage. Therefore, no further installation of RO plants in affected villages is recommended. Instead, water supply should now be practiced using**	**Not Complied**	• Due to the disposal problem of RO reject, further installation of any RO plants in affected villages is strictly prohibited. • Water supply in affected villages is being done using the Water Tankers. • The potable water supply project Pandit Deendayal Upadhyay Ashram Paddhati Urmaura, Sonbhadra is completed. In addition, two projects viz., Kuldomari, Anpara are under progress in district Sonbhadra. These projects are proposed to be completed in Dec., 2020 & Jan., 2021 respectively. **(Refer Appendix- XXXVIII)**

	water tankers as an interim measure. Piped water supply from Rihand reservoir will be a long-term solution for drinking water supply to fluoride and mercury affected villages.		
iv.	**In the past Rihand reservoir was polluted by the major industries in the area such as thermal power plants, coal mines, M/s Aditya Birla Chemicals, Renukoot and M/s Hindalco Industries, Renukoot. Since, this reservoir is the only drinking water source in the area, the reservoir needs restoration and protection. A comprehensive study needs to be undertaken to assess the reservoir's water and sediment quality and to delineate water and sediment remediation and restoration measures on 'Polluters Pays Principle'. All the streams and nullahs joining the reservoir need to be intercepted and diverted to save the reservoir from further pollution. CSIR-NEERI, Nagpur and/or CSIR-IITR, Lucknow may be**	**Partially Complied**	• Executive Engineer, Rihand Dam, Civil Division, Pipari informed that the payment of Rs. 69,09,000/- have been done to Central Water and Power Research Station (CWPRS) Khadakwasla, Pune, Maharashtra for the study. • However, the said study work has been postponed due to COVID-19 and study work was expected to be started by January, 2021. **(Refer Appendix- XXXVIII)**

	entrusted with this study for which both these organizations have the requisite expertise.		

VII. RECOMMENDATIONS

1. There is an urgent need to augment the utilization and disposal of flyash in the State of Uttar Pradesh. The State Government must fix responsibility and also explain as to how they would address this issue. Moreover, the Committee recommended that the Government take steps for incentivizing use of flyash in Cement and Brick making industrial units.
2. It is suggested by the Committee that UPPCB should take appropriate action for ensuring compliance of the directions given by Hon'ble NGT regarding the concerned power plants and make a plan for continuous monitoring. A quarterly report regarding the TPPs in this case be submitted to the Committee.
3. To promote offtake of dry fly ash, the concerned NTPCs should address the problem of transportation of fly ash in bulk quantity to potential users in economical and environment friendly manner.
4. It is also recommended by the Committee that supply of pond ash for road construction projects and brick making should be promoted. NTPCs should take necessary action for supply of fly ash to brick manufacturers located within 300 kms radius from NTPCs in the State of Uttar Pradesh. Furthermore, in order to establish a new avenue of ash utilization, there is need for transportation of wet fly ash in railway wagons.
5. As per the Provisions of Notification of MOEF & CC regarding fly ash, NTPCs should take action for filling of low-lying areas on NTPCs land as well as private land using pond ash. Therefore, in order to enhance fly ash utilization levels, General Manager, NTPCs; Director, UPRVUNL and District Administration be directed to provide the list of wastelands available within 100 kms of NTPCs in the State.
6. Thermal Power Plants should collect back the spread over ash with minimal fugitive emission and dispose it in operating dyke. The Committee suggests that TPPs should submit a time bound action plan in this regard within one month.

7. Task Force of Ministry of Power and Ministry of Coal should prepare list of abandoned mines/quarries for mine back filling purpose and CPCB notifies the same for use by the TPPs as per applicable guidelines and permission from UPPCB.
8. The Committee recommends that all Power Plants should develop RCC wall around the power plants.
9. The Committee recommends that the entire cost of transportation for the construction of road and assets creation programs of the Government not to be borne only by thermal power plants but also by the users i.e., NHAI, PWD, CPWD etc.
10. Filling of abandoned coal mines is a major avenue of ash utilization however due to mandatory conditions of multiple inspections, studies there is significant delay in the work. It is also suggested that a simple and well-defined procedure be followed to facilitate, allot and start work within shortest possible time.
11. There is need to develop infrastructure and establishment of cement factories in Sonbhadra region. Initiation of road infrastructure projects such as ring road/ by-pass road shall facilitate both connectivity of the region as well as it will create avenues for utilization of fly ash/ fly ash-based products.
12. The Committee observed that EC had been imposed on 10 industrial units but UPPCB's share has been recovered only from one unit. Rest all the industries have filed an appeal in Hon'ble Supreme Court and stay has been granted in all such cases and all these cases are not being listed It is necessary that UPPCB and CPCB should follow up the matter to expedite the hearing.
13. The Committee also noted that 04 mines in Dalla-Bari area had been identified as undisputed and District Administration has allotted these mines to UPRVUNL in which Obra TPS of UPRVUNL will start filling ash after obtaining NOC from UPPCB. Dispute of ownership between Revenue department and Forest department for other mines is still to be resolved. It is recommended that UPPCB must take speedy decision on the issue of granting NOC to UPRVUNL preferably within 15 days so that the work may start. Furthermore, regarding other mines a meeting to be conducted under the chairmanship of concerned District Magistrates and officials from Forest and Revenue Department in this month.
14. The DPR for project of de-silting the Rihand Reservoir and bearing of expenditure by TPPs of the area on Polluter Pay Principle still has not been prepared. The

Committee also directed the concerned authorities to prepare and submit the same within a month.

15. The Committee directed UPPCB to initiate stringent action including recovery of EC against defaulter stakeholders based on OCEMS data and discharge from the ash dykes.
16. There is also a need to identify strategic locations where the CAAQMS are required and direct those stakeholders to install the CAAQMS in time bound manner.
17. The SPCB needs to submit the compliance status on the issue of Mercury in surface and ground water as well as ambient air quality based on the monitoring reports along with findings and required action to be taken.
18. The District administration needs to take action against defaulters as per the directives regarding coal transportation. The Committee directs the District Administration to submit the details of the erring officers to the Hon'ble NGT.

NTPC Anpara

19. CPCB vide letter dated 09.09.2020 requested the Irrigation and Water Resources Department, Uttar Pradesh to take appropriate action for ensuring compliance of the direction of Hon'ble NGT regarding liability for Environmental Compensation in respect of UPRVUNL Anpara. No information has been received till date. The Committee recommends that the concerned department submit an action taken report within 15 days.
20. It was noticed that a natural drain (Morcha Nala) is discharging huge quantity of water in ash pond at Anpara TPP which is to be diverted by Irrigation Department, U.P. According to the information received by the Committee, the study of changing the direction of natural drain has been done from IIT-BHU, Varanasi. The institute presented a detailed design and drawing to change the direction of the drain, according to which the total cost of the work has been estimated as Rs.32.18 crore. Assessment report received from IIT- BHU has been sent to Corporation HQ. Corporate HQ is waiting for action on the said proposal from the Irrigation Department. The Committee recommends that action be taken on the project on priority basis by the Irrigation Department.
21. The Committee recommends NTPC Anpara to submit the explanation regarding 24371 SMS generated through OCEMS and not achieving ZLD in ETP & STP.

22. There is a need to immediately install flow meter to measure amount of ash slurry discharged into the ash pond and amount of water recovered and recycled from it. The Committee also recommends NTPC Anpara to prepare and implement action plan for effective control of fugitive emission from coal handling & storage areas.

Obra TPS & Lanco Anpara-C TPS

23. **Obra TPS** to submit an explanation regarding discharge of ash pond overflow as visible in the Google Earth Satellite Image at the earliest. Moreover, it should also submit the current status regarding 20548 SMS by **Obra TPS and** 466 SMS by **Lanco Anpara-C TPS** generated through OCEMS at the earliest.
24. Obra TPS to submit explanation regarding not achieving prescribed ZLD condition.
25. There is need to install flow meters by **Lanco Anpara-C TPS** to measure amount of ash slurry discharged into the ash pond and amount of water recovered and recycled from it.
26. **Lanco Anpara TPS** to submit the time bound action plan to relocate the CAAQMS installed for ensuring ambient air quality monitoring as per the guideline.

NTPC Shaktinagar

27. NTPC Shaktinagar should immediately identify the ash slurry discharge into the Rihand Reservoir. The Committee suggests NTPC Shaktinagar to submit the compliance status in this matter along with the explanation regarding 466 SMS generated through OCEMS at the earliest.
28. The Committee recommends NTPC Shaktinagar to repair the AWRS dislodged pipeline and to stop discharge of decant water of the dykes.
29. NTPC Shaktinagar to submit the time bound action plan to relocate the CAAQMS installed for ensuring ambient air quality monitoring as per the guideline.

NTPC Rihand

30. Third party assessment of ash dyke is necessary in case of all Thermal Power Plants of the State of Uttar Pradesh. As per the reports received by the Committee from the TPPs in the State of U.P., only NTPC Rihand had submitted a detailed

and compliant report while from others it is awaited. The Committee directed that all the TPPs to submit third party assessment report within a month.

31. NTPC Rihand to submit the explanation regarding 104 SMS generated through OCEMS.

32. The Committee suggests M/s **Hindalco Industries, Renusagar** to prepare and implement action plan for effective control of fugitive emission from coal handling and storage areas. There is also a need to submit an explanation regarding operating the ETP without proper sludge drying beds along with time bound action plan for CAAQMS.
33. M/s **Hindalco Industries** to submit the explanation regarding 718 SMS generated through OCEMS and explanation regarding the discharge of treated industrial & domestic effluent outside the plant premises irrespective of ZLD condition imposed on them. There is need to submit the explanation regarding the huge quality of bottom ash stored on open land in the plant premises.
34. M/s **Hindalco Industries** to submit any kind of permission, if any, obtained for deforestation of the area presently used for the red mud disposal.
35. M/s Grasim Industries to take corrective measures to further reduce the level of fugitive emission from coal handling area.
36. As far as **Stone Crusher is concerned, t**he Committee recommends for frequent drone camera monitoring and PTZ camera for individual unit monitoring for identification of defaulting stone crushers.
37. **NCL Dudhichuwa** to take corrective measures to further reduce the level of fugitive emission during coal handling, storage and transportation within the mine premises. The Committee also recommends that an explanation for discharging effluent from CHP and workshop in the Balia Nallah be submitted.
38. The Committee recommends **Bina Project, Krishnashila Project, Khadia Project & Kakri Project** to prepare and implement action plan for more effective control of fugitive emission from coal handling, storage and transportation within the mine premises.
39. There is a need to submit an action plan for controlling the fire in the coal overburden/ reject and explanation regarding operating the mine without operational ETP.

40. The Committee suggests **NCL Dudhichuwa, Bina Project, Krishnashila Project, Khadia Project & Kakri Project to submit an** explanation of the compliance as per the Provision of the Notification of 2009 regarding utilization of 25% flyash along with Over Burden (OB) for backfilling the abandoned mines.
41. Hon'ble NGT had directed the Health Department, U. P. to assess the status of health of citizens of affected areas and the trend of diseases related to pollution arises from the TPPs. In view of this direction, no compliance report has been submitted by the Department till date. It is recommended that a health survey is conducted in the affected areas within next three months and a detailed report is submitted to the Committee.
42. The Committee has observed after the inspection report received from NTPC and UPRVUNL that there are similar kind of problems in the TPPs out the purview of this case. Therefore, it is necessary to expand the scope of direction in order to make all TPPs compliance with the said guidelines. In view of the committee by this exercise we shall be able to check the shortcomings and problems and the initial stage so that the same can be cured easily.

The Member Secretary, UPPCB is directed to send this report to the Registrar General, National Green Tribunal, Principal Bench, New Delhi for placing the same before the Hon'ble Tribunal with a copy to the Chief Secretary, Government of Uttar Pradesh for necessary action. The report also be uploaded on the website of the Committee.

01-03-2021 01-03-2021

X Anup Chandra Pandey

Dr Anup Chandra Pandey
Member, Oversight Committee
Signed by: ANUP CHANDRA PANDEY

X SVS Rathore

Justice SVS Rathore
Chairman, Oversight Committee
Signed by: SURENDRA VIKRAM SINGH RATHORE

March 01, 2021

Annexures: As above

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