Ref. No.: G0647 / O.A. No. 164/2018/2024 **Date:** 08.07.2024

From,

Chandra Vijay Singh,
District Magistrate,
Sonbhadra.

To,

The Registrar,
Hon'ble National Green Tribunal,
Copemicus Marg,
New Delhi.
E-mail-judicial-ngt@gov.in

Sub:- Submission of status report in compliance of directions issued by Hon'ble NGT vide order dated 19.03.2024 in O.A. No. 164/2018, Ashwani Kumar Dubey Versus Union of India & Ors.

Sir,

In Compliance of Hon'ble NGT order dated 19.03.2024 in the matter of O.A. No. 164/2018, Ashwani Kumar Dubey Versus Union of India & Ors., and the status report is being filed herewith.

It is requested that the aforesaid status report may be presented before the Hon'ble Tribunal for kind consideration.

Encl.: As above.

Your's faithfully,

(Chandra Vijay Singh)
District Magistrate
Sonbhadra

Compliance status report in the matter of Original Application No. 164/2018 Ashwani Kumar Dubey Applicant Vs Union of India & Ors.

1. Hon'ble NGT in the matter of O.A. No. 164/2018 Ashwani Kumar Dubey Applicant Vs Union of India & Ors. vide its order dated 14.07.2020, directed the following regarding the Oversight Committee:-

   ".....Conclusions and Way forward:

   16. From the above, it is seen that there is a long way to go for protecting environment and public health. The failures of the TPPs are alarming. We find no reason not to accept all the recommendations and to direct remedial action. Thus, all recommendations are accepted and further remedial action is directed to be taken by the statutory regulators which also be overseen by the joint Committees of CPCB, State PCB and the jurisdictional District Magistrates, with CPCB and State PCBs being nodal agencies. Quarterly reports may now be filed with the MoEF&CC to be considered by the Coordinating Committee being hereby constituted....."

2. In compliance of above direction, the Joint Committee has submitted status report, timely. As per records available in Regional Office, UPPCB, Sonbhadra, latest Status report is attached herewith & marked as Annexure 1.

3. All the matters (including IAs) will stand disposed with directions mentioned in para 21(i) to 21(v) issued in this matter vide its order dated 18.01.2022.

4. The compliance status of directions mentioned in Para 21(i) to 21(v), issued by Hon'ble NGT in this matter vide its order dated 18.01.2022 are as follows:-

Sl. No.	Directions	Compliance Status
21(i).	We direct constitution of a fly ash management and utilization Mission to be jointly headed by the Secretaries, MoEF&CC, Coal and Power, GoI and Chief Secretaries of UP and MP. The Secretary, MoEF&CC will be the nodal agency for coordination and compliance. The Mission will coordinate and monitor issues relating to handling and disposal of fly ash as well as all associated issues in the light of above discussion. It may hold its first meeting within one month to take stock of the situation and to prepare action plan in the light of recommendations of Joint Committees quoted earlier in para 15 above in respect of individual plants as well as road map generally. Thereafter, it may meet atleast once in a month for one year to review the progress. The resolutions of the Mission and quarterly progress may be placed on the website of MoEF&CC for information of the stake holders and inhabitants in the area. The Mission will be free to interact with the concerned Government Departments/ Expert institutions/ individuals/other stakeholders. The Mission may in its first meeting require voluntary financial contribution by all the projects in proportion of the financial capacity of the projects out of CSR funds or otherwise. The contribution, alongwith compensation which may be collected may be credited to a separate environment restoration account for restoration of environment and relief to the victims of damage to the environment in such manner as may be found necessary by the Mission. Any victim or aggrieved party	• The 1st, 2nd, 3rd, 4th, 5th, 6th & 7th meeting of 'Fly Ash Management and Utilization' Mission had been organized on dated 24.11.2022, 31.01.2023, 01.05.2023, 04.06.2023 & 19.10.2023, 31.01.2024 & 26.06.2024 respectively, under the chairmanship of MoEF & CC, New Delhi. • As per Minutes of Meeting, UPPCB has submitted the compliance status before 'Fly Ash Management & Utilization meeting timely.

	will be free to approach the Mission for providing such relief. The Mission may also consider the safeguards laid down in the Notification dated 31.12.2021, particularly for safety audits of the ash dykes which should be conducted particularly for structural stability, as far as possible within six months. Advisory issued by the Ministry of Power 141 dated 22.9.2021 will not be enforced being against the spirit of notification dated 31.12.2021 and obstructing much needed speedy utilisation/disposal of legacy flyash. The Mission may evolve mechanism for interaction with stake holders, including associations of brick kiln owners. Guidelines be also issued for siting, design and engineering standards for the location, disposal, maintenance and regulation of Ash Ponds as breach of a fly ash ponds result in great disaster. Public health and risk impact assessment in the areas of operation of TPPs and generators of fly ash may be got conducted. The Mission may also monitor scientific management and utilization of fly ash by power projects outside Singrauli and Sonebhadra, in coordination with Chief Secretaries of concerned States and adopting safety measures for ash dykes, installing devices to control air pollution, (including FGDs, OCEMS) in a time bound manner and restoration of environment and public health. The Mission may also consider use of beneficiated coal. It may in particular consider on-site and off-site crisis management plans with regard to fly ash ponds and dykes. As noted earlier, legacy fly ash is 1670.602 Million Tonnes as on 31.12.2021 and data of ash generation and utilization of legacy fly ash is as follows:	

	"Summary of Ash Generation and Utilization during year 2020-21 No. of Thermal Power Stations : 191 Capacity (MW) : 2,13,030 MW Coal consumed : 672.130 Million Tonnes Fly Ash Generation : 222.789 Million Tonnes Fly Ash Utilization : 205.098 Million Tonnes Percentage Utilization : 92.06% Legacy flyash :1670.602 Million Tonnes The Committee of Secretaries, in coordination with PPs and statutory regulators, may draw a roadmap for utilization and disposal of entire legacy fly ash for Sonebhadra and Singrauli areas 142 as well as for all the Power Plants located in clusters or standalone with tagging the sources to utilize fly ash on voluntary and compulsion mode for which required mechanism be laid down.	
21(ii).	With regard to past violations, the PPs remain liable and the Joint Committee of CPCB, State PCB and jurisdictional District Magistrates may determine compensation following due process, on the principles laid down inter alia in M.C. Mehta, (1987) 1 SCC 395, Sterlite (2013) 4 SCC 575 and Goel Ganga (2018) 18 SCC 257, having regard to the period of violation and financial capacity of the unit. The PPs may take remedial measures as per recommendations of the Committee and as per law, failing with coercive measures for continuing or future violations be taken by concerned authorities.	• For the past violation done by TPPs, Coal Mines Projects & Other industries, Environmental Compensation has imposed on the industries by UPPCB. The details are annexed as Annexure no.2.
21(iii).	Statutory regulators may take action in terms of need for compliances in the light of recommendations with regard to individual Plants as well as generally so as to require the concerned PPs to comply, failing which coercive measures be taken by the statutory regulators	• As per the direction issued through MOM of fly ash mission meeting, compliance has been

	in accordance with law.	submitted before meeting. Detail status of implementation action plan as compliance status is attached here with and marked as Annexure-3.
21(iv).	In respect of incident dated 10.04.2020, compensation paid to heirs of the deceased at the rate of Rs. 10 lakhs per death is increased to Rs. 15 lakhs on principles laid down inter alia in Sarla Verma (2009) 6 SCC 121 and Uphaar Cinema (2011) 14 SCC 481. We direct the remaining amount to be paid within one month. This order will not debar the heirs of the victims to claim higher compensation by approaching appropriate forum. If the salaries to persons appointed as compensation to the victims are below minimum wages, the PP may ensure compliance of law on the subject which may be also looked into by the concerned Labour Departments of the State of UP and MP. The statutory regulators may take further remedial action 143 in terms of recommendations of the Committee in OA 148/2020, quoted earlier for restoration of environment and preventing such incidents.	• Concern to other departments (Labour Department).
21(v).	With regard to breach of Rihand Reservoir also, further remedial measures be taken in terms of	• All stack-holders had submitted compliance

	recommendations on the subject, quoted in para 15 above.	status to fly ash mission. As per records, M/s UPRVUNL Anpara Thermal Power Plant, Anpara, Sonbhadra removed 206540.944 CuM quantity of Visible ash from side pocket of Rihand Reservoir and has deposed it in scientific manner.

The above Compliance status may be presented before Hon'ble Tribunal for kind information & consideration please.

(Chandra Vijay Singh)
District Magistrate,
Sonbhadra

Annex. no.01

THIRD REPORT

Status Report in the matter of Original Application No. 164/2018

Ashwani Kumar Dubey Applicant Vs Union of India & Ors.

Respondent(s)

(Status as on 31.05.2023)

INTRODUCTION

Hon'ble NGT in the matter vide its order dated 14.07.2020, directed the following regarding the Oversight Committee,

> *"……Conclusions and Way forward:*
>
> *16. From the above, it is seen that there is a long way to go for protecting environment and public health. The failures of the TPPs are alarming. We find no reason not to accept all the recommendations and to direct remedial action. Thus, all recommendations are accepted and further remedial action is directed to be taken by the statutory regulators which also be overseen by the joint Committees of CPCB, State PCB and the jurisdictional District Magistrates, with CPCB and State PCBs being nodal agencies. Quarterly reports may now be filed with the MoEF&CC to be considered by the Coordinating Committee being hereby constituted……."*

Accordingly, the following members have been nominated by the concerned departments for the said committee,

- Shri Rajendra D. Patil, Scientist D, CPCB Regional Directorate, Lucknow
- Shri U K Gupta, AE, UPPCB, Sonbhadra
- SDM-Duddhi, Sonbhadra

The committee reviewed the status with the following stakeholders by conducting field visits during June 19-25, 2023.

Thermal Power Plants	Coal Mines
1. M/s NTPC Limited Shakti Nagar 2. M/s NTPC Limited Rihand Super Thermal Power 3. M/s Anpara Thermal Power Plant 4. M/s Anpara 'C' Lanco Thermal Power Station 5. M/s Obra Thermal Power Station 6. M/s Renusagar Thermal Power Plant	7. NCL Mine Dudhichuwa 8. NCL Mine Krishna Shila 9. NCL Mine Khadia Project 10. NCL Mine, Kakri Project 11. NCL Mine Bina

Following is the Compliance status of action points identified in Hon'ble NGT orders.

1. THERMAL POWER PLANTS

1.1. NTPC Shaktinagar

<table>
<tr><th>Actions points</th><th>Remarks/Comments</th></tr>
<tr><td>Quarterly targets for 100% current ash utilization in first cycle of (3/4/5 years as applicable) from April-March 2022, and actual utilization during three quarters till May 2023 (attach sheet)</td><td>• As per the details provided by the unit following is the status of ash utilization
<table>
<tr><th rowspan="2">Year</th><th colspan="2">Ash Quantity in Lac MT</th><th rowspan="2">% Ash Utilization</th></tr>
<tr><th>Generation</th><th>Utilization</th></tr>
<tr><td>FY 2022-23</td><td>5.12577</td><td>2.39428771</td><td>46.71%</td></tr>
</table>
• Though the unit has provided Ash silos for the transportation of dry ash, it is rarely in use as the dry ash utilization is only 1%. The utilization of ash is mainly governed through pond ash utilization which is 99% of total ash utilization.
• The unit has provided an action plan for achieving the desired level of ash utilization.</td></tr>
<tr><td>Status / plan for stabilization of ash ponds and ash dykes as allowed within three years from 01.04.2022</td><td>• Earlier it was informed that the Khadia ash dyke will be stabilized in the coming years. However, the unit has revised its plan and the said ash dyke will be used for the disposal of ash slurry generated from the upcoming power unit. The unit has also obtained relevant permission from MoEF&CC for the same.</td></tr>
<tr><td>Quarterly targets for utilization of remaining legacy ash in ten-year cycle starting from April-June 2022, and actual utilization during three quarters</td><td>• The unit has provided total 03 ash dykes for the disposal of fly ash and bottom ash generated during the process, out of these 03 ash dykes, 02 ash dykes are in operation and the remaining ash dyke at Khadia will be made operational along with the installation of new power generation unit.</td></tr>
<tr><td>Annual certification of ash pond/ ash dyke safety/ stability etc. - Expert agency/ date of study, recommendations, actions taken</td><td>• It has been informed that the IIT BHU has conducted the study and the stability report will be submitted soon.</td></tr>
<tr><td>Existing run-on / run-off management and ash water recirculation system to prevent discharge from ash pond / dyke area / ash carry over into nallah /</td><td>• The underground Hume pipe which was constantly discharging effluent from the ash pond overflow lagoon into the Rihand reservoir has been sealed through the heavy metallic plate. At present the water level of the Rihand reservoir has reduced due to which the said</td></tr>
</table>

Actions points	Remarks/Comments
river / reservoir and any plan for improvements	underground Hume pipe is visible. However, when the water level will be increased the possibility of leakage from the said metallic plate due to hydraulic pressure from both sides cannot be ruled out. The same was discussed with the technical team available at the site and the unit has proposed to seal the said pipe through reinforcement in order to avoid any possibility of leakage.
Status / plan for study to assess siltation in nallah / river / reservoir due to plant at the point of effluent / storm water discharge	• During the visit, traces of ash has not been observed on the bed of the Rihand reservoir located near the ash dyke areas of the unit.
Status of damage remediation and status of study for assessment of environmental damage compensation in respect of past fly ash breaches or overflows	• No such ash dyke breach has been reported.
Status / any plan for segregated fly ash and bottom ash management, 100% dry management of fly ash and installing HCSD for bottom ash	• At present the unit is combinedly discharging fly ash and bottom ash in the form of ash slurry into the ash dykes. • Although the unit has installed silos for the transportation of dry fly ash, they are currently unused except for internal purposes related to fly ash utilization.
Status / plan to reduce consumptive use of water such as - reducing cooling water blow down quantity, maximizing dry ash handling, reusing cooling water blow down water, treated wastewater and treated sewage for other purposes etc.	• Dry fly ash storage Silos have been provided to handle the dry fly ash generated for utilization purposes. • The unit is in the process to install new STP with provision for resourceful utilization of the treated effluent.
Timelines for meeting PM & NOx standards and SO_2 standards as per category and status of compliance / progress for compliance	• To achieve the standards of PM the unit has carried out the retrofitting of the ESPs installed. • The construction of the FGD unit attached to the stack has been completed and they are in the process of testing and completing the associated activities to bring

Actions points	Remarks/Comments
	these FGD systems in line with the source emission discharge. • The first FGD will be tentatively made operational by March 2023. • Considering the action plan and activities found on the ground, the unit can adhere to the timeline given in this regard.
Status of OCEMS installation and data connectivity as per CPCB guidelines	• The unit has installed OCEMS to monitor stack emissions and is connected to CPCB and UPPCB servers. However, OCEMS are installed on the duct connecting to the stack and the required iso-kinetic sampling to monitor particulate matter is not being ensured. • After installation of FGD, these OCEMS will be shifted on the newly installed Chimney at a suitable location in such a way that iso-kinetic sampling will get insured.
Status of CAAQMS installation as per EC conditions and status of data connectivity	• The unit has installed 03 CAAQMS for ambient air monitoring and is linked with CPCB/UPPCB server.
Adequacy of measures implemented to prevent / suppress air pollution from ash pond area	• The unit has maintained a wet surface of the functional ash dyke to prevent air pollution. The movable water Sprinklers using flexible pipes have been provided at the ash dyke. • The unit has provided sprinklers around the coal storage yard and further the unit is in the process to procure fog cannon for the suppression of dust from the coal storage areas. • The unit has constructed roads in the ash dyke area and has also taken preventive measures to control the fugitive emissions from vehicular movements. • Though the unit has taken some measures to control the fugitive emissions from Khadia Ash dyke these are not sufficient to control the fugitive dust effectively.
Adequacy of measures implemented to prevent / control	• As suggested in the previous report of the committee the unit is in the process to provide fog cannons for effective suppression of fugitive dust from the coal storage area.

Actions points	Remarks/Comments
of air pollution from coal handling area	• The unit only receives coal through the MGR rail system. The unit has provided a cover shed and sprinkler system to control the dust released during unloading.
Adequacy of MSW management for plant and township	• As informed in the previous report the unit has not provided a proper MSW processing facility. However, based on the said observation the unit is in the process to upgrade the present mechanism of MSW management by installing a new MSW processing plant.

Recommendations of the Committee

- The unit can be asked to ensure the compliance of the time-bound action plan for 100% fly ash utilization.
- The unit can be asked to explore possibilities to increase the utilization of dry fly ash.
- The unit can be asked to develop proper mechanism to control the fugitive emissions from Khadia Ash dyke.
- The unit can be asked to complete the reinforcement of the underground Hume pipe before commencement of the rainy season.
- The unit can be asked to keep a strict vigil at the ash pond overflow lagoon and should ensure no wastewater will reach the Rihand reservoir.
- The unit can be asked to provide proper MSW processing plant at the earliest.

1.2. NTPC Rihand

<table>
<tr><th>Actions points</th><th>Remarks/Comments</th></tr>
<tr><td>Quarterly targets for 100% current ash utilization in first cycle of (3/4/5 years as applicable) from April-June 2022, and actual utilization during three quarters till Dec 2022 (attach sheet)</td><td>
• As per the details provided by the unit following is the status of ash utilization
<table>
<tr><th rowspan="2">Year</th><th colspan="2">Ash Quantity in Lac MT</th><th rowspan="2">% Ash Utilization</th></tr>
<tr><th>Generation</th><th>Utilization</th></tr>
<tr><td>FY 2022-23</td><td>37.0</td><td>21.36</td><td>52.90 %</td></tr>
</table>
• The fly ash is mainly used in NHAI road projects ash brick manufacturing, land development and ash dyke raising. The unit has also taken initiatives for the supply of fly ash through BTAP wagons.
• The dry ash utilization is only 12 % and the utilization of ash is mainly governed through pond ash utilization which is 88 % of total ash utilization.
• The unit has provided action plan for achieving desired level of ash utilization.
</td></tr>
<tr><td>Status / plan for stabilization of ash ponds and ash dykes as allowed within three years from 01.04.2022</td><td>• The unit has stabilized one Ash dyke on which they are in process to install solar power plant of 15 MW Capacity.</td></tr>
<tr><td>Quarterly targets for utilization of remaining legacy ash in ten-year cycle starting from April-June 2022, and actual utilization during three quarters till Dec 2022 (attach sheet)</td><td>• As informed one Ash dyke is stabilized and remaining are in operation.</td></tr>
<tr><td>Annual certification of ash pond/ ash dyke safety/ stability etc. - Expert agency/ date of study, recommendations, actions taken</td><td>• The stability study was conducted by IIT BHU in the month of February 2023 and the final report is available with the unit.</td></tr>
<tr><td>Existing run-on / run-off management and ash water recirculation system to prevent discharge from ash</td><td>• The unit has taken the required corrective measures to entrap the leakages observed on 11.02.2023. They have also constructed the wall to arrest the slurry before reaching the adjacent water body.</td></tr>
</table>

Actions points	Remarks/Comments
pond / dyke area / ash carry over into nallah / river / reservoir and any plan for improvements	• Provision for Toe drain around ash dyke was constructed to collect the seepage water from dyke.
Status / plan for study to assess siltation in nallah / river / reservoir due to plant at the point of effluent / storm water discharge	• During the visit, traces of ash has not been observed on the bed of the Rihand reservoir located near the ash dyke areas of the unit.
Status of damage remediation and status of study for assessment of environmental damage compensation in respect of past fly ash breaches or overflows	• No such ash dyke breach has been reported.
Status / any plan for segregated fly ash and bottom ash management, 100% dry management of fly ash and installing HCSD for bottom ash	• The unit has provided dry fly ash silos for two units for storage and utilization. However, they have yet to provide a fly ash silo for one of the units. • The unit has also developed a facility for the transportation of fly ash through a BTAP wagon.
Status / plan to reduce consumptive use of water such as - reducing cooling water blow down quantity, maximizing dry ash handling, reusing cooling water blow down water, treated wastewater and treated sewage for other purposes etc.	• The unit is in process to increase the dry fly ash utilization by providing collection silos.
Timelines for meeting PM & NOx standards and SO2 standards as per category	• To achieve the standards of PM the unit has carried out the retrofitting of the ESPs installed.

Actions points	Remarks/Comments
and status of compliance / progress for compliance	• The civil work of the FGD unit for stages 2 & 3 has been completed whereas 12 % of the mechanical work, and for stage 1 chimney pilling has been completed. • Considering the action plan and activities found on the ground, the unit can adhere to the timeline given in this regard.
Status of CEMS installation and data connectivity as per CPCB guidelines	• The unit has installed OCEMS to monitor stack emissions and is connected to CPCB and UPPCB servers.
Status of CAAQMS installation as per EC conditions and status of data connectivity	• 03 nos. of CAAQMS are installed and are connected to CPCB through logic ladder portal.
Adequacy of measures implemented to prevent / suppress air pollution from ash pond area	• The unit has four active ash dykes for ash disposal. As per the information, any two of them are (charging) used at a time. • The unit has maintained a wet surface of the functional ash dyke to prevent air pollution. The movable water Sprinklers using flexible pipes have been provided at the ash dyke. • The unit has provided sprinklers around the coal storage yard and additionally they have procured and installed fog cannon for the suppression of dust from the coal storage yards. • The unit has constructed roads in the ash dyke areas and has also taken preventive measures to control the fugitive emissions from vehicular movements.
Adequacy of measures implemented to prevent / control of air pollution from coal handling area	• The unit receive coal through rail transportation only and covered shed has been provided for unloading. The unit has provided dust suppression system using pressure mist nozzles in one side. • One fog canon has been installed in coal stock yard of stage 3. • It has been informed that to suppress the dust in Coal Handling areas, the unit is in process to install the Cold Fog Dust Suppression (CFDS) system for Stage – I which is likely to be made operational by 30.09.2023.

Actions points	Remarks/Comments
Adequacy of MSW management for plant and township	• Unit have developed a system for collection and segregation of the MSW. • The organic waste is disposed of through composting. The generated compost is used for in-house gardening purpose. • The unit has installed 03 Bio methanation plant at Guest Houses & their Canteens for biogas generation. • Plastic waste comprising of mainly packaging material is sent to cement kiln (Ultratech - Dalla) for disposal.

Recommendations of the Committee

- The unit can be asked to ensure compliance with the time-bound action plan for 100% fly ash utilization.
- The unit can be asked to explore possibilities to increase the utilization of dry fly ash.
- The unit can be asked to keep a strict vigil at the point wherein the leakage in the ash slurry pipeline was observed during the previous visit.
- The unit can be asked to install dry fly ash silos attached to all the operational units.

1.3. UPRVUNL Anpara A, B & D TPS

<table>
<tr><th>Actions points</th><th>Remarks/Comments</th></tr>
<tr><td>Quarterly targets for 100% current ash utilisation in first cycle of (3/4/5 years as applicable) from April-June 2022, and actual utilisation during three quarters till Dec 2022 (attach sheet)</td><td>• As per the information provided by the unit, the details of Ash generation and utilization are as below:
<table><tr><th rowspan="2">Year</th><th colspan="2">Ash Quantity in Lac MT</th><th rowspan="2">% Ash utilization</th></tr><tr><th>Generation</th><th>Utilization</th></tr><tr><td>2022-23</td><td>43.52</td><td>0.82</td><td>1.88</td></tr></table>• The reported ash utilization is very poor. The unit needs to expediates the option for enhancing the ash utilization.
• The unit has provided action plan for achieving desired level of ash utilization.</td></tr>
<tr><td>Status / plan for stabilization of ash ponds and ash dykes as allowed within three years from 01.04.2022</td><td>• Old Ash Dyke No 2 (Saddle Dam) having area of 70.395 Ha containing the ash quantity 144.0 Lac MT has been stabilized and green belt have been developed on it.</td></tr>
<tr><td>Quarterly targets for utilization of remaining legacy ash in ten year cycle starting from April-June 2022, and actual utilization during three quarters till Dec 2022 (attach sheet)</td><td>• One ash dyke is stabilized and a green belt has been developed on it. The remaining are currently in operation.</td></tr>
<tr><td>Annual certification of ash pond/ ash dyke safety/ stability etc. - Expert agency/ date of study, recommendations, actions taken</td><td>• It has been informed that the stability study has been conducted through IIT BHU during the month of July, 2022.</td></tr>
<tr><td>Existing run-on / run-off management and ash water recirculation system to prevent discharge from ash pond / dyke area / ash carry over into nallah / river / reservoir and any plan for improvements</td><td>• The TPP have installed water meters to measure the amount of ash slurry disposed and water being recycled/reused from ash dyke.
• The pipeline carrying fly ash slurry are old and frequent leakages are been witnessed. To tackle the issue the unit has considered the option for replacement of the existing ash slurry pipelines in phase manner. The unit has formulated a team to remove the released ash from the environment as early as possible in case of leakages from these pipelines.</td></tr>
</table>

Actions points	Remarks/Comments
	• On the day of visit, discharge has not been observed from spillway No. 04. During the previous visit, ash pond overflow water was seen flowing into Rihand reservoir through this spill way. It has been informed that necessary corrective measures have been taken by the unit by repairing the recirculation pumps immediately after the said visit. And since then, not effluent has been discharged into the Rihand reservoir. To support their claim, the unit has provided random photographs with time and date stamps and video clips of the PTZ camera footage which was installed for the monitoring purpose. However, the TPP has yet to connect the said camera with CPCB/UPPCB server for the online surveillance. • The TPP has raised its ash dyke and constructed spillway no. 05 at Belwada picnic spot of the ash dykes. The said spillway was also found dry on the day of visit. • The Morccha nala is meeting into the operational ash dyke that carries surface runoff from surrounding areas into the ash dyke during rainy season. The excess water from active ash dyke will reach to the Rihand reservoir through spillway No 5. • It has been informed by the unit that the study for diversion of Morcha Nala has been conducted through IIT- BHU, Varanasi and LOI has been issued to M/s CWPRS, Pune.
Status / plan for study to assess siltation in nallah / river / reservoir due to plant at the point of effluent / storm water discharge	• Huge ash is deposited on the bed of the Rihand reservoir. The unit is in the process of recovering the deposited ash. As informed, around 152500 CuM ash has been removed from the bed of the Rihand reservoir. However, a large quantity of ash is still visible on the bed surface area which needs to be recovered before the rainy season.
Status of damage remediation and status of study for assessment of environmental damage compensation in respect of past fly ash breaches or overflows	• The unit is habitual offender and violating the norms by discharging ash pond overflow into the Rihand reservoir in past and hence appropriate Environmental compensation needs to be imposed on them.

Actions points	Remarks/Comments
Status / any plan for segregated fly ash and bottom ash management, 100% dry management of fly ash and installing HCSD for bottom ash	• The unit has submitted action plan for increasing the utilization of dry fly ash.
Status / plan to reduce consumptive use of water such as - reducing cooling water blow down quantity, maximizing dry ash handling, reusing cooling water blow down water, treated wastewater and treated sewage for other purposes etc.	• The unit in process to install new ETP for the process effluent. The treated effluent will be utilised in the process.
Timelines for meeting PM & NOx standards and SO2 standards as per category and status of compliance / progress for compliance	• The unit has either in process of retrofitting or upgrading the existing ESPs to achieve the norms of PM. • Regarding the installation of FGD the following is informed, o Anpara DTPS: - Installation of FGD is under progress and expected work completion date is June-2024. o Anpara A & B TPS: - E-tender invited in 2019 is dropped in May- 2021 in accordance of directions issued by Govt. for work/purchase in neighboring country. Second time e tender was invited in June-2021, which was dropped in Nov-2022 due to lowest bid being 106 % higher than estimated rates. Third time e-tender was invited on 15.12.2022, opening of part first of which was scheduled on 13.02.2023, but further extended on 30.06.2023. • The any progress regarding FGD installation was not seen on the ground. Hence, TPP needs to expedite the procedure to adhere with the given timeframe.
Status of OCEMS installation and data connectivity as per CPCB guidelines	• The unit has installed OCEMS to monitor stack emissions and is connected to CPCB and UPPCB servers in all 07 stacks

Actions points	Remarks/Comments
Status of CAAQMS installation as per EC conditions and status of data connectivity	• The unit has installed 03 CAAQMS for ambient air monitoring and are linked with CPCB/UPPCB server.
Adequacy of measures implemented to prevent / suppress air pollution from ash pond area	• The ash dyke surface areas are mostly maintained in wet condition to control the fugitive emissions. • However, the unit need to recover/remove the fly ash discharge on ground at several locations due to leakages into the Ash slurry pipeline which is contributing as source for fugitive emissions. • Earlier, the unit was discharging ash slurry into the low-lying area from which the water was occasionally used to discharge into the Rihand reservoir after the suggestion of the committee, they have stopped this discharge however, the unit need to ensure the green top on the surface of the deposited fly ash to rule out the possibility of fugitive emissions during the windy situations.
Adequacy of measures implemented to prevent / control of air pollution from coal handling area	• The water gun sprinkling systems have been installed in the coal storage areas. These systems are mainly provided for controlling coal fires in then storage piles. However, the unit claims the same system is being used for fugitive dust suppression. Considering the wetness induced in coal storage by this system, the continuous operations can impact the coal quality which will resulted into the disturbance into the TPP operations. Hence, it has been suggested to provide fog cannons of suitable capacity to suppress the dust. • Installation and commissioning of fog cannons of suitable capacity to suppress the dust is under process and completed by July, 2023. No. of sprinklers installed: - ◦ ATPS: - 415 ◦ BTPS: - 400 ◦ DTPS: - 80 No. of Spraying jet installed: - ◦ ATPS: - 42 ◦ BTPS: - 36

Actions points	Remarks/Comments
Adequacy of MSW management for plant and township	• The TPP is in process to provide treatment system for MSW management. At present it is being dumped at low-lying area. • As per the information provided by Unit, LOI has been issued to M/s Aradhaya Construction, Bijpur, for installation of MSW processing facility and work is under progress.

Recommendations of the Committee

- As the reported ash utilization is very poor. The unit can be asked to ensure compliance with the time-bound action plan for 100% fly ash utilization.
- The unit can be asked to explore possibilities to increase the utilization of dry fly ash.
- The unit can be asked to submit timebound action plan for replacement of old ash slurry pipelines to avoid the frequent leakages of the ash slurry.
- The unit can be asked to develop SOP for minimizing the response time by clearly defining the responsibilities of the concerned officer to tackle the situation in case of leakages in the ash slurry pipeline.
- The unit can be asked to complete the restoration activity by removing deposited fly ash on the surface of the Rihand reservoir near the ash pond overflow lagoon area before the rainy season.
- The unit can be asked prepare action plan for diversion of Morch Nalla from reaching the ash dyke. Till the time unit should ensure the recirculation to the maximum extent and in no case the effluent from ash dyke should reach to the Rihand reservoir.
- The process of installation and commissioning of the FGD system needs to be expedited in the realization of the revised timeline.
- The unit can be asked the expedite the for installation on effective dust suppression system such as fog cannon at coal storage area.
- The unit can be asked to expedite the installation of new ETP in time bound manner in order to achieve the ZLD.
- The unit can be asked to provide proper MSW processing plant at the earliest.

1.4. Lanco Anpara C TPS

<table>
<tr><th>Actions points</th><th>Remarks/Comments</th></tr>
<tr><td>Quarterly targets for 100% current ash utilization in first cycle of (3/4/5 years as applicable) from April-June 2022, and actual utilization during three quarters till Dec 2022 (attach sheet)</td><td>• As per the information provided by the unit, the details of Ash generation and utilization are as below:
<table><tr><th rowspan="2">Year</th><th colspan="2">Ash Quantity in Lac MT</th><th rowspan="2">% Ash utilization</th></tr><tr><th>Generation</th><th>Utilization</th></tr><tr><td>2022-23</td><td>17.04199</td><td>1.98624</td><td>11.67</td></tr></table>• The reported ash utilization is very poor. The unit needs to expediates the option for enhancing the ash utilization.
• The unit has provided action plan for achieving desired level of ash utilization.</td></tr>
<tr><td>Status / plan for stabilization of ash ponds and ash dykes as allowed within three years from 01.04.2022</td><td>• The LANPL has entered into 'Facilities and Services Agreement' with UPRVUNL for the use of ash dyke as one of the common facilities. As per agreement, the ownership of the ash dyke lies with UPRVUNL-Anpara and the owner shall operate and maintain the common facilities. The existing ash pond which is being used for disposal of unused ash is operational.</td></tr>
<tr><td>Quarterly targets for utilization of remaining legacy ash in ten-year cycle starting from April-June 2022, and actual utilization during three quarters till Dec 2022 (attach sheet)</td><td>• As such no legacy ash has been laying with the unit as they are discharging their ash slurry in ash dyke which is being managed by Anpara TPP.</td></tr>
<tr><td>Annual certification of ash pond/ ash dyke safety/ stability etc. - Expert agency/ date of study, recommendations, actions taken</td><td>• Not Applicable.</td></tr>
<tr><td>Existing run-on / run-off management and ash water recirculation system to prevent discharge from ash pond / dyke area / ash carry over into nallah / river / reservoir and any plan for improvements</td><td>• The ash slurry from ash transportation area is being mixed with the DM water reject of Anpara TPP and is reaching directly into the Rihand reservoir
• The unit has provided metering system to account amount of ash slurry discharge into the ash dyke and amount of clarified ash pond overflow water recycled by them.</td></tr>
</table>

Actions points	Remarks/Comments
Status / plan for study to assess siltation in nallah / river / reservoir due to plant at the point of effluent / storm water discharge	• The unit is sending their fly ash slurry into the ash dyke of Anpara TPP.
Status of damage remediation and status of study for assessment of environmental damage compensation in respect of past fly ash breaches or overflows	
Status / any plan for segregated fly ash and bottom ash management, 100% dry management of fly ash and installing HCSD *(High Concentration Ash slurry Disposal system)* for bottom ash	• The TPP unit has installed ash silo for intermediate storage of dry fly ash before utilization.
Status / plan to reduce consumptive use of water such as - reducing cooling water blow down quantity, maximizing dry ash handling, reusing cooling water blow down water, treated wastewater and treated sewage for other purposes etc.	• The unit claims, they have already achieved the desired reduction in consumptive use of water.
Timelines for meeting PM & NOx standards and SO2 standards as per category and status of compliance / progress for compliance	• ESP along with Fabric Filters are provided since inception of the plant and it is claimed that they have adequate ESPs to achieve the prescribed norms of PM. • The unit is in process to finalize tender for installation of FGD. However, no progress has been found on ground. Hence, TPP needs to expedite the procedure to adhere with the given timeframe.
Status of OCEMS installation and data connectivity as per CPCB guidelines	• The unit has installed OCEMS to monitor stack emissions and is connected to CPCB and UPPCB servers

Actions points	Remarks/Comments
Status of CAAQMS installation as per EC conditions and status of data connectivity	• The unit has installed 03 CAAQMS for ambient air monitoring and are linked with CPCB/UPPCB server.
Adequacy of measures implemented to prevent / suppress air pollution from ash pond area	• They are discharging their ash slurry in ash dyke which is being managed by Anpara TPP.
Adequacy of measures implemented to prevent / control of air pollution from coal handling area	• The coal is being received inside the plant through MGR system Only. On an Average 9-10 Rakes are being received on daily basis. • In Coal unloading area the pre-wetting system along with dust suppression system has been provided. • The water gun sprinkling systems have been installed in the coal storage areas. These systems are mainly provided for controlling coal fires in then storage piles. However, the unit claims the same system is being used for fugitive dust suppression. Considering the wetness induced in coal storage by this system, the continuous operations can impact the coal quality which will resulted into the disturbance into the TPP operations. Hence, it has been suggested to provide fog cannons of suitable capacity to suppress the dust.
Adequacy of MSW management for plant and township	• The unit has doing MSW management for waste generated from plant and township through an agency. However, the MSW waste is being handled in unscientific manner. The unit need to provide proper MSW processing facility at the earliest.

Recommendations of the Committee

- As the reported ash utilization is very poor. The unit can be asked to ensure compliance with the time-bound action plan for 100% fly ash utilization.
- The unit can be asked to explore possibilities to increase the utilization of dry fly ash.

- The unit can be asked the explore the possibility for installation on effective dust suppression system such as fog cannon at coal storage area.
- The process of installation and commissioning of the FGD system needs to be expedited in the realization of the revised timeline.
- The unit can be asked to provide proper MSW processing plant at the earliest.

1.5. Hindalco Industries Ltd. (Renusagar)

<table>
<tr><th>Actions points</th><th>Remarks/Comments</th></tr>
<tr><td>Quarterly targets for 100% current ash utilization in first cycle of (3/4/5 years as applicable) from April-June 2022, and actual utilization during three quarters till Dec 2022 (attach sheet)</td><td>• As per the information provided by the unit, the details of Ash generation and utilization are as below:
<table>
<tr><th rowspan="2">Year</th><th colspan="2">Ash Quantity in Lac MT</th><th rowspan="2">% Ash utilization</th></tr>
<tr><th>Generation</th><th>Utilization</th></tr>
<tr><td>2022-23</td><td>14.53</td><td>17.865</td><td>122.89</td></tr>
</table>
• The fly ash is mainly used in Cement manufacturing, Brick manufacturing and road construction.
• The unit has provided action plan for achieving desired level of ash utilization.</td></tr>
<tr><td>Status / plan for stabilization of ash ponds and ash dykes as allowed within three years from 01.04.2022</td><td>• The unit has developed community garden and in process to install solar power plant on the abandoned ash dyke. Most of the portion of this dyke is being covered with green top however, from some of the area they are removing the ash for development of the area itself, which is causing the fugitive emissions.</td></tr>
<tr><td>Quarterly targets for utilization of remaining legacy ash in ten-year cycle starting from April-June 2022, and actual utilization during three quarters till Dec 2022 (attach sheet)</td><td>• The unit claims that no legacy ash has been lying with them.</td></tr>
<tr><td>Annual certification of ash pond/ ash dyke safety/ stability etc. - Expert agency/ date of study, recommendations, actions taken</td><td>• The stability study has been conducted through IIT BHU in the month of May, 2023.</td></tr>
<tr><td>Existing run-on / run-off management and ash water recirculation system to prevent discharge from ash pond / dyke area / ash carry over into nallah / river / reservoir and any plan for improvements</td><td>• As per the records the unit has discharged 3177286 KL ash slurry and recycled 2683286 KL (during FY 2022 - 23). The unit was not found discharging ash water in the surrounding environment.</td></tr>
<tr><td>Status / plan for study to assess siltation in nallah / river / reservoir</td><td>• The unit is not found discharging Ash slurry into the reservoir and hence no such study has been proposed.</td></tr>
</table>

Actions points	Remarks/Comments
due to plant at the point of effluent / storm water discharge	
Status of damage remediation and status of study for assessment of environmental damage compensation in respect of past fly ash breaches or overflows	• In past no ash dyke has been breached or unit was found discharging ash slurry into Rihand reservoir.
Status / any plan for segregated fly ash and bottom ash management, 100% dry management of fly ash and installing HCSD for bottom ash	• The unit has provided ash silo for intermediate storage of fly ash before utilization.
Status / plan to reduce consumptive use of water such as - reducing cooling water blow down quantity, maximizing dry ash handling, reusing cooling water blow down water, treated wastewater and treated sewage for other purposes etc.	• The unit claims they have already achieved the prescribed limit of specific water consumption by recycling the treated effluents. • The unit has not provided any proper sludge drying and handling system. Irrespective of recommendation in each of the visit, the unit fails to achieve the desired level of compliance.
Timelines for meeting PM & NOx standards and SO2 standards as per category and status of compliance / progress for compliance	• To achieve the prescribed limit of PM, the retrofitting of ESPs installed in 01 of the unit is under process and will be carried out in the remaining 09 units. • Though, the unit claims, they are in process to install FGD system for achieving standards notified for SOx. • TPP needs to expedite the procedure to adhere with the given timeframe.
Status of OCEMS installation and data connectivity as per CPCB guidelines	• The unit has installed OCEMS to monitor stack emissions and is connected to CPCB and UPPCB servers • As informed by the unit for achieving isokinetic sampling for monitoring particulate matter relocation of 05 OCEMS has been completed and the other 05 are yet to be done. The unit is not taking any proactive measures to complete the work in a time-bound manner.

Actions points	Remarks/Comments
Status of CAAQMS installation as per EC conditions and status of data connectivity	• The unit has installed 03 CAAQMS for ambient air monitoring and are linked with CPCB/UPPCB server.

Adequacy of measures implemented to prevent / suppress air pollution from ash pond area	• At present the unit have installed water Sprinklers at ash dyke to suppress fugitive emissions in dry area. However, most of the surface area of the ash dyke was found dry.
	• A dust storm from ash dyke covering all the area, which resulted into the zero visibility is witnessed on the day of visit by the committee. The efforts taken by the TPP unit not effective to control dust emission from the ash dyke.
	• M/s Renusagar Thermal Power Plant is sending the pond ash through rail racks outside the state for disposal/utilization for the various purposes. They are transporting pond ash first to the Krishnshila Railway siding where it is intermediately stored and then loaded into the railway racks after racks will made available. The said railway siding area was visited by the committee
	  • Huge quantity of pond ash was found dumped in haphazard manner at the railway siding.
	  • The ash was in dry form and huge airborne dust was observed in the area. The condition of maintaining 15% moisture is been violated.
	  • Very high fugitive emissions were observed during vehicular movement at the site.

Adequacy of measures implemented to prevent / control of air pollution from coal handling area	• The unit mostly receives coal through Belt Pipe Conveyor System (BPC) whereas remaining coal is been received through road. The trucks are covered with thin LDPE sheets/ green net instead of the tarpaulin. This cover is easily breakable and was resulting into the spillages at several locations during the road transportation. • Very huge fugitive dust was observed in the coal storage area. Irrespective of repetitive

Actions points	Remarks/Comments
	recommendation to take effective measure for the control of air pollution, the unit has yet not made any serious efforts. The installed water sprinkling system is inefficient to achieve the desired result.
Adequacy of MSW management for plant and township	• The unit has yet to provide systematic facility for treatment and disposal of MSW generated from residential colony, though they are segregating the waste and incinerable portion is being sent to Dala cement for disposal. However, the compostable portion of MSW is being dumped in haphazard manner in the name of composting. The MSW was seen spread near the collection area.

Recommendations of the Committee

- The unit can be asked to submit an action plan to relocate the OCEMS in order to achieve the desired iso-kinetic sampling for particulate matter
- The unit can be asked to submit an action plan for control of the fugitive emission from the ash dykes and should take corrective measures with immediate effect.
- The unit can be asked to take immediate corrective measures for the ash stored at the Krishnashila Railway siding in a haphazard manner. The UUPPCB can be asked to take stringent action against the unit for spreading the ash in a haphazard manner at the railway siding.
- The unit can be asked to provide proper dust suppression arrangements like fog cannon at the coal storage areas with immediate effect.
- The process of installation and commissioning of the FGD system needs to be expedited in the realization of the revised timeline.
- The unit can be asked to ensure regular operation of the filter press installed for the sludge drying.
- The unit can be asked to provide a proper MSW processing plant at the earliest.

1.6. M/s UPRVUNL Obra TPS

<table>
<tr><th>Actions points</th><th>Remarks/Comments</th></tr>
<tr><td>Quarterly targets for 100% current ash utilization in first cycle of (3/4/5 years as applicable) from April-June 2022, and actual utilization during three quarters till Dec 2022 (attach sheet)</td><td>• As per the information provided by the unit, the details of Ash generation and utilization are as below:
<table><tr><th rowspan="2">Year</th><th colspan="2">Ash Quantity in Lac MT</th><th rowspan="2">% Ash utilization</th></tr><tr><th>Generation</th><th>Utilization</th></tr><tr><td>2022-23</td><td>13.74323</td><td>0.75460</td><td>5.49</td></tr></table>• The reported ash utilization is very poor. The unit needs to expediates the option for enhancing the ash utilization.
• The unit has provided action plan for achieving desired level of ash utilization.</td></tr>
<tr><td>Status / plan for stabilization of ash ponds and ash dykes as allowed within three years from 01.04.2022</td><td>• It has been informed that the unit has stabilized one old ash dyke which is situated on 140 Ha. Area contsiining 350 lac MT ash. Green belt has been developed on Some of the surface area wheras they are in process to explore possibility to install Solar Power plant on the remaiming area.</td></tr>
<tr><td>Quarterly targets for utilization of remaining legacy ash in ten year cycle starting from April-June 2022, and actual utilization during three quarters till Dec 2022 (attach sheet)</td><td>• The unit claims the old ash dyke has been stabilized and remaining ash dyke are in operation.</td></tr>
<tr><td>Annual certification of ash pond/ ash dyke safety/ stability etc - Expert agency/ date of study, recommendations, actions taken</td><td>• It has been informed that they have carried out a stability study through IIT Roorkee in April, 2023.</td></tr>
<tr><td>Existing run-on / run-off management and ash water recirculation system to prevent discharge from ash pond / dyke area / ash carry over into nallah / river / reservoir and any plan for improvements</td><td>• Earlier the TPP unit was constantly discharging the ash slurry into the river Renu through Jharia Drain. During the present visit it has been observed that unit has taken some of the steps to avoid ash slurry reaching to the jharia drain. However, on the day of visit very small quantity of ash sliurry was seen discharging through the Jharia drain. The director production present during the visit has assured to take immediate corrective measures. On the next day of visit the unit has provided videographic evidence which shows that</td></tr>
</table>

Actions points	Remarks/Comments
	ash slurry reaching to the Jharia drain was completely trapped. • Earlier the TPP unit was also constantly discharging ash slurry from operational ash dyke area is reaching into the Renu River. However, during the present visit the said discharge was seen completely stopped and all the clarified water from the ash pond is been taken to the plant. • The unit has provided metering system to, measure the ash slurry discharge and clarified water recycled and reused from ash dyke. • The quality of clarified water is been improved after the recommendation of previous visit through controlling the rate of clarification. • The unit has removed almost all the ash deposited on bank of the Renu River due to the discharge of ash slurry. As per the information provided by Unit, the following is the detail of quantity of ash recovered from the river bed. • Total 58000 cum old deposited ash has been desilted from the banks of Renu River and disposed in low lying area in Obra Sec 2 and 3. The same has been stabilized with soil cover.
Status / plan for study to assess siltation in nallah / river / reservoir due to plant at the point of effluent / storm water discharge	• The TPP unit has successfully remove all the deposited ash on the river bed.
Status of damage remediation and status of study for assessment of environmental damage compensation in respect of past fly ash breaches or overflows	• Earlier, the unit was constantly discharged ash slurry through Jharia nala into the river Renu and similarly they are also discharged some quantity of ash pond overflow water into the river body. • Hence, the unit is liable to pay Environmental compensation.
Status / any plan for segregated fly ash and bottom ash management, 100% dry management of fly ash and installing HCSD for bottom ash	• At present the unit is combinedly discharging fly ash and bottom ash in the form ash slurry. • The unit has installed ash silos for intermediate storage and transportation of dry fly ash for the utilization purposes.

Actions points	Remarks/Comments
Status / plan to reduce consumptive use of water such as - reducing cooling water blow down quantity, maximizing dry ash handling, reusing cooling water blow down water, treated wastewater and treated sewage for other purposes etc.	• The TPP unit is in process to start the operation of newly installed power generating unit. The said unit have facility to achieve desired level of water consumption. • The unit has installed STP based on the SBR technology and the treated effluent is being used in suppression of road dust inside the plant premises.
Timelines for meeting PM & NOx standards and SO2 standards as per category and status of compliance / progress for compliance	• As per the information provided by unit, they are in process to finalise the tendering procedure for installation of FGD. • Considering the situation, the unit need to expedite there procedure in order to adhere the given timeline.
Status of CEMS installation and data connectivity as per CPCB guidelines	• The unit has installed OCEMS to monitor stack emissions and is connected to CPCB and UPPCB servers.
Status of CAAQMS installation as per EC conditions and status of data connectivity	• The unit has installed 03 CAAQMS for ambient air monitoring and are linked with CPCB/UPPCB server.
Adequacy of measures implemented to prevent / suppress air pollution from ash pond area	• After the observation made during the previous visit the unit has taken some of the step to control the fugitive dust emission from the ash pond area. Efforts have been made to keep wet surface area of the ash dyke as much as possible. Similarly, the spilled ash has been recovered from the surrounding area and river bed.
Adequacy of measures implemented to prevent / control of air pollution from coal handling area	• As per the information provided by the unit, 32 Nos. of water sprinklers installed in Coal Yard in row manner. • Total 06 Nos. sprinklers with multiple nozzles have been installed at WTs for dust suppression. • In addition, the unit is in process to install fog cannon for effective control of the fugitive dust.
Adequacy of MSW management for plant and township	• The population of the Obra Thermal project colony is about 8000 and the waste generation is about 4MT per day. Door to Door collection of waste is being done. However, the collected MSW is dumped in the low-lying area. The unit is in process to provide proper MSW processing facility.

Recommendations of the Committee

- As the reported ash utilization is very poor. The unit can be asked to ensure compliance with the time-bound action plan for 100% fly ash utilization.
- The unit can be asked to explore possibilities to increase the utilization of dry fly ash.
- The unit can be also asked to prepare an action plan to control the fugitive emission from the ash dykes.
- The unit can be asked the expedite the installation of an effective dust suppression system such as fog cannon at the coal storage area.
- The unit can be asked to maintain the present condition and henceforth to ensure that in no case the ash slurry will not reach river Renu through the Jhariya Nalla or from the ash dyke.
- The process of installation and commissioning of the FGD system needs to be expedited in the realization of the revised timeline.
- The unit can be asked to provide a proper MSW processing plant at the earliest.

2. Coal Mines

2.1. NCL Bina

Actions points	Remarks/Comments
Extent of coal transportation through road at present and plan for minimizing / eliminating coal transportation through road	• As per the information provided by the unit the coal transportation through road is 30.59 % for the FY 2022-23. • The NCL mine is in process to install new CHP of capacity 9.5 MTPA and once it will get installed the road transportation will be reduced.
Existing system to prevent / control spontaneous fires in coal stored in mines and any plan for its improvement	• During the earlier visits coal fire incidents were observed at several locations but majorly at the coal stored near CHP area.
Existing measures to prevent / suppress air pollution from mining area and any plan for improvement	• The unit have made some of the efforts to control the fugitive dust emissions by providing truck mounted fogging machines, stationary fog cannons, water spraying arrangements at transfer points and coal crushing area. • The unit has also procured one surface miner and in process to procurement of another surface miner.
Existing measures to prevent / control air pollution during movement of trucks on roads outside mine area and any plan for improvement	• As per the Office Memorandum of MoEF&CC dated 29.10.2020, the condition to use truck with tarpaulin cover for road transportation of coal has been prescribed. However, during the visit, it has been observed that all the trucks are covered with thin LDPE sheets/ green net instead of the tarpaulin. This cover is easily breakable and was resulting into the spillages at several locations during the road transportation. • Huge fine coal dust is found along the public road (Auri Mode -Shakti Nagar) and the black powder is also visible on the houses built along the roadsides as well as vehicles parked. • It has been informed by the NCL that water spraying is been practiced by them to control the dust emission from the said public road.

Actions points	Remarks/Comments
	• The NCL mine is in process to develop tyre cleaning mechanism to trap the coal dust from the wheels of transportation vehicle.
Existing mine water treatment and reuse / disposal system, quantity of mine water discharged into nallah / river / reservoir from mine area if any and any plan for further improvement	• Except during the rainy season, the unit is recycling and reusing the treated effluent.
Existing run-on / run-off management system, quantity of run-off discharged into nallah / river / reservoir from mine area and any plan for further improvement	• During rainy season the surface runoff water reaching to the treated water storage pond is discharge into the Rihand reservoir.
Existing system to prevent sediment transport from mining area to nallah / river / reservoir and any plan for further improvement	• The unit has provided sedimentation pond for storage of runoff water and overflow from the said pond is reaching to Rihand reservoir during the rainy season.
Status / plan for study to assess siltation in nallah / river / reservoir due to flow/discharge from mine area at the point of effluent / storm water discharge	• As such no deposition has been found on the bed of the reservoir near the mine area.
Water conservation measures taken and planned such as to store and reuse storm water from mine area, reuse treated mine water, and reuse treated sewage for other purposes, etc.	• The unit is reusing the treated mining effluent for the dust suppression. • The surface runoff water is collected in the siltation pond and mainly reused for the horticulture purpose.
Status of CAAQMS installation as per EC conditions and connectivity	• 01 CAAQMS is installed and found operational.
Existing MSW management for plant and township and any plan for improvement	• The NCL Bina has provided MSW processing facility. However, the said facility requires some of the modification to avoid the spillages of the MSW on surrounding.

Actions points	Remarks/Comments
Existing system for dust control during coal handling for effluent treatment at different railway sidings (separate information for relevant railway sidings)	• Though the unit have installed water sprinkling arrangements to control the fugitive dust emission during loading at Railway sidings. • The NCL unit is also in process to install the fog cannons in coal storage areas.

Recommendations of the Committee

- The unit can be asked to provide effective tyre cleaning facility for transportation vehicles.
- The unit can be asked to submit the time-bound action plan for compliance with the provision of the Notification of 2009 regarding utilization of 25% fly ash along with Over Burden (OB) for back-filling the abandoned mine.
- The unit can be asked to take necessary corrective measure to control and eliminate the coal fire incidents.
- The unit can be asked to ensure the proper and regular operation of the water spraying systems including fog cannon for effective control of fugitive dust.
- The unit may be asked to expedite the installation of new CHP to reduce the road transportation.
- The unit may be asked to strictly comply with the condition prescribed in the MoEF&CC Office Memorandum dated 29.10.2020, regarding the use of the tarpaulin cover for trucks used in road transportation of coal.
- The unit may be asked to upgrade the MSW facility in time bound manner.

2.2. NCL Kakri

Actions points	Remarks/Comments
Extent of coal transportation through road at present and plan for minimizing / eliminating coal transportation through road	• As per the information provided by the unit the coal transportation through road is 42.34 % for the FY 2022-23.
Existing system to prevent / control spontaneous fires in coal stored in mines and any plan for its improvement	• During the visit, no such coal fire incident was observed by the committee.
Existing measures to prevent / suppress air pollution from mining area and any plan for improvement	• Though the unit have made some of the efforts to control the fugitive dust emissions by providing truck mounted fogging machines, stationary fog cannons, water spraying arrangements at transfer points and coal crushing area.
Existing measures to prevent / control air pollution during movement of trucks on roads outside mine area and any plan for improvement	• As per the Office Memorandum of MoEF&CC dated 29.10.2020, the condition to use truck with tarpaulin cover for road transportation of coal has been prescribed. However, during the visit, it has been observed that all the trucks are covered with thin LDPE sheets/ green net instead of the tarpaulin. This cover is easily breakable and was resulting into the spillages at several locations during the road transportation. • Huge fine coal dust is found along the public road (Auri Mode -Shakti Nagar) and the black powder is also visible on the houses built along the roadsides as well as vehicles parked. • It has been informed by the NCL that water spraying is been practiced by them to control the dust emission from the said public road. • The NCL mine is in process to develop tyre cleaning mechanism to trap the coal dust from the wheels of transportation vehicle.
Existing mine water treatment and reuse / disposal system, quantity of mine water discharged into nallah /	• Except during the rainy season, the unit is recycling and reusing the treated effluent.

Actions points	Remarks/Comments
river / reservoir from mine area if any and any plan for further improvement	
Existing run-on / run-off management system, quantity of run-off discharged into nallah / river / reservoir from mine area and any plan for further improvement	• During rainy season the surface runoff water reaching to the treated water storage pond is discharge into the Rihand reservoir.
Existing system to prevent sediment transport from mining area to nallah / river / reservoir and any plan for further improvement	• The unit has provided sedimentation pond for storage of runoff water and overflow from the said pond is reaching to Rihand reservoir during the rainy season.
Status / plan for study to assess siltation in nallah / river / reservoir due to flow/discharge from mine area at the point of effluent / storm water discharge	• As such no deposition has been found on the bed of the reservoir near the mine area.
Water conservation measures taken and planned such as to store and reuse storm water from mine area, reuse treated mine water, and reuse treated sewage for other purposes, etc.	• The unit is reusing the treated mining effluent for the dust suppression. • The surface runoff water is collected in the siltation pond and mainly reused for the horticulture purpose.
Status of CAAQMS installation as per EC conditions and connectivity	• 01 CAAQMS is installed and found operational.
Existing MSW management for plant and township and any plan for improvement	• The NCL Bina has provided MSW processing facility. However, the said facility requires some of the modification to avoid the spillages of the MSW on surrounding.
Existing system for dust control during coal handling for effluent treatment at different railway sidings (separate information for relevant railway sidings)	• Currently there is no railway siding at Kakri Project. • The unit has provided sprinkling arrangements to control the fugitive dust from the coal storage area.

Recommendations of the Committee

- The unit can be asked to provide effective tyre cleaning facility for transportation vehicles.
- The unit can be asked to submit the time-bound action plan for compliance with the provision of the Notification of 2009 regarding utilization of 25% fly ash along with Over Burden (OB) for back-filling the abandoned mine.
- The unit can be asked to ensure the proper and regular operation of the water spraying systems including fog cannon for effective control of fugitive dust.
- The unit may be asked to ensure the Office Memorandum of MoEF&CC dated 29.10.2020, the condition to use truck with tarpaulin cover for road transportation of coal has been prescribed.
- The unit may be asked to upgrade the MSW facility in time bound manner.
- The unit may be asked to strictly comply with the condition prescribed in the MoEF&CC Office Memorandum dated 29.10.2020, regarding the use of the tarpaulin cover for trucks used in road transportation of coal.

2.3. NCL Khadia

Actions points	Remarks/Comments
Extent of coal transportation through road at present and plan for minimizing / eliminating coal transportation through road	• As per the information provided by the unit the coal transportation through road is 29.5 % for the FY 2022-23.
Existing system to prevent / control spontaneous fires in coal stored in mines and any plan for its improvement	• Coal fire incidents were observed at several locations but majorly at the coal stored near CHP area during the visit. • The water sprinkling and removal of burning coal is the methodology adopted by NCL Unit.
Existing measures to prevent / suppress air pollution from mining area and any plan for improvement	• Though the unit have made some of the efforts to control the fugitive dust emissions by providing truck mounted fogging machines, stationary fog cannons, water spraying arrangements at transfer points and coal crushing area. However, substantial fugitive emission is found in the active mine pit area and coal handling plant.
Existing measures to prevent / control air pollution during movement of trucks on roads outside mine area and any plan for improvement	• As per the Office Memorandum of MoEF&CC dated 29.10.2020, the condition to use truck with tarpaulin cover for road transportation of coal has been prescribed. However, during the visit, it has been observed that all the trucks are covered with thin LDPE sheets/ green net instead of the tarpaulin. This cover is easily breakable and was resulting into the spillages at several locations during the road transportation. • Huge fine coal dust is found along the public road (Auri Mode -Shakti Nagar) and the black powder is also visible on the houses built along the roadsides as well as vehicles parked. • It has been informed by the NCL that water spraying is been practiced by them to control the dust emission from the said public road. • The NCL mine is in process to develop tyre cleaning mechanism to trap the coal dust from the wheels of transportation vehicle.

Actions points	Remarks/Comments
Existing mine water treatment and reuse / disposal system, quantity of mine water discharged into nallah / river / reservoir from mine area if any and any plan for further improvement	• In most of the visit of the committee the ETP was either found non-operational or found ineffectively operational. • One by-pass arrangement was found through the mining area, which is carrying black colour effluent into the Rihand reservoir. It is informed that the said drain is mainly carrying the reject of water treatment plant installed for the purpose of supplying drinking water to the various NCL mines. However, during travelling, it is carrying the coal dust from the area and get polluted.
Existing run-on / run-off management system, quantity of run-off discharged into nallah / river / reservoir from mine area and any plan for further improvement	• The surface runoff water is discharged into the Rihand reservoir after settlement through retaining walls during the rainy season.
Existing system to prevent sediment transport from mining area to nallah / river / reservoir and any plan for further improvement	• The unit has constructed the retaining wall and gabion wall at the toe of the dumps to prevent the sediment transports of the mining area to the Nallah. • The NCL mine has also constructed sedimentation pits to trap the mining material from surface runoff during rainy season.
Status / plan for study to assess siltation in nallah / river / reservoir due to flow/discharge from mine area at the point of effluent / storm water discharge	• The blackish deposition is visible on bed of the reservoir near the mine area, which need to be restored by the unit.
Water conservation measures taken and planned such as to store and reuse storm water from mine area, reuse treated mine water, and reuse treated sewage for other purposes, etc.	• The unit is reusing the treated mining effluent for the dust suppression. • The surface runoff water is collected in the siltation pond and mainly reused for the horticulture purpose.
Status of CAAQMS installation as per EC conditions and connectivity	• 01 CAAQMS is installed and found operational.

Actions points	Remarks/Comments
Existing MSW management for plant and township and any plan for improvement	• The unit has yet not provided any facility for treatment and disposal of MSW generated from residential colony. At present the waste generated is being dumped in the low-lying area.
Existing system for dust control during coal handling for effluent treatment at different railway sidings (separate information for relevant railway sidings)	• Currently there is no railway siding at Khadia Project. • The unit has provided water sprinkling arrangement and fog cannon to suppress the dust in coal storage areas. However, during the visit it has been observed that the excessive water has been sprinkled on the road.

Recommendations of the Committee

- The unit should ensure regular operations of ETP and proper utilization of the treated effluent to achieve zero discharge.
- The coal mine should ensure that no treated/untreated effluent will be discharged into the Rihand reservoir through any bypass arrangement.
- The unit can be asked to provide effective tyre cleaning facility for transportation vehicles.
- The unit can be asked to submit the time-bound action plan for compliance with the provision of the Notification of 2009 regarding utilization of 25% fly ash along with Over Burden (OB) for back-filling the abandoned mine.
- The unit can be asked to take necessary corrective measure to control and eliminate the coal fire incidents.
- The unit can be asked to ensure the proper and regular operation of the water spraying systems including fog cannon for effective control of fugitive dust.
- The unit may be asked to strictly comply with the condition prescribed in the MoEF&CC Office Memorandum dated 29.10.2020, regarding the use of the tarpaulin cover for trucks used in road transportation of coal.

2.4. NCL Krishnashila

Actions points	Remarks/Comments
Extent of coal transportation through road at present and plan for minimizing / eliminating coal transportation through road	• As per the information provided by the unit the coal transportation through road is 12.90 % for the FY 2022-23.
Existing system to prevent / control spontaneous fires in coal stored in mines and any plan for its improvement	• During the visit, no such coal fire incident was observed by the committee.
Existing measures to prevent / suppress air pollution from mining area and any plan for improvement	• The unit have made some of the efforts to control the fugitive dust emissions by providing truck mounted fogging machines, stationary fog cannons, water spraying arrangements at transfer points and coal crushing area.
Existing measures to prevent / control air pollution during movement of trucks on roads outside mine area and any plan for improvement	• As per the Office Memorandum of MoEF&CC dated 29.10.2020, the condition to use truck with tarpaulin cover for road transportation of coal has been prescribed. However, during the visit, it has been observed that all the trucks are covered with thin LDPE sheets/ green net instead of the tarpaulin. This cover is easily breakable and was resulting into the spillages at several locations during the road transportation. • Huge fine coal dust is found along the public road (Auri Mode -Shakti Nagar) and the black powder is also visible on the houses built along the roadsides as well as vehicles parked. • It has been informed by the NCL that water spraying is been practiced by them to control the dust emission from the said public road. • The NCL mine is in process to develop tyre cleaning mechanism to trap the coal dust from the wheels of transportation vehicle.
Existing mine water treatment and reuse / disposal system, quantity of mine water discharged into nallah / river / reservoir from mine	• The unit has provided ETP to treat mine water and after treatment it is being reused for dust suppression.

Actions points	Remarks/Comments
area if any and any plan for further improvement	
Existing run-on / run-off management system, quantity of run-off discharged into nallah / river / reservoir from mine area and any plan for further improvement	• The unit is storing the surface runoff during rainy season by making ponds in the mining areas, which is used for various purposes during other seasons.
Existing system to prevent sediment transport from mining area to nallah / river / reservoir and any plan for further improvement	• The unit has constructed the retaining wall and gabion wall at the toe of the dumps to prevent the sediment transports of the mining area to the Nallah. • The NCL mine has also constructed sedimentation pits to trap the mining material from surface runoff during rainy season.
Status / plan for study to assess siltation in nallah / river / reservoir due to flow/discharge from mine area at the point of effluent / storm water discharge	• As such no deposition has been found on the bed of the reservoir near the mine area.
Water conservation measures taken and planned such as to store and reuse storm water from mine area, reuse treated mine water, and reuse treated sewage for other purposes, etc.	• The unit is reusing the treated mining effluent for the dust suppression. • The surface runoff water is collected in the siltation pond and mainly reused for the horticulture purpose.
Status of CAAQMS installation as per EC conditions and connectivity	• 01 CAAQMS is installed combine with NCL Beena and found operational.
Existing MSW management for plant and township and any plan for improvement	• The unit has yet not provided any facility for treatment and disposal of MSW generated from residential colony. At present the waste generated is being dumped in the low-lying area.
Existing system for dust control during coal handling for effluent treatment at different railway sidings (separate information for relevant railway sidings)	• Though the unit have installed water sprinkling arrangements to control the fugitive dust emission during loading at Railway sidings, they need to provide systems like Fog cannon machines as a effective measure.

Recommendations of the Committee

- The unit can be asked to provide effective tyre cleaning facility for transportation vehicles.
- The unit can be asked to submit the time-bound action plan for compliance with the provision of the Notification of 2009 regarding utilization of 25% fly ash along with Over Burden (OB) for back-filling the abandoned mine.
- The unit can be asked to ensure the proper and regular operation of the water spraying systems including fog cannon for effective control of fugitive dust.
- The unit may be asked to upgrade the MSW facility in time bound manner.
- The unit may be asked to strictly comply with the condition prescribed in the MoEF&CC Office Memorandum dated 29.10.2020, regarding the use of the tarpaulin cover for trucks used in road transportation of coal.

2.5. NCL Dudhichuwa

Actions points	Remarks/Comments
Extent of coal transportation through road at present and plan for minimizing / eliminating coal transportation through road	• It has been informed that the coal transportation through road is 18.4 % for the FY 2021-22.
Existing system to prevent / control spontaneous fires in coal stored in mines and any plan for its improvement	• Coal fire incidents were observed at several locations but majorly at the coal stored near CHP area during the visit. • The water sprinkling and removal of burning coal is the methodology adopted by NCL Unit.
Existing measures to prevent / suppress air pollution from mining area and any plan for improvement	• Though the unit have made some of the efforts to control the fugitive dust emissions by providing truck mounted fogging machines, stationary fog cannons, water spraying arrangements at transfer points and coal crushing area. However, substantial fugitive emission is found in the active mine pit area and coal handling plant.
Existing measures to prevent / control air pollution during movement of trucks on roads outside mine area and any plan for improvement	• As per the Office Memorandum of MoEF&CC dated 29.10.2020, the condition to use truck with tarpaulin cover for road transportation of coal has been prescribed. However, during the visit, it has been observed that all the trucks are covered with thin LDPE sheets/ green net instead of the tarpaulin. This cover is easily breakable and was resulting into the spillages at several locations during the road transportation. • Huge fine coal dust is found along the public road (Auri Mode -Shakti Nagar) and the black powder is also visible on the houses built along the roadsides as well as vehicles parked. • It has been informed by the NCL that water spraying is been practiced by them to control the dust emission from the said public road. • The NCL mine is in process to develop tyre cleaning mechanism to trap the coal dust from the wheels of transportation vehicle.
Existing mine water treatment and reuse / disposal system, quantity of mine water discharged into	• In most of the visit of the committee the ETP was either found non-operational or found ineffectively operational. Irrespective of the recommendations in every report, they

Actions points	Remarks/Comments
nallah / river / reservoir from mine area if any and any plan for further improvement	have not yet installed water meters to measure amount of wastewater taken for treatment and amount of treated water being recycled. • The coal mine has constructed retaining wall to avoid discharge of mining water into the Rihand reservoir through Ballia Nallah. However, huge silt deposition has been found near this retaining wall and there is every possibility for overflowing of mining effluent to the Ballia Nallah.
Existing run-on / run-off management system, quantity of run-off discharged into nallah / river / reservoir from mine area and any plan for further improvement	• During the rainy season, the surface runoff water is discharged into the Rihand reservoir through Ballia Nala.
Existing system to prevent sediment transport from mining area to nallah / river / reservoir and any plan for further improvement	• The retaining walls have been constructed.
Status / plan for study to assess siltation in nallah / river / reservoir due to flow/discharge from mine area at the point of effluent / storm water discharge	• The unit is constantly discharging blackish effluent into the Rihand reservoir through Ballia nala. The impact of the same is clearly visible on the bed of the Rihand reservoir, which need to be restored by the unit.
Water conservation measures taken and planned such as to store and reuse storm water from mine area, reuse treated mine water, and reuse treated sewage for other purposes, etc.	• The unit has provided the rain water harvesting system and also recycling/reusing the partial quantity of treated effluent from ETP for dust suppression.
Status of CAAQMS installation as per EC conditions and connectivity	• 01 CAAQMS is installed combinedly with NCL Beena and found operational.
Existing MSW management for plant and township and any plan for improvement	• It has been informed that the MSW generated from the residential colony is handed over to the concerned ULB located in MP state with whom they have made agreement for treatment and disposal.

Actions points	Remarks/Comments
Existing system for dust control during coal handling for effluent treatment at different railway sidings (separate information for relevant railway sidings)	• Water sprinkling system and fog canon have been installed near Wharfall by the unit to control the dust emission during loading at Railway siding.

Recommendations of the Committee

- The unit should ensure regular operations of ETP and proper utilization of the treated effluent to achieve zero discharge.
- The coal mine should ensure that no treated/untreated effluent will be discharged into the Balia Nalla which finally meets the Rihand reservoir
- The unit can be asked to provide effective tyre cleaning facility for transportation vehicles.
- The unit can be asked to submit the time-bound action plan for compliance with the provision of the Notification of 2009 regarding utilization of 25% fly ash along with Over Burden (OB) for back-filling the abandoned mine.
- The unit can be asked to take necessary corrective measure to control and eliminate the coal fire incidents.
- The unit can be asked to ensure the proper and regular operation of the water spraying systems including fog cannon for effective control of fugitive dust.
- The unit may be asked to strictly comply with the condition prescribed in the MoEF&CC Office Memorandum dated 29.10.2020, regarding the use of the tarpaulin cover for trucks used in road transportation of coal.

3. OTHER INDUSTRIES

3.1. Aluminum Smelter: M/s HINDALCO Industries Ltd, Renukoot, Sonbhadra

S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.05.2023)
a)	Industry shall achieve emission limit of 50 mg/Nm^3 for particulate matter in respect of all baking furnaces. The emission from boilers shall be reduced to the level of 50 mg/Nm^3 from the exiting Norms of 150 mg/Nm^3 by December 31, 2019 retrofitting of existing ESPs and meet emission limit of SO_2& NOx notified for industrial boilers.	• It has been informed that the industry has achieved emission limit of 50mg/Nm^3 for particulate matter in respect of all Baking Furnaces. • The unit also challenged the limit of 50mg/Nm^3 before Hon'ble Supreme Court on December 07, 2019 (dairy no. 44191- 2019) and matter is pending before the Hon'ble Supreme Court of India.
b)	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/concerned 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 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.	• Total 04 Piezometers have been installed for groundwater monitoring around the red mud area. The locations were finalized with approval from CGWB. The Committee asked the unit to submit the Groundwater quality monitoring report for further analysis. • During the period FY23, total Red Mud utilization is 1212439 MT which is approx. 112 % of its generation which was dispatched through rail/road to various cement industries.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.05.2023)
c)	To achieve ZLD	• The Unit is recycling the treated industrial effluent. • The unit has installed STP for the treatment of 24 MLD sewage generated from the residential colony. However only 12 MLD sewage is been treated and partial quantity is being recycled. • The unit is directly letting out some of the sewage without any treatment in the natural drain. • As prescribed in the consent condition 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. • Similarly, the ZLD condition has also been imposed through the environmental clearance issued by MoEF&CC on 02.12.2011. • Thus, the unit is violating the condition of ZLD imposed through environmental clearance since 2011.

Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.05.2023)
a)	Control of air pollution during coal storage, handling and transportation.	Committee observed that the unit is is very causal on the part of red mud Management (handling, storage and transportation). They still not procured/having sufficient mist gun/ fog cannon, specific water spraying system for dust suppression specially in the red mud dumping areas. Green belt (trees, shrubs, green cover) development in an around the red mud area is non-significant. It has been found that the some of the area of the red mud site is converted to garden by using ample amount of earthen soil. However, most of the red mud storage area is kept open without any dust suppression system, due to which huge airborne dust is generated during vehicular movement and during windy condition.
b)	Fly ash and bottom ash management	The unit has utilized the huge legacy bottom ash quantity deposited in the red mud area.

3.2. M/s Grasim Industries Limited Chemical Division, Renukoot, Sonbhadra

S. No.	Issues identified in Hon'ble NGT order / Oversight committee	Compliance Status (As on 31.05.2023)
a)	To achieve ZLD for ETP & STP.	• The unit has achieved ZLD through reuse and recycling.
b)	There is also an urgent need for the preparation of an action plan by 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.	• Regarding the shifting of capped mercury brine sludge, the matter is sub-judice before the Hon'ble Supreme Court.

Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.05.2023)
a)	Control of air pollution during coal storage, handling and transportation.	• The unit has provided the water spraying system in coal handling areas for dust suppression. However, on the day of visit, huge quantity of coal was seen deposited in the

S. No.	Issues identified	Compliance Status (As on 31.05.2023)
		factory premises and the provided dust suppression system was not sufficient.
b)	Fly ash and bottom ash management	• As per the information provided by unit, 100% fly ash utilization has been achieved for FY 2022-23.
c)	To ensure continuous operations of ESPs installed in CPPs.	• As per the information provided by unit, regular monitoring is been done for continuous operation.

3.3. M/s Birla Carbon India Pvt. Ltd, Renukoot, Sonbhadra

S. No.	Issues identified	Compliance Status (As on 31.05.2023)
a)	To achieve ZLD for ETP & STP	• The unit is achieving ZLD for ETP & STP.

Name of the Committee member	Signature
SDM, Duddhi, Sonbhadra	
Shri Rajendra D. Patil, Sci – D CPCB Regional Directorate, Lucknow	30.06.2023
Shri U K Gupta, AE UPPCB, Sonbhadra	30/06/2023
Date: 30.06.2023	

Annexure No.2

Regional Office, UPPCB, Sonbhara

Status of Environmetal Compensation imposed on industries/units

S.No.	District	Name of industries/Units	Amount of Environmental Compensation imposed (in Rs.)	Date of EC imposed	Date of Stay orderissued by Ho'ble Court/Name of Hon'ble Court	(Amount of EC paid in Rs.)
1	Sonbhadra	M/s Lanco Anpara Power Ltd, Thermal Power Plant Sonbhadra	2370000	4-Oct-19	-	2370000
2	Sonbhadra	M/s Northern Coalfield Ltd, Bina Pariyojna Sonbhadra	6450000	4-Oct-19	Stay order dated 06.12.2019 from Hon'ble Supreme Court	-
3	Sonbhadra	M/s Northern Coalfield Ltd, Duddhichua Pariyojna Sonbhadra	13020000	4-Oct-19	Stay order dated 06.12.2019 from Hon'ble Supreme Court	-
4	Sonbhadra	M/s Northern Coalfield Ltd, Kakri Pariyojna Sonbhadra	6450000	4-Oct-19	Stay order dated 06.12.2019 from Hon'ble Supreme Court	-
5	Sonbhadra	M/s Northern Coalfield Ltd, Khadia Pariyojna Sonbhadra	12480000	4-Oct-19	Stay order dated 06.12.2019 from Hon'ble Supreme Court	-
6	Sonbhadra	M/s Northern Coalfield Ltd, Krishnshila Pariyojna Sonbhadra	61140000	4-Oct-19	Stay order dated 06.12.2019 from Hon'ble Supreme Court	-
7	Sonbhadra	M/s NTPC Thermal Power Plant Rihandnagar, Sonbhadra	4590000	4-Oct-19	Stay order dated 08.10.2020 from Hon'ble Supreme Court	-
8	Sonbhadra	M/s NTPC Thermal Power Plant Shaktinagar, Sonbhadra	2700000	4-Oct-19	Stay order dated 08.10.2020 from Hon'ble Supreme Court	-
9	Sonbhadra	M/s UP Power Corp Ltd, Thermal Power Plant Anpara Sonbhadra	61140000	4-Oct-19	Stay order dated 27.10.2020 from Hon'ble Supreme Court	-
10	Sonbhadra	M/s UP Power Corp Ltd, Thermal Power Plant Obra, Sonbhadra	61140000	4-Oct-19	Stay order dated 12.10.2020 from Hon'ble Supreme Court	-
11	Sonbhadra	Hindalco Industries Ltd. (Aluminium Dross Re-Procesing Unit) Renukoot Sonbhadra	150000.00	11-Mar-20	-	150000
12	Sonbhadra	M/s Hindalico Ind. Ltd.(Aluminium Div.) Ranukoot, Sonbhadra	2520000.00	07-Jan-21	-	2520000
13	Sonbhadra	Birla Carban Inia Pvt [Old Name-M/s S K I Carban [India] Pvt] Unit-Ranukoot Murdhwa Ranukoot Sonbhadra	120000	29-Nov-22	-	120000

Annexure No.3

Sonbhadra district is the 2nd largest district of Uttar Pradesh, India. Sonbhadra is the only district in India which borders four states namely Madhya Pradesh, Chhattishgarh Jharkhand and Bihar. Sonbhadra district is an industrial zone and it has lots of minerals like bauxite, limestone, coal, gold etc. Sonbhadra is called as Energy Capital of India, because there are so many power plants.

In district Sonbhadra details of Major industries are as follows:-

1.	**Thermal Power Plants**	:-	**06 Nos.**
2.	**NCL Coal Mines**	:-	**05 Nos.**
3.	**Metal Industry**	:-	**01 Nos.**
4.	**Chemical Industries**	:-	**02 Nos.**
5.	**Carbon Black**	:-	**01 Nos.**

Brief details of Industries are as follows:-

Sl. No.	Name and address of Industries
1.	M/s NTPC SSTPS, Shaktinagar, Sonbhadra
2.	M/s NTPC Rihandnagar, SSTP, Rihandnagar, Sonbhadra
3.	M/s U.P. Rajya Vidyut Utpadan Nigam Ltd. (Anpara A, B & D TPS), Anpara, Sonbhadra
4.	M/s Lanco Anpara Power Limited, Anpara, Sonbhadra
5.	M/s Hindalco Industries Limited, Renusagar Power Division, Renusagar
6.	M/s U.P. Rajya Vidyut Utpadan Nigam Ltd. (Obra A, B - TPS), Obra, Sonbhadra
7.	M/s Northern Coal Fields Limited, Bina Project, Bina , Sonbhadra
8.	M/s Northern Coal Fields Limited, Dudhichua Project, Dudhichua, Sonbhadra
9.	M/s Northern Coal Fields Limited, Kakri Project, Kakri, Sonbhadra
10.	M/s Northern Coal Fields Limited, Khadia Project, Khadia, Sonbhadra
11.	M/s Northern Coal Fields Limited, Krishnashila Project, Bina, Sonbhadra
12.	Aluminum Smelter: M/s HINDALCO Industries Ltd, Renukoot, Sonbhadra
13.	M/s Grasim Industries Limited Chemical Division, Renukoot, Sonbhadra
14.	M/s Birla Carbon India Pvt. Ltd., Renukoot, Sonbhadra

Status of implementation of Action Plan of by Thermal Power Plants, Northern Coal Field Limited and other industries of district sonbhadra are as follow:-

I. Status of Implementation of Action Plans by Thermal Power Plant:-

S.No.	TPPS	Completed	Under progress/ remaining works	Timeline/Remarks
01	M/s NTPC SSTPS, Shaktinagar, Sonbhadra	➢ Fly ash utilization 40.44% As on March, 2024 ➢ S1 & S2 Ash Dykes are in running condition ➢ AWRS installed ➢ DAES available ➢ CEMS & CAAQMS installed and complied ➢ Sprinkling system at the Ash Dyke installed ➢ Ash dyke stability report submitted ➢ Bio-methanation plant available ➢ PM and NO_X Regularly monitored and complied	➢ FGD installation work in all 7 units. ➢ Expansion of AWRS capacity	➢ March-2025 ➢ March-2025
02	M/s NTPC Rihandnagar,	➢ Fly ash utilization 80.42% As on March,2024	➢ FGD installation work in all units DAES in Stage - I & Stage – III	➢ FGD is expected to be commissioned by

S.No.	TPPS	Completed	Under progress/ remaining works	Timeline/Remarks
	SSTP, Rihandnagar, Sonbhadra	➢ Ash dyke stability report submitted ➢ DAES available in Stage - II ➢ CEMS & CAAQMS installed and complied ➢ PM and NO_X Regularly monitored and complied ➢ Sprinkling system at the Ash Dyke installed ➢ Dry fog dust suppression system in Stage - III. ➢ 3 Bio-methanation plant available	➢ Cold Fog Dust Suppression system in Stage - I	31.12.2026 ➢ Stage-I - Commissioned by 31.12.2025 & Stage-III Operational (Commissioned in Dec 23). ➢ Erection work of CFDSS has been completed and Commissioning is in progress
03	M/s U.P. Rajya Vidyut Utpadan Nigam Ltd. (Anpara A, B & D TPS), Anpara, Sonbhadra	➢ Fly ash utilization 51.67 % As on March, 2024 ➢ AWRS installed ➢ DAES available ➢ CEMS & 03 CAAQMS installed and complied ➢ Sprinkling system at the Ash Dyke	➢ Re-tendering for ESPs installation at ATPS ➢ Renovation work under progress at BTPS ➢ FGD installation at A, B & D TPS. ➢ Constructing Bio-	➢ December-2026

S.No.	TPPS	Completed	Under progress/ remaining works	Timeline/Remarks
		installed ➢ Ash dyke stability report submitted ➢ NOX regularly monitored and complied in all units.	methanation plant	
04	M/s Lanco Anpara Power Limited, Anpara, Sonbhadra	➢ Fly ash utilization 23.69 % As on March, 2024 ➢ AWRS installed ➢ DAES available ➢ CEMS & CAAQMS installed and complied ➢ PM and NOX Regularly monitored and complied ➢ Sprinkling system at the Ash Dyke installed ➢ Dust extraction and dust suppression system provided.	➢ FGD installation work in progress	➢ December-2025

S.No.	TPPS	Completed	Under progress/ remaining works	Timeline/Remarks
05	M/s Hindalco Industries Limited, Renusagar Power Division, Renusagar	➢ Fly ash utilization 114.67 % As on March, 2024 ➢ Bichhari ash dyke operational so no legacy ash present ➢ Ash dyke stability report submitted ➢ AWRS installed and operational ➢ ZLD achieved ➢ DAES available ➢ CEMS & 03 CAAQMS installed and complied ➢ Sprinkling system at the Ash Dyke installed ➢ PM & NOX regularly monitored and complied	➢ FGD installation work in progress in Boiler 5	➢ Completed by March-2025 FGD Erection work is in progress.
06	M/s U.P. Rajya Vidyut Utpadan Nigam Ltd. (Obra A, B - TPS), Obra,	➢ Fly ash utilization 95.25 % As on March, 2024 ➢ Ash dyke stability report submitted ➢ ZLD achieved	➢ FGD installation ➢ Removing old deposited ash	➢ May 2025 ➢ Completed-All old deposited ash has been removed and

S.No.	TPPS	Completed	Under progress/ remaining works	Timeline/Remarks
	Sonbhadra	➢ Ash dyke stability report submitted ➢ DAES available ➢ CEMS & CAAQMS installed and complied ➢ PM and NOX Regularly monitored and complied ➢ Sprinkling system at the Ash Dyke installed		Desilted ash has been disposed in Low Lying area in Orba Sector 2 & 3 and stabilized with soil with Miyawaki Plantation.

II. Status of Implementation of Action Plans by Coal Mines:-

S.No.	Name	Completed	Under progress/remaining works	Timeline/Remarks
1	M/s Northern Coal Fields Limited, Bina Project, Bina , Sonbhadra	➢ Fire hydrant pipeline provided ➢ High capacity pressurised water tankers ➢ 20 nos. water sprinklers ➢ 1 no road sweeping machine ➢ 2 nos. truck mounted mist spray gun ➢ ZLD achieved ➢ 1 no CAAQMS installed ➢ Transportation of coal through Railway Wagon and tarpaulin covered trucks ➢ Rain Water Harvesting at 4 places. ➢ Plantation activity along 1.2 km Auri-Shaktinagar highway ➢ 1 additional CAAQMS	➢ Construction of new CHP of 9.5 MTPA ➢ ETP & STP under upgradation by filter press, MGF, ACF etc.	➢ December-2024 (83% of work has been completed.) ➢ July, 2024 (78% of work has been completed)

2	M/s Northern Coal Fields Limited, Dudhichua Project, Dudhichua, Sonbhadra	➢ Maximum Coal transportation through MGR rest through Rail and covered trucks ➢ Closed Belt Conveyor System ➢ 02 Fixed type mist fog cannon ➢ 02 Truck Mounted Mist Spray System ➢ 01 no road sweeping machine ➢ 04 no rain water harvesting ➢ 01 CAAQMS installed ➢ Rain Water Harvesting at 4 places.	➢ Construction of new CHP of 10 MTPA ➢ 02 RCC Bunds are under construction to prevent the entry of silt and discharge to Balia nala from mines. ➢ Construction of siltation ponds at 03 locations are under progress. ➢ Tyre washing system/ mechanism of Coal transporting vehicles on Road	➢ Completed ➢ Completed ➢ Completed ➢ 31.08.2024, Till now 15 % work completed

3	M/s Northern Coal Fields Limited, Kakri Project, Kakri, Sonbhadra	➢ Maximum Coal transportation through MGR rest through Rail and covered trucks ➢ High capacity pressurised water tankers ➢ 02 water tankers for sprinkling ➢ 01 truck mounted mist spray guns ➢ 02 rain water harvesting system ➢ 01 CAAQMS installed ➢ Fire hydrant system installed ➢ ZLD achieved ➢ Plantation along road sides	➢ Tyre washing system/ mechanism for Coal transporting vehicles on Road	➢ Proposal of tyre washing facility is under process.
4	M/s Northern Coal Fields Limited, Khadia Project, Khadia, Sonbhadra	➢ Maximum Coal transportation through MGR rest through Rail and covered trucks ➢ All approach road are metalled ➢ 01 Fixed fog cannon ➢ 02 Road sweeping machines ➢ Plantation on overburden dumps ➢ 01 CAAQMS installed ➢ 07 Rain water harvesting system	➢ ETP under up-gradation. ➢ Tyre washing system/ mechanism for Coal transporting vehicles on Road.	➢ July, 2024 ➢ December, 2024, Tendering Process is under progress.

		➢ ZLD achieved ➢ Fire hydrant system installed	➢ Construction of Wharf wall / Railway Siding	➢ Platform and wall advancement to rail line is to be completed by August-2024. Rail Connectivity to wharf-wall is to be done by East Central Railway
5	M/s Northern Coal Fields Limited, Krishnashila Project, Bina, Sonbhadra	➢ Maximum Coal transportation through belt pipe conveyer rest through Rail and covered trucks ➢ All CC roads completed ➢ CC road of 6.7 km for coal transportation ➢ 12 water sprinklers installed ➢ 01 Fixed fog cannon ➢ 02 Road sweeping machines ➢ 01 CAAQMS installed ➢ ZLD Achieved ➢ Rain water harvesting system at 07 places ➢ Fire hydrant provided ➢ Wheel washing facility for Bina & Krishnashilla at Bina Entry Gate	➢ Sedimentation ponds ➢ Green belt	➢ There is no make of mine water. The run-off water is collected in the sumps of capacity 460000 CuM and 55000 CuM, with additional intermediate sump of Capacity 360000 CuM. ➢ Afforestation and Green Belt developed as per EMP & Mine Closure Plan. Total 5.63 Lacs trees has been planted on 198 Ha. Land.

III. Status of Implementation of Action Plans by Metal Industry:-

S.No.	TPPS	Completed	Under progress/ remaining works	Timeline/Remarks
1	Aluminum Smelter: M/s HINDALCO Industries Ltd, Renukoot, Sonbhadra	➢ ZLD Achieved ➢ 4.87 Lakh MT Bottom ash utilized for developing low lying area ➢ MSW processing facility operational ➢ APCS installed for process plant and fugitive emission. ➢ Water sprinklers installed for dust suppression. ➢ OCEMS installed on all stacks ➢ Red Mud is properly disposed. ➢ 100 % utilization of Ash	➢ Procurement of equipment for segregation of collected waste category wise is in progress. ➢ Red mud mixing with fly ash and disposal in abandoned mines proposed. ➢ Feasibility study awarded to IIFM Bhopal.	➢ MSW Plant has been installed. ➢ Tri-party agreement between IIFM, UP Forest and AAI has been done on 18.08.2023 and permission is awaited from IIFM Bhopal to start the execution Job. ➢ Feasibility study conducted for backfilling of abandoned quarry in Dalla Region by IIFM.

IV. Status of Implementation of Action Plans by Chemical Industry:-

1	M/s Grasim Industries Limited Chemical Division, Renukoot, Sonbhadra	➢ ZLD Achieved ➢ APCS with online monitoring system ➢ Brine sludge is completely disposed through TSDF Kanpur Dehat. ➢ Ash disposal site reclaimed completely alongwith miyawaki plantation ➢ 63% of land area developed as green belt. ➢ Captive SLF for disposal of mercury sludge is fully capped. ➢ Process changed to membrane technology ➢ Water sprinklers installed for dust suppression. ➢ Miyawaki Plantation has been done inside the premises	➢ Miyawaki Plantation outside plant premises will be done	➢ Industry vide its email dated 04.06.2024 informed that Industry has done Miyawaki Plantation inside its premises & at present Grasim has developed Approx. 63% Green Belt, inside the premises

2	M/s Birla Carbon India Pvt. Ltd., Renukoot, Sonbhadra	➢ ZLD Achieved ➢ APCS with online monitoring system installed. ➢ PTZ camera installed for continuous monitoring of ZLD. ➢ Green belt developed. ➢ Water sprinklers installed for dust suppression. ➢ Miyawaki Plantation has been done inside the premises.	➢ Miyawaki Plantation outside plant premises will be done.	➢ Completed