

## Quarterly Status Report

August 2021 – October 2021 (Quarter – 5)

Report of Committee constituted by Hon'ble NGT in The Matter of No. 164 Of  
2018 in Case of Ashwani Kumar Dubey Vs. Union of India and Others

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### **INTRODUCTION**

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

*".....Since the term of the Committee has expired, further oversight work may be undertaken by a joint Committee (OC) of the CPCB with respective State PCB and the District Magistrates. The State PCBs will be the nodal agency for the respective States.*

*The newly constituted OC may furnish its reports quarterly by email at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF. First such report may be furnished giving status as on 31.10.2020 by 15.11.2020 with copies to concerned stake holders for their response if any by 30.11.2020."*

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
- Dr T N Singh, Regional Officer, UPPCB, Sonbhadra
- Shri Ramesh Kumar, SDM-Duddhi, Sonbhadra

The nominated committee members have conducted the field visits during October 16-21, 2021 to review the compliance status for the quarter-5 i.e., August 2021 – October 2021

The compliance status of the concerned stakeholders verified during the above meetings and visits is given below.

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## 1. Thermal Power Plants

### 1.1. M/s NTPC Limited Shakti Nagar Sonbhadra.

#### 1.1.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remark (As on 31.10.2021)
a)	To ensure continuous operations of ESPs installed in TPPs. Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission.	<ul style="list-style-type: none"> <li>It has been noted that effective operation of ESP is being ensured. To achieve the prescribed limit of the particulate matter, the retrofitting of ESPs installed in unit No 01 to 06 has been carried out whereas it is likely to be completed by 28.02.2022 in unit No 07.</li> <li>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.</li> <li>OCEMS has been asked to relocate to a suitable location at the earliest for obtaining the isokinetic sample.</li> </ul>
b)	Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server	<ul style="list-style-type: none"> <li>The unit has already installed 02 CAAQMS for ambient air monitoring. Whereas, the location for setting up the third CAAQM station has been identified. The installation work is likely to be completed within a quarter.</li> <li>The committee asked the unit to ensure the connectivity of the CAAQMS with CPCB/SPCB server at the earliest.</li> </ul>
c)	To ensure 100% fly ash utilization in accordance with MoEF&CC Notification dated 31.12.2018 and Hon'ble NGT order dated 12.02.2020 in the matter of OA No 117/2014.	<ul style="list-style-type: none"> <li>As per the details provided, the unit has utilized 24.17% of the total fly ash generated during March to October 2021. The fly ash has been mainly utilised in NHAI road projects, ash brick construction, land development, and ash dam augmentation.</li> <li>The reported fly ash utilization is much less than the desired utilization percentage. Also, they are mainly using legacy fly ash which was already stored in old ash dyke and the fresh fly ash generated is being stored in new ash dyke.</li> </ul>

  
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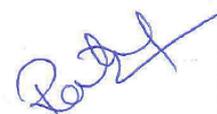
S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remark (As on 31.10.2021)
		<ul style="list-style-type: none"> <li>The committee asked to submit a time bound action plan for 100% utilization of fly ash generated at the earliest to Hon'ble NGT.</li> </ul>
d)	To ensure continuous operations of AWRS	<ul style="list-style-type: none"> <li>As per records, the unit has discharged 8437402.36 KL of ash slurry into the ash dyke during August to October 2021, and recycled 6834295.91 KL of water from it.</li> <li>Thus, the ash to water ratio calculated is 1:4 and considering the claimed ash to water ratio of 1:9, the unaccounted ash water quantity is about 7,59,366.214 KL which has likely been discharged into Rihand reservoir during the reported quarter by the unit.</li> </ul>
e)	Necessary renovation of the ash dykes needs to be carried out in order to prevent breaching of ash pond and spreading of slurry in to surrounding environment and Rihand Reservoir	<ul style="list-style-type: none"> <li>During the visit, the committee observed that the water from the overflow pond of Ash Dyke was flowing into the Rihand reservoir.</li> <li>The unit has installed CCTV camera near the discharge point for the purpose of continuous monitoring. However, its connectivity cable was found damaged. It has been reported that it was broken since September 2021.</li> <li>As per the CCTV footage of August 2021, water leakage is visible in Rihand reservoir after 10<sup>th</sup> August 2021.</li> <li>Thus, the unit has failed to take adequate measures to not allow water from the ash pond to discharge into the Rihand reservoir.</li> </ul>
f)	Control of pollution during coal storage, transportation and handling	<ul style="list-style-type: none"> <li>As per information, the unit receives coal through MGR rail system. The unit has provided a cover shed and sprinkler system to contain the dust released during unloading.</li> <li>Water sprinklers have also been installed in coal storage areas and dust suppression systems have been provided at transfer sites.</li> <li>Excessive fugitive emission has been observed from the road provided in the ash dyke area.</li> </ul>



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**1.1.2. Status of other identified issues**

S. No.	Issues identified	Compliance Status/ Remarks (As on 31.10.2021)
a)	Achieving ZLD in ETP & STP	<ul style="list-style-type: none"> <li>The unit is fully utilizing the treated effluent from ETP.</li> <li>The unit has provided polishing pond to treat the sewage generated through its residential area. The treated wastewater is mainly used for horticultural purposes.</li> <li>The unit is in the process of providing a new STP of 1800 KLD capacity based on MBBR technology.</li> </ul>
b)	Installation of FGD for control of gaseous emissions	<ul style="list-style-type: none"> <li>The unit is in the process of setting up FGDs to achieve the notified standards for gaseous emissions. Approx. 30% of the work for the construction of three multi-flue chimneys has been completed and the work of casting the chimney above ground level, absorber foundation, and other related works is in progress.</li> </ul>
c)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>The Solid waste generated from the residential colony is dumped at the site located near Jayant Road. The scientific method is not been adopted for the proper segregation and disposal of MSW.</li> </ul>

**1.3.2. Calculation for environmental compensation**

- a. The unit was found discharging the ash pond overflow water into the Rihand reservoir. The CCTV footage confirms the discharge since the month of August 2021. Hence, environmental compensation is being calculated based on the 'Polluters Pay Principle'.

Calculation of Environmental Compensation is as demonstrated below

$$\begin{aligned}
 \bullet \quad EC &= PI \times N \times R \times S \times LF \\
 &= 80 \times 92 \times 250 \times 1.5 \times 1 \\
 &= 27,60,000/-
 \end{aligned}$$

Where,

- PI = Pollution Index of Industrial sector  
(Taken as '80' considering 'Red Category')
- N = number of days of violation took place  
(From 01.08.2021 to 31.10.2021 i.e., 92 days)
- R = A factor in Rupees (taken as '250')
- S = Factor for scale of operation  
( '1.5' considering scale of operation being 'Large')
- LF = location factor

  
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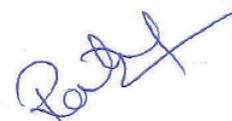
  
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(‘1.0’ considering population of area being < 1 million)

### 1.1.3. Recommendations of the Committee

- The unit should immediately take required measures to stop the discharge of ash pond overflow into the Rihand reservoir.
- The unit may be asked to relocate the OCEMS in order to achieve the desired iso-kinetic sampling for particulate matter.
- The unit may be asked to complete the installation of the third CAAQMS at the earliest.
- The unit may be asked to ensure that the CAAQMS is connected to the CPCB/SPCB server at the earliest.
- The unit may be asked to submit a time-bound action plan for 100% fly ash utilization at the earliest.
- The process of installation and commissioning of the FGD system needs to be expedited in realization of the revised timeline.
- The unit may be asked to properly treat the MSW generated from their residential colony.
- The unit shall take immediate measures to control fugitive emission in ash dyke area.

**Further, the committee recommends for imposing environmental compensation (EC) of Rs 27,60,000/- for discharging ash pond overflow water into the Rihand reservoir.**



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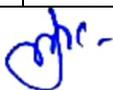
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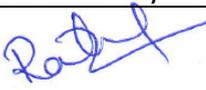
## 1.2. M/s NTPC Limited Rihand Super Thermal Power (Power Plant)

### 1.2.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remark (As on 31.10.2021)
a)	To ensure continuous operations of ESPs installed in TPPs. Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission.	<ul style="list-style-type: none"> <li>It has been informed that effective operation of ESP is being ensured. To achieve the prescribed limit of the particulate matter, the retrofitting of ESPs installed in unit No 01 has been completed. Unit No 02 and 03 are the new units having a design to achieve the prescribed limit.</li> <li>The unit has installed OCEMS to monitor the stack emission and connected it with CPCB &amp; UPPCB server.</li> <li>It was informed that they have built up an interdepartmental team that analyzes the reasons for SMS generated through OCEMS on daily basis and also takes the necessary corrective action.</li> </ul>
b)	Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server.	<ul style="list-style-type: none"> <li>The unit has installed three CAAQMS for ambient air quality monitoring.</li> <li>The committee asked the unit to ensure that the CAAQMS is connected to the CPCB/SPCB server at the earliest.</li> </ul>
c)	To ensure 100% fly ash utilization in accordance with MoEF&CC Notification dated 31.12.2018 and Hon'ble NGT order dated 12.02.2020 in the matter of OA No 117/2014.	<ul style="list-style-type: none"> <li>As per the details provided, the unit has utilized 41.69 % (i.e., total Ash generated is 2328055 MT and ash utilized is 970676 MT) of total fly ash generated from April 2021 to October 2021. The Ash has been mainly consumed 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.</li> <li>However, further efforts are required to utilize the remaining 58.31 % of ash that is presently being disposed of in the ash dyke.</li> <li>The unit is in the process to establish a 15 MW solar plant on the old ash dyke area. The installation of panels was in process.</li> <li>The committee asked to submit the time-bound action plan for utilization of 100% fly ash generated at the earliest.</li> </ul>
d)	To ensure continuous operations of AWRS	<ul style="list-style-type: none"> <li>As per records, the unit has discharged 85,56,219 KL of ash slurry into the ash dyke</li> </ul>

  
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S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remark (As on 31.10.2021)
		<p>during August to October 2021, and recycled 78,44,400 KL of water from it.</p> <ul style="list-style-type: none"> <li>Thus, the ash to water ratio calculated is 1:9 against the claimed ash to water ratio of 1:7.</li> </ul>
e)	Necessary renovation of the ash dykes needs to be carried out in order to prevent breaching of ash pond and spreading of slurry in to surrounding environment and Rihand Reservoir.	<ul style="list-style-type: none"> <li>The ash dyke raising work in one of the ash ponds was in progress at the time of visit.</li> <li>The unit has also installed 04 cameras for monitoring purpose.</li> </ul>
f)	Control of pollution during coal storage, transportation and handling.	<ul style="list-style-type: none"> <li>The unit receives coal through rail transportation only and covered shed has been provided for unloading.</li> <li>The effective system to trap the dust during the unloading of the coal from wagons has not been provided in the sheds.</li> <li>It was informed by NTPC representative, the proper system to trap the dust during unloading of the coal from wagons, will be installed by December 2021.</li> </ul>

### 1.2.2. Status of other identified issues

S. No.	Issues identified	Compliance Status/ Remarks (As on 31.10.2021)
a)	Achieving ZLD in ETP & STP	<ul style="list-style-type: none"> <li>The unit is recycling the treated wastewater from ETP &amp; STP.</li> <li>However, the flowmeter at the outlet of STP is not been installed to measure the amount of treated wastewater reused/recycled.</li> </ul>
b)	Installation of FGD for control of gaseous emissions.	<ul style="list-style-type: none"> <li>The unit is in the process to install an FGD system for achieving standards Notified for gaseous emissions. The civil/construction work was found in progress during the visit and it has been informed that the FGD installation will be completed by December 2023.</li> </ul>
c)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>Approx. 500 kg of MSW is generated per day from the residential colony.</li> <li>They have developed a system for the collection and segregation of the MSW.</li> <li>The organic waste is disposed of through composting. The compost generated is used for in-house gardening purposes.</li> </ul>


  
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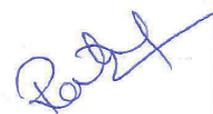

  
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S. No.	Issues identified	Compliance Status/ Remarks (As on 31.10.2021)
		<ul style="list-style-type: none"><li>The segregated plastic waste is being sent to Ultratech cement, Dalla.</li></ul>

### 1.2.3. Recommendations of the Committee

1. The unit may be asked to ensure that the CAAQMS is connected to the CPCB/SPCB server at the earliest.
2. The unit may be asked to submit a time-bound action plan for 100% fly ash utilization at the earliest.
3. The process of installation and commissioning of the FGD system needs to be expedited in realization of the revised timeline.



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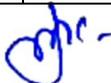
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### 1.3. M/s Anpara Thermal Power Plant (Power Plant)

#### 1.3.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remark (As on 31.10.2021)
a)	To ensure continuous operations of ESPs installed in TPPs. Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission.	<ul style="list-style-type: none"> <li>It has been informed that effective operation of ESP is being ensured.</li> <li>To achieve the prescribed limit of the particulate matter, the retrofitting of ESPs installed in stages A &amp; B is required.</li> <li>The work has been started for Stage - B in November 2021 and is likely to be completed by December 2022.</li> <li>Stage A is a very old unit and its retrofitting is in the review of techno-physical feasibility through UPRVUN Head Quarter.</li> </ul>
b)	Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server	<ul style="list-style-type: none"> <li>The unit has installed 03 CAAQMS for Ambient Air Quality Monitoring. But, the sites of the two CAAQMS are not open from all directions.</li> <li>The unit is in the process of shifting the said CAAQMS to a suitable location in compliance with the observations made by the committee during the earlier visits. However, the work has been delayed due to the COVID pandemic and is expected to be completed by December 2021.</li> <li>All the three CAAQMS are linked with the CPCB server from June-2020.</li> </ul>
c)	To ensure 100% fly ash utilization in accordance with MoEF&CC Notification dated 31.12.2018 and Hon'ble NGT order dated 12.02.2020 in the matter of OA No 117/2014.	<ul style="list-style-type: none"> <li>As per the information, the fly ash utilization from April 2021 to September 2021 is only 4.2% and for the month of October 2021, it is only 1.35 %.</li> <li>The reported fly ash utilization is much lesser than the desired utilization percentage.</li> <li>It has been informed that they are in the process to enter an MoU with NCL for the allotment of a pit of the Gorbi mines for disposal of fly ash.</li> <li>The committee asked to submit the time-bound action plan for utilization of 100% fly ash generated at the earliest.</li> </ul>
d)	To ensure continuous operations of AWRS	<ul style="list-style-type: none"> <li>Irrespective of the repetitive recommendations of the committee, the</li> </ul>

  
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S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remark (As on 31.10.2021)
		<p>unit has not yet installed a flow meter to measure the amount of ash slurry discharged into the ash dyke and the amount of water recycled from the ash pond. It has been informed that its installation will be completed by December 2021.</p> <ul style="list-style-type: none"> <li>The committee asked the unit to immediately install the flow meters and provide the water balance chart for the ash slurry during the next visit of the committee.</li> </ul>
e)	Necessary renovation of the ash dykes needs to be carried out in order to prevent breaching of ash pond and spreading of slurry in to surrounding environment and Rihand Reservoir	<ul style="list-style-type: none"> <li>The ash dyke raising work for one of the lagoons has been completed in June 2021, whereas the work for the other lagoon is expected to be completed by December 2021.</li> <li>The deposition of fly ash was visible on the surface of Rihand reservoir near the discharge channel from the ash pond overflow lagoon which was mainly due to discharge in the past. Though the unit has removed some ash, the work has been interrupted due to the rain. The unit needs to carry out the restoration activity in a time-bound manner.</li> <li>The unit has disposed of ash at the identified area at Dibulganj for filling the low-lying area. The unit has stopped the flow from this area to the Rihand reservoir which was seen during the previous visit of the committee. The soil capping was in process at the time of the visit.</li> <li>The committee also asked the unit to complete the capping work in an environment-friendly manner and develop a green belt in the said area.</li> <li>The Morcha Nala is passing through the designed ash pond area that carries water during the rainy season into the ash dyke.</li> <li>It has been informed that the feasibility study for the diversion of Morcha Nala has been conducted through the IIT BHU.</li> <li>It has also been submitted that the Morcha drain has seasonal flow and keeping in</li> </ul>

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S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remark (As on 31.10.2021)
		view the safety purpose, discharge through the ash dyke may be allowed during the rainy season.
f)	Control of pollution during coal storage, transportation and handling	<ul style="list-style-type: none"> <li>The unit receives coal through the rail system. The unit has provided a cover shed and a sprinkling system to trap the dust released during the unloading. However, the Water sprinkling system was found non-operational at the time of visit.</li> <li>Water sprinklers have also been installed in the coal storage area. However, the said system was not found effective to control fugitive emissions from the storage area.</li> </ul>

### 1.3.3. Status of other identified issues

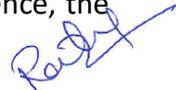
S. No.	Issues identified	Compliance Status/ Remarks (As on 31.10.2021)
g)	Achieving ZLD in ETP & STP	<ul style="list-style-type: none"> <li>The wastewater generated through Units A &amp; B is discharged into Rihand Reservoir after the treatment. This effluent also carries the ash content.</li> <li>Similarly, the treated wastewater from the STP is also discharged into the Anpara Nalla which finally meets the Rihand reservoir.</li> <li>It has been informed that ETP of 30 MLD capacity is proposed to achieve the prescribed ZLD condition.</li> </ul>
h)	Installation of FGD for control of gaseous emissions	<ul style="list-style-type: none"> <li>Around 40% of installation work has been completed for Stage-D whereas they are in process of retendering for Stages A &amp; B.</li> </ul>
i)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>The MSW generated from the residential colony is dumped in the low-lying area located within colony premises and any scientific method is not adopted for the proper segregation and disposal of MSW.</li> </ul>

### 1.3.4. Calculation for environmental compensation

The unit was asked to achieve ZLD for process effluent and reuse treated effluent from STP for irrigation purpose. However, the unit has not been found to comply with both of the conditions. Hence, environmental compensation is being calculated based on 'Polluters Pay Principle'. The present committee is reviewing the matter for the period starting from 01.08.2021. And hence, the

  
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same date has been considered as reference for calculation of period of non-compliance.

Calculation of Environmental Compensation is as demonstrated below

- $EC = PI \times N \times R \times S \times LF$ 

$$= 80 \times 456 \times 250 \times 1.5 \times 1$$

$$= 01,36,80,000/-$$
- Where,
  - PI = Pollution Index of Industrial sector  
(Taken as '80' considering 'Red Category')
  - N = number of days of violation took place  
(From 01.08.2020 to 31.10.2021 i.e., 456 days)
  - R = A factor in Rupees (taken as '250')
  - S = Factor for scale of operation  
(('1.5' considering scale of operation being 'Large')
  - LF = location factor  
(('1.0' considering population of area being < 1 million)

#### 1.3.5. Recommendations of the Committee

- The unit may be asked to install flow meters to measure the amount of ash slurry discharged into the ash pond and the amount of water recovered and recycled from it.
- The unit may be asked to trap the discharge of wastewater containing ash into the Rihand reservoir through the drain at power house area.
- The unit may be asked to furnish explanation regarding not achieving ZLD in ETP & STP and also can be asked to submit a time-bound action plan for achieving ZLD.
- The unit may be asked to ensure complete restoration activity by removing deposited fly ash on the surface of the Rihand reservoir near the ash pond overflow lagoon area in time-bound manner.
- The unit may be asked to submit a time-bound action plan for 100% fly ash utilization at the earliest.
- The unit may be asked to make such a provision that the surface runoff water from the surrounding area does not reach the ash dyke.
- The process of installation and commissioning of the FGD system needs to be expedited in realization of the revised timeline.

**Further, the committee recommends for imposing environmental compensation (EC) of Rs. 1,36,80,000/- for not complying the condition of ZLD for ETP & STP.**

  
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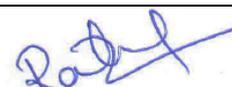
#### 1.4. M/s Anpara 'C' Lanco Thermal Power Station

##### 1.4.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remarks (As on 31.10.2021)
a)	To ensure continuous operations of ESPs installed in TPPs. Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission.	<ul style="list-style-type: none"> <li>It has been informed that the effective operation of the ESPs is being ensured.</li> <li>The unit has installed OCEMS for monitoring the stack emissions and connected it to CPCB and UPPCB servers.</li> <li>The committee asked the unit to furnish the details of SMS generated through OCEMS during the last two quarters along with clarifications.</li> </ul>
b)	Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server	<ul style="list-style-type: none"> <li>The unit has installed 02 CAAQMS for ambient air monitoring.</li> <li>Earlier, the committee had asked the unit to install the 3rd CAAQMS in a timebound manner and ensure the connectivity of all the CAAQMS with CPCB/SPCB server. However, no fruitful progress has been seen on the ground.</li> </ul>
c)	To ensure 100% fly ash utilization in accordance with MoEF&CC Notification dated 31.12.2018 and Hon'ble NGT order dated 12.02.2020 in the matter of OA No 117/2014.	<ul style="list-style-type: none"> <li>As per the information, the unit has utilized 15.88 % (i.e., Fly ash generation is 685784 MT and utilization is 108885 MT) of total fly ash generated during April – September 2021.</li> <li>The Ash has been mainly consumed in cement manufacturing, ash brick manufacturing, land development, and ash dyke raising.</li> <li>The reported fly ash utilization is much lesser than the desired utilization percentage.</li> <li>The committee asked to submit the time-bound action plan for utilization of 100% fly ash generated at the earliest.</li> </ul>
d)	To ensure continuous operations of AWRS	<ul style="list-style-type: none"> <li>Irrespective of the recommendation of the committee in every quarterly report, the unit has not yet installed a flow meter to measure the amount of ash slurry discharged into the ash dyke and the amount of water recycled from the ash pond. It has been informed that its installation will be completed within two months.</li> <li>The committee asked the unit to immediately install the flow meters and provide the water balance chart for the ash slurry during the next visit of the committee.</li> </ul>

  
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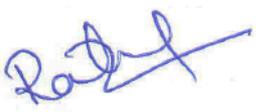
S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remarks (As on 31.10.2021)
		<ul style="list-style-type: none"> <li>The committee during its earlier visit had directed to take necessary steps immediately near the Dibulganj area to avoid accidents in the pipelines carrying ash slurry. However, the unit is yet to initiate any action for the safeguard of the said pipelines.</li> </ul>
e)	Necessary renovation of the ash dykes needs to be carried out in order to prevent breaching of ash pond and spreading of slurry in to surrounding environment and Rihand Reservoir	<ul style="list-style-type: none"> <li>The Unit has entered into 'Facilities and Services Agreement' with UPRVUNL on 12.11.2006 for the use of ash dyke as one of the common facilities. As per the agreement, the ownership of the ash dyke lies with UPRVUNL, and the owner is responsible for its operation and maintenance. The unit is paying a sum of Rs. 7.2 Cr. on annual basis for the same.</li> </ul>
f)	Control of pollution during coal storage, transportation and handling	<ul style="list-style-type: none"> <li>As per information, the unit receives coal through the rail system. The unit has provided a cover shed and a sprinkling system to trap the dust released during the unloading.</li> <li>Water sprinklers have also been installed in coal storage areas and dust suppression systems have been provided at transfer points.</li> </ul>

#### 1.4.2. Status of other identified issues

S. No.	Issues identified	Compliance Status/ Remarks (As on 31.07.2021)
a)	Achieving ZLD in ETP & STP	<ul style="list-style-type: none"> <li>The unit is recycling the treated effluent from the ETP.</li> <li>The unit has installed STP of 300 KLD capacity and the treated effluent is utilised for horticulture purpose.</li> </ul>
b)	Installation of FGD for control of gaseous emissions	<ul style="list-style-type: none"> <li>The unit has yet to take any initiative to install the FGD system for achieving the standards Notified for gaseous emissions.</li> </ul>
c)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>As per the information provided by the Unit, the MSW generated from the residential colony is sent to Vendor approved by ULB for disposal.</li> </ul>

  
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#### 1.4.3. Recommendations of the Committee

- The unit should immediately take corrective action to avoid any kind of accident in pipeline carrying ash slurry near the Dibulganj area.
- The unit may be asked to install flow meters to measure the amount of ash slurry discharged into the ash pond and the amount of water recovered and recycled from it.
- The unit may be asked to submit a time-bound action plan for 100% fly ash utilization at the earliest.
- The unit may be asked to submit a time-bound action plan for the installation of the 3<sup>rd</sup> CAAQMS.
- The unit may be asked to ensure that the CAAQMS is connected to the CPCB/SPCB server at the earliest.
- The process of installation and commissioning of the FGD system needs to be expedited in realization of the revised timeline.



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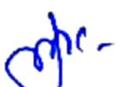
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### 1.5. M/s Renusagar Thermal Power Plant

#### 1.5.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remarks (As on 31.10.2021)
a)	To ensure continuous operations of ESPs installed in TPPs. Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission.	<ul style="list-style-type: none"> <li>It has been informed that effective operation of ESP is being ensured. To achieve the prescribed limit of the particulate matter, the retrofitting of ESPs installed in one of the units was under process and completed in the remaining units</li> <li>The unit has installed OCEMS to monitor the stack emission and connected it with CPCB &amp; UPPCB server. However, the OCEMS have been installed on the ducts connecting to the stacks, and the required iso-kinetic sampling for monitoring particulate matter is not been ensured.</li> <li>During the earlier visits, the committee had instructed for relocating the OCEMS to achieve the isokinetic sampling. However, the unit has yet not taken any fruitful steps to comply with it.</li> </ul>
b)	Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server	<ul style="list-style-type: none"> <li>The unit has installed only one CAAQMS which is located on the top of the adjacent hill at 80 m elevation from the plant area. The unit needs to relocate this CAAQMS for ensuring representative sampling. Irrespective of repetitive recommendations of the committee during the last 1 year, the unit has yet not taken any fruitful action.</li> <li>Similarly, the unit has yet to take any action for the installation of the additional two CAAQMS.</li> <li>The committee also asked the unit to ensure the linking of CAAQMS with CPCB/SPCB server at the earliest.</li> </ul>
c)	To ensure 100% fly ash utilization in accordance with MoEF&CC Notification dated 31.12.2018 and Hon'ble NGT order dated 12.02.2020 in the matter of OA No 117/2014.	<ul style="list-style-type: none"> <li>The reported fly ash generation during April-October 2021 is 1504059 MT and utilization is 1118332 MT, the remaining fly ash is disposed into ash dyke.</li> <li>The Ash has been mainly consumed in cement manufacturing, ash brick manufacturing, land development, and ash dyke raising. However, the remaining ash is been disposed of in the ash dyke.</li> </ul>

  
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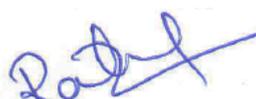
S. No.	Issues identified in Hon'ble NGT order	Compliance Status/ Remarks (As on 31.10.2021)
		<ul style="list-style-type: none"> <li>They are mainly using legacy fly ash which was already stored in old ash dyke and the fresh fly ash generated is being stored in new ash dyke.</li> <li>Huge spillages near ash Silos have been observed during the visit. Such fly ash has been dumped in the area near the Hanumaan Temple in a haphazard manner.</li> </ul>
d)	To ensure continuous operations of AWRS	<ul style="list-style-type: none"> <li>As per the records the unit has discharged 850458 KL ash slurry and recycled 720602 KL water during the quarter August, 2021 to October 2021.</li> <li>Thus, the ash to water ratio calculated is 1:5 against the claimed ash to water ratio of 1:3.</li> </ul>
e)	Necessary renovation of the ash dykes needs to be carried out in order to prevent breaching of ash pond and spreading of slurry in to surrounding environment	<ul style="list-style-type: none"> <li>It is informed that all the precautions have been taken to ensure safety of ash dykes.</li> <li>Preventive measures should be taken in the active ash ponds to avoid dust emissions from dry surfaces.</li> </ul>
f)	Control of pollution during coal storage, transportation and handling	<ul style="list-style-type: none"> <li>The water sprinkler installed at the CHP area were not been operative efficiently and on a continuous basis to control the fugitive emission.</li> <li>In coal stockyard effective mechanisms have not been deployed to control the fugitive emission.</li> <li>Very high Fugitive emission in transport vehicle parking area, nearby silo at exit point was also been observed. Huge ash was seen deposited in the said area.</li> </ul>

#### 1.5.2. Status of other identified issues

S. No.	Issues identified	Compliance Status/Remarks (As on 31.10.2021)
a)	Achieving ZLD in ETP & STP	<ul style="list-style-type: none"> <li>During visit committee observed that ETP operation was not satisfactory. Sludge drying bed facility is not facilitate at ground level yet. As well as there is no dedicated mechanism for removal of sludge from ETP.</li> <li>Treated wastewater from STP is also utilized for gardening purpose.</li> </ul>
b)	Installation of FGD for control of gaseous emissions	<ul style="list-style-type: none"> <li>The unit is in process to install FGD system for achieving standards Notified for gaseous emissions.</li> </ul>

  
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S. No.	Issues identified	Compliance Status/Remarks (As on 31.10.2021)
c)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>The MSW generated from residential colony is dumped on the nearby hilly area. The MSW was thrown without any segregation in haphazard manner. And they were burning the MSW, which was causing substantial air pollution in the area.</li> </ul>

### 1.5.3. Calculation for environmental compensation

The unit was found violating the environmental Norms and causing air pollution in the area by open burning of MSW, adequate measures for controlling the fugitive emissions from material storage and transport areas. Considering the extent of air pollution witnessed in the area, the committee recommended for imposing the environmental compensation based on the 'Polluters Pay Principle'. The period of violation is considered as the reporting quarter.

Calculation of Environmental Compensation is as demonstrated below

$$\begin{aligned}
 EC &= PI \times N \times R \times S \times LF \\
 &= 80 \times 92 \times 250 \times 1.5 \times 1 \\
 &= 27,60,000/-
 \end{aligned}$$

Where,

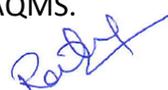
- PI = Pollution Index of Industrial sector  
(Taken as '80' considering 'Red Category')
- N = number of days of violation took place  
(From 01.08.2021 to 31.10.2021 i.e., 92 days)
- R = A factor in Rupees (taken as '250')
- S = Factor for scale of operation  
( '1.5' considering scale of operation being 'Large')
- LF = location factor  
( '1.0' considering population of area being < 1 million)

### 1.5.4. Recommendations of the Committee

- The unit can be asked to complete the installation of proper sludge drying beds in the existing ETP at the earliest.
- The unit may be asked to relocate the OCEMS in order to achieve the desired iso-kinetic sampling for particulate matter.
- The unit can again be asked to submit time bound action plan to relocate the existing CAAQMS for ensuring representative ambient air quality monitoring as per the guideline and also complete the installation of another 02 CAAQMS.

  
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- The unit may be asked to ensure that the CAAQMS is connected to the CPCB/SPCB server at the earliest.
- The unit may be asked to submit a time-bound action plan for 100% fly ash utilization at the earliest.
- The process of installation and commissioning of the FGD system needs to be expedited in realization of the revised timeline.
- The unit should immediately stop the burning of the MSW. And they can be asked to adopt proper scientific approach for disposal of MSW.
- The unit can be asked to take corrective measures to control the fugitive emissions from raw material storage and fly ash transportation areas.
- The unit can be asked to submit explanation for dumping the fly ash in haphazard manner. They should take immediate action for its proper disposal.

**Further, the committee recommends for imposing environmental compensation (EC) of Rs 27,60,000/- as the unit was causing the air pollution through burning of MSW and inadequate measures taken to control the fugitive emissions from raw material handling and fly ash transportation areas.**



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### 1.6. M/s Obra Thermal Power Station (Power Plant)

#### 1.6.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
a)	To ensure continuous operations of ESPs installed in TPPs. Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission.	<ul style="list-style-type: none"> <li>It has been informed that effective operation of ESPs is being ensured. The unit has not provided any details of the retrofitting of ESPs.</li> <li>The unit has installed OCEMS and connected it with CPCB &amp; SPCB portals for data transmission.</li> </ul>
b)	Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server.	<ul style="list-style-type: none"> <li>The unit has installed three CAAQMS for ambient air quality monitoring.</li> <li>The committee asked the unit to ensure the connectivity of the CAAQMS with CPCB/SPCB server at the earliest.</li> </ul>
c)	To ensure 100% fly ash utilization in accordance with MoEF&CC Notification dated 31.12.2018 and Hon'ble NGT order dated 12.02.2020 in the matter of OA No 117/2014.	<ul style="list-style-type: none"> <li>As per the information, the fly ash utilization from April 2021 to September 2021 is only 5.07%.</li> <li>The reported fly ash utilization is much lesser than the desired utilization percentage.</li> <li>The committee asked to submit the time-bound action plan for utilization of 100% fly ash generated at the earliest.</li> </ul>
d)	To ensure continuous operations of AWRS	<ul style="list-style-type: none"> <li>Irrespective of the repetitive recommendations of the committee, the unit has not yet installed a flow meter to measure the amount of ash slurry discharged into the ash dyke and the amount of water recycled from the ash pond.</li> <li>As per the estimation made by the unit based on the pumping capacity, around 2000 m<sup>3</sup>/hr ash slurry is being discharged into the ash dyke and around 660 m<sup>3</sup>/hr water is being recycled through AWRS.</li> <li>The condition of AWRS indicates about its non-operative state. A bypass arrangement was also seen by committee which directly discharging the ash dyke effluent in to the River Renu.</li> <li>The wastewater containing fly ash generated from plant area is directly</li> </ul>

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S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
		discharged into Renu River through the Jharia Nala. As informed by the unit around 30,000 L/Day of wastewater is been discharged into River Renu.
e)	Necessary renovation of the ash dykes needs to be carried out in order to prevent breaching of ash pond and spreading of slurry	<ul style="list-style-type: none"> <li>The structural safety of the ash dyke has been evaluated through IIT Roorkee and the ash dyke is being raised as per recommendation in the report.</li> <li>The 2<sup>nd</sup> raising of ash dyke has been started and is likely to be completed within six months.</li> </ul>
f)	Control of pollution during coal storage, transportation and handling	<ul style="list-style-type: none"> <li>As per information, the unit receives coal through the rail system. The unit has provided a cover shed and a sprinkling system to trap the dust released during the unloading.</li> <li>Committee observed that water sprinkler to control the fugitive emission in CHP area was not working effectively.</li> </ul>

#### 1.6.2. Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.10.2021)
a)	Achieving ZLD in ETP & STP	<ul style="list-style-type: none"> <li>The wastewater from the plant area is mostly discharged into the natural drain passing through the plant premises. Some of the wastewater from this drain is taken for treatment through ETP and the rest is discharged into Renu river without any treatment.</li> <li>The flowmeter has not been provided at ETP for the quantification of wastewater received and treated.</li> <li>The unit is in the process of setting up a dedicated effluent collection and conveyance system for ETP.</li> <li>The operations of STP and ETP was not satisfactory.</li> </ul>
b)	Installation of FGD for control of gaseous emissions	<ul style="list-style-type: none"> <li>As per information provided by Unit, they are in process to install FGD system for achieving standards Notified for gaseous emissions and the work will be completed</li> </ul>

  
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S. No.	Issues identified	Compliance Status (As on 31.10.2021)
		by December, 2022. However, no related progress was found on ground.
c)	Discharge of ash slurry into River Son	<ul style="list-style-type: none"> <li>Substantial amount of ash slurry is being discharged from the power house section into the natural drain passing through the plant premises. The said drain discharges the ash slurry into the Renu river. The water quality of the river is being severely affected at the meeting point and huge accumulation of fly ash is also visible on the river bed.</li> <li>Similarly, partial amount of overflow water from ash pond is going directly into Renu river. This water is flowing through the areas along the banks of the river, on which a large amount of ash is deposited. The ash, while flowing through the area, mixes with the water and reaches the river water, affecting the water quality. This deposition is mainly due to the release of ash slurry from the ash ponds.</li> <li>Above mentioned observation was been conveyed to the unit since last one year in through every quarter report. Unfortunately, the unit has not taken any effort to even initiate action for its resolution.</li> </ul>
d)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>As per the information provided by Unit Solid waste generated from colony premises is dumped at site located to Sector 09 within colony premises and no scientific method been adopted for the proper segregation and disposal of MSW.</li> </ul>

### 1.6.3. Calculation for environmental compensation

The unit is constantly discharging untreated effluent and ash slurry in to the River Renu. Hence, environmental compensation is being calculated based on 'Polluters Pay Principle'. The present committee is reviewing the matter for the period starting from 01.08.2021. And hence, the same date has considered as reference for calculation of period of non-compliance.

Calculation of Environmental Compensation is as demonstrated below

$$EC = PI \times N \times R \times S \times LF$$

  
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$$= 80 \times 456 \times 250 \times 1.5 \times 1$$

$$= 01,36,80,000/-$$

Where,

PI = Pollution Index of Industrial sector

(Taken as '80' considering 'Red Category')

N = number of days of violation took place

(From 01.08.2020 to 31.10.2021 i.e., 456 days)

R = A factor in Rupees (taken as '250')

S = Factor for scale of operation

('1.5' considering scale of operation being 'Large')

LF = location factor

('1.0' considering population of area being < 1 million)

#### 1.6.4. Recommendations of the Committee

- The unit should immediately take action to trap the continuous flow of ash slurry from powerhouse and ash pond overflow water carrying ash into the river Renu.
- Further, the unit can be directed to restore the river bed areas on which a huge deposition of ash is visible. The restoration activity should be completed in time-bound manner.
- The unit should treat all the industrial effluent generated and in no case the untreated effluent shall be discharged into the river Renu.
- The unit may be asked to install an effluent collection and conveyance system for ETP & STP at the earliest.
- The unit may be asked to ensure that the CAAQMS is connected to the CPCB/SPCB server at the earliest.
- The unit may be asked to submit a time-bound action plan for 100% fly ash utilization at the earliest.
- The process of installation and commissioning of the FGD system needs to be expedited in realization of the revised timeline.
- The unit can be asked to adopt the scientific approach for treatment and disposal of MSW.
- The unit can be asked to install the flow meters for measuring amount of ash slurry discharged and water recycled through AWRS. The unit can also be asked to install flow meters for measurement of amount of wastewater treated through the ETP and STP.



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Irrespective of the observations and recommendation of the committee regarding discharge of ash water into the River Renu, the unit has not taken any initiative for its control. Huge quantity of fly ash being discharged into River every quarter. However, the lenient approach of the management not been changed.

Hence, committee has recommended to fix the personal responsibility of the officers seating at management level for causing such a environmental damage.

Further, the committee recommends for imposing environmental compensation (EC) of Rs. 01,36,80,000/- for discharging untreated wastewater and ash slurry into River Renu.



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## 2. Coal Mines of M/s Northern Coalfields Limited (NCL)

### 2.1. NCL Dudhichuwa Project, Sonbhadra

#### 2.1.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
a)	As per the provision of the Notification of 2009, 25% of fly ash should, along with Over Burden (OB) generated in the mines of NCL, be used for back filling the abandoned mine.	<ul style="list-style-type: none"> <li>There is only one abandoned mine in NCL namely Gorbi Mine where three voids are available. Out of three voids, NCL has already offered one void to NTPC-VSTPS for fly ash filling through MoU signed on 03.01.2019. Approx. 30 to 40 million tons of fly ash will be accommodated into this mine void. Thereafter remaining two voids may also be made available for fly ash filling.</li> <li>It has been informed that, the utilization of 25% fly ash with Overburden has serious safety implications which has been deliberated in 44<sup>th</sup> meeting of standing committee on safety in coal mines held on 12.02.2020.</li> <li>Further, a work order has been issued on 10.07.2021 to the IIT-BHU and work is in progress for carrying out "Scientific Study of fly ash utilization/ dumping/ mixing in the OB of the running/ active mines of NCL along with its viability and safety aspect of man and machinery."</li> </ul>
b)	The Norm of ash content equal to or below 34% is not strictly complied with by the NCL and ash content is going as high as 40% and beyond. Coal beneficiation is, therefore, be initiated to obtain coal having less than 34% ash.	<ul style="list-style-type: none"> <li>The reported ash content is 32.7 %.</li> </ul>
c)	Control of air pollution during coal storage, handling and transportation.	<ul style="list-style-type: none"> <li>Six tankers of 70KL, three tankers of 28 KL and four converted tankers of 22 KL capacity has been deployed for dust suppression in haul road and coal yard.</li> <li>Two road sweeping machines have been also deployed for road sweeping in the coal mine and residential colony.</li> </ul>



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S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
		<ul style="list-style-type: none"> <li>• Two truck mounted fogging machines are deployed for suppression of air borne dust.</li> <li>• One fogger cannon system has been installed at Wharf Wall.</li> <li>• 70 water spray nozzles have been provided at 10 transfer point of total 4 km length of Belt conveyor system. 16 water spraying nozzles are also provided in O2 storage Silos.</li> <li>• It has been informed that, the ratio of coal transportation through Road to Train is 4:96.</li> <li>• The unit has also yet not provided tyre washing facility for the transport vehicles.</li> </ul>

### 2.1.2. Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.10.2021)
a)	Installation of camera at the exit of coal mines	<ul style="list-style-type: none"> <li>• The camera is installed at the exit of the coalmine to monitor the status of coal transportation.</li> </ul>
b)	Management of wastewater generated from different processes and achieving ZLD.	<ul style="list-style-type: none"> <li>• Though the ETP was operational, the treated wastewater has been found flowing into ETP premises.</li> <li>• Irrespective of the observation of the committee during every quarter, they are still discharging the untreated effluent into the Balia Nalla.</li> </ul>
c)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>• As per information, the MSW generated from the residential colony is sent to Nagar Nigam Singrauli for the further treatment and disposal.</li> </ul>

### 2.1.3. Calculation for environmental compensation

The unit is constantly discharging untreated effluent in to the Balia Nalla. Hence, environmental compensation is being calculated based on 'Polluters Pay Principle'. The present committee is reviewing the matter for the period starting from 01.08.2021. And hence, the same date has considered as reference for calculation of period of non-compliance.

  
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Calculation of Environmental Compensation is as demonstrated below

$$\begin{aligned} \text{EC} &= \text{PI} \times \text{N} \times \text{R} \times \text{S} \times \text{LF} \\ &= 80 \times 456 \times 250 \times 1.5 \times 1 \\ &= 01,36,80,000/- \end{aligned}$$

Where,

- PI = Pollution Index of Industrial sector  
(Taken as '80' considering 'Red Category')
- N = number of days of violation took place  
(From 01.08.2020 to 31.10.2021 i.e., 456 days)
- R = A factor in Rupees (taken as '250')
- S = Factor for scale of operation  
( '1.5' considering scale of operation being 'Large')
- LF = location factor  
( '1.0' considering population of area being < 1 million)

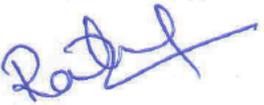
#### 2.1.4. Recommendations of the Committee

- 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 explore the possibility to monitor the status of fugitive emissions through the existing CCTV network provided for monitoring of production activities.
- The unit can be asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them.
- The unit can be asked to provide effective tyre washing facility for transport vehicles.
- The unit can be asked to ensure proper treatment and disposal of MSW generated in their residential colony.
- The unit can again 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.

**Further, the committee recommends for imposing environmental compensation (EC) of Rs. 1,36,80,000/- for constantly discharging untreated effluent into the Balia Nalla.**

  
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## 2.2. NCL Bina Project, Bina, Sonbhadra

### 2.2.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
a)	As per the provision of the Notification of 2009, 25% of fly ash should, along with Over Burden (OB) generated in the mines of NCL, be used for back filling the abandoned mine.	<ul style="list-style-type: none"> <li>• There is only one abandoned mine in NCL namely Gorbi mine where three voids are available. Out of three voids, NCL has already offered one void to NTPC-VSTPS for fly ash filling through MoU signed on 03.01.2019. Approx. 30 to 40 million tons of fly ash will be accommodated into this mine void. Thereafter remaining two voids may also be made available for fly ash filling.</li> <li>• It has been informed that, the utilization of 25% fly ash with Overburden has serious safety implications which has been deliberated in 44th meeting of standing committee on safety in coal mines held on 12.02.2020.</li> <li>• Further, a work order has been issued on 10.07.2021 to the IIT-BHU and work is in progress for carrying out "Scientific Study of fly ash utilization/ dumping/ mixing in the OB of the running/ active mines of NCL along with its viability and safety aspect of man and machinery."</li> </ul>
b)	The Norm of ash content equal to or below 34% is not strictly complied with by the NCL and ash content is going as high as 40% and beyond. Coal beneficiation is, therefore, be initiated to obtain coal having less than 34% ash.	<ul style="list-style-type: none"> <li>• The coal beneficiation plant of 4.5 MTPA capacity has been provided to control the ash content in the coal.</li> <li>• The reported ash content is 29.1%.</li> </ul>
c)	Control of air pollution during coal storage, handling and transportation.	<ul style="list-style-type: none"> <li>• Approx. 85.22% coal is transported through rail and remaining 14.78% coal is transported through road.</li> <li>• Fixed sprinklers are been fitted at CHP at a length of about 550m during the month of August 2021.</li> <li>• Two fixed fog canon machines with throw of approx. 100m is commissioned</li> </ul>

  
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		<p>in the month of September 2021 for dust suppression.</p> <ul style="list-style-type: none"> <li>• Fixed sprinklers installed along the transportation's road for 1.5 kms length.</li> <li>• Two trucks mounted fogging machines are also deployed.</li> <li>• One truck mounted road sweeping machine has been deployed.</li> <li>• 15 mobile water sprinklers are deployed.</li> <li>• All drills machine is provided with cyclone dust separator &amp; dust guards.</li> <li>• One surface miner had been procured to control dust during drilling &amp; blasting.</li> <li>• However, huge emissions have been observed in the CHP area which requires the attention.</li> <li>• The unit has also yet not provided tyre washing facility for the transport vehicles.</li> </ul>
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### 2.2.2. Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.10.2021)
a)	Installation of camera at the exit of coal mines	<ul style="list-style-type: none"> <li>• The camera is installed at the exit of the coalmine to monitor the status of coal transport.</li> </ul>
b)	Management of wastewater generated from different processes	<ul style="list-style-type: none"> <li>• Some quantity of treated effluent is used for spraying along the transport roads. They have installed water sprinklers for the same. The remaining treated effluent is stored in the pond near the residential area, from which it is mainly used for horticulture purposes.</li> <li>• The committee observed flowmeter installed at STP were not functional, and hence the quantity of wastewater received and treated cannot be evaluated as per actual.</li> </ul>
c)	Fire in the coal over burden/ reject	<ul style="list-style-type: none"> <li>• The committee observed fire in the coal stock yard in the mine area. Such a fire incident is hazardous as well as</li> </ul>

  
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S. No.	Issues identified	Compliance Status (As on 31.10.2021)
		one of the significant sources for air pollution. <ul style="list-style-type: none"> <li>The unit is asked to submit time bound action plan for controlling the fire in the stored coal stock yard.</li> </ul>
d)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>As per information, the MSW generated from residential area is dumped into low lying area without any treatment/segregation.</li> </ul>
e)	CAAQM Station for the monitoring of Ambient Air Quality	<ul style="list-style-type: none"> <li>The unit has installed one CAAQMS however the site is not open from all the directions and large trees are located in close proximity are the barriers for horizontal air movement.</li> </ul>

### 2.2.3. Recommendations of the Committee

- The unit can be asked to submit timebound action plan for controlling the fire in the coal stock yard.
- The unit can be asked to explore the possibility to monitor the status of fugitive emissions through the existing CCTV network provided for monitoring of production activities.
- The unit can be asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them.
- The unit can be asked to provide effective tyre washing facility for transport vehicles.
- The unit can be asked to ensure proper treatment and disposal of MSW generated in their residential colony.
- The unit can again 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 corrective action so that the site of CAAQMS could be open from all the direction.




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## 2.3. NCL KrishnaShila Project

### 2.3.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
a)	As per the provision of the Notification of 2009, 25% of fly ash should, along with Over Burden (OB) generated in the mines of NCL, be used for back filling the abandoned mine.	<ul style="list-style-type: none"> <li>There is only one abandoned mine in NCL namely Gorbi Mine where three voids are available. Out of three voids, NCL has already offered one void to NTPC-VSTPS for fly ash filling through MoU signed on 03.01.2019. Approx. 30 to 40 million tons of fly ash will be accommodated into this mine void. Thereafter remaining two voids may also be made available for fly ash filling.</li> <li>It has been informed that, the utilization of 25% fly ash with Overburden has serious safety implications which has been deliberated in 44th meeting of standing committee on safety in coal mines held on 12.02.2020.</li> <li>Further, a work order has been issued on 10.07.2021 to the IIT-BHU and work is in progress for carrying out "Scientific Study of fly ash utilization/ dumping/ mixing in the OB of the running/ active mines of NCL along with its viability and safety aspect of man and machinery."</li> </ul>
b)	The Norm of ash content equal to or below 34% is not strictly complied with by the NCL and ash content is going as high as 40% and beyond. Coal beneficiation is, therefore, be initiated to obtain coal having less than 34% ash.	<ul style="list-style-type: none"> <li>The reported ash content is around 14.4 %.</li> </ul>
c)	Control of air pollution during coal storage, handling and transportation.	<ul style="list-style-type: none"> <li>At present, 39% coal is transported through rail; 45% coal is transported through Belt Piped Conveyor (BPC) and remaining 16% coal is transported through road.</li> <li>The coal handling plant of 4 MT capacity has been installed and in operation. It is provided with silo for rapid loading of coal into the railway wagons. Cold fog</li> </ul>

  
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		<p>dust suppression system has been provided throughout the length of CHP.</p> <ul style="list-style-type: none"> <li>• Spraying through fixed type sprinkling system is being done along the coal transport road (from coal yard to weighbridge) and remaining area is covered through 04 tankers of 28 KL capacity, six tankers of 12 KL capacity, and one truck mounted mist gun.</li> </ul>
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### 2.3.2. Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.10.2021)
a)	Installation of camera at the exit of coal mines	<ul style="list-style-type: none"> <li>• The CCTV camera has been installed at the exit of the coalmine to monitor the status of coal transport.</li> </ul>
b)	Management of wastewater generated from different processes	<ul style="list-style-type: none"> <li>• The new integrated ETP of 0.4 MLD capacity is commissioned by the unit. As the mining water is very less for the project, the only effluent taken to ETP is the wastewater from the workshop. As the said quantity is very low than the designed hydraulic load of the ETP, the possibility of the septic condition in ETP reactors cannot be ruled out. Proper O&amp;M is required to avoid such situations.</li> </ul>
c)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>• As per information, the MSW generated from residential area is dumped into low lying area without any treatment/segregation.</li> </ul>
d)	CAAQM Station for the monitoring of Ambient Air Quality	<ul style="list-style-type: none"> <li>• One common CAAQMS is installed between Bina and Krishnashila Projects as these projects is sharing the residential colonies.</li> </ul>

### 2.3.3. Recommendations of the Committee

- The unit can be asked to explore the possibility to monitor the status of fugitive emissions through the existing CCTV network provided for monitoring of production activities.
- The unit can be asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them.

  
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- The unit can be asked to provide effective tyre washing facility for transport vehicles.
- The unit can be asked to ensure proper treatment and disposal of MSW generated in their residential colony.
- The unit can again 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.



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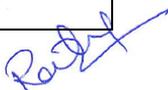
## 2.4. M/s NCL Kakri Project, Sonbhadra

### 2.4.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
a)	As per the provision of the Notification of 2009, 25% of fly ash should, along with Over Burden (OB) generated in the mines of NCL, be used for back filling the abandoned mine.	<ul style="list-style-type: none"> <li>• There is only one abandoned mine in NCL namely Gorbi Mine where three voids are available. Out of three voids, NCL has already offered one void to NTPC-VSTPS for fly ash filling through MoU signed on 03.01.2019. Approx. 30 to 40 million tons of fly ash will be accommodated into this mine void. Thereafter remaining two voids may also be made available for fly ash filling.</li> <li>• It has been informed that, the utilization of 25% fly ash with Overburden has serious safety implications which has been deliberated in 44th meeting of standing committee on safety in coal mines held on 12.02.2020.</li> <li>• Further, a work order has been issued on 10.07.2021 to the IIT-BHU and work is in progress for carrying out "Scientific Study of fly ash utilization/ dumping/ mixing in the OB of the running/ active mines of NCL along with its viability and safety aspect of man and machinery."</li> </ul>
b)	The Norm of ash content equal to or below 34% is not strictly complied with by the NCL and ash content is going as high as 40% and beyond. Coal beneficiation is, therefore, be initiated to obtain coal having less than 34% ash.	<ul style="list-style-type: none"> <li>• It has been informed that the ash content in coal is 27-28%. The unit has shown a random analysis report to the committee.</li> </ul>
c)	Control of air pollution during coal storage, handling and transportation.	<ul style="list-style-type: none"> <li>• Road to rail transport ratio has been reported as 1:1.3 (5,05,946.94 T: 6,89,106.31 T)</li> <li>• Mobile Water Sprinklers has been deployed for the sprinkling on Haul roads and connecting road from Mine entry to weighbridge.</li> </ul>

  
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		<ul style="list-style-type: none"> <li>• However, during the visit it has been noted that the measures taken by the coal mine are inadequate to control the fugitive emission.</li> </ul>
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#### 2.4.2. Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.10.2021)
a)	Installation of camera at the exit of coal mines	<ul style="list-style-type: none"> <li>• The camera is installed at the exit of the coal mine to monitor the status of coal transport.</li> </ul>
b)	Management of wastewater generated from different processes	<ul style="list-style-type: none"> <li>• It has been observed that the ETP operations were not satisfactory and all the treatment units were not functional.</li> <li>• Irrespective of repetitive recommendations of the committee, the unit has yet to install flowmeter for the quantification of wastewater generated and treated.</li> <li>• A seepage was seen in the drain from the mine water collection sump well. This untreated wastewater is also reaching the pond wherein treated effluent is being stored.</li> <li>• The overflow from this drain is reaching to the Rihand reservoir.</li> </ul>
c)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>• As per information, the MSW generated from residential area is dumped into low lying area without any treatment/segregation.</li> </ul>
d)	CAAQM Station for the monitoring of Ambient Air Quality	<ul style="list-style-type: none"> <li>• The unit has installed one CAAQMS in its residential colony. However, the CAAQM site is not open from all the directions and large trees located in close proximity are the barriers for horizontal air movement.</li> </ul>

#### 2.4.3. Calculation for environmental compensation

The unit is discharging treated and untreated effluent in to collection pond, overflow of which is reaching to the Rihand reservoir through the drain. Hence, environmental compensation is being calculated based on 'Polluters Pay Principle'. Last one quarter is the period of non-compliance found.

Calculation of Environmental Compensation is as demonstrated below

$$\begin{aligned}
 EC &= PI \times N \times R \times S \times LF \\
 &= 80 \times 92 \times 250 \times 1.5 \times 1 \\
 &= 27,60,000/-
 \end{aligned}$$

Where,

  
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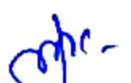
- PI = Pollution Index of Industrial sector  
(Taken as '80' considering 'Red Category')
- N = number of days of violation took place  
(From 01.08.2021 to 31.10.2021 i.e., 92 days)
- R = A factor in Rupees (taken as '250')
- S = Factor for scale of operation  
( '1.5' considering scale of operation being 'Large')
- LF = location factor  
( '1.0' considering population of area being < 1 million)

#### 2.4.4. Recommendations of the Committee

- The coal mine should ensure that no treated or untreated effluent will be discharged into the Rihand reservoir through the drain.
- The coal mine should immediately trap seepage in the drain at mine water collection sump.
- The unit can be asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them.
- The unit can be asked to explore the possibility to monitor the status of fugitive emissions through the existing CCTV network provided for monitoring of production activities.
- The unit can be asked to provide effective tyre washing facility for transport vehicles.
- The unit can be asked to ensure proper treatment and disposal of MSW generated in their residential colony.
- The unit can again 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 corrective action so that the site of CAAQMS could be open from all the direction.

**Further, the committee recommends for imposing environmental compensation (EC) of Rs. 27,60,000/- for discharging untreated/treated effluent into the Rihand Reservoir.**


  
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## 2.5. NCL Khadia Project Sonbhadra

### 2.5.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
a)	As per the provision of the Notification of 2009, 25% of fly ash should, along with Over Burden (OB) generated in the mines of NCL, be used for back filling the abandoned mine.	<ul style="list-style-type: none"> <li>• There is only one abandoned mine in NCL namely Gorbi OC where three voids are available. Out of three voids, NCL has already offered one void to NTPC-VSTPS for fly ash filling through MoU signed on 03.01.2019. Approx. 30 to 40 million tons of fly ash will be accommodated into this mine void. Thereafter remaining two voids may also be made available for fly ash filling.</li> <li>• It has been informed that, the utilization of 25% fly ash with Overburden has serious safety implications which has been deliberated in 44th meeting of standing committee on safety in coal mines held on 12.02.2020.</li> <li>• Further, a work order has been issued on 10.07.2021 to the IIT-BHU and work is in progress for carrying out "Scientific Study of fly ash utilization/ dumping/ mixing in the OB of the running/ active mines of NCL along with its viability and safety aspect of man and machinery."</li> </ul>
b)	The Norm of ash content equal to or below 34% is not strictly complied with by the NCL and ash content is going as high as 40% and beyond. Coal beneficiation is, therefore, be initiated to obtain coal having less than 34% ash.	<ul style="list-style-type: none"> <li>• It has been informed that the ash content in coal is below 34%. The unit has shown a random analysis report to the committee.</li> <li>• The reported ash content is around 22.7 %.</li> </ul>
c)	Control of air pollution during coal storage, handling and transportation.	<ul style="list-style-type: none"> <li>• Mobile water sprinklers have been deployed on Haul roads.</li> <li>• Truck mounted mist spray machine and road sweeping machine are also deployed.</li> <li>• Fixed fogging machine is deployed near coal yard.</li> </ul>



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### 2.5.2. Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.10.2021)
a)	Installation of camera at the exit of coal mines	<ul style="list-style-type: none"> <li>The camera is installed at the exit of the coalmine to monitor the status of coal transport.</li> </ul>
b)	Management of wastewater generated from different processes	<ul style="list-style-type: none"> <li>The ETP operations was not satisfactory and some of the treatment units were not functional.</li> <li>The flowmeter provided for the quantification of wastewater received and treated was also nonfunctional.</li> <li>One bypass arrangement was found through which they are discharging untreated effluent into the natural drain that reaches to the Rihand reservoir.</li> </ul>
c)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>As per information, the MSW generated from residential area is dumped into low lying area without any treatment/segregation.</li> </ul>
d)	CAAQM Station for the monitoring of Ambient Air Quality	<ul style="list-style-type: none"> <li>The unit has installed one CAAQMS in its residential colony. However, the CAAQM site is not open from all the directions and large trees located in close proximity are the barriers for horizontal air movement.</li> </ul>

### 2.5.3. Calculation for environmental compensation

The unit is discharging treated and untreated effluent in to natural drain that reaches the Rihand reservoir. During the earlier visit also the ETP was found non-functional. Hence, environmental compensation is being calculated based on 'Polluters Pay Principle'. Last one quarter is the period of non-compliance found.

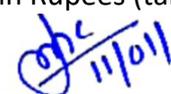
Calculation of Environmental Compensation is as demonstrated below

$$\begin{aligned}
 EC &= PI \times N \times R \times S \times LF \\
 &= 80 \times 92 \times 250 \times 1.5 \times 1 \\
 &= 27,60,000/-
 \end{aligned}$$

Where,

- PI = Pollution Index of Industrial sector (Taken as '80' considering 'Red Category')
- N = number of days of violation took place (From 01.08.2021 to 31.10.2021 i.e., 92 days)
- R = A factor in Rupees (taken as '250')

  
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- S = Factor for scale of operation  
(‘1.5’ considering scale of operation being ‘Large’)
- LF = location factor  
(‘1.0’ considering population of area being < 1 million)

#### 2.5.4. Recommendations of the Committee

- The unit should ensure continuous operations of ETP. The unit should trap all the bypasses and should ensure that no treated/untreated effluent will be discharged in to the environment.
- The unit can be asked to ensure the proper and regular operation of the water spraying system for effective control of fugitive dust emissions.
- The unit can be asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them.
- The unit can be asked to provide effective tyre washing facility for transport vehicles.
- The unit can be asked to ensure proper treatment and disposal of MSW generated in their residential colony.
- The unit can again 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 corrective action so that the site of CAAQMS could be open from all the direction.

**Further, the committee recommends for imposing environmental compensation (EC) of Rs. 27,60,000/- for discharging untreated/treated effluent into the Rihand Reservoir.**



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

#### 3.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
a)	Industry shall achieve emission limit of 50 mg/Nm <sup>3</sup> for particulate matter in respect of all Baking furnaces. The emission from boilers shall be reduced to the level of 50 mg/Nm <sup>3</sup> from the existing Norms of 150 mg/Nm <sup>3</sup> by December 31, 2019 retrofitting of existing ESPs and also meet emission limit of SO <sub>2</sub> & NO <sub>x</sub> notified for industrial boilers.	<ul style="list-style-type: none"> <li>The unit has filed application at Hon'ble Supreme Court (CIVIL APPEAL Diary No(s). 44191/2019) for waiving off the stringent emission standards imposed on them.</li> <li>The committee asked the unit to furnish the details of SMS generated through OCEMS during the last two quarters along with clarifications.</li> </ul>
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.	<ul style="list-style-type: none"> <li>Around 95 % red mud utilization has been reported by the unit. It has been informed that during April 2021 to October 2021, approx. 579233 MT Red mud has been supplied to various cement manufacturers by rail/road.</li> <li>The unit is in process to develop green belt on the closed red mud site.</li> <li>It has been informed that the district administration has allotted two voids of total 61 Acre area in Dalla region for filling of red mud mixed with ash in abandoned stone quarries. The unit has awarded feasibility study to the MNIT, Prayagraj for the same.</li> <li>Total four 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.</li> <li>It has been informed that the study was conducted in collaboration with M/S Neptune for precious metal recovery including TiO<sub>2</sub> from red mud. However, due to process complexities TiO<sub>2</sub> recovery was not successful as it is present in the form of minerals like rutile or anatase or coexist with other minerals.</li> </ul>

  
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S. No.	Issues identified in Hon'ble NGT order	Compliance Status (As on 31.10.2021)
c)	To achieve ZLD in ETP and STP	<ul style="list-style-type: none"> <li>• The Unit is recycling the treated industrial effluent.</li> <li>• 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.</li> <li>• The unit is directly letting out some of the sewage without any treatment in the natural drain.</li> <li>• 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.</li> <li>• Similarly, the ZLD condition has also been imposed through the environmental clearance issued by MoEF&amp;CC on 02.12.2011.</li> <li>• Thus, the unit is violating the condition of ZLD imposed through environmental clearance since 2011.</li> <li>• The unit representative had informed during the previous visit, that it is technically feasible to achieve zero freshwater intake for the industrial process. However, the unit has not submitted any timebound action plan as desired by the committee.</li> </ul>

### 3.2. Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.10.2021)
a)	Control of air pollution during coal storage, handling and transportation.	<ul style="list-style-type: none"> <li>• The transportation of coal is mainly done through the road. During the visit, very high fugitive emission has been observed in the in CHP area and the measures taken by the unit are not adequate to control the fugitive emission in effective manner.</li> </ul>
b)	Fly ash and bottom ash management	<ul style="list-style-type: none"> <li>• A very big heap of bottom ash has been found inside the plant premises. The said bottom ash has been stored on the land in a haphazard manner since several years.</li> </ul>

  
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S. No.	Issues identified	Compliance Status (As on 31.10.2021)
		<p>The details regarding the year-wise generation of bottom ash and its storage on the open land are not provided by the unit.</p> <ul style="list-style-type: none"> <li>It has been informed that some of the legacy bottom ash has been sent for utilization in the road construction.</li> </ul>
c)	Treatment and Disposal of MSW generated from residential area	<ul style="list-style-type: none"> <li>As per information, approx. 25 – 30 Ton of waste is generated per day from the residential colony.</li> <li>The generated MSW has been dumped without any treatment in low lying area near the closed red mud site.</li> <li>Though the unit had installed a waste segregation unit but it is non-functional from its day of installation.</li> </ul>

### 3.3. Calculation for environmental compensation

The unit is violating the condition of ZLD since last 11 years i.e. from 2011. However, as the present committee is reviewing the matter for the period starting from 01.08.2021 and hence this date is considered as reference for calculation of period of non-compliance. However, additional environmental compensation can be imposed on the unit for non-compliance of ZLD condition since last 11 years.

The environmental compensation calculated based on 'Polluters Pay Principle' is as demonstrated below

$$\begin{aligned}
 EC &= PI \times N \times R \times S \times LF \\
 &= 80 \times 456 \times 250 \times 1.5 \times 1 \\
 &= 1,36,80,000/-
 \end{aligned}$$

Where,

- PI = Pollution Index of Industrial sector  
(Taken as '80' considering 'Red Category')
- N = number of days of violation took place  
(From 01.08.2020 to 31.10.2021 i.e., 456 days)
- R = A factor in Rupees (taken as '250')
- S = Factor for scale of operation  
( '1.5' considering scale of operation being 'Large' )
- LF = location factor  
( '1.0' considering population of area being < 1 million )

  
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### 3.4. Recommendations of the Committee

- The unit should immediately take corrective measures to achieve the ZLD. In no case, they should discharge treated or untreated effluent/sewage in the surrounding environment.
- The unit should immediately ensure environment friendly disposal for the huge quantity of bottom ash stored in open inside the plant premises.
- UPPCB can initiate stringent action against the unit for storing a huge quantity of bottom ash in open and also impose the appropriate applicable environmental compensation for the same.
- The unit should ensure the proper treatment and disposal of the MSW.
- The unit should immediately take corrective measures to control the fugitive emission effectively.

**Further, the committee recommends for imposing environmental compensation (EC) of Rs. 1,36,80,000/- for not achieving the prescribed ZLD condition and discharging untreated sewage into the environment. Though the unit is not complying the said condition for last 11 years the calculated environmental compensation is only for the limited period of violation (i.e., from 01.08.2020 to 31.10.2021).**



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

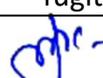
##### 4.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order / Oversight committee	Compliance Status (As on 31.10.2021)
a)	To achieve ZLD for ETP & STP.	<ul style="list-style-type: none"> <li>The unit has achieved ZLD through reuse and recycling.</li> <li>During the visit it has been observed that the chemically contaminated effluent was being discharged into the drain that had changed the color and pH of the water flowing in the drain. The said drain is joining to the Rihand reservoir.</li> <li>After back tracing, it has been found that the said effluent was being discharged by the unit near the railway bridge might be through the underground or flexible pipeline.</li> <li>The unit has been asked to submit the clarification in the matter.</li> </ul>
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.	<ul style="list-style-type: none"> <li>As directed by Hon'ble NGT, a three-member committee calculated Environmental Compensation of Rs. 155,42,85,300/- i.e. One Hundred Fifty-Five Crore Forty-Two Lac Eighty-Five Thousand Three Hundred for the non-compliance in the matter.</li> <li>The unit has approached Hon'ble Supreme Court for relief and the matter is sub-judice.</li> <li>In addition to above, the unit has stored brine sludge in the open pits. As per HWM Rules, 2016 the said waste is categorized as hazardous waste of category 16.3.</li> <li>It has been informed that around 25000 MT brine sludge has been sent to TSDF for disposal and they are in process to send the remaining 10,000 MT waste.</li> </ul>

##### 4.2. Status of other identified issues

S. No.	Issues identified	Compliance Status (As on 31.10.2021)
a)	Control of air pollution during coal storage, handling and transportation.	<ul style="list-style-type: none"> <li>The unit has installed a water spraying arrangement in the areas for control of the fugitive dust.</li> </ul>


  
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S. No.	Issues identified	Compliance Status (As on 31.10.2021)
b)	Fly ash and bottom ash management	<ul style="list-style-type: none"> <li>• It has always been submitted by the unit that the ash generated is fully utilized. However, about 5,000 - 6,000 metric tonnes of ash have been dumped in an area of about 25,000 square meters inside dense plantations.</li> <li>• The unit is in the process of rehabilitating the said area by soil capping and developing the green belt on it.</li> </ul>
c)	To ensure continuous operations of ESPs installed in CPPs.	<ul style="list-style-type: none"> <li>• The committee asked the unit to furnish the details of SMS generated through OCEMS during the last two quarters along with the clarifications.</li> </ul>

#### 4.3. Recommendations of the Committee

- The unit should be asked to submit the clarification regarding the discharge of chemically contaminated effluent into the drain. Based on the reply from the unit a suitable environmental compensation can be imposed for the said non-compliance.
- The unit should ensure environment friendly disposal of all the brine sludge stored in open pit. The UPPCB need to initiate a required action so that the said Hazardous Waste can be disposed of in environmentally sound manner.
- The unit should complete the remediation activities in the timebound manner of the area wherein the ash has been dumped.
- The unit can be asked to prepare and execute an action plan 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.

**Further, the committee is in view that an appropriate environmental compensation (EC) for the reported non-compliance can be imposed. If Hon'ble NGT agrees to the same then the EC will be calculated separately after reviewing the explanation submitted by the unit.**


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

### 5.1. Compliance status of action points identified by the oversight committee.

S. No.	Issues identified	Compliance Status (As on 31.10.2021)
a)	To achieve ZLD for ETP & STP	<ul style="list-style-type: none"> <li>The unit is achieving ZLD for ETP &amp; STP.</li> <li>The leakages through the boundary wall near ETP found during the earlier visit is trapped.</li> <li>The unit has also installed a CCTV camera at the said spot. And also provided the footage of random dates which shows that the wastewater was not discharging outside the plant boundary.</li> </ul>

### 5.2. Recommendations of the Committee

- The unit should keep strict vigilance on the area from where the effluent was earlier reaching outside the plant boundary.

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## 6. Stone Crusher

### 6.1. Compliance status of action points identified in Hon'ble NGT orders and additional issues identified by earlier oversight committee.

S. No.	Issues identified in Hon'ble NGT order / Oversight committee	Compliance Status (As on 31.10.2021)
a)	All stone crushers in Singrauli area have not taken adequate pollution control measures as the level of air pollution in the vicinity of stone crushers is high and causes a health hazard. Most of the crushers are located in habited area or very near to the roads/ highways. All such stone crushers which are not suitably located as well as which do not have adequate pollution control systems should be immediately closed. Relocation of stone crushers may also be explored.	<ul style="list-style-type: none"> <li>• The committee visited the cluster of stone crushers located near Obra in the Singrauli area.</li> <li>• Most of the stone crushers were found non-operational during the visit. Intentional non-operation in view of the visit of the committee cannot be ruled out.</li> <li>• The majority of stone crushers have installed infrastructures like enclosures around the crushers, water sprinkling arrangements along the boundary wall, and cloths at the falling points. However, all these are poorly maintained and seem to be occasionally operated, due to which thick deposition of dust on tree leaves and other infrastructures are clearly visible. Thus, it indicates the irregular/poor operations of pollution control systems.</li> <li>• The committee has also witnessed a very dusty and hazy environment in the area while traveling on the nearby highway on other days.</li> <li>• It has been informed that UPPCB has issued notice to the <del>30</del> stone crushers for violating the Norms.</li> </ul>

### 6.2. Recommendations of the Committee

- Considering the status of huge dust emission in the area wherein this stone cluster is situated the committee recommends that the UPPCB should initiate stringent action against the defaulter units.
- In-addition, continuous monitoring through drone camera survey needs to be initiated on priority for ensuring the monitoring and identification of the defaulters.
- At least one CAAQMS has to be installed in the area for continuous monitoring of the Ambient Air. The capital and operational cost can be recovered from the stone crusher units on 'Polluters Pay Principle'. Till such time CAAQM is established and made operational, periodic manual monitoring of AAQ be initiated by UPPCB to have representative status.



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- As there is no improvement found in the status of the air pollution, the committee has recommended that the district administration and UPPCB should explore the option of closure and relocation on a priority.

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## 7. Pollution Control Board and MoEF&amp;CC

S. No.	Issues identified in Hon'ble NGT order / Oversight committee	Compliance Status& recommendations (As on 31.10.2021)
a)	The regional carrying capacity of the entire Singrauli region is to be assessed before allowing any expansion scheme with respect to the existing industries. This assessment is the prerequisite for such consideration in future.	<ul style="list-style-type: none"> <li>• Assessment of regional carrying capacity of the Singrauli (UP) region is yet to be started.</li> <li>• The NOC for expansion has been accorded to M/s NCL Bina coal mine project and M/s Dalla Cement.</li> <li>• The said expansion is permitted in violation of the condition of the regional carrying capacity imposed by Hon'ble NGT.</li> </ul>
b)	The concerned SPCBs must ensure that all the major stacks from all the industries are being continuously monitored and these are linked with the CPCB/SPCB network. Effluent discharges from the industries are monitored once a month.	<ul style="list-style-type: none"> <li>• OCEMS have been installed by all the industries for continuous monitoring of source emissions and effluent discharge.</li> <li>• These OCEMS are linked with the CPCB/SPCB server for online data transmission.</li> <li>• UPPCB can initiate required action against those units that have not installed OCEMS properly to assure isokinetic sampling for particulate matter.</li> <li>• UPPCB need to the monitor the effluent discharges from the industries on monthly basis.</li> </ul>
c)	The existing network of monitoring system for AAQ monitoring in both the districts of UP & MP need to strengthened and expanded to get representative air quality status of Singrauli area. Industries in the area should install at least three	<ul style="list-style-type: none"> <li>• UPPCB needs to initiate the action against those units that have not installed the required three CAAQMS in compliance with the Hon'ble NGT directives.</li> </ul>


  
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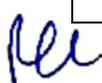

  
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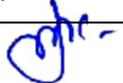

  
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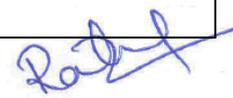
S. No.	Issues identified in Hon'ble NGT order / Oversight committee	Compliance Status& recommendations (As on 31.10.2021)
	continuous ambient air quality monitoring stations forthwith on "Polluter Pays Principle" at such locations as may be decided by CPCB in consultation with the respective SPCBs. The data generated should be transferred to SPCBs, CPCB and MoEF&CC on continuing basis.	
d)	It is also essential that at least three continuous monitoring systems for mercury (Hg) monitoring in the ambient air should be installed (covering both the Districts of UP & MP) forthwith at suitable locations in the Singrauli area by the industries on "Polluter Pays Principle". CPCB in consultation with the SPCBs shall guide the industries regarding the location of the monitoring stations. Besides mercury in surface and ground water should also be monitored manually once in three months.	<ul style="list-style-type: none"> <li>• M/s Hindalco Industries Ltd. Renukoot have Upgraded CAAQMS for monitoring Mercury (Hg), whereas M/s Lanco Anpara Power Ltd. Anpara and M/s Hindalco Industries Ltd., (Power Division) has proposed to Upgrade CAAQMS.</li> <li>• UPPCB may review the status and take the required action in case of non-compliance.</li> </ul>

#### 8. District Administration of Respective States

S. No.	Issues identified in Hon'ble NGT order / Oversight committee	Status& recommendations (As on 31.10.2021)
a)	The Awdi-Shaktinagar Marg and Singrauli-Audi-Dibulgunj Marg are extensively used for heavy traffic and for clandestine coal transport leading to dust pollution. Further, the dense population which are residing along these roadsides are severely affected by dust pollution. The coal transportation	<ul style="list-style-type: none"> <li>• The coal transportation by open truck is not allowed by NCL. The CCTV cameras have been installed by all Coal mines at all exit points to record the violation.</li> <li>• Heavy dust pollution has been witnessed in the area by the committee during the visit.</li> </ul>

  
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S. No.	Issues identified in Hon'ble NGT order / Oversight committee	Status & recommendations (As on 31.10.2021)
	by open truck is to be banned forthwith. CCTV cameras are to be installed at strategic location to record any violation in this regard.	<ul style="list-style-type: none"> <li>The committee has also captured the data generated through the CAAQMS installed in the residential colonies of coal mine projects which are located along the said road. It reveals that the maximum PM<sub>10</sub> levels were reached up to 838 µg/m<sup>3</sup> and PM<sub>2.5</sub> had been reached up to 405 µg/m<sup>3</sup>.</li> <li>Such high concentrations of PM<sub>10</sub> and PM<sub>2.5</sub> is the severe threat to the life and environment. The matters needs be dealt with sensitivity and immediate action is required to be taken on priority.</li> </ul>
b)	To improve the prevailing situation, these roads are required to have 4/6 lanes and the pavements should be furnished with inter locking bricks of suitable quality to arrest air entrainment of dust.	<ul style="list-style-type: none"> <li>Widening and strengthening of Auri mode to Shakti Nagar four-lane road is under process.</li> <li>The committee observed that the condition of the said road is better than the previous quarter. However, constant water sprinkling and vigilance are required to be ensured.</li> </ul>
c)	Since there is no strategy for disposal of the RO reject in an environmentally friendly manner, prevailing practice of dumping of RO reject shall affect nearby land as well as water resources with long term consequences leading to irreversible ecological damage. Therefore, no further installation of RO plants in affected villages is recommended. Instead, water supply should now be practiced using water tankers as an interim measure. Piped water supply from Rihand reservoir will	<ul style="list-style-type: none"> <li>Due to the disposal problem of RO reject, further installation of any RO plants in affected villages is strictly prohibited. And water supply in affected villages is being done using the Water Tankers.</li> <li>It is informed that the Pandit Deendayal Upadhyay Aashram Paddhati Urmaura, Sonbhadra potable water supply project is completed. In addition, two projects namely</li> </ul>

  
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S. No.	Issues identified in Hon'ble NGT order / Oversight committee	Status& recommendations (As on 31.10.2021)
	be a long-term solution for drinking water supply to fluoride and mercury affected villages.	Kuldomari, Anpara are under progress in district Sonbhadra.
d)	In the past Rihand reservoir was polluted by the major industries in the area such as thermal power plants, coal mines, M/s Aditya Birla Chemicals, Renukoot and M/s Hindalco Industries, Renukoot. Since this reservoir is the only drinking water source in the area, the reservoir needs restoration and protection. A comprehensive study needs to be undertaken to assess the reservoir's water and sediment quality and to delineate water and sediment remediation and restoration measures on Polluter Pays Principle. All the streams and nullahs joining the reservoir need to be intercepted and diverted to save the reservoir from further pollution. CSIR-NEERI, Nagpur and/or CSIR-IITR, Lucknow may be entrusted with this study for which both these organizations have the requisite expertise.	<ul style="list-style-type: none"> <li>As per earlier information provided by Executive Engineer Rihand Dam, Civil Division, Pipari, payment of Rs. 69,09,000 had been made to Central Water and Power Research Station (CWPRS) Khadakwasla Pune Maharashtra for the study.</li> <li>It has been informed that the study has been conducted and report submitted to Hon'ble NGT.</li> </ul>

Name of the Committee member	Signature
Shri Ramesh Kumar SDM, Duddhi, Sonbhadra	
Shri Rajendra D. Patil, Sci – D CPCB Regional Directorate, Lucknow	 11.01.2022
Dr T N Singh, Regional Officer UPPCB, Sonbhadra	
Date: 11.01.2022	