# Quarterly Status Report

February 2021 – April 2021 and May 2021 – July 2021

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

**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
- Shri Radhey Shyam, Regional Officer, UPPCB, Sonbhadra
- Shri Ramesh Kumar, SDM-Duddhi, Sonbhadra

Earlier, the said nominated committee had submitted two reports to the Hon'ble NGT for the quarter ended 30.10.2020 and 31.01.2021. Whereas the field visits for the period of February 2021 - April 2021 could not be done due to adverse conditions due to the COVID pandemic. However, virtual meetings with the concerned stakeholders have been conducted during June 07-14, 2021.

The nominated committee members have conducted the field visits during 02-09 August 2021 to review the compliance status for the quarter May 2021-July 2021.

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

**SDM** **UPPCB** **CPCB**

## 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 31.07.2021) |
|---|---|---|
| a) | To ensure continuous operations of ESPs installed in TPPs.<br>Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission. | • It is informed that the effective operation of the ESPs is being ensured.<br>• The unit has installed OCEMS to monitor the stack emission and connected it with CPCB & UPPCB server. However, The OCEMS are installed on the duct connecting to the stack and the required iso-kinetic sampling for monitoring particulate matter is not been ensured.<br>• The unit submits that it is an old unit and has design constraints for installation of OCEMS on the stack and hence they have been installed on the connecting duct.<br>• The committee asked the unit to submit the technical details along with the variation velocity found in the analyzer at the present point and isokinetic velocity at an ideal location. So that the technical feasibility can be assessed. |
| b) | Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server | • The unit has already installed 02 CAAQMS for ambient air monitoring. Whereas, the site is identified for the 3rd CAAQMS station and it was informed that installation will be completed within 06 months.<br>• The committee asked to ensure the installation of the 3rd CAAQMS before the upcoming winter season.<br>• Similarly, the committee asked the unit to ensure the linking of CAAQMS with CPCB/SPCB server at the earliest. |
| c) | To ensure 100% fly ash utilization in accordance with MoEF&CC Notification dated 31.12.2018 and Hon'ble NGT order dated | • As per the details provided, the unit has utilized 36.16 % of total fly ash generated (i.e. 8,91,349 MT) during 2021-22. The Ash was mainly consumed in NHAI road |

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| S. No. | Issues identified in Hon'ble NGT order | Compliance Status/ Remark (As on 31.07.2021) |
|---|---|---|
| | 12.02.2020 in the matter of OA No 117/2014. | projects, ash brick manufacturing, land development, and ash dyke raising.<br>• Total of 322271 MT Fly ash is utilized during 2020-21, out of which 2796 MT was the fresh fly ash whereas 319475 MT was legacy ash recovered from the old ash dykes.<br>• The reported fly ash utilization is much below the desired utilization percentage. At the same time, they are mainly utilizing the legacy fly ash which was already stored in the old ash dykes and fresh fly ash generated is being stored in new ash dykes.<br>• The committee asked to submit the time-bound action plan for utilization of 100% fly ash generated at the earliest. |
| d) | To ensure continuous operations of AWRS | • As per the details provided by the unit, they are continuously operating the AWRS system.<br>• During May 2021 - July 2021 a total of 6499129 $m^3$ of ash slurry has been sent to the ash dyke and 5264295 $m^3$ of ash water has been recycled through AWRS. |
| 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 | • The water from the overflow pond of the ash dyke was flowing into the Rihand reservoir during the visit. It was told that due to heavy rains during that period surface runoff water from the surrounding area was also reaching the overflow pond of the ash dyke, due to which the said overflow was seen in Rihand reservoir. As per the photographic evidence submitted by the unit, the said overflow in Rihand reservoir had stopped on the next day of the visit.<br>• The ash pond overflow water should be recycled and reused in the process. And hence the unit should make such provision that the surface runoff water |

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| S. No. | Issues identified in Hon'ble NGT order | Compliance Status/ Remark (As on 31.07.2021) |
|---|---|---|
| | | from the surrounding area does not reach the ash pond overflow pond. |
| f) | Control of pollution during coal storage, transportation and handling | • As per information, the unit receives coal through the MGR rail system. The unit has provided a cover shed and a sprinkling system to trap the dust released during the unloading.<br>• Water sprinklers have also been installed in coal storage areas and dust suppression systems have been provided at transfer points. |

### 1.1.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status/ Remarks (As on 31.07.2021) |
|---|---|---|
| a) | Achieving ZLD in ETP & STP | • The unit is fully utilizing the ETP treated effluent.<br>• Oxidation pond has been provided for the treatment of sewage generated from the residential colony. The quantity of effluent observed at the outlet of the STP during the visit was much less than the estimated sewage generation. It was told that some convection pipe is damaged, due to which all the sewage generated is not reaching the STP.<br>• The committee asked to ensure the treatment of all sewage generated from their residential colony. |
| b) | Installation of FGD for control of gaseous emissions | • The unit is in the process of setting up FGDs to achieve the notified standards for gaseous emissions. The piling 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. |

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### 1.1.3. Recommendations of the Committee

- The unit may be asked to complete the installation of the third CAAQMS before the ensuing winter season.
- 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 unit may be asked to make such a provision that the surface runoff water from the surrounding area does not reach the ash dyke overflow pond.
- The unit may be asked to treat all sewage generated from their residential colony.
- The process of installation and commissioning of the FGD system needs to be expedited realization of the revised timeline.

## 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 31.07.2021) |
|---|---|---|
| a) | To ensure continuous operations of ESPs installed in TPPs.<br>Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission. | • It is informed that the effective operation of the ESPs is being ensured.<br>• The unit has installed OCEMS to monitor the stack emission and connected it with CPCB & UPPCB server.<br>• 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. |
| b) | Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server. | • The unit has installed three CAAQMS for ambient air quality monitoring.<br>• Trees located around CAAQMS were shredded to remove obstruction in horizontal air movement.<br>• The committee asked the unit to ensure that the CAAQMS is connected to the CPCB/SPCB server at the earliest. |
| 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. | • As per the details provided, the unit has utilized 52.02 % of total fly ash generated during 2021-22. The Ash was mainly consumed in NHAI road projects, ash brick manufacturing, land development, and ash dyke raising. The unit has also taken initiatives for supply of fly ash through BTAP wagons.<br>• However, further efforts are required to utilize the remaining 48 % of ash that is presently being disposed of in the ash dyke.<br>• The unit is in process to establish 15 MW solar plant on the old ash dyke area. The installation of panels was in process.<br>• The committee asked to submit the time-bound action plan for utilization of 100% fly ash generated at the earliest. |

| S. No. | Issues identified in Hon'ble NGT order | Compliance Status/ Remark (As on 31.07.2021) |
|---|---|---|
| d) | To ensure continuous operations of AWRS | • As per the details provided by the unit, they are continuously operating the AWRS system.<br>• During April 2021 - July 2021 a total of 1231630 $m^3$ of ash slurry has been sent to the ash dyke and 10148400 $m^3$ of ash water has been recycled through AWRS. |
| 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. | • The necessary steps have been taken to trap the seepage from Ash Pond overflow Lagoon.<br>• The committee asked to monitor the locations vigilantly in order to avoid any kind of accident.<br>• The unit has also installed 04 cameras for monitoring purpose. |
| f) | Control of pollution during coal storage, transportation and handling. | • The unit receives coal through rail transportation only and covered shed is provided for unloading.<br>• The effective system to trap the dust during unloading of the coal from wagons was not provided in one of the sheds.<br>• 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. |

### 1.2.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status/ Remarks (As on 31.07.2021) |
|---|---|---|
| a) | Achieving ZLD in ETP & STP | • The unit is recycling the treated wastewater from ETP & STP. They have installed flow meters to measure amount of wastewater treated and recycled. |
| b) | Installation of FGD for control of gaseous emissions. | • The unit is in process to install 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 FGD installation will be completed by December 2023. |

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### 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 realization of the revised timeline.

### 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 31.07.2021) |
|---|---|---|
| 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. | • It is informed that the effective operation of the ESPs is being ensured.<br>• The unit has installed OCEMS for monitoring the stack emissions and connected it to CPCB and UPPCB servers.<br>• It is informed that a tender has been invited for retrofitting of ESPs.<br>• The committee asked the unit to furnish the details of SMS generated through OCEMS during the last two quarters along with clarifications. |
| b) | Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server | • The unit has installed 03 CAAQMS for Ambient Air Quality Monitoring. However, the sites of the two CAAQMS are not open from all directions. The unit was informed about this during the earlier field visits of the committee.<br>• The unit is in the process of shifting the said CAAQMS to a suitable location. However, it has been delayed due to the COVID pandemic and is expected to be shifted by September 2021.<br>• The committee asked the unit to ensure that the CAAQMS are connected to the CPCB/SPCB server at the earliest. |
| 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. | • As per the information, the unit has utilized 28.18% of the total fly ash generated during 2020-21. Ash is mainly consumed in cement manufacturing, ash brick manufacturing, land development and ash dam construction. The remaining ash is dumped in the ash dyke. |

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| S. No. | Issues identified in Hon'ble NGT order | Compliance Status/ Remark (As on 31.07.2021) |
|---|---|---|
| | | • The reported fly ash utilization is much lesser than the desired utilization percentage.<br>• The committee asked to submit the time-bound action plan for utilization of 100% fly ash generated at the earliest. |
| d) | To ensure continuous operations of AWRS | • 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 by September 2021.<br>• 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. |
| 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 | • The ash dyke raising work of the one lagoon has been completed, while the work for the other lagoon is expected to be completed by September 2021.<br>• The deposition of fly ash was visible on the surface of Rihand reservoir near the discharge channel from the ash pond overflow lagoon which is 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 is required to carry out this restoration activity in a time bound manner immediately after the rainy season.<br>• 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. |

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| S. No. | Issues identified in Hon'ble NGT order | Compliance Status/ Remark (As on 31.07.2021) |
|---|---|---|
| | | The capping of the area using soil was in process at the time of the visit.<br>• The committee also asked the unit to complete the capping work in an environment friendly manner and develop green belt in the said area.<br>• Overflow from ash dam at Beldwah from point no 05 had been observed during the visit. It has been told that Morcha Nala is carrying surface runoff water from the surrounding area and discharging it into the ash dyke, due to which excess rain water is reaching the ash dyke which is finally flowing into the reservoir.<br>• The unit has considered the option of shifting the drainage of Morcha Nala, though the desired NOCs from the concerned departments are yet to be received. |
| f) | Control of pollution during coal storage, transportation and handling | • 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.<br>• Water sprinklers have also been installed in coal storage areas and dust suppression systems have been provided at transfer points. |

### 1.3.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status/ Remarks (As on 31.07.2021) |
|---|---|---|
| g) | Achieving ZLD in ETP & STP | • The unit is recycling the treated wastewater from ETP installed in the new units, whereas the treated wastewater from the old units is been discharged into the Anpara Nalla.<br>• Similarly, the treated wastewater from the STP is also discharged into the |

| S. No. | Issues identified | Compliance Status/ Remarks (As on 31.07.2021) |
|---|---|---|
| | | Anpara Nalla which finally meets the Rihand reservoir.<br>• The Anpara Nalla discharges around 30-40 MLD wastewater into the Rihand reservoir which mainly carries sewage and industrial effluent.<br>• It has been informed that ETP Plant 30 MLD capacity is proposed to achieve the prescribed ZLD condition. |
| h) | Installation of FGD for control of gaseous emissions | • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions. |

### 1.3.3. Calculation for environmental compensation

a. 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 01.08.2020. 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 x N x R x S x LF

  = 80 x 364 x 250 x 1.5 x 1

  = 01,09,20,000/-

- 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 31.07.2021 i.e., 364 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)

### 1.3.4. 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 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 immediately after rainy season.
- 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 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 realization of the revised timeline.

**Further, the committee recommends for imposing environmental compensation (EC) of Rs. 01,09,20,000/- for not complying the condition of ZLD for ETP & STP.**

## 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 31.07.2021) |
|---|---|---|
| a) | To ensure continuous operations of ESPs installed in TPPs.<br>Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission. | • It is informed that the effective operation of the ESPs is being ensured.<br>• The unit has installed OCEMS for monitoring the stack emissions and connected it to CPCB and UPPCB servers.<br>• The committee asked the unit to furnish the details of SMS generated through OCEMS during the last two quarters along with clarifications. |
| b) | Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server | • The unit has installed 02 CAAQMS for ambient air monitoring. It has been informed that the trees located around CAAQMS were shredded to remove obstruction in air movement.<br>• The committee asked the unit to install the 3rd CAAQMS at the earliest and ensure that all the CAAQMS are connected to the CPCB/SPCB server at the earliest. |
| 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. | • As per the information, the unit has utilized 22.71 % of total fly ash generated during 2020-21. The Ash was been mainly consumed in cement manufacturing, ash brick manufacturing, land development, and ash dyke raising. However, the remaining ash is disposed of in the ash dyke.<br>• The reported fly ash utilization is much lesser than the desired utilization percentage.<br>• The committee asked to submit the time-bound action plan for utilization of 100% fly ash generated at the earliest. |
| d) | To ensure continuous operations of AWRS | • 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 |

| S. No. | Issues identified in Hon'ble NGT order | Compliance Status/ Remarks (As on 31.07.2021) |
|---|---|---|
| | | installation will be completed within two months.<br>• 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.<br>• The pipeline carrying ash slurry to the ash dyke required immediate attention to avoid any kind of accident near Dibulganj area. The committee asked unit to take corrective action immediately. |
| 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 | • The unit is discharging ash slurry into the ash pond operated by M/s Anpara Thermal Power Station. |
| f) | Control of pollution during coal storage, transportation and handling | • 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.<br>• Water sprinklers have also been installed in coal storage areas and dust suppression systems have been provided at transfer points. |

### 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 | • The unit is recycling the treated effluent from the ETP. |
| b) | Installation of FGD for control of gaseous emissions | • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions. |

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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 to the ash dyke near 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 3rd 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 realization of the revised timeline.

## 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 31.07.2021) |
|---|---|---|
| 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. | • It is informed that the effective operation of the ESPs is being ensured.<br>• The unit has installed OCEMS to monitor the stack emission and connected it with CPCB & UPPCB server. However, The OCEMS are installed on the duct connecting to the stack and the required iso-kinetic sampling for monitoring particulate matter is not ensured.<br>• It has been asked to relocate the OCEMS at the earliest to achieve the isokinetic sampling.<br>• The committee also asked the unit to furnish the details of SMS generated through OCEMS during the last two quarters along with clarifications. |
| b) | Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server | • 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.<br>• It has been informed that they are in process to relocate the existing CAAQMS and installation of another two CAAQMS. The identified work is expected to be completed by December 2021.<br>• The committee asked to complete the above identified task without any further delay.<br>• Similarly, the committee asked the unit to ensure the linking of CAAQMS with CPCB/SPCB server at the earliest. |
| c) | To ensure 100% fly ash utilization in accordance with MoEF&CC Notification dated 31.12.2018 and Hon'ble NGT order | • As per the information, the unit has utilized 92.4 % of total fly ash generated during 2020-21. The Ash was been mainly consumed in cement manufacturing, ash brick manufacturing, land development, and |

| S. No. | Issues identified in Hon'ble NGT order | Compliance Status/ Remarks (As on 31.07.2021) |
|---|---|---|
| | dated 12.02.2020 in the matter of OA No 117/2014. | ash dyke raising. However, the remaining ash is been disposed of in the ash dyke. |
| d) | To ensure continuous operations of AWRS | • As per the records the unit has discharged 417188 MT ash in the form of slurry and recycled 719637 KL water during the quarter ending 31.01.2021. |
| 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 | • It is informed that all the precautions are taken to ensure safety of ash dykes.<br>• Preventive measures should be taken in the active ash ponds to avoid dust emissions from dry surfaces, especially during the summer season. |
| f) | Control of pollution during coal storage, transportation and handling | • Based on the observations during the previous quarter, the unit has taken some of the corrective measures to prevent fugitive emissions from the coal crusher area, coal handling areas, and internal roads used for coal transportation. |

### 1.5.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status/Remarks (As on 31.07.2021) |
|---|---|---|
| a) | Achieving ZLD in ETP & STP | • The unit has yet not provided Sludge Drying Bed for the ETP. It was informed that they are in process to install it. |
| b) | Installation of FGD for control of gaseous emissions | • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions. |

### 1.5.3. 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 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 submit a time-bound action plan for 100% fly ash utilization at the earliest.
- 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 realization of the revised timeline.

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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 31.07.2021) |
|---|---|---|
| a) | To ensure continuous operations of ESPs installed in TPPs.<br>Installation of OCEMS to monitor stack emissions and connect it with CPCB/SPCB server for online data transmission. | • The unit has installed OCEMS for monitoring the stack emissions and connected it to CPCB and UPPCB servers.<br>• The committee asked the unit to furnish the details of SMS generated through OCEMS during the last two quarters along with clarifications. |
| b) | Installation of 03 CAAQMS for ambient air monitoring by each TPP and linking it with CPCB/SPCB server. | • The unit has installed three CAAQMS for ambient air quality monitoring.<br>• The required action has been taken to remove obstruction in horizontal air movement.<br>• The committee asked the unit to ensure that the CAAQMS is connected to the CPCB/SPCB server at the earliest. |
| 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. | • As per the information, the unit has utilized only 5.95 % of total fly ash generated during 2020-21. |
| d) | To ensure continuous operations of AWRS | • The unit has not yet installed the flow meters 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 a month.<br>• As per the information, quantity of water in ash slurry sent to ash dyke calculated based on pump capacity is 2000 $m^3$/hr. whereas the ash water recycled through AWRS is 660 $m^3$/hr. |
| e) | Necessary renovation of the ash dykes needs to be carried out in order to prevent | • The third-party ash dyke stability study has been done through IIT Roorkee. |

| S. No. | Issues identified in Hon'ble NGT order | Compliance Status (As on 31.07.2021) |
|---|---|---|
| | breaching of ash pond and spreading of slurry | And the ash dyke has been found stable.<br>• It is reported that the pipeline carrying the ash slurry to the ash dyke was busted in the midnight of 09 July 2021. However, it was immediately trapped and repaired. The committee visited the spot and found some traces of ash slurry on the surrounding land. |
| f) | Control of pollution during coal storage, transportation and handling | • 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.<br>• Water sprinklers have also been installed in coal storage areas and dust suppression systems have been provided at transfer points. |

### 1.6.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| a) | Achieving ZLD in ETP & STP | • The wastewater from the plant area is mostly discharged into the natural drain passing through the plant premises. Some of the waste water from this drain is taken for treatment through ETP and the rest is discharged into Renu river without any treatment.<br>• The unit is in the process of setting up a dedicated effluent collection and conveyance system for ETP.<br>• As per information, STP has been commissioned on 31.03.2021 and the work of connecting sewerage is in progress which will be completed by 30.09.2021. |

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| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| b) | Installation of FGD for control of gaseous emissions | • The unit is in process to install FGD system for achieving standards Notified for gaseous emissions. |
| c) | Discharge of ash slurry into River Son | • 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.<br>• 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.<br>• Both these observations were conveyed to the unit during the last visit in February 2021. However, satisfactory efforts have not been made by the unit. |

**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 01.08.2020. 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 x N x R x S x LF

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= 80 x 364 x 250 x 1.5 x 1

= 01,09,20,000/-

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 31.07.2021 i.e., 364 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 immediately after the rainy season.
- 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 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 realization of the revised timeline.

Further, the committee recommends for imposing environmental compensation (EC) of Rs. 01,09,20,000/- 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 31.07.2021) |
|---|---|---|
| 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. | • As approved by NCL Board, the Scientific study has been awarded to IIT-BHU for 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. The study will be conducted for Bina, Dudhichua and Khadia mines of the area and thereafter it will be replicated in the remaining NCL mines. The said study is expected to be completed within 5 months. |
| 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. | • It has been informed, ash content range between 32-34%. The unit has shown a random analysis report to the committee. |
| c) | Control of air pollution during coal storage, handling and transportation. | • Around 95% coal is been transported through rail and the remaining 5% coal is transported through road.<br>• The matter of spillages of coal during transportation on the public road was discussed during the meeting. Committee asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them.<br>• Water tanker trucks are used for the spraying of water on road to control of fugitive emission in the mine area. |

### 2.1.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| a) | Installation of camera at the exit of coal mines | • The camera is installed at the exit of the coalmine to monitor the status of coal transport. |
| b) | Management of wastewater generated from different processes and achieving ZLD. | • During the visit, ETP was found non-operational and large silt deposition is found in the ETP premises. It has been reported that due to heavy rains in the area huge silt reached into the ETP.<br>• As the ETP was non-operational, all the effluent generated was being discharged into the Balia Nalla without any treatment.<br>• Even during the normal days some of the quantity of untreated effluent is discharged into the Balia Nalla. The same was brought in notice of the mine during earlier visits. |

### 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.

Calculation of Environmental Compensation is as demonstrated below

EC = PI x N x R x S x LF

= 80 x 364 x 250 x 1.5 x 1

= 01,09,20,000/-

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 31.07.2021 i.e., 364 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.
- The coal mine should ensure that no 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 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. 1,09,20,000/- for constantly discharging untreated effluent into the Balia Nalla.

## 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 31.07.2021) |
|---|---|---|
| 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. | • As approved by NCL Board, the Scientific study has been awarded to IIT-BHU for 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. The study will be conducted for Bina, Dudhichua and Khadia mines of the area and thereafter it will be replicated in the remaining NCL mines. The said study is expected to be completed within 5 months. |
| 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. | • It has been informed that the ash content is less than 34%. The unit has shown a random analysis report to the committee. |
| c) | Control of air pollution during coal storage, handling and transportation. | • Around 85% coal is been transported through rail and the remaining 15% coal is transported through road.<br>• It has been informed that the proposal for installation of wheel washing facility is under consideration and it will be installed within 6 months.<br>• The matter of spillages of coal during transportation on the public road was discussed during the meeting. Committee asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them. |

| | | |
|---|---|---|
| | | • To control the fugitive emissions, 02 nos. of mist sprayer and 14 nos. of internal water sprinkler tanker are been used. |

### 2.2.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| a) | Installation of camera at the exit of coal mines | • The camera is installed at the exit of the coalmine to monitor the status of coal transport.<br>• |
| b) | Management of wastewater generated from different processes | • 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. |

### 2.2.3. 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.
- 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.

## 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 31.07.2021) |
|---|---|---|
| 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. | • As approved by NCL Board, the Scientific study has been awarded to IIT-BHU for 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. The study will be conducted for Bina, Dudhichua and Khadia mines of the area and thereafter it will be replicated in the remaining NCL mines. The said study is expected to be completed within 5 months. |
| 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. | • It has been informed that ash content in coal is 18-28%. The unit has shown a random analysis report to the committee. |
| c) | Control of air pollution during coal storage, handling and transportation. | • Around 86% coal is been transported through rail and the remaining 14% coal is transported through road.<br>• It has been informed that the proposal for installation of wheel washing facility is under consideration and it will be installed within 6 months.<br>• The matter of spillages of coal during transportation on the public road was discussed during the meeting. Committee asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them. |

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### 2.3.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| a) | Installation of camera at the exit of coal mines | • The camera is installed at the exit of the coalmine to monitor the status of coal transport. |
| b) | Management of wastewater generated from different processes | • 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.<br>Proper O&M is required to avoid such situations. |

### 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.
- 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.

## 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 31.07.2021) |
|---|---|---|
| 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. | • As approved by NCL Board, the Scientific study has been awarded to IIT-BHU for 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. The study will be conducted in Bina, Dudhichua and Khadia mines of the area and thereafter it will be replicated in the remaining NCL mines. The said study is expected to be completed within 5 months. |
| 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. | • It has been informed that the ash content in coal is 27-28%. The unit has shown a random analysis report to the committee. |
| c) | Control of air pollution during coal storage, handling and transportation. | • Around 73% coal is been transported through rail and the remaining 27% coal is transported through road.<br>• The matter of spillages of coal during transportation on the public road was discussed during the meeting. Committee asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them. |

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### 2.4.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| a) | Installation of camera at the exit of coal mines | • The camera is installed at the exit of the coal mine to monitor the status of coal transport. |
| b) | Management of wastewater generated from different processes | • Some quantity of treated effluent is used for spraying along the transport roads. While the remaining treated effluent is stored in the pond with an objective to utilize it for horticulture purposes. However, this wastewater from the pond is being overflowing into another pond from where it is used for different purposes.<br>• A seepage was seen in the drain at mine water collection sump well. The untreated wastewater from this bypass is also reaching the pond wherein treated effluent is stored. |

### 2.4.3. 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 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.
-

## 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 31.07.2021) |
|---|---|---|
| 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. | • As approved by NCL Board, the Scientific study has been awarded to IIT-BHU for 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. The study will be conducted for Bina, Dudhichua and Khadia mines of the area and thereafter it will be replicated in the remaining NCL mines. The said study is expected to be completed within 5 months. |
| 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. | • It has been informed that the ash content in coal is around 22-23%. The unit has shown a random analysis report to the committee. |
| c) | Control of air pollution during coal storage, handling and transportation. | • Around 66% coal is been transported through rail and the remaining 24% coal is transported through road.<br>• It has been informed that the proposal for installation of wheel washing facility is under consideration and it will be installed within one year.<br>• The matter of spillages of coal during transportation on the public road was discussed during the meeting. Committee asked to strengthen the vigilance mechanism to identify the default transporters and take stringent action against them. |

### 2.5.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| a) | Installation of camera at the exit of coal mines | • The camera is installed at the exit of the coalmine to monitor the status of coal transport. |
| b) | Management of wastewater generated from different processes | • The ETP was found non-operational during visit. It has been informed that due to heavy rain in the area huge silt has been reached at the collection well. And due to which the pumps are been non-operation.<br>• The ETP was reported non-operational for consecutive two days. |

### 2.5.3. Recommendations of the Committee

- The unit should ensure continuous operations of ETP.
- 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 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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## 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 31.07.2021) |
|---|---|---|
| a) | Industry shall achieve emission limit of 50 mg/$Nm^3$ for particulate matter in respect of all Baking furnaces. The emission from boilers shall be reduced to the level of 50 mg/$Nm^3$ from the exiting Norms of 150 mg/$Nm^3$ by December 31, 2019 retrofitting of existing ESPs and also meet emission limit of $SO_2$& NOx notified for industrial boilers. | • It has been informed that the unit has filed application at Hon'ble Supreme Court (CIVIL APPEAL Diary No(s). 44191/2019) for waiving of the stringent emission standards imposed on them.<br>• The committee asked the unit to furnish the details of SMS generated through OCEMS during the last two quarters along with clarifications. |
| 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. | • It has been informed that 98% of generated red mud is utilized during FY 2020 – 21.<br>• The unit has issued purchase order to TERI institute for habitation of closed red mud dump.<br>• It has been reported that the district administration has allotted 61 (55 + 6) Acre area in Dala region for filling of red mud mixed with ash in abandoned stone queries. The unit has awarded study to the MNIT, Prayagraj for the same.<br>• Total 04 Piezometers have been installed for groundwater monitoring around the Red mud area. The locations were finalized with approval from CGWB. The Committee asked the unit to submit the Groundwater quality monitoring report for further analysis. |
| c) | To achieve ZLD | • At present, the treated industrial effluent is being partially utilized and the remaining is discharged outside the plant premises. |

| S. No. | Issues identified in Hon'ble NGT order | Compliance Status (As on 31.07.2021) |
|---|---|---|
| | | • Though the unit has installed STP and treating and reusing the sewage generated from the residential colony, during the visit committee found that the unit was directly letting out some of the sewage generated from their residential colony without any treatment in the surrounding environment.<br>• 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.<br>• Similarly, the ZLD condition has also been imposed through the environmental clearance issued by MoEF&CC on 02.12.2011.<br>• Thus, the unit is violating the condition of ZLD imposed through environmental clearance since 2011.<br>• During the discussion, the unit representative informed that it is technically feasible to achieve zero freshwater intake for the industrial process. The committee asked to submit the timebound action plan for the same. |

**3.2. Status of other identified issues**

| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| a) | Control of air pollution during coal storage, handling and transportation. | • It is informed that transportation of coal is mainly done through road and necessary precautions are been taken to control emissions during coal transportation, storage, and handling.<br>• The committee asked to submit the CCTV footage of the random dates to |

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| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| | | verify the status of the emission in the coal storage areas. |
| b) | Fly ash and bottom ash management | • A very big heap of bottom ash is found inside the plant premises. The said bottom ash is stored on land in a haphazard manner for several years. The details regarding the year-wise generation of bottom ash and its storage on the open land are still awaited.<br>• It has been informed that they have sent 1576 MT stores ash for utilization. However, still huge quantity is left at site. |

### 3.3. Calculation for environmental compensation

The unit is violating the condition of ZLD since last 10 years i.e. from 2011. However, as the present committee is reviewing the matter for the period starting from 01.08.2020 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 10 years.

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

- EC = PI x N x R x S x LF

  = 80 x 364 x 250 x 1.5 x 1

  = 1,09,20,000/-

- 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 31.07.2021 i.e., 364 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 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.

Further, the committee recommends for imposing environmental compensation (EC) of Rs. 1,09,20,000/- 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 10 years the calculated environmental compensation is only for the limited period of violation ( i.e. from 01.08.2020 to 31.07.2021)

## 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 31.07.2021) |
|---|---|---|
| a) | To achieve ZLD for ETP & STP. | • The unit has achieved ZLD through reuse and recycling. |
| b) | There is also an urgent need for the preparation of an action plan by industry to shift the mercury bearing brine sludge and the muck contaminated with chlorinated chemicals from the factory premises to the TSDF in consultation with the UP-state Pollution Control Board. It may be stated here that storage of hazardous mercury bearing brine sludge and the muck contaminated with chlorinated chemicals inside the premises is not permitted by the prevailing Hazardous Waste Management Rules, 2016 and, therefore, to be shifted to a suitable TSDF immediately. | • The unit has not taken any action for shifting the mercury-bearing brine sludge and muck contaminated with the chlorinated chemicals from factory premises to the TSDF.<br>• 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.<br>• It is informed that the unit has approached Hon'ble Supreme Court for relief and the matter is sub-judice.<br>• In addition to above, the unit has stored brine sludge is in the open pits. As per HWM Rules, 2016 the said waste is categorized as hazardous waste of category 16.3 and its safe handling, storage and disposal needs to be ensured by the unit. |

### 4.2. Status of other identified issues

| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| a) | Control of air pollution during coal storage, handling and transportation. | • The unit has installed a water spraying arrangement at the areas as highlighted during the previous visit. |
| b) | Fly ash and bottom ash management | • It has always been stated that the ash generated is fully utilized. However, about 5,000 - 6,000 metric tonnes of ash have been dumped in an |

| S. No. | Issues identified | Compliance Status (As on 31.07.2021) |
|---|---|---|
| | | area of about 25,000 square meters inside dense plantations.<br>• During the visit, traces of ash disposal were also seen in the recent past. It is informed that the unit is in the process of rehabilitating the said area.<br>• Apart from this area, the unit is also disposing of ash in old hazardous waste storage pits.<br>• All these activities shows about the casual approach of the unit regarding fly disposal. |
| c) | To ensure continuous operations of ESPs installed in CPPs. | • The committee asked the unit to furnish the details of SMS generated through OCEMS during the last two quarters along with clarifications. |

### 4.3. Recommendations of the Committee

- The unit should safely dispose of all the brine sludge stored in open pit and provide its details to the committee. The UPPCB need to initiate a required action so that the said Hazardous Waste can be disposed off in environmentally sound manner.
- The unit should immediately stop the dumping of fly ash and bottom ash in the thick plantation area and hazardous waste storage pit. In-addition, they should immediately remediate and restore the area under the supervision of UPPCB to avoid the further damage to the environment.
- The unit should produce realistic records regarding fly ash and bottom ash dumped on the said area along with the time duration.
- UPPCB should take the matter on serious note and can initiate the required appropriate action against the unit for manipulation in the details submitted regarding disposal of fly ash and the casual approach adopted for ash management.

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.

## 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 31.07.2021) |
|---|---|---|
| a) | To achieve ZLD for ETP & STP | • The unit is achieving ZLD for ETP & STP.<br>• The leakages through the boundary wall near ETP found during the earlier visit is trapped.<br>• 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. |

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.

## 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 31.07.2021) |
|---|---|---|
| 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. | • The committee visited the cluster of stone crushers located near Obra in the Singrauli area.<br>• Most of the stone crushers were found non-operational during the visit.<br>• During the survey, the committee noticed that 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.<br>• The committee also observed a very dusty and hazy environment in the area while traveling on the nearby highway on other days. |

### 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. As suggested by the earlier oversight committee, the option of closure and relocation needs to be explored on a priority
- In-addition, continuous monitoring through drone camera survey needs to initiated on priority for ensuring the monitoring and identification of the defaulters.

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**7. Pollution Control Board and MoEF&CC**

| S. No. | Issues identified in Hon'ble NGT order / Oversight committee | Compliance Status& recommendations (As on 31.07.2021) |
|---|---|---|
| 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. | • No new expansion of any project/industries are being allowed in Singrauli(U.P.) region.<br>• Assessment of regional carrying capacity of the Singrauli (UP) region is yet to be started. |
| 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. | • OCEMS have been installed by all the industries for continuous monitoring of source emissions and effluent discharge.<br>• These OCEMS are linked with the CPCB/SPCB server for online data transmission.<br>• UPPCB can initiate required action against those units that have not installed OCEMS properly to assure iso-kinetic sampling for particulate matter. |
| 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 continuous ambient air quality monitoring stations forthwith on | • 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. |

| S. No. | Issues identified in Hon'ble NGT order / Oversight committee | Compliance Status& recommendations (As on 31.07.2021) |
|---|---|---|
| | "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. | • 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) had proposed to Upgrade CAAQMS.<br>• UPPCB may review the status and take the required action in case of non-compliance. |

**8. District Administration of Respective States**

| S. No. | Issues identified in Hon'ble NGT order / Oversight committee | Status& recommendations (As on 31.07.2021) |
|---|---|---|
| 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 | • CCTV cameras have been installed by all Coal mines at all exit points to record the violation.<br>• During the visit, the status of measures being taken during |

| S. No. | Issues identified in Hon'ble NGT order / Oversight committee | Status& recommendations (As on 31.07.2021) |
|---|---|---|
| | these roadsides are severely affected by dust pollution. The coal transportation by open truck is to be banned forthwith. CCTV cameras are to be installed at strategic location to record any violation in this regard. | coal transportation through trucks could not be verified due to the strike of the transporters. |
| 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. | • Widening and strengthening of Auri mode to Shakti Nagar four-lane road is under process.<br>• 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. |
| 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 be a long-term solution for drinking water supply to fluoride and mercury affected villages. | • 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.<br>• It is informed that the Pandit Deendayal Upadhyay Aashram Paddhati Urmaura, Sonbhadra potable water supply project is completed. In addition, two projects namely 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 | • As per earlier information provided by Executive Engineer Rihand Dam, Civil |

| S. No. | Issues identified in Hon'ble NGT order / Oversight committee | Status& recommendations (As on 31.07.2021) |
|---|---|---|
| | 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. | 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.<br>• The said study work has been started from January 2021. |

| Name of the Committee member | Signature |
|---|---|
| Shri Ramesh Kumar<br>SDM, Duddhi, Sonbhadra | |
| Shri Rajendra D. Patil, Sci – D<br>CPCB Regional Directorate, Lucknow | 31.08.2021 |
| Shri Radhey Shyam, Regional Officer<br>UPPCB, Sonbhadra/Unnao | |
| Date: 31.08.2021 | |

**SDM** **UPPCB** **CPCB**