

**F. No. 11/3/2018- HSMD**  
**Government of India**  
**Ministry of Environment, Forest & Climate Change**  
**(HSM Division)**

Indira Paryavaran Bhawan  
Jor Bag Road, Aliganj  
New Delhi - 110003

Date: 1<sup>st</sup> January, 2025

**OFFICE MEMORANDUM**

**Sub.: Minutes of the eighth meeting of 'Fly Ash Management and Utilization Mission' held on 23.12.2024 - reg.**

The undersigned is directed to refer the eighth meeting of 'Fly Ash Management and Utilization Mission' held on 23.12.2024 at 11:00 AM at Indira Paryavaran Bhawan, New Delhi to review the status of actions taken based on the decisions made by the Mission in the meeting held on 26.06.2024.

2. In view of the above, minutes of the eighth meeting of 'Fly Ash Management and Utilization Mission' are enclosed herewith.
3. It is requested to kindly furnish the action taken report to Central Pollution Control Board.

This issues with the approval of the Competent Authority.

**Encl.:** As stated

Yours sincerely,

*N. Subrahmanyam*  
01/01/2025

(N. Subrahmanyam)  
Scientist E

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To

1. Secretary (Coal), Ministry of Coal, New Delhi
2. Secretary (Power), Ministry of Power, New Delhi
3. Secretary (Mines), Ministry of Mines, New Delhi
4. Chairman, Ministry of Railways (Railway Board), New Delhi
5. Chief Secretary, State of Uttar Pradesh
6. Chief Secretary, State of Madhya Pradesh
7. Chairman, CPCB, New Delhi

8. Additional Chief Secretary/Principal Secretary, Energy, Government of Uttar Pradesh
9. Additional Chief Secretary/Principal Secretary, Energy, Government of Madhya Pradesh
10. Additional Chief Secretary/Principal Secretary, Industries, Government of Uttar Pradesh
11. Additional Chief Secretary/Principal Secretary, Industries, Government of Madhya Pradesh
12. Director General, Directorate General of Mines Safety, Jharkhand
13. Additional Chief Secretary/Principal Secretary, Environment Department, Government of Madhya Pradesh
14. Additional Chief Secretary/Principal Secretary, Environment Department, Government of Uttar Pradesh
15. Chairman, UPPCB, Uttar Pradesh
16. Chairman, MPPCB, Madhya Pradesh
17. District Magistrate, Sonbhadra, U.P. (for stone crushers and all private mines)
18. District Magistrate, Singrauli, M.P. (for stone crushers and all private mines)
19. Director, CSIR-NEERI, Nagpur
20. CMD, M/s NCL
21. CMD, M/s NTPC Limited
22. CMD, M/s Lanco Anpara Power Pvt. Ltd.
23. CMD, M/s Hindalco Industries Ltd.
24. CMD, M/s UPRVUNL
25. CMD, M/s Grasim Industries Limited, Chemical Division, Renukoot, Sonbhadra
26. CMD, M/s Birla Carbon India Pvt. Ltd., Renukoot, Sonbhadra
27. CMD, M/s Sasan Power Limited, Singrauli
28. CMD, M/s APMDC Ltd., Singrauli
29. Industries, Mines and Stone crushers concerned in Singrauli and Sonbhadra Region.

Copy to:-

1. Dir.(AR)
2. PSO to Secretary (EF&CC)
3. PPS to AS(NPG)
4. PPS to JS(VPM)
5. SO, HSMD

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## Minutes of the 8<sup>th</sup> meeting of Fly Ash Management and Utilization Mission held on 23.12.2024 at 11:00 AM

The eighth meeting of 'Fly Ash Management and Utilization Mission' was convened on 23<sup>rd</sup> December, 2024 at 11:00 AM under the chairpersonship of Secretary, EF&CC, to review the status of actions taken based on the recommendations/decisions made by the Mission in the meeting held on 26.06.2024. The list of participants is enclosed as **Annexure**.

2. At the outset, Secretary, EFCC welcomed all the participants. Special Secretary, MoEF&CC briefed about the decisions taken by the Mission in last meeting held on 26.06.2024.

3. A presentation was made by the Anpara Thermal Power Project (UPRVUNL) on status of implementation of NEERI technologies/ expertise for stabilizing ash dykes through bamboo plantation at the ash ponds of thermal power plants of UPRVUNL. The following details were presented:

- i. Anpara Thermal Power Project (2,630 MW) consumes around 40,000 MT of coal daily (132.0 LMT/ year). The ash generation from Anpara Thermal Power Project is 13,600 MT/day (45.0 LMT/year), out of which bottom ash is 2720 MT/day (9.0 LMT/year) and fly ash is 10,880 MT/day (36.0 LMT/year).
- ii. The fly ash generated is utilised in road projects, filling up of low lying areas, mines/ quarries, and in bricks & tiles industries. The details of generation and utilization of fly ash for Anpara TPS has been given below:

Financial Year	Ash Generation (LMT)	Ash Utilization (LMT)	% Ash Utilization
2022-23	43.52	0.82	1.88
2023-24	41.59	21.49	51.67
2024-25 (up to Nov., 2024)	49.45	12.15	24.54

- iii. 5.51 lakh MT pond ash has been disposed in Pipri low lying area in the FY 2024-25. Pond ash of 20 lakh MT and 10 lakh MT has been proposed to be disposed at low lying area and Gorbi Mines, respectively, in FY 2024-25.
  - iv. Anpara and Obra TPS is in process for developing railway infrastructure for transportation of ash in PPP Model. The consultant has submitted DPR for installation of DFAES and development of railway infrastructure for ash evacuation system through railway. Currently, RFP documents and concessionaire agreement are being prepared for inviting bids from interested bidders.
  - v. DM Singrauli has been requested to issue NoC for transportation of ash to Gorbi mines. Application for Consent to Operate (CTO) for transporting fly ash to Gorbi mines has been submitted to MPPCB.
  - vi. DM, Singrauli informed that NoC for transportation of fly ash from Anpara TPS to Gorbi mines will be issued in two days.
  - vii. MPPCB emphasized that to obtain the CTO, the ash dyke currently being used for fly ash disposal must be closed, and a permanent pipeline for fly ash transfer to Gorbi mines must be established, as transporting it by road could create more pollution.
  - viii. Miyawaki Plantation has been done for 50% area of the abandoned ash pond (Saddle dam-2) in Village Belwadah (near the current ash pond). Development of green belt through bamboo plantation will be done on the remaining 50% of the area of the abandoned ash pond (Saddle dam- 2).
  - ix. Reconnaissance survey has been done by NEERI in regard to implementation of NEERI technologies/ expertise for stabilizing abandoned ash dyke through bamboo plantation.
  - x. Ash/ soil sampling will be sent to NEERI for selection and screening of bamboo species. Plantation of bamboo species will be done as per NEERI's advice.
4. **Representative from Ministry of Power** highlighted that a meeting had been conducted regarding the compilation of legacy dumpsites which are being stabilized

by TPPs. 105 TPPs have responded and 5 TPPs are in the process of legacy dumpsite stabilization.

5. **Representative from West Central Railway (WCR)** stated that there are three Goods Sheds/ railway sidings of WCR in Singrauli Region: Bargawan Railway Coal Siding (BRRB), Gajara Bahara Goods Shed (GBGG) and Gondwali Coal Siding (GWCB). All the compliances regarding the implementation of air pollution control measures Gajra Bahara Goods Shed have been completed.

6. **Representative from East Central Railway (ECR)** gave a presentation on status of implementation of air pollution control measures at the Goods Sheds/ railway sidings at Singrauli region. The following points were highlighted during the meeting:

- i. There are three Goods Sheds/ railway sidings of ECR in Singrauli Region: SPUR III and X (SGRL), and MAHDEIYA (MHDA).
- ii. The status of compliance of directives of pollution control measures at the Goods Sheds/ railway sidings have been given below:

Directive	Status
Construction of wind breaking wall of sufficient height on both sides of railway siding	Complied  20 feet height of concrete boundary wall along with fencing/ protection screen/ GI sheet has been constructed.
Heap height of coal stock should be lesser than the height of the boundary wall	Complied
The occupier shall develop three tier plantations all along the boundary wall and other available spaces and shall continue enhancing its plant density and biodiversity.	Small and big trees are available in goods trees.  Sampling plantation: <ul style="list-style-type: none"> <li>• FY 2022-23: 50 saplings at SPUR and 50 saplings at MAHDEIYA</li> <li>• FY 2023-24: 50 saplings at SPUR and 100 saplings at MAHDEIYA</li> </ul>

	<ul style="list-style-type: none"> <li>FY 2024-25: 400 saplings at SPUR and 450 saplings at MAHDEIYA</li> </ul> <p>Further plantation will be done to enhance green cover in the sidings.</p>
The occupier shall construct garland drain all along the boundary wall with de-silting pit.	Work sanctioned by Railway Board, it will be completed shortly.
To install fixed type water sprinklers in the railway siding.	<p>SPUR – III &amp; X</p> <ul style="list-style-type: none"> <li>Two number water boring of 8 inch diameter &amp; 100 m depth done for water sprinkling system</li> <li>Installation of pipeline and sprinkler heads will be expedited.</li> </ul> <p>MAHDEIYA (MHDA)</p> <ul style="list-style-type: none"> <li>One number water boring of 8 inch diameter and 100 m depth done for water sprinkling system.</li> <li>Installation of pipeline and sprinkler heads will be expedited.</li> </ul>
Continuous sprinkling of water for control of fugitive emissions.	Water sprinkling being done by water tankers.
Coal transportation vehicles must be covered with tarpaulin sheet.	Complied
The occupier shall construct rain water harvesting and ground water recharge system.	Work sanctioned by Railway Board, it will be completed shortly.
Construction of approach road	Approach road has been constructed in these sidings.
Construction of Wharf	Complied

7. It was mentioned that currently the coal is being handled manually at the Goods Sheds/ railway sidings of ECR, WCR and NCL. Ideally, there should be coal handling plants, with conveyer belts and silos to load the coal.

8. **Representative from Ministry of Coal** highlighted the following points regarding the allocation of mine voids:

- i. The following four mine voids have been allocated to different TPPs (including NTPC) for the purpose of fly ash filling:
  - Gorbi Pit 1, NCL allocated to NTPC (Singrauli)
  - Gorbi Pit 2, NCL Allocated to NTPC Vindhyachal and NTPC (Singrauli)
  - Krishnashila, NCL allocated to NTPC (Singrauli)
  - Gorbi mine (Pit-3),NCL allocated to Anpara Thermal Project-UPRVUNL
- ii. At present, there are no mine voids available at NCL. For advance allocation mines approaching for closure in 3-5 years, system has been established through dissemination of relevant SoPs, directing coal companies to submit a list of mines suitable or available for fly ash disposal, along with those expected to be available over the next 03 years, to the Ministry of Coal by the 10<sup>th</sup> of each month. These details will be shared with CEA for dissemination to TPPs so that any interested party can apply. Subsequently, the matter will be considered in the Central Level Working Group and allocation of mines will then take place.
- iii. As on date, 36 mine voids have been allocated, and fly ash filling of around 300 lakh m<sup>3</sup> has taken place.
- iv. With regard to mixing of fly ash with OB in operational mine voids, the Central Level Working Group, in consultation with the stakeholders, has concluded that mixing of OB and flyash will not be safe.

9. **Ministry of Mines** has submitted the following status in regard to the allocation of mines for filling of fly ash:

- i. The earlier provided SOPs (vide OM dated 19.03.2024) for allocation for mines in respect of safety and administrative related matters have been modified by IBM.
- ii. A standardized format for seeking NOC by TPPs from concerned authorities for allocation of mine voids has been prepared by IBM.

- iii. A list of additional 38 mining areas (full area: 33 & partial area: 5) surrendered to State Government has been shared with M/o Power.

10. A presentation was made by MPPGCL regarding the inspection of ash pond of Sanjay Gandhi Thermal Power Station (SGTPS), Birsinghpur to ascertain localized/ terrain specific solution for evacuation of current ash from operational ash dyke of SGTPS (total installed capacity of 1340 MW), Birsinghpur. The following details were highlighted during the presentation:

- i. Team of officials from CPCB, MPPCB and representatives from MPPGCL had carried out the site inspection in September 2024.
- ii. Ash dyke-II, which is the only active ash pond, is surrounded by hills on three sides, having only a single compartment, non-uniform ash deposition on undulating pond bottom, creating operational challenges.
- iii. The ash is currently being deposited at a single location at a higher elevation, instead of at the section of the ash pond near the road where fly ash evacuation actually takes place.
- iv. Experts have indicated that fly ash evacuation cannot happen unless the roadside section of the ash pond is filled.
- v. Lifting of all deposited ash is not possible till ash is filled up to the level (elevation of 479 m) and two compartments are created.
- vi. Experts have recommended for improvement of the ash disposal system, and partitioning of the existing ash pond and creating a levelled platform at an elevation of 479 meters as a viable solution for ash evacuation.

11. A presentation was made by the Madhya Pradesh Pollution Control Board on the progress of implementation of action plans and environmental guidelines for stone crushing units published by CPCB for control of air pollution, and mapping of roads used for coal/ash transportation with responsible agencies to control air pollution. The following details were presented:

- i. Utilization fly ash generated from the 15 TPPs of Madhya Pradesh has increased from 55.6% in the FY 2021-22 to 74% in FY 2022-23 and 95% in FY

2023-24. Fly ash utilization during the current year (upto November, 2024) is 85%.

- ii. Status of implementation of action plan for fly ash utilisation generated from 05 TPPs (12140 MW) in Singrauli Region was presented.

TPP name	FY 2021-22		FY 2022-23		FY 2023-24		FY 2024-25 (up to Nov 24)	
	Ash Generation (LMT)	Ash Utilisation (%)	Ash Generation (LMT)	Ash Utilisation (%)	Ash Generation (LMT)	Ash Utilisation (%)	Ash Generation (LMT)	Ash Utilisation (%)
	NTPC Vindhyachal (4760 MW)	82.38	53.05	76.64	37.31	66.83	56.22	43.84
Sasan Power Limited (3960 MW)	53.47	52.35	45.99	109.5	48.98	100.7	36.37	32.17
Mahan Energen Limited (1200 MW)	8.36	25.46	9.08	100.2	14.27	103.72	11.06	81.65
Jaypee Nigrie Super TPP Vill. Nigrie, Singrauli (1320 MW)	15.79	89.55	14.55	100.09	18.06	89.17	11.41	107.0
Hindalco Industries Ltd, Mahan Aluminium (900 MW)	11.54	84.55	11.82	99.6	10.82	131.14	7.59	103.76
<b>Total</b>	<b>171.54</b>	<b>56.96</b>	<b>158.08</b>	<b>70</b>	<b>158.96</b>	<b>83</b>	<b>110.27</b>	<b>59.21</b>

- iii. 15 thermal power plants (TPPs) in Madhya Pradesh have utilized 868.71 lakh LMT of ash in from FY 2021-22 to FY 2024-25 (upto Nov 24). This includes

181.7 LMT (20.9%) for road & other construction work, 38.79 LMT (4.5%) for bricks production, 157.19 LMT (18.1%) for filling low-lying areas, 229.2 LMT (26.4%) supplied to cement industries, and 261.83 LMT (30.1%) used for backfilling in abandoned mines, overburden (OB) mixing, stone quarry, and dyke raising activities.

- iv. 02 TPPs in M.P. have utilized less than 80% ash in the FY 2024-25 (up to Nov 24) namely, NTPC Vindhyachal, Singrauli (55.82%) and Sasan Power Limited, Singrauli (32.17%). Sasan Power Limited explained that the low ash utilization rate during the FY 2024-25 was primarily due to the monsoon season, during which the DGMS prohibits the mixing of ash with OB, and highlighted that they have sought permission from MPPCB for dumping of ash in low-lying area.
- v. The following activities from action plan of various TPPs in Singrauli region have been reported to be under progress:
  - a. M/s NTPC Vindhyanchal STPP, Singrauli (13 units)
    - FGD installation completed in 2 units and to be completed in 11 units by April 2025
    - NO<sub>x</sub> emission control measures completed in 7 units, not completed in 6 units
    - Inventorization study for industries operating around the Rihand reservoir: Contract awarded to NEERI for 2 years in Feb 2024, study in progress
  - b. M/s Sasan Power Limited
    - FGD installation for SO<sub>2</sub> by Dec. 2026. Vendor being finalized.
    - Permanent sprinkling system for 4 ash dykes: 1<sup>st</sup> phase completed (1.6 km out of 6.5 km), 2<sup>nd</sup> and 3<sup>rd</sup> phase to be completed by December 2025 and March 2025, respectively
    - Pipeline for fly ash transportation to its mine: 2 km pipeline procured
    - Cleaning of fly ash from Gawaiya (2 km)/ Garra nallah (in patches)- Under progress

- c. M/s Mahan Energen limited
  - FGD installation for SO<sub>2</sub> by December 2026. About 10% of civil work has been completed.
  - Coal transportation by road: Forest clearance pending.
  - Development work of railway siding for fly ash: No substantial progress
- d. M/s Hindalco Industries Ltd.: FGD installation for SO<sub>2</sub> in Unit-1,2,3,4,5 by Dec. 2026 and construction of RCC road by March 2025.
- e. Jaypee Nigrie STPP: Installation of FGD installation for SO<sub>2</sub> by December 2026.
- vi. The following activities from action plan of various coal mines in Singrauli region have been reported to be under progress:
  - a. NCL, Khadia Project
    - Fly ash utilization in OB dump: Not complied (timeline not given)
    - Coal handling plant required for 15 MTPA: 10 MTPA completed. Gap of 5 MTPA.
    - Transportation of coal through rail mode: Wharf wall under construction- 04 MTPA. Gap of 1 MTPA.
    - Carrying capacity of Mine & traffic study by January, 2025
    - Installation of Automatic wheel washing system by February, 2025
  - b. NCL, Amlori Project
    - Fly ash utilization in OB dump: Not complied (timeline not given)
    - Coal handling plant required for 15 MTPA: 12 MTPA completed. Gap of 3 MTPA.
    - Transportation of material by rail/conveyor belt: 12 MTPA completed, Gap of 3 MTPA.
    - Installation of Automatic wheel washing system by February, 2025
    - Carrying capacity of Mine & traffic study by January, 2025 (under progress through CMPDIL)

c. NCL, Nigahi

- Fly ash utilization in OB dump: Not complied (timeline not given)
- Coal handling plant required for 22.5 MTPA: 15 MTPA completed, Gap of 7.5 MTPA.
- Transportation of material by rail/conveyor belt: 12 MTPA completed, Gap of 3 MTPA.
- Construction of pakka roads of 3.0 km by March, 2025.
- Installation of Automatic wheel washing system by June, 2025
- Carrying capacity of Mine & traffic study by January, 2025 (under progress through CMPDIL)

d. NCL, Jayant Project

- Fly ash utilization in OB dump: Not complied (timeline not given)
- Coal handling plant required for 30 MTPA: 25 MTPA completed, gap of 5 MTPA
- Transportation of coal through rail mode: 25 MTPA completed, gap of 5 MTPA
- Deployment of 8 nos. of fixed type fog cannon by March, 2025
- Fixed type water sprinkler along haul road till CHP, Rly siding and OB dump area by March, 2026
- Carrying capacity of Mine & traffic study by January, 2025 (under progress through CMPDIL)

e. NCL, Block-B Project

- Fly ash utilization in OB dump: Not complied (timeline not given)
- Coal handling plant of 4.5 MTPA under progress (40% completed)
- Carrying capacity of Mine & traffic study by January, 2025 (under progress through CMPDIL)

f. NCL, Dudhichua Project

- Fly ash utilization in OB dump: Not complied (timeline not given)

- Installation of Automatic wheel washing system by December, 2024.
  - Carrying capacity of Mine & traffic study by Jan., 2025 (under progress through CMPDIL)
  - Study of existing EPT (Oversight committee observation): Not completed
- g. NCL, Bina Extension
- Fly ash utilization in OB dump: Not complied (timeline not given)
  - Additional CHP of 9.5 MPTA under progress (91% completed)
  - Upgradation of ETP: Under trial (expected to be completed by December, 2024)
  - Carrying capacity of Mine & traffic study by January, 2025 (under progress through CMPDIL)
- h. NCL, Jhingurda
- Fly ash utilization in OB dump: Not complied (timeline not given)
  - Coal handling plant required for 4 MTPA: Not complied (gap of 5 MTPA)
  - Installation of Automatic wheel washing system by December, 2025
  - Carrying capacity of Mine & traffic study by January, 2025 (under progress through CMPDIL)
- i. APMDC Ltd.-Sulyari Open Cast Project
- Fly ash utilization in OB dump: Not complied (timeline not given)
  - Coal handling plant required for 5 MTPA: Not complied (gap of 5 MTPA)
  - Construction of railway siding by December, 2025
  - Crusher and in-pit belt conveyor with mist type sprinkler by December, 2025
  - Installation of Automatic wheel washing system: Not complied (timeline not given)
  - CWQMS in ETP/STP (EC condition) by January, 2025

- j. Sasan Power Limited (Moher & Moher Amlohri extension coal mine)
  - Deployment of mist cannons to control air pollution: Under progress
  - Rehabilitation and resettlement of affected people by March, 2025
- k. Jaiprakash Power Ventures Ltd., Amelia (North) Coal Mine
  - Fly ash utilization in OB dumps: Not complied (timeline not given)
  - Plantation on dump area towards Kanchan river: Partially complied (50% remaining)
- l. THDC India Ltd., Amelia Coal Block (New mine)
  - Fly ash utilization in OB dumps: Not complied (timeline not given)
  - Coal handling plant required for 5.60 MTPA by June, 2025 (90% completed)
  - Construction of permanent railway siding: Not complied (timeline not given)
- vii. The following activities from action plan of coal handling Goods Sheds/ railway sidings in Singrauli region have been reported to be under progress:
  - a. ECR, Spur III & X
    - Installation of coal handling system: Not complied (timeline not given)
    - Water sprinkling system or tankers: Not complied (timeline not given)
    - Drainage facility: Not complied (timeline not given)
    - Pucca circulating handling area with drainage facility: Not complied (timeline not given)
    - Green belt around the coal siding area: Not complied (timeline not given)
  - b. ECR, Mahedaiya
    - Installation of coal handling system: Not complied (timeline not given)
    - Water sprinkling system or tankers: Not complied (timeline not given)
    - Drainage facility: Not complied (timeline not given)

- Pucca circulating handling area with drainage facility: Not complied (timeline not given)
  - Green belt around the coal siding area: Partially complied (timeline for completion not given)
- c. WCR, Gondawali
- Installation of coal handling system: Not complied (timeline not given)
  - Wind breaking wall of 1000 m: 500 m completed, 500 m remaining
  - Water sprinkling system or tankers: Not complied (timeline not given)
  - Drainage facility: Not complied (timeline not given)
  - Pucca circulating handling area with drainage facility: Not complied (timeline not given)
  - Green belt around the coal siding area: Not complied (timeline not given)
- d. WCR, Bargawan
- Installation of coal handling system: Not complied (timeline not given)
  - Wind breaking wall of 1000 m: 600 m completed, 400 m remaining
  - Water sprinkling system or tankers: Not complied (timeline not given)
  - Drainage facility: Not complied (timeline not given)
  - Pucca circulating handling area with drainage facility: Not complied (timeline not given)
  - Green belt around the coal siding area: Not complied (timeline not given)
- e. WCR, Gajra Bahra
- Installation of coal handling system: Not complied (timeline not given)
  - Pucca circulating handling area with drainage facility: Not complied (timeline not given)
  - Green belt around the coal siding area: Partially complied (timeline for completion not given)
- viii. Out of the 56 stone crushers, 12 stone crushers have been shut down. 44 stone crushers have installed Air Pollution Control Equipment (APCE).

- ix. CEPI score 43.4 was observed during monitoring conducted by MPPCB, in consultation with the Regional Office of CPCB, in the period of May to June, 2024.
- x. Mapping of roads used for coal/ ash transportation with responsible agencies to control air pollution was presented for 5 different routes for coal/ash transportation.
- xi. Out of the 127 million tonnes of coal production, 109.81 million tonnes (86%) is being transported by rail/ merry-go-round and 16.62 million tonnes (16.6%) is being transported by roads. 35 million tonnes/annum CHP is under construction and installation.

12. A presentation was made by the Uttar Pradesh Pollution Control Board on the progress of implementation of action plans and environmental guidelines for stone crushing units published by CPCB for control of air pollution. The following details were presented:

- i. The status of fly ash generation and utilization by 06 TPPs in Sonbhadra, U.P. were reported as below:

Financial Year	Ash Generation (LMT)	Ash Utilization (LMT)	% Ash Utilization
2021-22	151.1	57.9	38.3
2022-23	161.9	56.8	35.1
2023-24	160.7	101.8	63.3
2024-25 (up to Nov., 2024)	219.05	106.2	48.5

- ii. Action plans have been submitted by 06 TPPs, 03 industries, 05 coal mines (NCL), and stone crushers for implementation of air pollution control measures. The following activities form action plan of various industries in U.P. have been reported to be under progress:

- a. M/s NTPC SSTPS, Shaktinagar to install FGD in all 7 units and expand AWRS capacity by March, 2026, and DAES#1 and U#7 is in commissioning is expected to be completed by March, 2025.
  - b. In M/s NTPC Rihandnagar SSTP, commissioning of FGD and DAES (Stage I) is expected to take place by 31.12.2026 and 31.12.2025, respectively. Cold Fog Dust Suppression (CFDS) System in Stage I and CFDS Stage II were commissioned in April, 2024 and November, 2024, respectively.
  - c. M/s MEIL Anpara Energy Limited (formerly M/s Lanco Anpara Power Limited, Anpara) - FGD installation by December, 2025
  - d. M/s U.P. Rajya Vidyut Utpadan Nigam Ltd. (Anpara A, B & D TPS), Anpara- FGD installation at A, B & D TPS by December, 2026
  - e. M/s Hindalco Industries Limited, Renusagar Power Division- FGD installation in Boiler 5 by June, 2025.
  - f. M/s U.P. Rajya Vidyut Utpadan Nigam Ltd. (Obra A, B - TPS), Obra- FGD installation by May, 2025, DFAES through railway to be installed by 2026.
- iii. The status of generation and utilization of fly ash was submitted by 06 TPPs. The details have been given below:

TPP name	FY 2023-24			FY 2024-25 (up to Nov 24)		
	Ash Generation (LMT)	Target Ash Utilization (%)	Actual Ash Utilization (%)	Ash Generation (LMT)	Target Ash Utilization (%)	Actual Ash Utilization (%)
UPRVUNL Obra TPP	14.4	102	95.25	112.3	105	31.82
UPRVUNL Anpara TPP	41.6	69	51.67	32.04	97.89	17.49
NTPC Rihand	42.2	67	80.42	27.8	101	82.85
NTPC Shaktinagar	30.2	-	40.44	24.1	140.8	103.82
MEIL Anpara Energy Limited	18.1	-	23.69	13.23	-	48.82

Hindalco Industries Limited, Renusagar Power Division	14.1	-	114.67	9.6	-	106.31
<b>Total</b>	<b>160.6</b>	<b>-</b>	<b>63.3</b>	<b>219.1</b>	<b>-</b>	<b>48.5</b>

- iv. Ash utilization was 56.817 LMT in FY 2022-23, 101.822 LMT in FY 2023-24 and 106.145 LMT in FY 2024-25 (up to Nov 2024).
- v. The status of implementation of action plan by the mining projects along with the timelines was presented. The details of the work under progress/ remaining work have been given below:
- a. M/s NCL Ltd., Bina Project, Bina- Construction of new CHP (9.5 MTPA) by June, 2025 (91% of the work completed); upgradation of ETP & STP by December, 2024 (99% of the work completed); and carrying capacity of mine and traffic study (EC condition) by December, 2024 (work under progress).
  - b. M/s NCL, Dudhichua Project- Tyre washing system/mechanism of Coal transporting vehicles on Road by December, 2024 (99% of work completed).
  - c. M/s NCL Ltd., Kakri Project- Tyre washing system/mechanism of Coal transporting vehicles on Road by February, 2025 (25% of work completed); construction of wharf wall/ railway siding: Platform work completed and rail connectivity to wharf wall is to be done by ECR.
  - d. M/s NCL Ltd., Khadia Project
    - ETP upgradation under progress
    - Tyre washing system/mechanism for Coal transporting vehicles on Road by December, 2024. Tender under progress.
    - Construction of Wharf wall / Railway Siding under progress. Rail connectivity to wharf wall to be done by ECR railway siding.
  - e. M/s NCL Ltd., Krishnashila Project- Construction of sedimentation ponds

vi. The status of implementation of action plan by other industries was presented. The details of the work under progress/ remaining work have been given below:

- a. M/s Grasim Industries Limited Chemical Division, Renukoot – Miyawaki Plantation inside the premises has been done and approximately 63% of green belt has been done inside the premises. Miyawaki Plantation outside the plant premises will be done.
- b. M/s Birla Carbon India Pvt. Ltd., Renukoot – Miyawaki Plantation has been completed in 150 m<sup>2</sup> . Miyawaki Plantation outside the plant premises will be done.
- c. Aluminium Smelter- M/s HINDALCO Industries Ltd., Renukoot :
  - Tri-party agreement between IIFM Bhopal, UP Forest Department and AAI done on 18.08.2023 to conduct a pilot study for assessing the impact of backfilling of abandoned quarry in Dalla region of approx.. 0.5 hectare area.
  - IIFM issued permission letter on 25.11.2024 to start the execution job.
  - IIFM has requested for concurrence from CCF, Mirzapur for void dewatering, filling of void by OB/ native soil and construction of well.

vii. The status of implementation of 'Environmental guidelines for stone crushing units' published by CPCB for control of air pollution was presented. The details have been given below:

- a. UPPCB published a press release in newspaper dated 20.11.2024 directing stone crushing units of Dalla, Bili Markundi, Obra region to ensure non-operation of stone crushing unit from 5:00 PM to 10:00 AM and to ensure proper operation of the installed air pollution control systems. Stone crushing units have also been directed to reduce vehicular dust emission by regular water sprinkling on road.
- b. Joint Committee has been constituted by District Magistrate dated 21.11.2024 for regular monitoring of air pollution control measures installed at the stone crushing units.

- c. A meeting of the Joint Committee was held on 11.12.2024 to discuss implementation of GRAP and review the compliance of status of Action Plan under NCAP.
  - d. District Magistrate has directed all TPPs and coal mines to reduce road dust during ash/ coal transportation by ensuring the usage of covered vehicles and regular water sprinkling along with road dust sweeping.
  - e. Regular inspections have been carried out by UPPCB and action has been taken against the non-complying units.
  - f. The level of PM10 in FY 2024-25 (during the months July, August, Sep, Oct, Nov) in ambient air near Dalla/ Obra stone crusher area is higher than the previous three financial years.
  - g. UPPCB is monitoring the ambient air quality at Anpara Station, Sonbhadra through manual monitoring station under NAMP. The level of PM10 has reduced in the FY 2024-25 (up to November, 2024) ( $140 \mu\text{g}/\text{Nm}^3$ ) compared to FY 2023-24 ( $166 \mu\text{g}/\text{Nm}^3$ ). The level of  $\text{SO}_2$  and  $\text{NO}_2$  have remained almost constant at  $17 \mu\text{g}/\text{Nm}^3$  and  $24 \mu\text{g}/\text{Nm}^3$ , respectively. AQI has reduced (AQI: 127) in the FY 2024-25 compared to the FY 2023-24 (AQI: 144).
- viii. The status of mapping of roads used for coal/ ash transportation with responsible agencies to control air pollution was presented. The summary of transportation of coal via various different modes by NCL coal mines has been given as below:
- a. For FY 2024-25 (up to November 2024), the transportation modes for NCL coal mining projects are as follows:
    - **NCL Bina:** 72.4% by rail, 21% by road, and 6.6% by belt pipe conveyor.
    - **NCL Khadia:** 73.54% by rail and 26.46% by road.
    - **NCL Krishnashila:** 59.38% by rail, 29.95% by road, and 10.67% by belt pipe conveyor.
    - **NCL Kakri:** 61.18% by rail and 38.82% by road.
    - **NCL Duddhichua:** Currently, there is no mining activity in the Sonbhadra region.

- a. For the M/s NCL Bina project, the percentage of rail usage as the mode of transportation remains constant at 72% from FY 2023-24 to FY 2024-25 (up to Nov., 2024). Meanwhile, road transportation has decreased from 28% in FY 2023-24 to 21% in FY 2024-25, and the use of ropeway/belt pipe conveyor has risen from 0% in FY 2023-24 to 6.6% in FY 2024-25.
  - b. For the M/s NCL Krishnashila project, the percentage of rail usage as the mode of transportation has increased from 53% from FY 2023-24 to 59% in FY 2024-25 (up to Nov., 2024), road transportation has increased from 18% in FY 2023-24 to 30% in FY 2024-25, and the use of ropeway/belt pipe conveyor has decreased from 29% in FY 2023-24 to 11% in FY 2024-25.
  - c. For the M/s NCL Kakri project, the percentage of rail usage as the mode of transportation has increased from 49% from FY 2023-24 to 61% in FY 2024-25 (up to Nov., 2024), and road transportation has decreased from 51% in FY 2023-24 to 39% in FY 2024-25.
  - d. For the M/s NCL Khadia project, the percentage of rail usage as the mode of transportation has decreased from 75% from FY 2023-24 to 74% in FY 2024-25 (up to Nov., 2024), and road transportation has increased from 25% in FY 2023-24 to 26% in FY 2024-25.
  - e. Out of the 60 million tonnes of coal production, 44.3 million tonnes (74%) is being transported by rail/ merry-go-round, 13.49 million tonnes (22.5%) is being transported by roads and 2.68 million tonnes is being transported by Belt Pipe Conveyor. 18.5 million tonnes/annum CHP is under construction and installation.
13. After detailed deliberations, the **following decisions were made**:
- i. Anpara TPS and UPPCB to address the issue of fly ash utilization during FY 2024-25 and send the report to the Ministry with arrangements to be made, the conditions to be imposed and the timelines. The report will also include the challenges related transfer of fly ash to Gorbi Mines.

**(Action: UPPCB and Anpara TPS)**

- ii. NoC from DM, Singrauli and CTO by MPPCB for transportation of fly ash from Anpara TPS to Gorbi Mines may be granted, subject to the required conditions and timelines for transportation of fly ash.

**(Action: DM, Singrauli and MPPCB)**

- iii. SOP may be developed for implementation of NEERI technologies for stabilizing the abandoned ash dyke through bamboo plantation.

**(Action: CPCB & NEERI)**

- iv. Anpara TPS shall send a request to NEERI for the proposal on implantation of NEERI technologies/ expertise for stabilizing abandoned ash dyke through bamboo plantation. NEERI shall send the proposal to Anpara TPS within a week on receiving the request from Anpara TPS to award and initiate the work.

**(Action: Anpara TPS and NEERI)**

- v. ECR and WCR shall share geotagged photos with CPCB, of the air pollution control measures taken at railway sidings/ Goods Sheds in the Singrauli and Sonbhadra regions.

**(Action: ECR and WCR)**

- vi. ECR shall implement the air pollution control measures taken at the Goods Sheds / railway sidings. A certification from NEERI to be obtained that all dust control measures have been implemented and complied with. Any issues identified during the certification process will be addressed accordingly. This could serve as a model for air pollution control measures at coal-handling Goods Sheds/ railway sidings across Indian Railways.

**(Action: ECR and NEERI)**

- vii. CPCB shall create provisions on the online portal for uploading the locations, geotagged photos and short videos of the legacy ash dumpsites by TPPs and air pollution control measures taken at railway sidings by ECR and WCR.

**(Action: CPCB)**

- viii. Railway Board shall prepare action plan regarding the installation of automated coal handling mechanism at railway sidings.

**(Action: Railway Board)**

- ix. ECR and WCR shall make a presentation in the next Mission meeting covering all the stages of coal handling and transportation at the Goods Sheds/ railway sidings, including the details regarding the dust control measures at each stage in the Goods Sheds/ railway sidings.

**(Action: ECR and WCR)**

- x. Letters to be sent to the General Manager, West Central Railway Zone and East Central Railway Zone regarding the non-compliance of the action plans.

**(Action: MoEF&CC)**

- xi. CPCB, Ministry of Coal and Ministry of Mines shall work together to develop an GIS based online system for identification and allocation of mine voids, incorporating geotagged locations of both TPPs and mine voids, within 3 months. This information will be made available on the CPCB portal for access by all decision-makers. Additionally, the minutes of the Central Level Working Group meetings will also be made available on the portal.

**(Action: Ministry of Coal, Ministry of Mines and CPCB)**

- xii. Ministry of Coal shall present the status of coal transportation and installation of CHP/ conveyer belts with original, extended and committed timelines for all the coal mines with the said EC/CTO conditions in the next meeting of the Mission.

**(Action: Ministry of Coal)**

- xiii. Joint Committee report on ash dyke conditions of MPPGCL to be shared with the power plant. MPPGCL to submit action taken report as per the recommendations of the Joint Committee report and to be submitted to

CPCB and MPPCB. CPCB to examine the recommendations of the Joint Committee report.

MPPGCL shall share the report of the water quality from the toe drain of the Ash Dyke – II of Sanjay Gandhi Thermal Power Station (SGTPS), Birsinghpur with CPCB/ MoEF&CC to ascertain the impact of ash disposal activities on adjacent forest land.

**(Action: MPPGCL)**

- xiv. CSIR-NEERI shall prepare SOPs on (i) stabilization of ash ponds through plantation of bamboo species to improve biodiversity, (ii) control of pollution around operational ash ponds through plantation of bamboo species, and (iii) stabilization of mine voids filled with fly ash. For the SOP on the stabilization of filled mine voids, NEERI shall work with NTPC, Ministry of Coal, CPCB, UPPCB and MPPCB.

**(Action: Ministry of Coal, CPCB, CSIR-NEERI, CPCB, UPPCB and MPPCB)**

- xv. CSIR- NEERI to nominate a designated nodal officer to attend the meetings of the Fly Ash Management and Utilization Mission and for handling all related matters, and share the details of the nominated officer with MoEF&CC.

**(Action: CSIR-NEERI)**

- xvi. Sasan Power Limited, Singrauli, may hire independent experts to examine the technical feasibility and impact study of disposal of fly ash in the low-lying area in a scientific manner. Joint inspection may be done with MPPCB in this regard and the safeguards that can be put into place may be determined.

**(Action: Sasan Power Limited, Singrauli and MPPCB)**

- xvii. DO letter to be sent to NCL Chairman and Managing Director regarding the gaps in the compliance of the action plans and status of implementation of the action plans.

**(Action: MoEF&CC)**

- xviii. NCL to share the roles and responsibilities of the in-house environmental engineers appointed by them, and the activities undertaken by them at respective mines.

**(Action: NCL)**

- xix. Ministry, in coordination with CPCB, MPPCB and UPPCB, shall hold a meeting with the TPPs, coal mines and East/ West Central Railway regarding the status of implementation of the action plans, conditions of EC & CTO within one month. The review shall also include the mapping of the revised timelines as against the actual timelines.

**(Action: MoEF&CC, CPCB, MPPCB and UPPCB)**

- xx. Stone crushers of all capacities shall take measures to prevent/ suppress fugitive dust emissions from their operation in line with 'Environmental Guidelines for Stone Crushing Units' by CPCB. Status of implementation shall be submitted.

**(Action: MPPCB, UPPCB and all stone crushers in Singrauli and Sonbhadra region)**

- xxi. Comparison of the CEPI score calculation methods used by CPCB and MPPCB shall be carried out.

**(Action: CPCB)**

- xxii. Action plan to be prepared, within the next three months, outlining the allocation of responsibilities for construction of different sections of the roads for coal/ash transportation, control of air pollution during coal/ash transportation, components related to DPR preparation and funding. A meeting may be conducted with mining/ coal industrial

associations/agencies and stone crushers to work out the details in this regard.

**(Action: MPPCB and UPPCB)**

xxiii. M/o Power and CEA to share the details regarding the number of TPPs in the country, number of TPPs in requirement of stabilization of legacy dumpsites and number of TPPs that have submitted the action plan for stabilization of legacy dumpsites.

**(Action: M/o Power and CEA)**

xxiv. All the pending/ ongoing activities in respect of implementation of decisions made during 1st, 2nd, 3rd, 4th, 5th, 6th and 7th meeting of the Mission shall be undertaken and action taken report shall be furnished. Progress to be updated on the website on monthly basis. Necessary formats may be put up on the website to enable all stakeholders to upload the progress online. Login and passwords for all stakeholders to be generated immediately.

**(Action: Concerned Ministry/ CPCB/ State Govts./ SPCBs/ Organisation)**

14. Meeting ended with a vote of thanks to the Chair.

**List of Participants**

1. Smt. Leena Nandan, Secretary, EF&CC- Chairperson
2. Shri Tanmay Kumar, Special Secretary, MoEFCC and Chairman, CPCB
3. Shri Naresh Pal Gangwar, Additional Secretary, MoEFCC
4. Dr. Navneet Kothari, Secretary Env., Govt of MP
5. Shri Satyendra Kumar, Director, MoEFCC
6. Shri Achyut Anand Mishra, MS, MP Pollution Control Board
7. DM, SINGRAULI
8. DM, SONBHADRA
9. Shri Amit Kumar, Director, CEA
10. Shri Marapally Venkateshwarlu, Director, Ministry of Coal
11. Shri N. Subrahmanyam, Scientist E, MoEFCC
12. Shri Sourabh Kumar, Deputy Director, CEA, Mop
13. Shri R.P. Singh, Geologist, DGM UP Lucknow
14. Shri Anuj Kumar, Geologist, DGM.UP Lucknow
15. Shri Sudhir Kumar Singhai, Addl. CE, MP Power Gen. Co. Ltd.
16. Shri Ravikant Raut, Chief Chemist, M.P Power Gen. co. Lyd.
17. Shri Jitendra Prasad, Add. VP, Sasan Power ltd.
18. Shri Reetesh Tiwari, RO Sonbhadra, UPPCB
19. RO MPPCB SHAHDOL
20. S. Ansari, Director (S&T), DGMS
21. Shri Vinay Ramaiya, EE, MPPCB
22. Shri Himanshu Verma, AGM-HSE, MEIL Anpara Energy Ltd.
23. Shri Kamaljeet Rai, DGM, MEIL Anpara Power Ltd.
24. Shri Ashok Kumar Singh, G.M., Grasim Chemical division-Renukoot

25. Shri A.K. Tripathy, Dir (Tech), UPRVUNL
26. Shri Vipin Kumar Gautam, SE, UPRVUNL
27. Shri Subodh Choudhary, PCME/ECR, East Central Railway
28. Shri Md. Tausif Ullam, DTM/Chopan Dhanbad, East Central Railway
29. Shri Rohit Singh, Demhm/Dhw, East Control Railway
30. Shri R. N. Shukla, Head Env. ESG. Forest, Adani Power Ltd.
31. Ms. Khushi Parekh, Asst. Manager, Mahan Energen Ltd.
32. Shri Ashwani Tyagi, DGM, NTPC Ltd.
33. Shri K. Karthikeyar, AGM, NTPC Ltd
34. Shri M.K.V. Rama Rao, Chief Technical Officer, JPVZ
35. Shri Sanjay Singh, Joint President, JPVL, NIGRIE/Delhi Office
36. Shri Mahendra Prasad, OSD, Noida
37. Shri Nandan Kr. Choudhury, Dy. Manager (Geo), Northern Cornfield Ltd.  
Singrauli
38. Shri Dinkar Tiwari, Dy. Manager (Mining), NCL
39. Shri S.L. Gupta, CE, PWD Meerut
40. Shri Hitlar, AE, CD-2 PWD Ghaziabad
41. Shri Sanjay Gupta, Dy. CCM(FM), W.C.RLY
42. Shri Sanjeev Kumar, GM (Env. & Forest), NCL
43. Shri Abhishek Singh, EE, NLCIL (MoC)
44. Shri Ranvir Prasad, MD, UPRVUNL
45. Shri Sunil Prasad Singh, D.T., NCL
46. Shri Ajay Prakash, CCM-FM WCRLY, W.C. Railway
47. Shri Sanjeev Kumar Wohra, Regional Officer, MPPCB
48. Shri Ajay Jha, Dir/ENHM/plyBQ, Railway Board
49. Team of STPP

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