

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

Dated: 2nd August, 2023

OFFICE MEMORANDUM

Sub.: Minutes of the fourth meeting of 'Fly Ash Management and Utilization Mission' held on 04.07.2023 - reg.

The undersigned is directed to refer the fourth meeting of 'Fly Ash Management and Utilization Mission' held on 04.07.2023 at 11:00 hrs 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 01.05.2023.

2. In view of the above, minutes of the fourth meeting of 'Fly Ash Management and Utilization Mission' is enclosed herewith.

3. It is requested to furnish the action taken report to Central Pollution Control Board.

This issues with the approval of the Competent Authority.

Encl.: As stated

Yours sincerely,


(Dr./Satyendra Kumar)

Director

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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. Chief Secretary, State of Uttar Pradesh
5. Chief Secretary, State of Madhya Pradesh
6. Chairman, CPCB, New Delhi

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

Copy to:-

1. PPS to Secretary (EF&CC)
2. PPS to AS(NPG)
3. Guard File

Minutes of the 4th meeting of Fly Ash Management and Utilization Mission
held on 04.07.2023 at 11:00 hrs

The fourth meeting on 'Fly Ash Management and Utilization Mission' was convened on 4th July, 2023 at 11:00 hr to review the status of actions taken based on the recommendations/decisions made by the Mission in the meeting held on 01.05.2023. The list of participants is annexed at **Annexure I**.

a. During the meeting, **following discussions were held:**

1. Central Level Working Group constituted under Additional Secretary, Ministry of Coal for allocation of coal mines for disposal of ash to thermal power plants convened a meeting on 04.05.2023, and allocated Gorbi Pit- 2 and 3 of NCL to NTPC Vindhyanchal and Anpara TPS, UPRVUNL, respectively.
2. Status of allocation of abandoned mines to TPPs for backfilling of ash:
 - i. Sarni UG of WCL allocated to Satpura TPS of MPPGCL: draft MoU has been shared with MPPGCL for acceptance.
 - ii. Sharda OC (OPQR patch) of SECL allocated to Amarkantak TPS, M.P. to M/s MPPGCL-volume of 1.6 lakh m³ (15%) void was made available, out of which 90,000 m³ has been filled so far. Remaining 85% void was made available to MB Power Ltd.
 - iii. Sharada OC of SECL, Trench-1 was allocated to:
 - a. Amarkantak TPS, MPPGCL, Chachai- 0.9 lakh m³ (16 km)
 - b. NTPC, Sipat- 10.93 lakh m³ (187 km)
 - c. NTPC, Korba- 12.53 lakh m³ (199 km)
 - d. SGTPS, MPPGCL, Birsinghpur- 5.63 lakh m³ (78 km)
 - iv. M/s NCL informed that three meetings were held and the draft MoU with M/s UPRVUNL (Anpara TPP) for signing had been shared. M/s UPRVUNL informed that the MoU would be signed immediately within a week for initiation of backfilling activities.

- v. MPPGCL informed that as per the agreement, 90,000 CuM ash had been filled into the mine void of Sharda OC (OPQR patch) out of allocated void of 1.6 lakh CuM. Sharda OC has a capacity 30 lakh CuM out of which major portion of mine voids was given to M/s MB Power Ltd. It was informed that Amarkantak Power Plant, Chachai of MPPGCL is located at 16 km from the Sharda mine voids and ash can be easily transported to the void.
 - vi. MPPGCL requested to consider the allocation of Trench 2 or 3 of Sharda OC for backfilling of remaining quantity of ash as the mine is located in M.P. and ATPS of MPPGCL does not have any alternate allocation.
3. It was informed that mine void of Sharada OC (Trench 1), Chachai of SECL is used as water reservoir and meets the water requirement for industrial & community use. CIL informed that adjacent void, Trench-2 could be allotted to Amarkantak TPS, MPPGCL, Chachai.
 4. MPPGCL shared that Sarni underground mine of WCL was yet to be allocated as MoU was under finalization due to issues related to mine safety. DGMS in this regard stated that individual mine may conduct scientific study in respect of factor of safety and submit the report.
 5. It was informed that Singareni UG coal mine (SCCL) had filled up fly ash in the mine voids by ensuring the safety parameters. The SOP followed in this regard may be used for ash filling in mine voids of other UG mines.
 6. M/o Coal informed that 22 mines of CIL had been allocated for backfilling activities. The physical progress of ash back filling is dismal. NTPC has filled 32 lakhs CuM ash so far out of 655 lakhs CuM voids made available. NTPC has shared 5-year action plan for utilization of legacy ash. MPPCB was requested to permit 3000 CuM ash transportation per day against 1400 CuM. MPPCB informed that there was no restriction on quantity of ash transportation. However, District Administration allows transportation only during night time to avoid traffic and maintain safety.
 7. M/o Coal informed that about 4-5 operational mines would get closed in next few years and made available for backfilling of ash. NCL informed that two

operational mines of NCL namely Kakri Opencast Project (March, 2024) & Krishnashila Opencast Project (March, 2027) are approaching for closure by March, 2024 and March 2027, respectively.

8. NCL expressed no objection for conducting the study on mixing of red mud with ash in Gorbi abandoned mine and stated that NTPC and Hindalco Industries may carry out the said study on mutually agreed terms. NTPC expressed that appropriate safeguards in regard to discharge of wastewater from the mine into the water bodies may be considered.
9. Feasibility study to assess the area/volume available for ash backfilling and mixing of ash in with OB of NCL mines is ongoing at Nigahi operational mine by CIMFR. Approval for conducting study for Amlori, Jayant, Khadia and Dudhichua mines at M.P. is under process.
10. Ministry of Mines has shared the list of 207 identified non-coal mines for backfilling with fly ash. Further, directions were issued to all the Regional Controllers of Mines to identify more working mines, where mineral was exhausted, for backfilling activities. The list of 207 identified non-coal mines is presented below:
 - i. 82 abandoned mines: list shared earlier
 - ii. 56 mines: surrendered to State Govt.
 - iii. 57 mines: part surrendered
 - iv. Pits of 12 working mines: available for backfilling with fly ash
11. CPCB informed that the list of 207 identified non-coal has been made available on Fly Ash Management Mission's website. CEA has circulated the list to all the TPPs.
12. Anpara TPP has desilted 1.52 lakh CuM deposited ash from Rihand reservoir and desiltation of remaining 50,000 CuM ash will be completed by July, 2023. Further, desilted ash is being used to fill low lying areas. Total 58000 CuM deposited ash have been completely desilted from Renu river by Obra TPP. Desilted ash has been disposed in low lying areas in Obra Sector 2 & 3 and stabilized with soil. Development of green belt is under progress.

13. UPPCB informed that the assessment and monitoring of desilting activities in water bodies due to Anpara and Obra discharged ash will be conducted after June, 2023.
14. Regular inspections are being carried out by UPPCB and MPPCB to verify implementation of action plan by TPPs, stone crushers and industries. UPPCB is yet to submit the compliance report. The Oversight Committee conducted field inspection in the month of May, 2023.
15. Meetings were held under Principal Secretary, Env. Dept., GoMP on 09.05.2023 & 27.06.2023 to review the implementation of action plan and issued following directions:
 - i. NHAI, MP Road Development Corporation and PWD were instructed regarding compulsory use of ash in all the road construction projects in the area.
 - ii. 4 TPPs (NTPC, Amarkantak TPP, Sanjay Gandhi TPP, Shri Shingaji TPP) having % ash utilization less than 55% were directed to submit action plan for 100% ash utilization.
 - iii. NTPC Vindhyanchal was directed to complete modernization process of ESP (within 2 months), install water sprinkler system to control fugitive dust emission from ash dyke and construction of fly ash storage silos (16 hrs capacity).
 - iv. Sasan Power Ltd. was directed for laying 25 km long pipeline for transportation of ash. Mahan Energen Ltd. were directed to complete arrangement of merry-go-round and conveyer system for coal transportation and initiate transportation of ash through rail. Mohar & Mohar Amlori Extension Coal Project of Sasan Power Ltd. was directed to conduct study for mixing ash with overburden.
 - v. All TPPs were directed to submit ash dyke safety study report by reputed institute.
 - vi. NCL coal mines were directed to use 18 procured fog cannons to prevent fugitive dust emission. NCL Amlori Project were directed to establish

ETP. APMDC Ltd. were instructed regarding coal transportation through rail by March, 2025.

- vii. ECL was instructed to construct boundary wall, concrete roads and install water sprinklers in railway sidings by Dec, 2023. WCL was directed for timely completion of construction of Bargavan, Gondwali and Gajara Bahra railway siding.
- viii. 3 stone crushers which have not taken pollution control measures, were directed to be closed and remaining crushers were directed to meet timelines for pollution control.

16. Secretary, Env. Dept. issued directions to the concerned departments for mandatory use of ash based products by all building construction agencies. A meeting was held on 09.05.2023 under Chief Secretary, Govt. of M.P. and 27.06.2023 under PS, Env. Dept. on implementation of action plan. Directions were issued to concerned stakeholders to utilize ash by roads construction agency, ash based products manufacturers and coal mines.

17. UPPCB informed that air pollution control system such as covered conveyer system, covered jaw crusher, water sprinkling arrangement, wind breaking wall, green belt, pucca roads have been installed in all 313 stone crushers and also no new stone crushers is allowed to established. 155 stone crushers were inspected out of which 47 defaulting units were issued show-cause notices under Air Act. Further, an area of 10 Ha is afforested by Miyawaki technique for the control of dust pollution.

18. MPPCB conducted air quality monitoring around Phulwari, Sonbhadra District on 22.06.2023 & 23.06.2023. It was stated that due to the installation of pollution control systems such as water sprinkler, greenbelt development, wind breaking wall and dust containment cum suppress system and due to precipitation on 22.06.2023, the results were found within the prescribed standards (PM_{10} : $100 \mu\text{g}/\text{m}^3$). Further, out of 63 inspected stone crushers, 3 crushers are to be closed and remaining crushers to meet timelines for pollution control.

19. M/s Hindalco informed that pits of Dala abandoned stone quarry is partially filled with water and are available for disposal of fly ash. Formulation of SoP by Aluminium Association of India and IIFM Bhopal is under process for conducting pilot study on mixing of red mud with fly ash for backfilling of Dala abandoned stone quarry.
20. State Govts. informed that inter-state transportation of ash has not been banned and no application was received for inter-state ash transportation.
21. CPCB has finalized guidelines for technical specifications and annual certification of ash ponds/dykes on 27.06.2023.
22. Stipulation of conditions in Environmental Clearances of coal mines and non-coal mines for conducting feasibility studies for assessment of voids for backfilling activities is under consideration by Expert Appraisal Committee (Coal Mining).
23. MoEF&CC on 4.05.2023 requested NHA1 to utilize ash in all road construction projects enabling TPPs to achieve 100% ash utilization.
24. Collector of Singrauli District, Madhya Pradesh had organised a workshop on 24.06.2023 for identified SHGs for promoting switch over to ash based brick/product manufacturing. Further, directions were given to the TPPs for ensuring availability of fly ash to these SHGs. Govt. of U.P. has directed TPPs to organise skilling and outreach programme. TPPs are promoting 31 MSMEs engaged in manufacturing ash based products/ brick manufacturers.
25. Proposals from AIIMS, Bhopal for conducting health and risk impact assessment studies in Sonbhadra and Singrauli region were sanctioned on 30.06.2023 and 27.06.2023, respectively.
26. Govt. of U.P. has opened a separate account to receive voluntary contributions and funds for environment restoration and relief. It was discussed that the funds already collected under Environmental Compensation for recovering damages and remediation activities in Singrauli and Sonbhadra region may be transferred to the accounts recently created by State Government for effective utilisation for improving environment (air, water and soil) specific to this region.

27. Time-bound action plan for utilization of legacy ash were received from NTPC (Rihand Nagar & Shaktinagar), UPRVUNL (Obra TPS & UPRVUNL Anpara TPS) and Lanco Anpara Power Ltd.

28. NTPC informed that they have engaged with NHAI for road construction projects for the supply of ash. Along with this and filling of mine voids would increase the utilisation to 70%.

b. The **following recommendations were made** during the meeting:

1. SOP to be developed in respect of working mine (opencast and underground mines) for safety related issues in allocation of mines. Also, SOP to be formulated for carrying out feasibility studies for filling up of mine voids in respect of all mines.

(Action: Ministry of Labour and Employment, and DGMS)

2. Updating list of identified abandoned mines for enabling TPPs to approach the concerned mines for backfilling of mine voids with ash for achieving 100% ash utilisation. SOP for signing-up of MoU between the identified mines and TPPs to be finalised.

(Action: Ministry of Mines)

3. Details of SOP followed for Singareni underground mine (SCCL) for ash filling in mine voids may be shared with WCL and NCL for adoption of similar SOP conditions in the MoU to be signed with TPPs. A copy may be shared with MoEFCC.

(Action: Ministry of Coal)

4. Status regarding details of identified mine voids, allocation to TPPs, signing of MoU and quantity of ash filled up against the available volume may be shared and may be put up on the website and updated monthly.

(Action: Ministry of Coal)

5. List of coal mines approaching for closure of mines in 3-5 years to be updated and shared with MoP & TPPs for making early allocation, signing of MoU and preparatory activities for initiation of backfilling of ash.

(Action: Ministry of Coal)

6. A scientific methodology with GIS mapping may be evolved for allocation of mine voids/ mixing of OB dumps with ash to TPPs based on proximity to the mine and transportation distance so that the environmental impacts/ costs of transportation can be minimised. In case of Sharda OC mine (Trench -1, 2 & 3), existing allocation of 90,000 m³ to Amarkantak TPS, MPPGCL may be reviewed and it may be increased as the TPP is 16 kms from the said mine.

(Action: Ministry of Coal)

7. Completion of feasibility study for Nigahi operational mine within two months and submission timelines for initiation and completion of feasibility studies for other working mines for assessment of area and volume available for ash backfilling in mine voids and mixing of ash in OB dumps in all NCL mines. Findings of feasibility study of Nigahi operational mine shall be presented during the next meeting of the Mission.

(Action: Ministry of Coal and NCL)

8. Meeting with all TPPs to get the details about abandoned mines which may be geographically favourable to the TPPs and furnish the list of TPPs along with priority list of abandoned mines.

(Action: MoP, CEA)

9. M/o Labour and Employment and DGMS to be communicated regarding finalisation of SOP in regard to backfilling of ash in open cast and underground mines (for both abandoned as well as working mines) and mixing of ash with overburden in dumps. A separate meeting may be convened with DGMS, M/o Coal and M/o Mines in this regard.

(Action: MoEF&CC)

10. Third-party audit for verification of implementation of action plans of TPPs, industries, stone crushers and coal mines in Singrauli and Sonbhadra region including desilting activities and reclamation of low lying areas carried out, may be undertaken through empanelled institutions/agencies and the report in this regard may be furnished during the next meeting of Mission. CPCB may work

out the cost to be incurred by individual industry in case of unit specific audit and jointly by cluster of industries in case of cluster specific audit.

(Action: CPCB)

11. In order to ensure 100% utilization of ash by all lignite and coal based thermal power plants across the country, effective monitoring and supervision of provisions of Ash Utilization Notification dated 31.12.2021 have to be scrupulously complied with. Respective stakeholders have been mapped in respect of the various activities mandated under the notification which has been shared with CPCB with the minutes of previous meeting. CPCB to coordinate with all the regulatory/enforcing agencies and ensure the compliance of all the activities in a time bound and on a regular basis

(Action: CPCB, MoP, CEA, All State Govts, All stakeholders)

12. Directorate of Mines and Geology may update the list of abandoned mines available in their respective States and make it available on State Govts. website including abandoned stone crushers. This may be put up on the website and updated every month.

(Action: State Govts. of U.P. and M.P.)

13. Environmental Compensation collected by respective SPCBs from the industries of Singrauli and Sonbhadra region prior to the opening of specific accounts and kept in common EC fund, may be transferred to respective accounts created by the State Govts, in addition to voluntary contributions. A mechanism to be put in place to utilise the funds received from this region to be used only for the said region for restoration of environment and relief. Further, State Forest Department may be engaged for carrying out measures for restoration of environment.

(Action: State Govts. of U.P. & M.P.)

14. Increase in utilisation of quantum of ash for making ash based products or eco-bricks through SHGs may be assessed by comparing pre- and post-skilling and outreach programmes. This may be updated every three months. SHGs to be

involved in making eco-bricks that can be used in tree plantation/afforestation, toilet construction activities of the public utility projects.

(Action: State Govts. of U.P. & M.P.)

15. Implementation of effective enforcement measures regarding mandatory use of ash based products/bricks by all building construction agencies within 300 km radius of TPPs as prescribed in Ash Utilisation Notification, 2021 and implementation of additional measures beyond the Notification, to minimise the disposal of ash in mine voids and low lying areas.

(Action: State Govts. of U.P. and M.P.)

16. Study on mixing of red mud with ash and its environmental aspects such as leaching of heavy metals into ground and surface water may be conducted and the results may be shared with CPCB.

(Action: State Govt. of M.P., MPPCB)

17. Ambient air quality monitoring in and around stone crushers to be conducted and baseline data of last two years (same season) be analysed to verify impact of mitigation measures taken by stone crushers. This may be carried out on a regular basis and data may be compiled in a continuous manner to assess the improvements as well as its sustainability. Carry out continuous evaluation of CEPI Score of Singrauli and Sonbhadara region and compile the data over the time in a continuous manner to assess the progress made. A presentation in this regard along with the implementation of CEPI action plan and verification/monitoring of desilting activities of Obra & Anpara (UPRVUNL) may be made during next meeting of the Mission.

(Action: State Govts. of U.P. and M.P., UPPCB and MPPCB)

18. SOP to be laid down for stipulation of measures to be taken during road transportation of ash, in the permission/ Consent to Operate issued for backfilling of mine void with ash and mixing the ash with OB.

(Action: State Govt. of U.P. and M.P., MPPCB and UPPCB)

19. Finalization and signing of MoU with M/s NCL for initiation of backfilling activities in Gorbi Pit-3, within a week and timelines for commencing backfilling activities to be shared. Action taken report in this regard may be submitted to the MoEF&CC.

(Action: State Govt. of U.P., Anpara TPP, UPRVUNL, MoC and NCL)

20. Carry out desiltation of remaining quantity of ash discharged in Rihand reservoir by Anpara TPP. Desilted ash disposed in low lying areas to be stabilized with soil cover and grass/ green belt. Progress to be updated on the website on monthly basis.

(Action: State Govt. of U.P., Anpara and Obra TPP, UPRVUNL)

21. All the pending/ ongoing activities in respect of implementation of decisions made during 1st, 2nd and 3rd 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)

List of Participants

1. Smt. Leena Nandan, Secretary, EF&CC
2. Shri Tanmay Kumar, Chairman, CPCB
3. Shri Naresh Pal Gangwar, Additional Secretary, MoEFCC
4. Sh. Anandji Prasad, Advisor (Project), MoC
5. Dr. Satyendra Kumar, Director, MoEFCC
6. Shri Tirupathi Reddy Kommidi, Additional Chief Manager, MoC
7. Shri, Anupam Shukla, Special Secretary, Department of Additional Sources of Energy, Govt. of U.P.
8. Shri Chandra Mohan Thakur, MS, MPPCB
9. Shri Ajay K. Sharma, MS, UPPCB
10. Shri Ashutosh Kumar Dubey, ADM, Sonbhadra, U.P.
11. Shri Nazimuddin, Scientist F, CPCB
12. Shri N. Subrahmanyam, Scientist D, MoEFCC
13. Shri Upendar Rapolu, Deputy Director, S&T, DGMS
14. Shri Amit Kumar, Director, CD, CEA
15. Shri P.S. Mohan Kumar, Deputy Director, CEA, MoP
16. Shri Ashish Kumar, Senior Mines Officer, Directorate of Geology and Mines, GoUP.
17. RO, MPPCB, Singrauli
18. Shri R.K. Gupta, Superintending Engineer, MPPCB
19. Shri Gaurav Gahlot, Scientist C, CPCB
20. Shri Ramesh Babu, Director (Operations), NTPC
21. Shri S.K. Takhele, CGM (SSEA), NTPC
22. Shri G., Rajashekar, GM (AMG), NTPC

23. Shri Ashwani Tyagi, DGM, NTPC
24. Shri Sanjeev Kumar, GM (Env. & Forest), NCL
25. Shri S.K. Dutta, Director (Technology), UPRVUNL
26. Shri Anand Kumar, Chief Engineer, UPRVUNL
Shri Ravikant Raut, Chief Chemist, MPPGCL
27. Ms. Rehana Beg, Resident Engineer, MPPGCL
28. Shri Himanshu Verma, Sr. Manager, Lanco Anpara Power Ltd.
29. Shri Mukesh Mittal, Vice President (Env. & Sustainability), Hindalco
30. Shri Vinay Kr. Yadav, AGM (Environment), Grasim Industries Ltd.,
31. Renukoot
32. Dr. Vinod K. Verma, Head Regulatory Affairs, Hindalco
33. Shri Shripal Singh, DGM (Civil), NOIDA
34. Shri S.K. Bhargava, Executive Engineer, MPIDC, Bhopal
35. Shri Shubham Pundeer, Manager (Project), YEIDA
36. Jitendra Prasad, Additional Vice President (EHS), Sasan Power Ltd.
37. Shri K.K. Mahobe, CE Civil AU& PC
38. DMF, Singrauli, MP
39. CSPGL