



केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVT. OF INDIA

By Speed Post/E-mail

No- CP-17/3/2024-IPC-II-HO

5767-5779

24 October 2024

To,

The Member Secretary,
State Pollution Control Boards
(As per list enclosed)

Sub: Directions under Section 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 for ensuring effective implementation and monitoring of the Guidelines for Management and Handling of Red Mud (Bauxite Residue) generated in alumina manufacturing units.

WHEREAS, under section 16 of the Water (Prevention & Control of Pollution) Act, 1974 and Section 16 of the Air (Prevention & Control of Pollution) Act, 1981, one of the functions of the Central Pollution Control Board (CPCB), constituted under Water (Prevention & Control of Pollution) Act, 1974 is to coordinate activities of the State Pollution Control Boards and Pollution Control Committees and to provide technical assistance and guidance to SPCBs/PCCs; and

WHEREAS, amongst others, under section 17 of the Water (Prevention and Control of Pollution) Act, 1974, one of the functions of the State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs), constituted under the water (Prevention & Control of Pollution) Act, 1974 is to plan a comprehensive programme for the prevention, control or abatement of pollution of streams and wells located in the State and to secure the execution thereof; and

WHEREAS, amongst others, under section 17 of the Air (Prevention and Control of Pollution) Act, 1981, one of the functions of the State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs), is to plan a comprehensive program for prevention, control and abatement of air pollution in the State/U.T. and to secure the execution thereof; and

WHEREAS, red mud (bauxite residue) generated in alumina manufacturing units is metals containing highly alkaline waste and has potential for environmental contamination therefore require proper management and handling.

WHEREAS, as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, certain wastes including red mud (bauxite residue) generated in alumina manufacturing units are separately mentioned in the footnote of Schedule I that separate guidelines on the management of such waste shall be issued by Central Pollution Control Board.

WHEREAS, the Central Pollution Control Board (CPCB) has accordingly issued

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दूरभाष/Tel: 43102030, 22305792, वेबसाइट/Website : www.cpcb.nic.in

Guidelines for Handling and Management of Red Mud in May 2023 to ensure environmentally sound handling, transportation, and storage/disposal of red mud;

WHEREAS, the above mentioned guidelines have the following salient features:

i. Red Mud Generation-

- Minimization of the Red Mud generation through use of better-quality ore wherever possible
- Minimization of the Red Mud generation through process parameter control or optimization.
- Increased washing of the Red Mud to get lowest possible alkali concentration in Red Mud. BATs be adopted for reducing the alkali concentrations below 3.0%

ii. Red Mud Filtration-

- Discontinue the use of Red Mud Pond (RMP) and instead use of Dry Stacking Facility (DSF) by using high pressure filtration technology to generate filter cake with a moisture content less than 28%.
- All the existing Red Mud generating units are required to install filter press and shift to dry stacking of Red Mud (with moisture content not more than 28%) within 01 year from publication of these guidelines.
- The filtration system to be located as close as possible on the upstream side of red mud disposal area (RDMA) and the transfer of Red Mud slurry from the refinery to the filtration building be carried out through pipelines, which should be laid at a safe distance from surface water body/river, public road, state/national highway, railway tracks etc. so as to prevent spillage/contamination.
- Units shall completely shift towards conveyer/ pipelines for transporting Red Mud within 01 year from publication of these guidelines
- All handling and use of the Red Mud in the generating and recipient units to be carried out under covered areas.

iii. Site selection and location criteria for the Red Mud Disposal-

- Red Mud disposal site (dry stacking facility) or expansion of the same, as far as possible, should be located within or near the existing industry premises. The siting criteria may take into account the nature and impact of red mud disposal area on the surroundings (i.e. habitats, natural and manmade water bodies, roads, railway tracks, etc.).

iv. Red Mud Handling and Disposal-

- The filter cake from the filtration system be transferred through covered belt conveyer to the dry stacking facility.
- The guidelines for design of red mud disposal area (dry stacking facility), leachate control mechanism, vehicle tyre wash facility, dust suppression system, runoff water collection pond, and regular monitoring & inspection of red mud disposal area be adopted/ followed.

- The unit should conduct an internal and external (third party) safety audit of the RMDA for each financial year and once in two consecutive financial years respectively and submit the report to SPCB by the 30th of September of the following year.

v. Red Mud Utilization-

- The maximum concentration of hexavalent Chromium in cement (produced using Red Mud) not to exceed 2mg/kg (2ppm).
- To begin with the Red Mud generating units shall utilize minimum 25% of its annual generation in the first year that should be gradually increased over their subsequent years and also plan for utilisation of legacy red mud be submitted to concerned SPCB/PCC within a period of 06 months.
- SPCB/PCC shall examine the said action plan, outline time-bound targets, monitor the progress and submit the status report to CPCB by 30th June every year.
- To achieve the utilisation targets, necessary technologies, including de-alkalisation, should be adopted to enable increased utilization in construction material, soil amelioration, recovery of elements, etc.

vi. Compliance Reporting-

- Monitoring of the Red Mud quality once in a day for pH and moisture, whereas, electrical conductivity, alkali concentration (as Na₂O) and toxic heavy metals Arsenic, Cadmium, Chromium (Total), Chromium (VI), Lead, Nickel and Cobalt may be analyzed quarterly. The results should be compiled and reports to be sent annually to the SPCB and CPCB.
- Monitoring of river /surface/ ground water (minimum three locations each) and soil (minimum six locations each) on all the sides (except higher altitude side) up to at least 500 meters from the periphery of RMDA, for pH, and toxic heavy metals- Arsenic, Cadmium, Chromium (Total), Chromium (VI), Lead, Nickel and Cobalt, twice (in pre and post monsoon seasons) in a year and send the reports to SPCB and CPCB.
- Maintain records on the details (name, address & quantity) of Red Mud received and utilized during the financial year and be submitted annually (by 30th June of following year) to SPCB/PCC and CPCB.
- The industry should submit the annual report covering the status of the Red Mud generated, stored in each pond/facility, quantity utilized and the concerned use application, and disposal for the financial year by 30th June of the following year to SPCB/PCC and CPCB.

The full recommendations for environmentally sound handling and management of red mud as given in Chapter 11 of the said guidelines are attached.

NOW, THEREFORE, in exercise of the powers under Section 18(1)(b) of the

Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, and with the approval of the Chairman, Central Pollution Control Board (CPCB), the _____ (as per list enclosed) _____ State Pollution Control Board is hereby directed to issue necessary directions to red mud generating units to ensure compliance of the full recommendations of the ***Guidelines for Handling and Management of Red Mud***, May 2023, including environmentally sound handling, transportation, and storage of red mud, switchover to dry stacking system, and submission of plan to achieve 100% utilisation of current generation and plan for utilisation of entire legacy red mud.

The SPCB shall submit the latest status/action taken report on the above mentioned directions within one month from the receipt of these directions, and ensure regular compliance of the above mentioned directions and submission of annual status report pertaining to FY 2023-24 by 31st December 2024 and subsequent annual status reports by 30th June from June 2025 onward.


(Bharat Kumar Sharma)
Member Secretary

Copy to:

1. Additional Secretary (HSM Division)
Ministry of Environment, Forest and Climate Change,
Indira Paryavaran Bhawan, Aliganj,
Jor Bagh Road, **New Delhi – 110 003**
2. The Regional Directors : For follow-up with the concerned SPCBs.
Central Pollution Control Board,
(As per the list enclosed)
3. The Divisional Head - IT, CPCB, Delhi : For uploading the directions on the website.


(Bharat Kumar Sharma)
Member Secretary



List of State Pollution Control Boards

1. The Member Secretary
Andhra Pradesh Pollution Control Board
D.No. 33-26-14 D/2, Near Sunrise
Hospital, Pushpa Hotel Centre,
Chalamvari Street, Kasturibaipet,
Vijayawada- 520007 (Andhra Pradesh)
2. The Member Secretary
Chhattisgarh Environment Conservation Board
Paryavas Bhawan, North Block, Sector-19
Atal Nagar, Raipur- 492 002
(Chhattisgarh)
3. The Member Secretary
Jharkhand State Pollution Control Board
T.A Building, HEC Campus, P.O.
Dhurwa Ranchi – 834004
(Jharkhand)
4. The Member Secretary
Karnataka State Pollution Control Board
Parisara Bhawan, 49, Church Street,
Bengaluru – 560 001 (Karnataka)
5. The Member Secretary
Odisha State Pollution Control Board
Paribesh Bhawan, A-118,
Nilakanta Nagar, Unit –VIII,
Bhubaneshwar – 751012 (Odisha)
6. The Member Secretary
Tamil Nadu Pollution Control Board
No. 76, Mount Salai, Guindy,
Chennai – 600032 (Tamil Nadu)
7. The Member Secretary
Uttar Pradesh Pollution Control Board
Building No. TC-12V, Vibhuti Khand,
Gomti Nagar, Lucknow- 226010.
(Uttar Pradesh)

List of Regional Directors

1. The Regional Director (Kolkata)
Central Pollution Control Board
502, Southend Conclave
1582, Rajdanga Main Road
Kolkata-700107
2. The Regional Director (Bhopal)
Central Pollution Control Board
3rd Floor, SahkarBhawan
North T.T Nagar
Bhopal- 462003
3. The Regional Director (Lucknow)
Central Pollution Control Board
Ground Floor, PICUP Bhawan
VibhutiKhand, Gomti Nagar
Lucknow- 226020
4. The Regional Director (Bengaluru)
Central Pollution Control Board
1st& 2nd Floors, NisargaBhawan
A-Block, Thimmaiah Main Road
7th D Cross, Shivanagar
Opposite Pushpanjali Theatre
Bengaluru-560010
5. The Regional Director (Chennai)
Central Pollution Control Board
77-A, Second Floor
South Avenue Road,
Ambattur Industrial Estate,
Ambattur Taluk, Thiruvallur District,
Chennai - 600058