

SPEED POST

PJ-14099/4/2021-WQM-II-HO-CPCB-HO 8752.8755 January 19, 2023

To
The Member Secretary
All SPCBs / PCCs (List enclosed)

SUB: Directions under section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 to enlist technologies to ensure Zero Liquid Discharge (ZLD) in Molasses based Distilleries

WHEREAS, the Central Pollution Control Board (CPCB), has delegated powers vested under Section 18 (1) (b) of the Water (Prevention & Control of Pollution) Act, 1974 to the Member Secretary, Central Pollution Control Board vide its resolution made in 196th Board meeting dated 29th March, 2022 to issue directions under Section 18 (1) (b) of the Water (Prevention & Control of Pollution) Act, 1974 to the State Pollution Control Board(s); and

WHEREAS, under Section 17 of the Water (Prevention & Control of Pollution) Act, 1974, one of the functions of the State Pollution Control Boards (SPCBs)/Pollution Control Committees (PCCs) is to plan a comprehensive programme for the prevention, control or abatement of pollution of streams, wells and air pollution in the State/Union territory and to secure the execution thereof; and

WHEREAS, the SPCBs and PCCs are empowered to stipulate standards for discharge of environmental pollutants for various categories of industries more stringent than those notified by the Central Government, under the Environmental (Protection) Act, 1986 and rules framed there under; and

WHEREAS, CPCB issued directions dated 07.12.2015 to SPCBs of Ganga basin states namely Uttarakhand, Uttar Pradesh, Bihar, West Bengal, Haryana, Chhattisgarh and Madhya Pradesh to ensure achievement of Zero Liquid Discharge in all molasses based distilleries through either of the two processes specified below:

- i. Installing systems for slop separation for reduction in volume of spent wash and evaporation- concentration or only evaporation concentration so as to reduce the volume to minimum 40 % with 30% solid concentration and water conservation by using appropriate technology such as Reverse Osmosis (RO) & Multi Effect Evaporator (MEE) or only MEE by December 31, 2015 followed by biocomposting with press mud from sugar industry; or Installing system for Evaporation –concentration by using appropriate technology such as MEE and incineration boiler (Slop boiler/mixed with aux. fuel etc.) using appropriate technology.

- ii. Installing advance process technologies (continuous fermentation, multi pressure distillation, integrated evaporation etc.) for reduction of spent wash generation to 6-8 kl/kl of alcohol produced followed by evaporation –concentration and incineration using appropriate technology such as MEE and incineration boiler.

AND WHEREAS, Council of Scientific & Industrial Research-Central Salt and Marine Chemical Research Institute (CSIR-CSMCRI), Bhavnagar, Gujarat has developed an innovative and indigenous technology namely “the technology for recovery of FCO grade potash fertilizer from molasses based distillery spent wash” (hereinafter referred as ‘the technology’) and forwarded their request vide letter dated 23.07.2020 to CPCB for approval as an option for achieving ZLD in molasses-based distilleries for environmental clearance by Ministry of Environment, Forest & Climate Change (MoEF&CC) and State Pollution Control Boards (SPCBs), and;

WHEREAS, CSIR-CSMCRI, Bhavnagar vide letter dated 28.11.2022 requested Ministry of Environment, Forest & Climate Change, New Delhi for inclusion of “technology for recovery of FCO grade potash fertilizer from molasses based distillery spent wash” in MoEF&CC/CPCB guidelines as well as in the drop-down menu of online Environment Clearance (EC) application portal of MoEF&CC, as one of the options to achieve Zero Liquid Discharge (ZLD) in molasses based distilleries; and

WHEREAS, the technology has been examined and the salient features of the technology are as follows:

1. Spent wash processing with the technology developed by CSIR-CSMCRI results in production of potassium nitrate which is an FCO grade potash fertilizer, Magnesium Sulphate, Ammonium Sulphate. As reported, potash free organics/De-Potashed Vinasses (DPV) can be used for applications like animal feed binder, fuel, activated carbon production.
2. The technology employs chemical treatment with patented chemicals (patented with CSIR-CSMCRI) and requires further concentration-incineration based methods for achieving ZLD in molasses based distilleries and can be retrofitted to all existing distilleries having raw and bio-methanated spent wash to generate potash as additional product integrating new equipment and using all existing equipment. During the process, after recovery of Gypsum as product (75% solid concentration), Potash (K content >12%, solid concentration >90%) & condensate water through concentration and chemical treatment, the lean spent wash shall be concentrated to more than 60% solid content to either produce De-Potashed Vinasses (65-70% solid content) or shall be disposed through composting/concentration-incineration routes.

WHEREAS, the details about the technology developed are available at CSIR-CSMCRI’s website (<https://www.csmcri.res.in/technologies/tech-details/8164>).

NOW, THEREFORE, in exercise of the powers conferred under section 18(1)(b) of the water (Prevention & Control of Pollution) Act, 1974, you are hereby directed that the "technology for recovery of FCO grade potash fertilizer from molasses based distillery spent wash" developed by CSIR-CSMCRI may be considered as one of the options for achieving Zero Liquid Discharge (ZLD) in Molasses based distillery with following provisions:

1. Spent sludge generated during process may be used as cattle feed, as proposed by CSIR-CSMCRI, subject to certification from concerned authority for suitability of its use as cattle feed.
2. Spent liquor left after recovery of potash and inorganic salt may be used as binder in cattle feed in lieu of molasses, as proposed by CSIR-CSMCRI, subject to verification/certification of suitability for its use as cattle feed from concerned authority regarding quality & sale of proposed by-products including packaging super scribed by the name of manufacturer and product quality.
3. In case the spent liquor (after recovery of potash and inorganic salts) is not used as by-product as mentioned above, Board shall ensure that proper & adequate system for concentration and evaporation (minimum 60% solids) and incineration shall be installed for management of spent liquor left after recovery of potash & others inorganic salt, and land application of spent liquor/spent wash shall not be considered.
4. Ensure that other wastewater stream such as spent lees, condensate, boilers/cooling tower blow down shall be treated through CPU for reuse in the process.


(Prashant Gargava)
MEMBER SECRETARY

Copy to:

1. Additional Secretary (CP Division)
Ministry of Environment, Forest & Climate Change
Indira Paryavaran Bhawan,
Jorbagh Road,
New Delhi-110003 : for kind information please
2. The Regional Director
Regional Directorate, Chandigarh
Central Pollution Control Board
First Floor, BSNL Exchange Building
Sector-49, Chandigarh-160 047 : for kind information please
3. The Regional Director
Regional Directorate (North)
Central Pollution Control Board
Ground Floor, PICUP Bhawan, Vibhuti Khand
Gomti Nagar, Lucknow-226 010 (U.P.) : for kind information please

4. The Regional Director
Regional Directorate, Kolkata
Central Pollution Control Board
Southernd Conclave, Block 502
5th & 6th Floors, 1582, Rajdanga Main Road
Kolkata-700 107 (W.B.)

: for kind information please

✓ 5. Divisional Head
I.T., Division, CPCB Delhi

: with request to upload on the website
please


(Prashant Gargava)

List of State Pollution Control Boards and Pollution Control Committees

S. No.	Member secretary
1	The Member Secretary Andhra Pradesh Pollution Control Board, D.No. 33-26-14 D/2, Near Sunrise Hospital, Pushpa Hotel Centre, Chalamalavari Street, Kasturibaipet, Vijayawada – 520 010
2	The Member Secretary Assam Pollution Control Board, Bamunimaidan, Guwahati, Assam - 781021
3	The Member Secretary Arunachal Pradesh State Pollution Control Board, Department of Environment & Forests, Paryavaran Bhawan, Yupia Road, Papu Nalah, Naharlagun-791110
4	The Member Secretary Bihar State Pollution Control Board, Parivesh Bhawan, Plot No. NS-B/2 Patliputra Industrial Area, Patliputra, Patna (Bihar) - 800 010
5	The Member Secretary Chhattisgarh Environment Conservation Board, Paryavas Bhavan, North Block Sector-19, Atal Nagar District- Raipur Chhattisgarh- 492002
6	The Member Secretary Haryana State Pollution Control Board, C-11, Sector 6, Panchkula Haryana-134109
7	The Member Secretary Jharkhand State Pollution Control Board, T.A. Division Building, HEC, P.O. Dhurwa, Ranchi-834 004.
8	The Member Secretary J & K State Pollution Control Board, Parivesh Bhawan, Forest Complex, Gladni, Narwal, transport Nagar, Jammu, Jammu and Kashmir 180004
9	The Member Secretary Karnataka State Pollution Control Board, “Parisara Bhavan” 4 th & 5 th Floor, # 49, Church Street, Bangalore-560 001.

10	The Member Secretary Kerala State Pollution Control Board, Pattom P.O, Thiruvananthapuram –695 004
11	The Member Secretary Madhya Pradesh Pollution Control Board, Paryawaran Parisar, E-5 Arera Colony, Bhopal – 462 016.
12	The Member Secretary Maharashtra Pollution Control Board, 2 nd , 3 rd & 4 th floor, Opp. Cine planet, Near Sion Circle, Sion (E) Mumbai- 400 022.
13	The Member Secretary Manipur Pollution Control Board, Lamphalpat, Imphal West D.C. Office Complex – 795004
14	The Member Secretary Nagaland Pollution Control Board, Signal Point, Dimapur, Nagaland 797112 Nagaland
15	The Member Secretary Himachal Pradesh State Pollution Control Board, Him Parivesh, Phase-III, New Shimla, Himachal Pradesh–171 009.
16	The Member Secretary Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10A, Gandhi Nagar –382 010.
17	The Member Secretary Goa State Pollution Control Board, Nr. Pilerne Industrial Estate, Opp. Saligao Seminary, Saligao - Bardez Goa - 403511
18	The Member Secretary Meghalaya State Pollution Control Board, “ARDEN”, Lumpyngngad, Shillong-793 014 Meghalaya
19	The Member Secretary Mizoram State Pollution Control Board, Mizoram New Capital Complex (MINECO), Khatla, Khatla Thlanmual Road, Aizawl, Mizoram - 796001

20	The Member Secretary State Pollution Control Board, Odisha Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751 012, Odisha
21	The Member Secretary Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala Punjab - 147 001
22	The Member Secretary Rajasthan Pollution Control Board, 4, Jhalana Institutional Area Jhalana Doongri, Jaipur -302004 Rajasthan
23	The Member Secretary State Pollution Control Board, Sikkim Forest and Environment Department Government of Sikkim Forest Secretariat, C Block, Deorali - 737102, Gangtok East Sikkim
24	The Member Secretary Uttarakhand Pollution Control Board, Gaura Devi Bhawan, 46 B IT Park Sahastradhara, Dehradun, Uttarakhand - 248001
25	The Member Secretary Uttar Pradesh Pollution Control Board, Building No. TC-12V Vibhuti Khand, Gomti Nagar, Lucknow – 226 010
26	The Member Secretary Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032
27	The Member Secretary Tripura State Pollution Control Board, Parivesh Bhawan, P.N. Complex, Gorkhabasti, P.O. Kunjaban, Agartala, Tripura-799006
28	The Member Secretary West Bengal Pollution Control Board, Paribesh Bhawan 10A, Block-LA, Sector-III Bidhannagar, Kolkata-700 106

29	The Member Secretary Andaman & Nicobar Pollution Control Committee, Dolly Gunj, Port Blair-744102, Andaman and Nicobar
30	The Member Secretary Chandigarh Pollution Control Committee, Paryavaran Bhawan, Ground Floor, Sector-19 B Madhya Marg, Chandigarh
31	The Member Secretary Dadra and Nagar Haveli and Daman and Diu Pollution Control Committee, 1st Floor, Udhog Bhavan Bhenslore, Dunetha Nani Daman, Daman - 396210
32	The Member Secretary Delhi Pollution Control Committee, 6th floor, C wing, Delhi Secretariat, I P Estate, Delhi-110002
33	The Member Secretary Lakshadweep Pollution Control Committee, Administration of UT of Lakshadweep, Dept. of Science, Technology. Kavarati – 682 555.
34	The Member Secretary Puducherry Pollution Control Committee, III Floor, PHB Building, Anna Nagar, Puducherry – 600 005.
35	The Member Secretary Telangana State Pollution Control Board, Paryavaran Bhawan, A-3, Industrial Estate, Sanath nagar, Hyderabad- 5000 018