



ಕರ್ನಾಟಕ ರಾಜ್ಯ ಮಾಲಿನ್ಯ ನಿಯಂತ್ರಣ ಮಂಡಳಿ
Karnataka State Pollution Control Board

“ಪರಿಸರ ಭವನ”, 1 ರಿಂದ 5ನೇ ಮಹಡಿಗಳು, ನಂ. 49, ಚರ್ಚ್ ಸ್ಟ್ರೀಟ್, ಬೆಂಗಳೂರು - 560 001, ಕರ್ನಾಟಕ, ಭಾರತ
“Parisara Bhavana”, 1st to 5th Floor, # 49, Church Street, Bengaluru - 560 001, Karnataka, INDIA

No. PCB/20/MSW 2263

Date: 02 JUL 2022

Sub:- Directions under Section 5 of the Environment (Protection) Act, 1986 for implementation or the Solid Waste Management Rules, 2016 – regarding Fire incidents at MSW Dumpsites.

WHEREAS, the Ministry of Environment, Forest & Climate Change has notified Solid Waste Management Rules on April 08, 2016 which inter-alia state procedures for Solid Waste Management;

WHEREAS, in accordance with Rule 11(d) of the Rules, it is the duty of the State/UT Urban Development Department to ensure implementation of provisions of these Rules by all local authorities;

WHEREAS, in accordance with Rule 15(a) of the Solid Waste Management (SWM) Rules, 2016, the local authorities and Panchayats should prepare a solid waste management plan as per state policy and strategy on solid waste management within six months from the date of notification;

WHEREAS, in accordance with provision of Rule 15(zd) of the SWM Rules, 2016, the local authorities and Panchayats shall ensure that the operator of a facility provides personal protection equipment including uniform, fluorescent jacket, hand gloves, raincoats, appropriate foot wear and masks to all workers handling solid waste and the same are used by the workforce;

WHEREAS, in accordance with provision of Rule 16 (1a) of SWM Rules, 2016, the State Pollution Control Board or Pollution Control Committee shall enforce these rules in their State through local bodies and review implementation of these rules at least twice a year in close coordination with concerned Directorate of Municipal Administration or Secretary-in-charge of State Urban Development Department;

WHEREAS, MSW is being disposed of unscientifically in most cases which is one of the major causes for public nuisance due to frequent fire incidents, foul, odour, generation of leachate and other adverse environmental impacts;

WHEREAS, waste disposed at dumpsites is prone to catching fire in view of inadequate waste management practices adopted at these sites;

WHEREAS, several fire incidents have been reported recently at Ghazipur & Bhalsawa dumpsites in Delhi, Manesar in Haryana and Ludhiana in Punjab;

WHEREAS, fire incidents at dumpsites may lead to severe adverse impact on environment and related health hazards. People living in and around the dumpsites are likely to be affected due to the frequent outbreaks of fire.

WHEREAS, Hon'ble NGT in OA No. 286 of 2022, in reference to News item published in The Indian Express dated 20th April, 2022, titled "7 Charred to death in fire near Ludhiana dumpsite" issued the following Directions:

"CPCB to collect information about garbage dumpsites from all States/ UTs in respect of at-least Metro cities and issue statutory directions / guidelines for preventing such fires and handling them effectively if they take place, specifying serious consequences of delay in dealing with the issue, in violation of binding rules."

WHEREAS, as per Guidelines for Disposal of Legacy Waste (Old Municipal Solid Waste) issued by CPCB, it is important to carry out comprehensive risk assessment and develop onsite emergency plan which should be kept handy prior to commencement of dumpsite bio-remediation & bio-mining;

WHEREAS, Hon'ble NGT in its Order dated April 22, 2022 in O.A. No. 288/ 2022 regarding News item published in the Times of India dated April 22, titled "Delhi: Another long-drawn to douse fire at Ghazipur landfill" has stated that dumpsite may be considered as isolated and vulnerable site which require On-site and Off-site Fire and other disaster management plans; AND

WHEREAS, CPCB made the following observations based on inspected various dumpsites, where bioremediation of legacy waste is being carried out:

- i. Fresh solid waste continued to be dumped at these dumpsites.
- ii. Fire incidents have been reported at locations where fresh waste is being dumped.
- iii. Inaccessible slopes of garbage were observed.
- iv. No standard operating plan in place for prevention and management of dumpsite fires.
- v. Cause of fire incident reported is excess release of Methane (CH₄) gas due to anaerobic decomposition of the bio-degradable organic waste, high temperature and dry atmospheric conditions.
- vi. Partial fencing with barbed wire provided at the boundary observed.
- vii. Police patrolling the site not observed.
- viii. No fire tender observed at site.
- ix. Anti-Smog Gun have been installed which were not found in use; AND

WHEREAS, in view of above and in exercise of powers vested under section 5 of

Environment (protection) Act, 1986 to the Chairman, Central Pollution Control Board (CPCB) issued the following directions are compliance to the chairman of Karnataka State Pollution Control Board;

- i. Provide updated information w.r.t Directions dated 27.1.21 regarding bio-mining issued to SPCBs/PCCs. It is to be ensured that updated information w.r.t at least all Metro cities is provided in accordance with NGT Directions.
- ii. Direct State UDDs to conduct comprehensive risk assessment studies and accordingly prepare detailed On-site Emergency Plan for each dumpsite located in their jurisdiction addressing the following issues:
 - a. The onsite emergency plan to cover potential risks / emergencies due to fire, obnoxious / flammable emissions, odour, vector borne diseases, rodents, bird nuisance, seasonal affects i.e. summer / winter / monsoon (rainy season) and all other potential risks at the dumpsites.
 - b. The onsite emergency plans to address the worst possible case scenarios preferably using appropriate risk assessment softwares covering any or all of the potential emergency issues / scenarios cited above.
 - c. The on-site emergency management plan to cover likely affected geographical area including population, flora & fauna in and around the dumpsites
 - d. The on-site emergency plan to contain detailed remedial measures both hardware," and software based for mitigating various emergency situations, which should finally be available with respective control rooms and on-site emergency notice boards.
- iii. To direct District Collector or District Emergency Authority designated by the State Government for integrating such (dumpsites) On-site Emergency Plans with the existing Off-site District Disaster Management Plans in their respective Districts, prepared by the Local Authorities in compliance with Rule 14 of The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989.
- iv. The State /UT Authorities to prepare the on-site & off-site (or update off-site) emergency management plans preferably through an expert agency on the subject.
- v. The following interim measures to be implemented on priority till the time On-site/Off-site Emergency Plans are prepared and implemented.
 - a. **Disposal of Waste:** Fresh waste not to be disposed at the dumpsite where bio-remediation is being undertaken. Organic waste from slaughter house, fish market etc., industrial waste not to be disposed at the dumpsite. It is to be further ensured that industrial waste / E-waste / lithium battery is not dumped at the site. Waste that is being unloaded at the site should be

examined visually for potential fire sources fire sources when located, should be neutralized with cover material immediately. Emergency tipping area to be provided to set aside from the immediate working area where incoming loads of material known to be on fire or suspected of being so can be deposited, inspected and dealt with. Adequate compacting of waste to be done to minimize formation of air or methane pockets which can lead to subsurface fire at site.

- b. **Monitoring at dumpsites:** Methane Gas Detectors (on downwind side) to be installed at site so that area with high methane concentration can be identified and preventive actions be undertaken. Further temperature at windrows to be monitored with non-contact infrared thermometer (as used for monitoring human body temperature under COVID circumstances) and records be maintained for any major deviations. The temperature is to be in the range of 35°C to 59°C. Treated leachate / water to be sprayed on the waste when rise in temperature is observed at the bioremediation site. Suitable mechanism to be in place. Installation of CCTV cameras at the site and provision of fencing & frequent patrolling to be done for checking unauthorized entry at dumpsite
- c. **Arrangements for Fire Extinguishing:** Arrangements for adequate storage of sand / chemical fire extinguishing medias such as foam or powder at site to be made to douse fire in case a fire incident is reported. Usage of water for dousing fire to be avoided. Isolation and allowing rapid natural burnout or smothering with soil to be done for dousing dumpsite fires. Dedicated fire tenders (preferably chemical extinguishing media) and adequate fire safety measures are to be deputed, specifically during summer season when dumpsites fire is more likely to take place. All mobile equipment or vehicles should be fitted with fire extinguisher and spark arrester.
- d. **Health & Safety of Workers:** Fire protection measures and safety equipment to be provided to all workers at the site and checked before entry to the dumpsite. Workers to be trained for detection of fire and necessary action to be taken in case of fire. Periodic training of workers be conducted in Safe handling of Waste, PPE's, Health & Safety issues etc.
- e. **Mock Drills & safety audits:** Periodic mock drills to be conducted to prevent fire accidents at dumpsites. Quarterly, Fire Safety and Hazardous Emissions Audits to be conducted.

WHEREFORE, in view of above and in exercise of powers vested under section 5 of Environment (protection) Act, 1986 to the Chairman, Karnataka State Pollution Control Board herewith issue following directions for compliance;

For Secretary, Urban Development Department:

- i. Provide updated information w.r.t Directions dated 20.12.2021 regarding bio-mining issued to All Urban Local bodies of Karnataka. It is to be ensured that updated information w.r.t at least all Metro cities is provided in accordance with NGT Directions.
- ii. To conduct comprehensive risk assessment studies and accordingly prepare detailed On-site Emergency Plan for each dumpsite located in their jurisdiction addressing the following issues:
 - a. The onsite emergency plan to cover potential risks / emergencies due to fire, obnoxious / flammable emissions, odour, vector borne diseases, rodents, bird nuisance, seasonal affects i.e. summer / winter / monsoon (rainy season) and all other potential risks at the dumpsites.
 - b. The onsite emergency plans to address the worst possible case scenarios preferably using appropriate risk assessment softwares covering any or all of the potential emergency issues / scenarios cited above.
 - c. The on-site emergency management plan to cover likely affected geographical area including population, flora & fauna in and around the dumpsites
 - d. The on-site emergency plan to contain detailed remedial measures both hardware,” and software based for mitigating various emergency situations, which should finally be available with respective control rooms and on-site emergency notice boards.

For Deputy Commissioners:

- a. Integrate dumpsites On-site Emergency Plans with the existing Off-site District Disaster Management Plans in their respective Districts, prepared by the Local Authorities in compliance with Rule 14 of The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989.

For Karnataka State Disaster Management Authority:

- i. Prepare the on-site & off-site (or update off-site) emergency management plans preferably through an expert agency on the subject.
- ii. The following interim measures to be implemented on priority till the time On-site/Off-site Emergency Plans are prepared and implemented.
 - a. **Disposal of Waste:** Fresh waste not to be disposed at the dumpsite where bio-remediation is being undertaken. Organic waste from slaughter house, fish market etc., industrial waste not to be disposed at the dumpsite. It is to be further ensured that industrial waste / E-waste / lithium battery is not

dumped at the site. Waste that is being unloaded at the site should be examined visually for potential fire sources. Fire sources when located, should be neutralized with cover material immediately. Emergency tipping area to be provided to set aside from the immediate working area where incoming loads of material known to be on fire or suspected of being so can be deposited, inspected and dealt with. Adequate compacting of waste to be done to minimize formation of air or methane pockets which can lead to subsurface fire at site.

- b. **Monitoring at dumpsites:** Methane Gas Detectors (on downwind side) to be installed at site so that area with high methane concentration can be identified and preventive actions be undertaken. Further temperature at windrows to be monitored with non-contact infrared thermometer (as used for monitoring human body temperature under COVID circumstances) and records be maintained for any major deviations. The temperature is to be in the range of 35°C to 59°C. Treated leachate / water to be sprayed on the waste when rise in temperature is observed at the bioremediation site. Suitable mechanism to be in place. Installation of CCTV cameras at the site and provision of fencing & frequent patrolling to be done for checking unauthorized entry at dumpsite
- c. **Arrangements for Fire Extinguishing:** Arrangements for adequate storage of sand / chemical fire extinguishing medias such as foam or powder at site to be made to douse fire in case a fire incident is reported. Usage of water for dousing fire to be avoided. Isolation and allowing rapid natural burnout or smothering with soil to be done for dousing dumpsite fires. Dedicated fire tenders (preferably chemical extinguishing media) and adequate fire safety measures are to be deputed, specifically during summer season when dumpsites fire is more likely to take place. All mobile equipment or vehicles should be fitted with fire extinguisher and spark arrester.
- d. **Health & Safety of Workers:** Fire protection measures and safety equipment to be provided to all workers at the site and checked before entry to the dumpsite. Workers to be trained for detection of fire and necessary action to be taken in case of fire. Periodic training of workers be conducted in Safe handling of Waste, PPE's, Health & Safety issues etc.
- e. **Mock Drills & safety audits:** Periodic mock drills to be conducted to prevent fire accidents at dumpsites. Quarterly, Fire Safety and Hazardous Emissions Audits to be conducted.

You are hereby directed to submit action taken report within 15 days for Action Point listed at (v) above. Action taken report for Points (i-iv) to be provided within thirty days of receipt of these Directions.


Dr. Shanth A Thimmiah
Chairman

Karnataka State Pollution Control Board

To
The Principal Secretary to Government
Revenue Department (Disaster Management)
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The Secretary
Urban Development Department
435, 4th Floor, Vikasa Soudha,
Bengaluru -560001

Deputy Commissioners
All Districts
Karnataka

Copy submitted to: The Chairman, Central Pollution Control Board, Parivesh Bhavan,
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450-1-10/10
M. B. Smith