

EXECUTIVE SUMMARY

Waste management is a process involving collection, transport, treatment and disposal of waste materials. The main sources of waste in Indian Railways are:

- **Waste from core activities** - Passenger and freight movement, packaging, plastic and paper waste, food waste, human excreta and
- **Waste from non-core activities** - Institutional waste in liquid and solid form arising out of repair and maintenance activities (in workshops and sheds).

This report presents the results of the audit of “Waste Management in Indian Railways” and covers aspects in managing waste at stations, coaching depots, maintenance & Production units and bio-medical waste generated in hospitals. Besides, system of managing E-Waste has also been covered in this report. The Report also covers adherence to the directives of National Green Tribunal (NGT) in their various orders.

Major Audit findings include the following:-

- No separate authority with clear role and responsibility was assigned the waste management task as also there was no demarcated fund allocation for waste management exclusively.

(Para 1.2 - Page 2 and Para 2.1.1 - Page 6)

- Environment & Housekeeping Management (EnHM) wings were not formed in 11 divisions in CR, ER, NR and NEFR despite issue of directives by Railway Board in August 2015. In 59 stations out of 109 selected for audit, Directives of NGT for obtaining Consent to Establish (CTEs) from related State Pollution Control Boards (SPCBs) were not complied with (As of 31 July 2021).

(Para 2.1 - Page 5 and Para 2.4 - Page 9)

- Directives of the NGT for implementation of 24 Verifiable Indicators for proper monitoring of waste management at five *per cent* (36) of 720 major stations were not fully complied. In 65 other stations, lack of seriousness in implementation of verifiable indicators was observed.

(Para 2.5 - Page 10 and Para 2.6 - Page 12)

- Segregated waste collected from the Pantry cars and trains with On Board Housekeeping Services (OBHS) was not unloaded in secured bags at 49 stations out of 109 selected for audit. In 42 of these 49 stations, waste collected from the Pantry cars or OBHS trains was not dumped in separate assigned dustbins.

(Para 2.9 - page 15)

- Assessment of quantity of plastic waste generated was not done at 71 stations and 26 coaching depots out of 109 stations and 30 coaching depots selected for audit. Non-installation of Plastic Bottle Crushing Machines (PBCMs) as planned and absence of provision of ‘*plastic only Bin*’ in 90 stations and 25 coaching depots indicated lack of efforts on important environmental issue.

(Para 2.10 - Page 16)

- The basic condition of segregating bio-degradable and non bio-gradable waste was not ensured. Facilities for management of solid waste such as wet waste processing, material recovery facility, provision of composting plant, waste segregation and recycling centres were not provided at 70 *per cent* of the stations and 90 *per cent* of coaching yards selected for audit.

(Para 2.11.2 - Page 20)

- Lack of seriousness was observed in obtaining SPCB's authorisation in respect of 40 units out of 131 selected (including 30 coaching depots). Further, non-compliance of the rules prescribed for storage and labelling of hazardous waste in 102 units (out of 131 selected) remained a potential threat for the environment and people engaged in these units.

(Para 3.5 - Page 25)

- Audit examined the efficacy of steps taken for management of waste water and reduction in usage of water through Automatic Coach Washing Plants (ACWPs) and water recycling plants (WRPs) at selected 102 major stations, 30 coaching depots and 101 workshop/shed/Production units. Effluent Treatment Plants/ Sewage Treatment Plants (ETP/STPs), though planned for commissioning in 19 major coaching depots and 40 workshops, were not commissioned as of March 2020. WRPs were not provided at 86 stations. Installation of ACWPs at 43 locations out of 63 sanctioned did not commence at all as of March 2020.

(Para 4.1 - Page 29, Para 4.3 - Page 31 and Para 4.4 - Page 32)

- Provision of secured room with reference to Bio-Medical waste Rules for storage of bio-medical waste was not made in 46 hospitals out of 72 selected for audit. Further, in the absence of requisite equipment for treating bio-medical waste, 15 hospitals managed waste disposal departmentally endangering safety of public health. Review and monitoring committee did not exist in 52 hospitals to oversee the monitoring mechanism of bio-medical waste management.

(Para 5.3 - Page 36 and Para 5.11 - Page 42)

- Record in respect of generation of category wise E-Waste as prescribed in E-Waste management Rules was not maintained in 46 EDP centers and 32 PRS units/scrap depots out of 86 units (EDP/PRS/UTS/GSD) selected for audit.

(Para 6.2 - Page 45)

Summary of Recommendations

- IR needs to proactively ensure formation of EnHM wings at zonal and division level and constitution of accountable entities as directed by NGT to strengthen the waste management mechanism. IR also needs to define clear cut role and responsibilities and fund allocation exclusively for waste management activities. Besides this, IR needs to put in place an effective monitoring mechanism for managing plastic as well as solid waste in an environment friendly manner.*

- ii. IR needs to ensure provision of required infrastructure and initiate measures to sensitise the work force engaged in maintenance and Production Units for effective compliance of the Hazardous Waste Management Rules thereby avoiding danger to health and environment as well.*
- iii. IR needs to develop a robust monitoring mechanism to oversee the expeditious completion of the works such as provision of ETPs/STPs, water recycling plant, automatic coach washing plant meant for water conservation under Water Policy of IR.*
- iv. IR needs to ensure effective compliance with Bio-Medical Waste Management Rules for handling, collection, pre-treatment, segregation, storage and disposal of biomedical waste and strengthen monitoring mechanism.*
- v. IR needs to initiate measures for creating awareness on the issue of handling E-Waste besides devising monitoring mechanism for ensuring effective compliance with E-Waste Management Rules.*

