

# Standard Operating Procedure (SOP)

## Battery Waste Management

**1. Purpose:** This Standard Operating Procedure (SOP) is meticulously designed to ensure effective battery waste management in strict compliance with the Battery Waste Management Rules of 2022. The SOP applies comprehensively to all units of THDCIL and encompasses the responsibilities and procedures concerning the collection, segregation, transportation, and disposal of waste batteries. It also outlines the prohibitions on heavy metal content in batteries.

**2. Scope:** This SOP is applicable comprehensively to all Projects/Units/Offices of THDCIL.

### 3. Definitions:

- **Battery:** Refers to new or refurbished cells and/or batteries and/or their components, including accumulators, that generate electrical energy through the direct conversion of chemical energy. This includes disposable primary and/or secondary batteries.
- **Waste Battery:** Encompasses various types of batteries, including used and/or end-of-life batteries, pre-consumer off-spec batteries, batteries with expired usage dates, and batteries discarded by users.

### 4. Responsibility of Waste Generator (i.e. THDCIL):

It is the duty of consumer units/offices within THDCIL to:

- Discard waste batteries separately from other waste streams, especially mixed waste and domestic waste.
- Ensure that waste batteries are disposed of in an environmentally friendly manner by giving them to entities engaged in the collection, refurbishment, or recycling of batteries.
- **Storage:** THDCIL Projects/Units/Offices must store waste batteries in designated containers or storage areas to prevent leakage and contamination. Separate storage facilities must be provided for different types of batteries (e.g., primary and secondary batteries) and must comply with safety regulations.
- **Segregation:** Waste batteries should be segregated based on their type, chemistry, and heavy metal content. Separate containers labelled for different battery types (e.g., mercury-containing batteries) should be used for proper identification.
- **Transportation:** Transportation of waste batteries should be done using specially designed and covered transport systems to prevent foul odours, spillage, and environmental contamination.
- **Disposal:** Waste batteries should be disposed of through authorized entities engaged in battery collection, refurbishment, or recycling. Ensure compliance with environmental regulations and guidelines during disposal.

**5. Training and Awareness:** THDCIL units shall conduct regular training and awareness programs for employees involved in battery waste management. This training should cover proper storage, segregation, transportation, disposal procedures, and prohibitions on heavy metal content in batteries.

**6. Compliance and Monitoring:** THDCIL will diligently monitor compliance with this SOP and conduct periodic audits to ensure that all Projects/Units/Offices adhere to the Battery Waste Management Rules of 2022. Non-compliance may lead to appropriate disciplinary actions or penalties.

**7. Review and Revision:** This SoP shall be reviewed annually or as required to ensure its effectiveness and alignment with environmental regulations.

**8. Continuous Improvement:**

THDCIL shall continually assess and improve its Battery Waste Management practices to minimize environmental impact and promote sustainability.

**9. Appendix: Responsibilities and Timeline**

Steps	Responsibility	Concerned Department	Target Date
01	Send a reminder letter to the project site to provide the information.	Corporate Environment Department: THDCIL-Nodal Department	Next working day of succeeding month of the reporting quarter
02	Collect information in consultation with the IT/ HR/ Services/ Store/ any other relevant department (as applicable).	Environment Department: Project-Nodal Department	Within 7 days
03	Collect information from respective departments at the project site and provide the waste data to the Project Nodal Department on/before the 7 <sup>th</sup> date of succeeding month of the reporting quarter.	IT/ HR/ Services department	
04	Provide the waste data in the Excel sheet to the Corporate Nodal Department.	Environment Department: Project-Nodal Department	On/before the 15th date of succeeding month of the reporting quarter.
05	Collect and analyze data received from respective project nodal officers, manage data on a quarterly basis, and appraise waste data to the concerned authority.	Corporate Environment Department: THDCIL-Nodal Department	On a quarterly/annual (FY) basis

## 9. Appendix: Prohibitions and Labelling Requirements:

### • Prohibition on Heavy Metal Content in Batteries:

- Batteries containing up to 0.0005% (5 ppm) of mercury by weight may only be placed until 2025.
- Batteries containing up to 0.002% (2000 ppm) of cadmium by weight may only be placed.
- The prohibition on mercury content shall not apply to button zinc silver oxide batteries with mercury content < 2% and button zinc air batteries with mercury content < 2% by weight.
- The prohibition on cadmium content shall not apply to portable batteries intended for use in emergency and alarm systems, including emergency lighting, and medical equipment.

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