



MINISTRY OF ENVIRONMENT AND NDU

ENVIRONMENTAL GUIDELINE No. 2 ASSEMBLY OF BATTERIES

1.0 Purpose of guideline

This environmental guideline for the assembly of batteries has been prepared by the Ministry of Environment & NDU to ensure that all environmental issues are duly taken into consideration by stakeholders.

2.0 Nature of development

Assembly of batteries may be done either manual or automated, although the environmental impacts of both are similar. The different processes involved in the assembly of individual batteries and battery packs are:

- assembly of electrodes and insulating materials;
- installing electrode into casing;
- filling of acid;
- sealing casing;
- connecting batteries to form battery pack;
- sealing pack into casing; and
- charging and testing

3.0 Potential impacts

The major environmental issues associated with the assembly of batteries are noise, generation of hazardous wastes and effluent disposal. The different aspects, impacts and nuisances related to such activities are listed below:

Activity	Aspects	Impacts/ Nuisances
Construction phase (Applicable for large buildings)	- Generation of excavated soil, debris and construction wastes - Use of heavy machinery	- Dumping into barelands, water bodies and drains - Noise, mud ,dust, traffic and construction waste
Operation Phase		
Storage and handling of lead, acid and battery	-Risk of spillage of acid -Solid/Hazardous waste generation	- Acid spill -Air, water and soil contamination - Odour

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cases		- Noise Pollution - Dust emission
Cleaning and maintenance	- Wastewater generation	-Risks of contamination of water courses and groundwater

3.0 Siting of activity

Enterprises involved in the assembly of batteries should be located outside residential areas.

4.0 Environmental conditions

The major environmental issues are **noise, odour, generation of hazardous wastes, effluent disposal** and the following conditions shall be observed:

- (i) All electric motors such as stand-by generator and air- conditioning devices shall be housed in soundproof enclosures to keep noise level within permissible limits as per the Environment Protection (Environmental Standards for Noise) Regulations 1997. The noise exposure limits as per the above regulation are as follows:

Industrial noise		Neighbourhood noise	
7:00 – 21:00	60*dB(A) Leq	7:00 - 18:00	60 dB(A) Leq
21:00 – 7:00	55*dB(A) Leq	18:00 - 21:00	55 dB(A) Leq
		21:00 - 7:00	50 dB(A) Leq

* A tonal character adjustment of +5 dB(A) should be applied to the measured value where the noise has a definite continuous note such as a whine or hiss.

- (ii) A contingency plan as provided for under section 30(3)(a) of the Environment Protection Act 2002 shall be prepared and implemented to combat any case of accidental chemical spillage.
- (iii) A wall/structure to contain overflows shall be provided around the acid storage area to control any accidental spillage or leakage.
- (iv) All hazardous wastes shall be collected and disposed of as per the Environment Protection (Standards for Hazardous Wastes) Regulation 2001.
- (v) Damaged batteries shall be stored within the premises and exported for recycling.
- (vi) Solid wastes shall be collected and disposed of.
- (vii) Wastewaters shall be collected, treated and disposed of.

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- (viii) No nuisance by way of noise dust, odour shall be caused to the public and surrounding environment during site preparation, infrastructural works and during operation of the activity.
- (ix) The Department of Environment of the Ministry of Environment and NDU shall be informed in writing of the dates of commencement of works on site and operation of the activity for monitoring purposes.

6.0 Enforcement

Under Section 13 of the Environment Protection Act 2002, the enforcing agencies for the different environmental medium or pollutants are as follows:

S. No	Environmental media/ pollutant	Enforcing Agency
1	Odour, Noise	Ministry of Health and Quality of Life
2	Inland waters, effluents	Ministry of Public Utilities
3	Solid wastes and hazardous wastes	Ministry of Local Government

The above-mentioned enforcing agencies shall monitor compliance with the conditions falling under their purview.

7.0 Offences

Any person who fails to comply with any regulations/standards referred to in this guideline shall commit an offence and shall:

- (i) on a first conviction, be liable to a fine not exceeding 50, 000 rupees and to imprisonment for a term not exceeding two years.
- (ii) on a second or subsequent conviction, be liable to a fine not exceeding 100,000 rupees and to imprisonment for a term not exceeding 8 years.

For further information please contact

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