



PROJECT:	ELECTRICAL PANEL FLOOR PLANS
DRAWING NO:	E-101
DATE:	OCT 26, 2023
SCALE:	NTS
SHEET 1 OF 1	

## Annexure Battery Room

### Technical Specifications for Rooms for Batteries of UPS

The Ni Cad Battery Sets of the UPS for Valve Cooling Room are to be installed in the New Battery Rooms (**One Per Pole**) at Bhadrawati Station. The size of the rooms shall be decided by the bidder as per their design. However, the minimum height of the room shall be 3100mm.

The shelter shall be made of “sandwich insulated panels” **80 mm thick with Poly Urethane Foam (PUF)** as filler material between polyester pre-coated cold rolled steel or aluminium sheets. The **PUF** to be used for insulation of the panels shall be **CFC free and conform to IS 12436**. The thickness of the inner-side and outer steel sheets except floor panel sheets shall be minimum 0.8 mm and 0.6 mm respectively. The thickness of both inner side and outer side aluminium sheets except floor panel sheets shall be minimum 0.91 mm. The thickness of inner side sheet for floor panels shall be minimum 0.8 mm. The outer bottom sheet shall be hot dip galvanised steel sheets and aluminium sheets of minimum 1.0 mm and 1.2 mm thickness respectively to avoid rusting of the bottom panel. The shelter shall be designed to withstand a wind load of **200 kmph**. All cables and cabling of required size and capacity shall be supplied, installed and terminated (with necessary and required accessories) by the Contractor. All cables shall conform to all type, routine and acceptance test listed in the relevant IS. The cables shall be supplied from POWERGRID approved manufacturers. The earthing system at each site shall be provided such that earthing system resistance **shall not exceed five (5) ohms**. The earthing pits (pipe type) or counterpoise type shall be made as per IS 3043 and IS 5613 respectively. All foundation and civil works required for Battery Room shall be done by the Contractor. Suitable fire & smoke detection system, Cable trays (300 mm width made of Fiberglass Reinforced Polymer material), C-rails (extruded aluminium alloy), Lighting system (2 Nos. of 36 W each), one emergency light, One 5 A / 15 A duplex socket with switch, Energy Meter Box (size 600 mm X 600 mm X 250 mm of protection class IP- 55), Wire Mesh Fencing System for Outside Protection (mesh size of 75 mm, nominal dia of mesh wires 3.5mm and fencing at least 2.0 m height from ground level) shall be provided in each of the Battery Rooms. Proto-testing, FAT and SAT shall be done as per approved procedure.

The loading capacities shall be as under:

Minimum **roof** loading capacity : **250 kg/m<sup>2</sup>**

Minimum **floor** load capacity : **2000 kg/m<sup>2</sup>**

Minimum **wall** load capacity : **300 kg/m<sup>2</sup>**

Suitable Ventilation system as per the system requirement has to be provided in the Battery Rooms.