

**MANUAL OF SPECIFICATIONS AND STANDARDS  
FOR THE  
TRANSMISSION PROJECT**

*(Refer Annexure-1 Schedule-D)*

# Specifications and Standards for the Transmission System

## 1 Specifications and Standards to apply

The Transmission System shall conform to the following Specifications and Standards for the Transmission System and amendment / notification made from time to time in this regard:

- Grid code
- Central Electricity Authority (Technical Standards for Connectivity to the Grid) Regulations, 2007
- CEA (Technical Standards for construction, operation and maintenance of Electrical Plants and Electric Lines) Regulation, 2008
- CEA (Safety requirements for construction, operation and maintenance of transmission lines) Regulation, 2008
- CEA (Grid Standards for operation and maintenance of transmission lines) Regulation, 2006
- CEA (Safety and electricity supply) Regulation, 2008 and other applicable Laws.
- Prudent Utility Practices

Specifications/Standards for procurement of material for transmission system shall conform to the following:

### 1. Towers

Design, Manufacturing, Fabrication, Galvanizing and Testing of towers shall conform to the provisions of IS : 5613 and IS :802 as amended upto date. All Tower members shall be jointed together with Bolts & Nuts. The redundant members of first two (2) panels from ground level shall be connected with Anti theft bolts & nuts alongwith spring washer whereas the balance joints shall be connected with Hexagonal bolts & nuts. All Hexagonal bolts & nuts shall conform to IS: 12427. Two of the diagonally opposite legs shall be provided with step bolts.

### 2. Insulators

The insulators, strings and its components shall conform to the relevant Indian standards/International standards which shall mean latest revisions, with amendments/changes adopted and published.

### 3. Galvanized Steel Stranded GSS Earthwire Size 7/3.66 mm

The Galvanised steel stranded wire shall comply fully with the latest edition of million standard specification IS: 12776 & ASSOCIATED Indian Standard Specification.

### 4. Hardware Fittings and Line Accessories for conductor and Earthwire.

The Hardware Fittings & Line Accessories for conductor and Earthwire shall conform to the latest revision with amendments of all related IS, ASTM, IEC.

### 5. Optical Ground Wire (OPGW)

24 Fibre (DWSM) OPGW fibre optic cable along with Hardware Fittings, Joint Box shall be used.

**6. ACSR Moose Conductor.**

The ACSR Moose Conductor shall conform to IEC: 1089/ IS:398.

**7. Visual aids.**

Visual aids shall be provided on the transmission lines and Transmission lines structures of height of 45M and above to give warning to flying Aircraft about the presence of Transmission Line supports in compliance to the requirement of IS: 5613 (Part-III/Section-1 1989) (Amendment No.1, July 94).