



An ISO 9001 - 2008  
Organization



**TWG GROUP**

THE WORD OF GOD

INTERNATIONAL STANDARD

ISO/IEC-17025:2005 NABL ACCREDITED FOR NDT

(Dept. of Science and Technology, Government of India)



Accreditation Certificate No: T - 2387  
Metal Lab



सत्यमेव जयते  
Government of India

## ELECTRICAL TESTING & COMMISSIONING

### CONTENT

#### 1. TRANSFORMERS:

- a. **Specifications:** Power and distribution transformers as per BIS standards.
- b. **Installation:** Location, site, selection, foundation details (like bolts size, their number, etc), code of practice for terminal plates, polarity & phase sequence, oil tanks, drying of windings and general inspection.
- c. **Commissioning tests:** Following tests as per national & International Standards, volt ratio test earth resistance, oil strength, Bucholz & other relays, tap changing gear, fans & pumps, insulation test, impulse test, polarizing index, load & temperature rise test.
- d. **Specific Tests:** Determination of performance curves like efficiency, regulation etc, and determination of mechanical stress under normal & abnormal conditions.

#### 2. SYNCHRONOUS MACHINES:

- a. **Specifications:** As per BIS standards
- b. **Installation:** Physical inspection, foundation details, alignments, excitation systems, cooling and control gear, drying out.
- c. **Commissioning Tests:** Insulation, Resistance measurement of armature & field windings, waveform & telephone interference tests, line charging capacitance.
- d. **Performance tests:** Various tests to estimate the performance of generator operations, slip test, maximum lagging current, maximum reluctance power tests, sudden short circuit tests, transient & sub transient parameters, measurements of sequence impedances, capacitive reactance, and separation of losses, temperature rise test, and retardation tests.