



**ODISHA POWER TRANSMISSION CORPORATION LIMITED**

# **TECHNICAL SPECIFICATION**

**FOR**

**SPLIT TYPE INDIVIDUAL UNIT  
AIR CONDITIONER**

# TECHNICAL SPECIFICATION FOR AIR CONDITIONING SYSTEM

## 1.0 GENERAL

The specification covers supply, installation, testing and commissioning and handing over of Air conditioning system for the control room building

The AC units for control room building shall be set to maintain the following inside conditions.  
DBT 24.4 Deg C  $\pm$  2 Deg C

### 1.1 The following room shall be air conditioned

- a) Control Room
- b) Conference room
- c) Testing lab

### 1.2 Air conditioning requirement of rooms indicated shall be met by using split AC units. High wall type split AC units of required capacity as per design (to be submitted for approval) with high wall type indoor evaporator unit shall be used. In case the area is more than ductable split AC units may also be designed for better effect.

### 1.3 The exact quantity of the split AC units shall be designed taking the room area and the same may be proposed for necessary approval. However 2 TR capacity split AC units of **5 star** rating to be considered. The quantity shall be approximately as mentioned below.

### **PROPOSED NO OF A.C UNITS SHALL BE OF ~~5-STAR-RATING~~: INVERTER TYPE WITH COPPER CONDENSER**

#### 1) FOR ALL 220/132/33 KV S/S CONTROL ROOM AREA

A) 20 NOS 2 TR CAPACITY.

B) 220/33 KV S/S: 15 NOS 2 TR CAPACITY.

#### 2) FOR ALL 132/33 KV SUB-STATION: 15 NOS 2 TR CAPACITY.

#### 3) FOR 400/220 KV S/S CONTROL ROOM: 30 NOS 2 TR CAPACITY

### 1.4 Copper refrigerant piping complete with insulation between the indoor and remote outdoor condensers as required.

### 1.5 SCOPE: The scope of the equipment to be furnished and services to be provided under the contract are outlined herein and the same is to be read in conjunction with the provision contained. The scope shall be deemed to include all such items which although not specifically mentioned in the bid documents and/or in bidders proposal, but are required to make the equipment/system complete for its safe, efficient, reliable and trouble free operation.

### 1.6 Unit should be hermetically sealed

### 1.7 PVC drains piping from the indoor units up to the nearest drain point to be done.

### 1.8 Power and control cables between the indoor unit and outdoor unit and earthing

### 1.9 GI brackets for for outdoor condensing unit and proper earthing.

### 1.10 Specification for Split AC units.

The split AC units will be complete with indoor evaporator unit, outdoor condensing units and cordless remote control units.

Out door units shall comprise of hermetically sealed rotary compressors mounted on vibration isolators, propeller type axial flow fans and copper tube aluminium finned coils assembled in a sheet metal. The casing and the total unit shall be properly treated and shall be weather proof type. They shall be compact in size and shall have horizontal discharge of air.

The indoor unit shall be high wall type. The indoor unit shall be compact and shall have elegant appearance. They shall have low noise centrifugal blowers driven by special motors and copper tube aluminium finned cooling coils. Removable and washable polypropylene filters shall be provided. They shall be complete with multifunction cordless remote control unit with special features like programmable timer, sleep mode and softy dry mode etc.

The split AC units shall be of Carrier/Blue Star/Hitachi/Voltas/Samsung/LG make.

The air conditioner unit should be provided with a required voltage stabilizer (from 90 V to 275 V AC).

## 2. PROVISION OF AIR-CONDITIONING SYSTEM IN THE SWITCHYARD KIOSK OR ANY UNMANNED STATION AS SPECIFICALLY ASKED FOR:

The descriptions of the units are as indicated below:

The Air Conditioning system with voltage stabilizer, which shall be provided in the Building/kiosk. These Building/kiosk shall be generally unmanned; therefore, the air-conditioning system shall be rugged, reliable, maintenance free and designed for long life. The air conditioning is required for critical application i.e. for maintaining the temperature for critical sub-station GIS/AIS equipment, control and protection equipment. To provide redundancy for such critical applications, the building shall be installed with environment control system comprising of the units of air conditioners working in conjunction through a micro processor based controller for desired operation. The system shall be designed for 24 Hours, 365 Days of the year to maintain the inside the building/kiosk temperature to a suitable temperature (  $23 \pm 2$  deg C) or as decided. The required nos. of the air conditioners shall be running at a time and the failure of any one unit or as described here under the standby/other unit shall automatically run to ensure longer life of the air conditioning system. The redundant unit shall also be running in cycle operation (for a cycle time of 4 hours /12 hours user defined) through the controller. However during running of the air conditioner unit if the inside temperature of the building reaches to a pre-defined (30 deg C) the other shall start running to maintain the temperature to a specified value (  $23 \pm 2$  deg C). After achieving this temperature the standby/other unit shall again shut off.

**Capacity:** Main Unit having dual compressor minimum of 2TR each & Stand by Unit having dual compressor minimum of 2TR each.

**Compressor Type:** Scroll

**Power supply:** 230 V,50 Hz

**Controller:** Microprocessor control & should have provision of monitoring the temperature from the Main control room with integration facility to SAS.

Voltage stabiliser, control boxes etc for completing the A.C scheme.