

Corrigendum to TS: TB-4-387-510-051A, Rev. No.-00, for

AIR CONDITIONED KIOSK (AC KIOSK) required for 400kV Switchyard at 5X 800 MW Yadadri TPS, Nalgonda (TELANGANA STATE POWER GENERATION CORPORATION LTD.)

PI No.-81I2000631 dtd 28.02.2020

- **Split AC Specification**- The Split AC required in Kisok shall be as per given TS of AC separately (attached with this corrigendum)

- All others parameters shall be as per TS

→ For ^{split} AC Kindly follow this technical specification only /-.

Vijendra
22/07/2020

Sanjeev
22/07/2020

TECHNICAL SPECIFICATION FOR
AIR CONDITIONING SYSTEM

1.0 GENERAL

- 1.1 This specification covers supply, installation, testing and commissioning and handing over to **TSGENCO Split AC capacity of 3 Ton with all accessories (2 no's each kiosk).**
- 1.2 Controller to be provided between both the air conditioner to switch and controlling and monitoring the AC units for enhancement of life of air conditioner
- 1.3 Controllers shall be provided to control and monitoring of AC units and shall have the following facilities;
- Standby units shall come in to operation automatically when the running main unit fails
 - Main and standby units shall be changed over periodically (cyclic operation)
 - Following alarms shall be provided:
 - a. Compressor On/OFF condition of each unit
 - b. Compressor failure of each unit
 - c. Power OFF to AC unit
 - d. High temperature in room.
- 1.4 Compressor should be Scroll Type Compressor which is Highly Reliable.

Vijendra
22/07/2020

Sanjay
22/07/2020

2.0 Scope

- 2.1 Required number split AC units of 3TR capacity each complete with air cooled outdoor condensing unit having hermetically sealed compressor and indoor evaporator unit.
- 2.2 Copper refrigerant piping complete with insulation between the indoor and outdoor units as required.
- 2.3 GSS/Aluminium sheet air distribution ducting for distributing conditioned dehumidified air along with supply air diffusers and return air grilles with volume control dampers and necessary splitters etc., suitable fixtures for grilles/diffusers and supports for ducting complete with insulation.
- 2.4 Local start/stop facility for local starting/ stopping of all electrical equipment/ drives.
- 2.5 All instruments and local control panels alongwith controls and interlock arrangements and accessories as required for safe and trouble free operation of the units.
- 2.6 MS Brackets for outdoor condensing units, condensers as required.

3.0 AIR CONDITIONING SYSTEM FOR AC Kiosk Rooms.

- 3.1 Air conditioning system shall be provided in the AC Kiosk rooms used for housing control and protection panels. These Kiosk rooms will be located in the switchyard area and generally unmanned. Therefore, the air-conditioning system shall be rugged, reliable, maintenance free and designed for long life.
- 3.2 Air conditioning system is required for maintaining the temperature below 24°C for sub-station control and protection panels. This shall be achieved using Packaged AC units with free cooling arrangement. The system shall be designed for 24 Hours, 365 Days of the year operation to maintain the inside Switchyard panel rooms temperature for proper operation of the critical equipment.

Vijendra
22/07/2020

S an/ew
22/07/2020

3.4 **Technical specification AC units with Free Cooling.**

3.5 Each AC unit shall be complete with air cooled condensing unit with **scroll** compressor, direct expansion type evaporating unit and **microprocessor controller**. AC units shall be provided with free cooling arrangement. In free cooling mode, the refrigerant cycle of AC unit shall be switched off and outside air (after filtration) shall be circulated inside the conditioned space through the operation of dampers provided with suitable sensors. This mode shall come into operation in the following conditions;

- i. When the ambient temperature is below a preset value, which is to be decided during detailed engineering.
- ii. In case of failure of refrigeration system of both the units.

3.6 One of the air-conditioners shall be running at a time and shall maintain the required temperature. On failure of the running air-conditioner, the other air-conditioner shall start automatically. To ensure longer life of the system and to keep the AC units healthy, change over of the standby unit shall be done periodically through

the controller. Further, if inside temperature of the room reaches 35°C due to any emergency condition, the standby air-conditioner shall also start running to maintain the temperature less than 24°C and system shall generate an alarm for such a situation. After achieving this temperature, the standby unit shall again shut off. However any hunting situation shall be reported. No heating or humidification is envisaged for the air conditioning system inside the Switchyard panel rooms.

3.7 **Required Features of Various Components:**

The compressor shall be very reliable, trouble free and long life i.e. hermetically sealed Scroll type of reputed make suitable for continuous operation. Compressor should be installed on vibration isolated mountings or manufacturer's recommended approved mounting. Valve shall be provided for charging/topping up of refrigerant. The bidder shall furnish details of their compressor indicating the MTBF, life of compressor and continuous run time of compressor without failure. The contractor shall also furnish details of all accessories i.e. refrigeration system, evaporator coil, condenser coil, evaporator blower, filter, cabinet, indoor supply and return grill etc. during detailed engineering.

4.0 **Warranty**

All compressors shall have minimum 5 years Warranty from the date of commissioning

4.1 For owner's remote monitoring purposes, necessary digital inputs shall be provided for 'ON' and 'OFF' condition of each compressor.

Vijendra
22/07/2020

Sanjeev
22/07/2020

General Specification

Rated Cooling Capacity		Btu/hr	36000
Rated Current- Cooling		Amps	6.5(Avg of all phase)
Rated Power Input- Cooling		Watt	3450
Rated EER		Btu/w	10.43
Power Supply		V/Hz/Ph	415 / 50 / 3 Phase
Air Flow Volume - Indoor (H/M/L)		CMH	1380/1200/1000
*Noise Level - Indoor		..dB(A)	52/48/43
Operation			LCD Remote/Automatic changeover
Compressor Type			Highly Reliable Scroll Compressor
Refrigerant Gas			R22
Indoor Unit Dimension (WxHxD)		mm	1260x360x280
Indoor Unit Net / Gross Weight		Kg	21.75/25.5
Outdoor Unit Dimension (WxHxD)		mm	915 X 700 X 360
Outdoor Unit Net / Gross Weight		Kg	67/72
Connecting Pipe		type	Cu-Cu(5/8" & 3/8")
Condenser Coil			Fin & Tube
Moisture Removal		Ltr	3
No of boxes		ODU	1
		Connecting Pipe	
		IDU	1
Features	Filter	Anti Dust	Yes
		Cold Catalyst	Yes
	Fin	Hydrophylic Aluminium	Yes
	Copper tubes	Inner Grooved	Yes
	IDU	Self Diagnosis	Yes
		Auto Restart	Yes
	Remote	Sleep Mode	Yes
		Turbo	Yes
		Swing	Yes
		LCD Remote	Yes
		Lock	Yes
		Reset	Yes
		Timer	Yes
	Air Vent	Cross Flow	Yes

Vijayeshg
22/07/2020

Sanjeev
22/07/2020