**SUPPLY OF UPS SYTEM FOR KSFDC**.

**IEC 61000-3-2 OR EQUIVALENT IS SPECIFICATION**

1. **TECHNICAL SPECIFICATION**

**1.1 Type Static**

1.2 Power rating at load PF 0.9 lagging or above **20000VA/18000W**

1.3 Application For Induction/SMPS loads

1.4 Quantity Refer Power distribution scheme/ BOQ

1.5 Method of energy storage Electrical – battery back-up

1.6 Designation Static Bypass

1.7 Whether transfer switch required for secondary Back-up Required (Static switches for uninterrupted transfer of loads from inverter to regulated supply)

1.8 Installation Indoor, AC ventilated

**2.0 Enclosure**

2.1 Material Cold rolled sheet steel

2.2 Sheet thickness (mm) 2

2.3 Degree of protection as per IS-2417 IP-31

2.5 Cable entry Top

2.6 Acoustic noise level <= 50 db

**3.0 UPS system**

3.1 Input- Supply voltage V 433V, 3ph, 4w, 50hz AC effectively earthed

**3.2 Output**

3.2.1 Output voltage 240V, 1ph, 2w, 50hz AC.

3.2.2 AC voltage accuracy (steady state) over entire load

3.2.3 Transient voltage regulation % 8 at 100% load step

3.2.4 Transient recovery Return to steady state condition within 50ms after disturbance

3.2.5 Voltage wave form Sinusoidal

3.2.6 Range of adjustment of ac output voltage % 5 at rated load

3.2.7 AC harmonic content % 5 total, 3 for any single harmonic

3.2.8 Phase displacement

3.2.9 Nominal frequency Hz 50

3.2.10 Frequency regulation % 0.5

**4.0 DC link (battery)**

4.1 No. of 100% capacity batteries

4.2 Type of battery cell - Tubular

4.3 Battery support time Min 30 (Offline) & 15 (Online)

**5.0 Battery charger (Rectifier unit)**

5.1 No. of units Two

5.2 Rectifier unit Silicon rectifier, single phase full wave /three phase full wave

5.3 Type Float cum boost charger

5.4 Recharge time on boost charge Hrs 8

5.5 In rush current

Maximum 25% of full load current

(energizing rectifier transformer with

inverter at no load)

**6.0 Inverter**

6.1 No. of 100% inverters in system Two

6.2 Type of power switching device Thyristers / power transistors

6.3 Current capacity As per system requirement

6.3.1 Overload % 125 for 10 min. & 150 for 10 secs.

6.3.2 Short time withstand % 500 for 5 milli seconds.

6.3.3 Over current setting range %100 to 300 of load current, field adjustable

6.3.4 Synchronizing Between inverters and Standby supply Not required.

6.4 Master / follower synchronizing system Not required.

**7.0 Static switch**

7.1 Type Static

7.2 No. of switches Two

7.3 Rating Equal to UPS output kVA rating at 0.99 pf

7.4 Nominal frequency Hz 50

7.5 Purpose Static interrupter / static load transfer to standby regulated supply

7.6 Maximum transfer time Maximum of ¼ cycle

7.7 Short time rating for one sec. % 750

7.8 Whether make before break Yes

**9.0 Circuit breaker**

9.1 For use in ac system

9.1.1 Type MCCB/ MCB / RCBO

9.1.2 Application V/Ph 433, 3ph + N

9.1.3 Quantity Refer Single line diagram

9.1.4 Rating – current short time rating for one sec.kA

9.1.5 Protection setting range 50% to 200 % overload, 200% to 800% short circuit release

9.1.6 Operation Manual

9.2 For use in DC system

9.2.1 Type Air break

9.2.2 Application Battery

9.2.3 Quantity 2

9.2.4 Rating (Tenderer to state)

9.2.5 Protection, setting range 50% to 200% overload, 200% to 800% short circuit release A.

**10.Installation Operation Manual shall be furnished and shall include as a minimum the following:**

**1. Safety instructions**

**2. System description, specifications and control**

**3. Installation planning**

**4. Installation and start-up**

**5. Operational guide**

**6. Control panel reference**

**7. Warranty and service information**

**11. Order of preference:**

**11.1 GE,UNICORN ,APC,EPI,SOCOMEC,DELTA,TECHSER**

**11.2 Warranty Period :Minimum 3 years for UPS and 4 years for batteries**

# **PROJECT: KSFDC THEATRE AT :SUPPLY OF UPS**

**Validity of quote 6 months**

|  |  |  |
| --- | --- | --- |
| Sl.No. | Description | Qty |
| 1.  | **Each system consist 100% capacity IGBT rectifier and 0.99** **Input PF and 0.90 OR above out put PF.** Supply, Installation testing and commissioning of 20 KVA, 340 to 470V input to 230 V output UPS IGBT Based online Ups with Isolation transformer with external tubular battery for a back up of 45 minutes ( 30 nos of 50AH approximately) with battery stand and interconnecting cables and leak proof fibre glass tray( 3mm thickness, 50mm height for the size of battery stand) with input supply failure alarm, mute button, display of parameters etc .20 KVA UPS | 1set |

Note: The tenderer is required to include the cost of all other items which in case are not included but are essentially required for successful commissioning of the system. 2. The quoted amount shall be net inclusive of all taxes and duties for the delivery at the site.

Date: (SIGNATURE OF THE TENDERER)