ANNEXURE -A

SPECIFICATIONS FOR 120-KVA UNINTERRUPTIBLE POWER SUPPLY SYSTEM

Quantity: 1 No

SL. NO	REQUIREMENT	SPECIFICATION REQUIRED	VENDOR COMPLIANCE
1	Make and Model	Power-One Make PMP 120/ Equivalent	
	Output power in KVA	120 KVA	
	Normal Active Power, KW	96 KW	
	Technology	Digitally controlled, IGBT based double conversion On-line VFI according to IEC 62040-3 specification	
		Built-in Isolation Transformer on the Inverter output	
		Input and output EMI filter	
INPUT			
2	Supply	3PH+ N+ PE	
	Input Voltage	415 V, (+10% to –15%)	
	Frequency	50 Hz ± 5%	
	Power Factor	>0.95	
	Input current total Harmonic Distortion	Less than 5% for full load	
OUTPUT			
3	Number of Phases	3Ph + N +PE	
	Output Voltage	415 V	
	Output Voltage Stability	+/- 1%	
	Output Frequency	50 Hz ± 1%	
	Overload Capacity	125% for 10 min , 150% for 1 min.	
	Power Factor	0.8	
	Voltage distortion with Linear load	<1%	
	Voltage distortion with 100% Non-Linear load	<2%	
	Crest factor	3:1	
	Overload & duration	125% for 10 min , 150% for 1 min.	
	Efficiency	>92%	

SL NO	REQUIREMENT	SPECIFICATION REQUIRED	VENDOR COMPLIANCE
BATTERY			
4	Battery Type & Make	SMF, VRLA, Quanta	
	Battery Back up time	30 minutes at full load	
	VAH Rating	12V/150 AH – 64 Numbers	
	Recharge time	6-8Hrs	
	Battery Housing	External	
	Battery Cabinet	Yes, to be provided as per site conditions	
	Battery trip	Yes, To be provided with MCCB	
DISPLAY & SOFTWARE			
5	List of Information output on LCD display	<u>LCD Display,</u> Input voltage in % Input current in % Input Frequency Battery Voltage Battery current By-pass voltage Output Voltage Output current in % Output Power in % Output Peak current No.of hours of operation Temperature of the system Temperature of the Rectifier Temperature of the Inverter <u>Commands</u> Battery Test Display Contrast By-pass Off End of Discharge pre alarm System off	
	Communication & Software	RS-232 serial port and SNMP	

SL NO	REQUIREMENT	SPECIFICATION REQUIRED	VENDOR COMPLIANCE
GENERAL			
6	Overload	125% for 10 min , 150% for 1 min.	
	Short-circuit	Short – Circuit Protection	
	DC Over/Under Voltage	DC Over/Under Voltage protection	
	Overheat/Thermal	Overheat/Thermal protection	
	Visual Indicators	Mains ON, Inverter ON, Battery Low	
	Audible Hooter & Alarms	Audible alarm, Mains Failure, Inverter Overload, Battery Low Voltage.	
	Metering	Through LCD Display Input voltage, Output voltage, Batt.Voltage, Output frequency, Input & output load	
	Screen	Interactive screen with trouble shooting	
	Total Harmonic Distortion	<1% for linear load and <2% for Non linear load	
	Inverter Efficiency	>94%	
ENVIRONMENTAL			
7	Audible Noise(dBA)	<60dBA at 1m	
	Operating Temperature	0-40°C	
	Relative Humidity (Non condensing)	<95% Non-Condensing	
	Standards Implemented for Safety, EMC &CE	Safety EN62040-1,EN 62040-2,EN-62040-3	
	Protection Class	IP20	
	Standards compliance	Safety EN62040-1,EN 62040-2,EN-62040-3	
BYPASS			
8	Static Bypass	Zero Delay	
	Manual Bypass	Yes, to be Built – in with UPS	
WARRANTY			
9	Standard Warranty	24 Months	
	Extended Warranty		
SL NO	REQUIREMENT	SPECIFICATION REQUIRED	VENDOR COMPLIANCE
OTHER FEATURES			

10	Auto Restart Facility	The UPS should be configured to automatically restart after a mains failure or after the batteries have become fully discharged	
	EPO (Emergency Power Off)	In the event of emergency UPS to be shut down by external command	
	Certification	ISO 9001: 2008,ISO 14001-2004, ISO 18001:2007	
11	**PARALLEL OPERATION**	The UPS supplied should be made parallel with the existing 120KVA UPS having the below specifications : Output Power: 120KVA Model: PMP 120 Inverter: Digitally controlled, IGBT based double conversion On-line VFI Make: Power-One. Batteries: 12V, 150AH-64 Nos.	
12	**CRITERIA FOR ACCEPTANCE:**	The equipment will be accepted based on: 1. Test certificate from the vendor 2. The equipment will be tested as per specifications at site.	
13	**TRAINING**	01 Day	
14	**DELIVERY SCHEDULE**	2 to 3 Weeks.	
15	**TESTING and MAINTENANCE TOOLS**	Yes, to be provided by the supplier	

ANNEXURE - 01

Scope of supply for 120 KVA On-line UPS

Sl. No.	Description	Qty
1	Supply and Installation of 120 KVA True On-line UPS as per enclosed specification sheet in **Annexure A**.	1No.

Note: 1) The new UPS should be compatible for parallel operation with existing 120KVA UPS.

Specification of the existing UPS:

Output Power: 120KVA
Model: PMP 120
Inverter: Digitally controlled, IGBT based double conversion On-line VFI
Make: Power-One.
Batteries: 12V, 150AH-64 Nos.

2) Detailed specification of existing UPS is attached as per details given in Annexure-A.
3) The UPS supplier should include servicing of the existing UPS in case of any malfunctioning as a result of synchronization without any charges during the warranty period.

ANNEXURE – 02

Terms and Conditions:

1. The 120 KVA UPS must be compatible for making parallel operation with the existing Power One UPS, Model : PMP - 120 (Rating : 120 KVA) in C- SVTC department.
2. All the necessary controller cards and cabling for paralleling should be included in the scope of work.
3. Necessary tools for basic trouble shooting of 120 KVA UPS to be provided.
4. Training for operation of UPS and troubleshooting to be provided at site after installation.
5. The UPS should be tested at the supplier's factory for specifications mentioned in Annexure – 01 in presence of CMTI staff.
6. The vendors may visit CMTI to have a look at the existing UPS and its location for better understanding before quoting.