प्रसार भारती : PRASAR BHARATI
[भारत का लोक सेवा प्रसारक : INDIA's PUBLIC SERVICE BROADCASTER]
दूरदर्शन केंद्र : DOORDARSHAN KENDRA

कुड़प्पनकुन्नु
तिरुवनंतपुरम- 695 043
Tel.0471-2730177

Kudappanakkunnu
THIRUVANANTHAPURAM - 695 043
Email : hooddktvm@prasarbharati.gov.in

2(1)2026-27/E/DKT/STORES/ Dated : 24.09.2026

To,
All Authorized UPS Manufacturers / Authorized Dealers

Subject: Invitation for Budgetary Quotations for Supply, Installation, Testing and Commissioning (SITC) of 2 × 40 kVA UPS Systems without Batteries at Doordarshan Kendra, Thiruvananthapuram – reg.

Sir/Madam,

Doordarshan Kendra, Thiruvananthapuram proposes to undertake the Supply, Installation, Testing and Commissioning (SITC) of 2 × 40 kVA Uninterruptible Power Supply (UPS) Systems, without batteries, along with the required accessories and associated works, for providing reliable and uninterrupted power supply to the broadcasting and technical facilities of the Kendra.

In this connection, you are requested to submit a budgetary quotation for the above work based on your latest products and prevailing market rates. The detailed technical specifications of the proposed UPS systems are enclosed herewith for your reference and necessary action. You are requested to furnish your budgetary quotation in accordance with the enclosed specifications.

The budgetary quotation should include the cost of 2 × 40 kVA UPS systems, installation, testing and commissioning, input and output cabling, protection devices, bypass arrangements, interconnections, necessary accessories, mounting arrangements, and all other items required for the complete and satisfactory installation and commissioning of the UPS systems in accordance with the enclosed technical specifications.

The cost of batteries/battery banks is not required to be included in the budgetary quotation. The quotation may also include details of the UPS make/model, rated capacity, input/output specifications, efficiency, input power factor, output power factor, THDi, overload capacity, bypass arrangement, cooling arrangement, warranty/guarantee, installation and commissioning charges, and other relevant technical and commercial details.

The budgetary quotation is being invited solely for the purpose of budget estimation and preparation of the estimate/tender documents. Submission of the quotation shall not confer any right or claim for award of the work, and Doordarshan Kendra, Thiruvananthapuram reserves the right to modify or cancel the proposal without assigning any reason.

You are requested to submit your budgetary quotation on your company's letterhead, duly signed by an authorized representative, on or before 08.10.2026 by post to the following address:

Deputy Director General (E)
Doordarshan Kendra
Kudappanakunnu P.O.
Thiruvananthapuram
Kerala – 695043

Encl.: Technical Specifications for SITC of 2 × 40 kVA UPS Systems without Batteries.

Yours faithfully,

(RAMITHA R S)
Senior Engineering Assistant (Stores)
For Deputy Director General (E)
Doordarshan Kendra, Thiruvananthapuram

Supply, Installation, Testing and Commissioning of 2X40 KVA UPS with parallel operation with sharing of load during normal operation and automatic change over of full load to healthy unit in case of failure of other unit	
ESSENTIAL FEATURES:	
1.	(a) The system should be fully DSP controlled in all respects (i.e.; rectifier control, inverter control, display, digital diagnostics), solid-state type, utilizing On Line Double Conversion Technology (high frequency PWM using IGBT Rectifier & inverter section) (b) The system should be capable of providing continuous high quality sinusoidal wave form power for electronic equipment loads. (c) The system should conform to voltage frequency independent technology.
2.	The DSP based controller should have following characteristics: 1. Diagnostic monitoring achieved by Fast Fourier Transform (FFT) of spectrum analysis. 2. Adaptive control by having the speed to monitor and control the system concurrently. 3. Real time generation of smooth, near optimal reference profiles and move trajectories. 4. Control power switching and inverters and generate high resolution outputs.
3.	The UPS should offer low input current harmonic distortion (THDI), good regulation, excellent transient response and high stability.
4.	(a) The system should have a monitoring panel (LCD Based) with various types of fault alarms and metering functions including: i. output voltage, current & frequency ii. Input voltage, current & frequency iii. Bypass Voltage, Current & frequency iv. Battery capacity, backup time left & bad battery indication. v. Temperature of System, Inverter section and Rectifier section. b) The UPS system should display both RMS value and Peak value of load current. c) The UPS system should have facility to generate aural alarm for bad battery condition.
5.	a) The system should have wide input voltage and input frequency tolerance as specified in Rectifier section. b) Transient Voltage Surge Suppressor (TVSS) should be provided at the input & output of the UPS System.
6.	The system should have provision for controlling all the three phases individually, even in case of 100% unbalancing at the output with even 0% load on one phase. There should be no change in regulation in phase voltage with 100% unbalancing.
7.	The system should be capable of supplying energy to load from commercial mains without any break, in case of phase reversal at the input. It should also generate aural and visual alarm in such a case.

8.	a) The system should have provision of protection for (i) Input under voltage (ii) Input Over Voltage (iii) Output Over Voltage (iv) Output Over load (v) Output short Circuit (vi) Battery under Voltage (vii) Over temperature (viii) DC Over current b) The system should generate aural and visual alarms for above mentioned conditions.
9	The system should have Controls as (i) Input Circuit Breaker (ii) Bypass Circuit Breaker (iv) Maintenance Bypass Switch (v) Inverter ON / OFF Switch (vi) Alarm acknowledge switch etc.
10.	a) The system should have facility to store the Logs of the events being monitored by monitoring system. b) The UPS system should have the capability to store a minimum of last 100 events. c) The UPS should have in-built digital fault diagnostic through stored events in the UPS system.
11.	A- The battery charger should have provision of (i)Monitoring battery temperature and accordingly adjusting the charging level to enhance the battery life. (ii) Programmable battery charging which can be programmed with schedules to enhance battery life. B- Battery charging current should be adjustable from 10% to 80% through Microprocessor & displayed C- For battery sizing calculation, temperature is required to be taken as 0 deg Celsius.
12.	The system should have communication port RS232 and should be compatible to integrate with NMS. Suitable software for monitoring & diagnostics etc. should be supplied.
13.	The system should be designed with scientific forced air-cooling for proper ventilation. Acoustic noise level should be kept at minimum.
14.	The UPS system output should be isolated from the DC circuit of the UPS.
15.	The system that shall be quoted against this tender should include all switchgears, cables, earthing etc. etc. Terminals for input 3 phase, 4 Wire, power supply & output power supply should be provided. Power supply sub distribution in the output is not in the scope of this tender. A block schematic diagram with all items should be provided.
16.	The system that shall be quoted against this tender should be capable of running continuously round the clock, seven days a week without interruption or failure.
17.	The UPS System quoted must conform to the latest international standards of safety and EMC. The conformance to such standards (indicating standard's name & number) must be stated in compliance statement. A certificate issued to OEM by authorized international / national agencies should be submitted along with the declaration from OEM in this regard. In general, following standards should be met :-

	A. Safety: IEC 62040-1 / EN 50091-1 B. Emission and Immunity : IEC 62040-2, Class A/ EN 50091-2(Class A) C. Performance : IEC 62040-3 / EN 50091-3 D. CE- Marked in accordance with EEC directives 73/23 " low voltage" and 89/336 " electromagnetic compatibility "
18.	The UPS manufacturer must be ISO 9001-2000 certified company. A copy of the certificate should be enclosed with the offer.
TECHNICAL SPECIFICATIONS:	
	A. SYSTEM
I	Technology: The UPS shall be designed to operate as true on line, double conversion DSP controlled type UPS strictly as per the definition of IEC 62040-3 as follows: a) Normal Operation : The UPS inverter should continuously supply the critical AC load. The rectifier & charger should take power from the AC input source, convert it to suitable DC and supply to the inverter as well as charge the batteries on Automatic float cum Boost mode. Both UPS should share the load equally b) Upon Mains Failure: Upon failure of AC input power, the critical AC load should continue to be supplied by the inverter, which should obtain power from the battery. There shall be no interruption in power to the critical load upon failure or restoration of the AC input source (Mains/DG). Load should be shared equally by both UPS c) Upon Mains Restoration: Upon restoration of AC input power, the Rectifier/Charger should automatically restart walk-in and gradually take-over the supply to inverter and charging to the battery. d) Upon failure of a UPS, entire load should be shifted automatically to healthy UPS e) Static Bypass: UPS Module should have in-built 100% rated static Bypass Line. All the loads should be transferred to the Static Bypass Line of the UPS without any break for the following conditions : i. If the UPS fails ii. If overload beyond 150% for 1 minute is faced by the UPS. iii. If UPS sense over temperature (i.e.; inverter exceeding 65 Deg Celsius simultaneously). iv. If both the UPS inverters are put –off.
2	MTBF of the System: Bidder to specify and justify MTBF of the system
3	Capacity : 2 X 40KVA/ 40KW at power factor unity
	B. RECTIFIER SECTION
1	a) Technology: **Fully DSP Controlled IGBT Rectifier with input filters to reduce the harmonics.**
2	Input : 3-phase, 4-wire plus ground
3	Input Voltage : 320 to 480 V (at full load)

4	Input Frequency : 47-53 Hz.
5	Input Power factor : >0.99
6	Input Current Harmonic Distortion (THDi) : < 3%
7	Soft start(0-100%) : >10 Sec.
8	DC ripple voltage : < 1%
	NOTE: Bidder should specify the following parameters for quoted UPS system i.) Rectifier Input current (Max.) ii.) Max. Rectifier output current iii.) Rated Output current (with battery in fully charged state) iv.) Max. Output Voltage
	C. INVERTER:
1)	Technology **: Fully DSP based IGBT/ PWM Inverter.**
2)	Output Voltage : 3-phase, 4-wire plus Ground (a) Nominal : 380V- 415V AC (adjustable), 50Hz (b) Static : 400 ±1% V AC, 50Hz
3)	Output voltage regulation : (a) 100% Balanced load : < ± 1% (a) 100% Unbalance load : ± 2% (c) Transient response : <5% (100% step loading) (c) Recovery time to :< 5 msec. Steady state (±1%)
4)	Output Frequency regulation (a) Line Connection : ± 1% (meeting input frequency range of 47-53 Hz). (b) Self Connection : ± 0.05%
5)	Overall Efficiency : >96% (for all loads from 50% to 100%) (From I/P to O/P of the UPS System)
6)	Output voltage Distortion : < 1% linear load (at rated load) < 3% non-linear load with 3:1 crest factor
7)	Audible noise level at 1 meter: 60 dBA or better
8)	Overload Capacity

	a) Inverter: Upto 125% 10 min. Upto 150% 1 min. b) Bypass Mode: Continuously upto 135% of rated current 135% to 170% of rated current for 1 min. > 170% of rated current for 2 seconds
9)	RF Suppressions : As per BIS & EMC standard
10)	Computer interface : RS232 Interface
11)	On-Line Battery Testing : Required
12)	(a) Mains failure, (b) Battery low, (c) UPS fault Tenderer to provide Audio / Visual alarm at remote location (maximum distance 100 meter) in addition to local.

13)	Front Panel Display (Please submit the details of front panel display) : LED mimic with LCD display. The LCD should display the following : a) Input side i) Voltage ii) Current iii) Frequency b) Output side i) Voltage ii) Current (RMS value) & Peak value iii) Frequency
	c) Intermediate DC: i) Voltage
	ii) Current
	iii) Remaining time (in minutes)
	d) Bypass: i) Voltage
	ii) Current

	iii) Frequency
	e) Alarm History
	D. BATTERY BANK & BATTERY **(New Batteries are available at the station and need not be supplied. Details of available batteries are given below)**
1.	Battery Bank Capacity : Min. 36000 VAH
2.	Nominal output current capacity: Min. 75 AH
3.	No. of Battery String : 1 Set complete
4.	DC Voltage of the battery bank : Should be Min. 480 Volts
5.	Type: 12 V Batteries of Sealed Maintenance free **(AGM-VRLA**).
6.	Backup time : Minimum 10 minutes (at the End of life (EOL) of battery for 100% load with each UPS system
7.	Charging Voltage : Float : 13.5 +/- 0.1 V per battery at 27^0C Boost : 13.8 +/- 0.1 V per battery at 27^0C
8.	Cutoff Voltage : 1.70-1.75 V per Cell (should be selectable)
9.	Floating Voltage Regulation between no load & full load : 1% or better
	E. ENVIRONMENTAL CONDITION
1.	Operating Ambient Temperature : 0°C to 40°C
2.	Storage/ Transport Ambient Temperature: -25°C to 55°C
3.	Relative Humidity : 90%