



PRASAR BHARATI
(INDIA'S PUBLIC SERVICE BROADCASTER)
OFFICE OF THE ADDL.DIRECTOR GENERAL (E) (SZ)
AKASHVANI & DOORDARSHAN
SWAMI SIVANANDA SALAI,
CHENNAI-600 005.



सत्यम् शिवम् सुन्दरम्

No. ADG (E)(SZ)/AIR/INST/IO-64/2023-24
TO.

Date: 27.12.23

Address list attached

Sub: Enquiry for Supply of Sub Distribution SD Panel to be provided at 10KW FM Akashvani Ooty and Akashvani Tirupati as per the specification and schematic.

Sealed Quotation are invited for supply of Sub Distribution SD Panel to be provided at 10KW FM Akashvani Ooty and Akashvani Tirupati as per the specification and schematic

- i. The tenderer shall indicate make and model of each item being offered.
- ii. Indenter reserves the right to choose & decide the quantity of equipment's at the time of finalization of tender.

Firms are requested to offer their quotes as per following:

SI.No	Description of Stores	HSN/SAC	Qty/Station	Unit Rate	Amount (Rs)
1	Supply of 415V, 3 PHASE, LT SD Panel consisting of the following: (a) Moulded Case Circuit Breakers 125 A 4P-1No (b) Moulded Case Circuit Breakers 100 A 4P-3Nos (c) Changeover Switch (Rotary Type)125A 4P—1No (d) Changeover Switch (MCB Type)100A 4P—2 Nos (e) Changeover Switch (MCB Type) 32 2P—1 No (f) Miniature circuit breakers 63A 4 P-12Nos (g) Miniature circuit breakers 32A 4P -1No (h) Miniature circuit breakers 32A 2P- 7 Nos (i) Miniature circuit breakers 16A 2P-4Nos		2 SETS		

	(j) Miniature circuit breakers 6A 4p-1No.			
	(k) SPD Type 2 3N,440V- 1 No.			
	(l) DPM -1 No.			
	(m) Phase Sequence Meter – 1 No.			
	(n) RYB Indication Lamp with Fuse -1 Set			
	(l) Assorted Meters & Indicators etc.			
2	Insurance, Transportation and unloading at site of the above switchgear		1 Job	
3	Book of Instructions for Installation, operations, Testing, Commissioning and maintenance including finalized drawings.		1 set	
	Sub Total			
	GST/IGST @ 18%			
	Total			
Say Rs.				

1) General terms and Conditions:

- The Bidder shall supply the equipment's with utmost care, not to damage. Bidder will be held responsible to supply the equipment at his own response. All the above works have to be carried out in presence of I.O/Station Head at 10 KW FM Akashvani Ooty/Tirupati
- Supply should be completed within 60 days from the date of issue of Supply/Work order.
- Billing:** The Additional Director General (E)(SZ), Akashvani & Doordarshan, Swami Sivananda Salai, Chennai-600005.
- Terms of Payment :** 100% Payment will be made on supply of the Equipment /completion of the Work.
- The quotation on the firm's letter head should be sent in a sealed cover addressed to The Additional Director General (E)(SZ Akashvani, & Doordarshan, . Room No.209 Swami Sivananda Salai, Chennai-600005.
So as to reach on or before 10.01.2024, 15.00 Hrs.
- THE COVER SHOULD BE SUPERSCRIBED WITH THE FOLLOWING:**
Should be marked on the Cover Bids Supply of SD Panel to be provided at 10KW FM Akashvani Ooty/Tirupati
Reference to letter of enquiry.
Due date of opening quotation.
- The Quotations will be opened in this office **at 1530 Hrs. on.10.01.2024**
- GUARANTEE / WARRANTY PERIOD:**
The supply of material shall be guaranteed for a period of **1 Year** from the date of supply of material/Completion of work. Any failure in the supply of material, during the Guarantee period shall be repaired / replaced free of charge by the Contractor/supplier at the Site.
- Both your PAN and GST Number should be indicated in your quotation.

BUS BARS AND CONNECTORS:

- 10) Single piece, air insulated bus-bars of hard drawn high conductivity electrolytic copper rated for the current indicated in the enclosed schematic drawing and corrected for an ambient temperature of 50°C and conforming to Grade E91E of IS 5082 as amended to date shall be provided.

MOULDED CASE CIRCUIT BREAKERS:

- 11) All the live parts of MCCBs shall be enclosed in a molded insulated housing. The operating mechanism should be quick make, quick break and trip free. It should be independent of manual operation and conform to relevant sections of IS-13947 amended to date.
- 12) The housing should be made of heat resistant and flame retardant thermo insulating material. The operating handle should clearly indicate ON, OFF and TRIP positions.
- 13) The MCCBs should have thermal overload protection adjustable over a specified range of 60% to 100% of rated current with inverse time - current characteristics, and instantaneous short circuit protection & also adjustable over 300% to 800% of the thermal overload setting. The overload and short circuit releases shall be adjustable for each phase independently, direct acting and should operate on a common trip bar so that all the phases are disconnected even when a fault occurs on only one/two phases.
- 14) Terminals shall be so designed such that it can accept links or cable lugs. Adequate separation between adjacent terminals with insulation barriers shall be provided.
- 15) The circuit breakers shall be provided with suitable arc chutes enveloping the contacts so that arcs are quenched quickly and the life of the contacts is enhanced. The contacts shall be made of silver alloy. The MCCBs shall be of reputed make such as L&T, Siemens, Schneider electric etc.

MCCBs shall be tested as per IS-13947. Test certificates for short circuit breaking and making capacity, Mechanical life etc. shall be obtained from standard test house and shall be produced at the time of inspection.

MINIATURE CIRCUIT BREAKER (MCB)

- 16) The MCB should have inverse time-current tripping characteristics against overload and instantaneous trip against short circuits. It shall have a high breaking capacity typically 10 KA.
- 17) The MCB shall have silver layered contacts to reduce arcing time. It shall operate on the current limiting principle and the time of interruption shall not exceed typically 5 milli-seconds.
- 18) The MCB shall be housed in a non-ignitable, high impact precision molded reinforced plastic material to ensure high electrical and mechanical properties.
- 19) The MCB shall be fast acting and free from bouncing of contacts and should ensure long contact life and proper contact pressure.
- 20) The MCB shall be trip free and should conform to specification IS 8828 amended to date. The MCCBs shall be of reputed make such as Crompton Greaves, Siemens, Schneider electric, L&T etc.

10. Taxes: GST leviable and intended to be claimed from the purchaser should be distinctly shown along with prices quoted. Where this is not done no claim for GST will be admitted at any later stage and on any ground whatsoever.
11. The contractor shall make his own arrangement for storage of all equipment and materials brought to site from time to time and their safe custody at site till they are taken over by the indenter/his representative. The contractor shall make his own arrangement for providing accommodation for his workmen at site.
12. The contractor shall make his/her own arrangements for procuring necessary labour, skilled and unskilled. He should conform to all local government laws and regulations covering labour and their employment.
13. The contractor and his employees shall comply with the regulation in force for controlled entry into the premises where the work is being carried out.
14. Contractor liable for damage caused during the supply of material, and imperfections noticed.
15. The contractor shall indemnify and hold harmless the purchaser against all claims in respect of injury or life to any person howsoever arising out of the work in the course of such installation/work. The contractor shall discharge his entire obligation under the Indian Workmen Compensation Act in as far as it affects workmen in his employment.
16. Right of acceptance: The Additional Director General (E) (SZ), Akashvani, & Doordarshan reserves the right to reject the lowest tender or all the tenders without assigning any reasons whatsoever. Further, the undersigned reserves himself the right for decreasing the quantity of material tendered depending upon the actual requirements. The unit rate quoted on the tender shall be applicable for the quantity for which order is placed.

Technical Specification .

- 1) The switchboard shall present a flush appearance and shall be made of not less than 2 mm thick (14 SWG) for load bearing member, 1.6 mm for doors of SDB Panel of cold rolled M.S. sheet & and shall be free from rust, scales, grease and other foreign matters.
- 2) The framework shall be rigid and with modular arrangement. The framework shall house the MCCBs etc. in multi-tier formation. The equipment shall be mounted independent of the back plate and not on the rear surface of the housing.
- 3) Suitable cable termination arrangement shall be provided for switching unit equipment with proper fastening arrangement to ensure vibration free operation.
- 4) Each module shall be fitted with individual doors with concealed hinges. All doors shall be held securely against sponge rubber gaskets to make the equipment dust free and vermin proof.
- 5) All steelwork shall undergo a process of degreasing, pickling in acid, cold rinsing, phosphatising, passivating and then be sprayed with a high corrosion-resistant primer. The finishing treatment shall be by application of two coats of heat resistant synthetic Enamel of approved shade (generally Siemen's Grey) as per 63106 IS 5 stoving process will be preferred.
- 6) A base channel, painted black shall be provided to prevent corrosion of sheet cubicles and to facilitate cleaning of floors.
- 7) All hinged doors shall be earthed through flexible braided copper wire.
- 8) The Enclosure shall provide a degree of protection covered by type IP-5 of IS- 2147 amended to date
- 9) Since the existing trenches are close to the panel, Main Studio Cum Building of SDB Panel will be located close to the wall. Hence Main Studio Cum Building of LT Panel should not have any rear access.

SURGE PROTECTION DEVICES (SPD)

21 The Surge Protection Devices shall be provided in the SDB Panel as per Power Supply schematic (Annexure-I) to protect electrical/ electronic broadcasting equipment against various over voltage impulses due to lightening & switching surges in supply line & in the distribution system.

In absence of surges in power system, the SPD shall not have a significant effect on the operational characteristics of the system to which it is applied.

22 During occurrence of surges in the power system, the SPD shall respond to surges by lowering its impedance thus diverting the surge current through it to limit the voltage to its protection level.

23 The SPD should recover to its high impedance state after the surge is over and it should extinguish any possible flow of current.

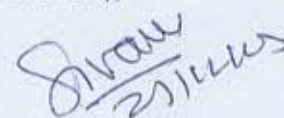
24 Installation of SPD shall be complied with T T& TN-S earthing system.

25 SPD shall be separately electrically earthed. Earth resistance shall be less than 1 Ω .

The Technical specifications of SPD shall be as follows:

S.No	Technical Specification	SPD
i)	Location	SDB Panel
ii)	Surge Rating	100 kA
iii)	Nominal Supply voltage	230/ 400V, 3 Phase, wye,50 Hz
iv)	Continuous operating voltage	440V, AC
v)	Mode of protection	3P+N
vi)	Response time	Less than 25 ns
vii)	Voltage Protection ratio	1200V
viii)	Operating current	Less than 1mA
ix)	Max. Discharge current I_{max} , 8/20 us,	More than 100 kA
x)	Nominal Discharge current (I_n) 8/20us	10kA
xi)	State indicator	Yes
xii)	Disconnecter	125A, circuit breaker B or C curve
xiii)	Temperature range	Up to 80 degree centigrade
xiv)	Reference Standard	UL 1449 3 rd edition, IEC-61643-11
xv)	Degree of protection	IP 20
xvi)	Mounting arrangement	Capable of mounting at main L.T. Panel

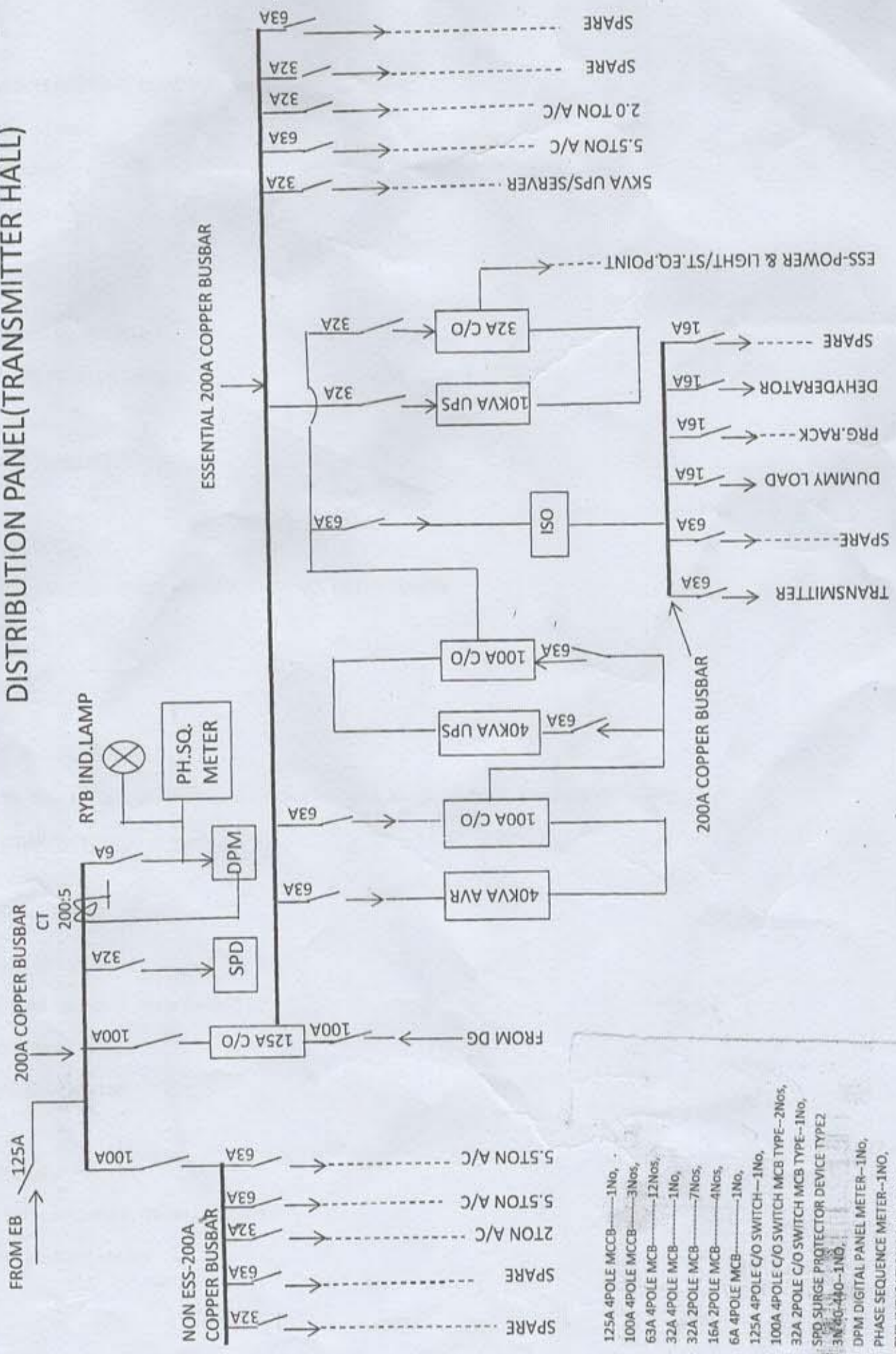
Yours Faithfully,



T Sivam

Assistant Engineer
For Additional Director General(E) (SZ)

AKASHVANI- TIRUPATHI--OOTY PROPOSED LINE DIAGRAM DISTRIBUTION PANEL(TRANSMITTER HALL)



- 125A 4POLE MCCB-----1No,
- 100A 4POLE MCCB-----3Nos,
- 63A 4POLE MCB-----12Nos,
- 32A 4POLE MCB-----1No,
- 32A 2POLE MCB-----7Nos,
- 16A 2POLE MCB-----4Nos,
- 6A 4POLE MCB-----1No,
- 125A 4POLE C/O SWITCH---1No,
- 100A 4POLE C/O SWITCH MCB TYPE--2Nos,
- 32A 2POLE C/O SWITCH MCB TYPE--1No,
- SPD SURGE PROTECTOR DEVICE TYPEZ
- 3N 40-440--1NO,
- DPM DIGITAL PANEL METER--1No,
- PHASE SEQUENCE METER--1No,
- RYB INDICATION LAMP--1No,