प्रसार भारती
Prasar Bharati
भारत का लोक सेवा प्रसारक
India's Public Service Broadcaster
कार्यालयः अपर महानिदेशक (अभि॰) (उत्तरी क्षेत्र)
Office of the Additional Director General (E) (NZ)
आकाशवाणी एवं दूरदर्शन
Akashvani & Doordarshan
आठवां तल, सूचना भवन, सी.जी.ओ. कॉम्प्लेक्स, नई दिल्ली 110003
8th floor, Soochna Bhawan, CGO Complex, New Delhi-110003

सत्यम् शिवम् सुन्दरम्

Gurej/2V/3/2025-26/Instt/(DSITC of LT switchgear, SDB & APFC panel) **Dated: 30.09.2025**

Subject: Design, Supply, Installation, Testing & Commissioning of LT switchgear, SDB & APFC panel for 10kW (1+1) FM Transmitter at HPTV TV site Gurej (J&K).

1. The budgetary quotation & drawing of the upcoming bid is enclosed herewith to offer comments, if any by prospective bidders/firms.
2. Bidders/firms are requested to provide information about content in respect of scope along with budgetary quote.
3. Bidders/firms may please submit the above detail on or before due date by e-mail to rksrivastav@prasarbharati.gov.in or at following address.

R.K Srivastav
Assistant Director (Engg.)
Room No. 899-C,
O/o ADG (E)(NZ)
Akashvani & Doordarshan,
8th floor, CGO Complex,
Soochna Bhawan, New Delhi-110003
Mobile No.: 9873364977
e-mail id: rksrivastav@prasarbharati.gov.in

Budgetary Quotation for: Design, Supply, Installation, Testing & Commissioning of LT switchgear, SDB & APFC panel for 10kW (1+1) FM Transmitter at HPTV TV site Gurej (J&K).

Due Date to offer Comments: 14.10.2025

Enclosed:

1. Budgetary Quotation form & drawings of the upcoming bid is enclosed herewith to offer comments, if any by prospective bidders/firms.

30/09/2025

Assistant Director (Engg.)
For Additional Director General (E) (NZ)
रवीन्द्र कुमार श्रीवास्तव
सहायक निदेशक (अभि.)
Ravindra Kumar Srivastava
Asstt. Director (Engg.)

प्रसार भारती
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8th floor, Soochna Bhawan, CGO Complex, New Delhi-110003

Gurej/2V/3/2025-26/Instt/(DSITC of LT switchgear, SDB & APFC panel) **Date: 30.09.2025**

Budgetary Quotation Form

Please read carefully the terms and conditions given the enquiry form attached to the quotation form.

Project: Setting up of 10kW (1+1) FM Transmitter at HPTV TV site Gurej (J&K).
Subject: Design, Supply, Installation, Testing & Commissioning of LT switchgear, SDB & APFC panel for 10kW (1+1) FM Transmitter at HPTV TV site Gurej (J&K).

Last date of receipt of quotation in this office: **14.10.2025 up to 12:00 hrs.**

S.No.	Description	Make & Model	Qty	Rate	Amount
1.	Design & Supply of 415 V, 3 Phase, LT Switchgear as per Drawing No: TP-16798 of P&D unit, New Delhi.		1 Job.		
2.	Design & Supply of SUB DISTRIBUTION BOARD (SDB) as per Drawing No: TP-16798 of P&D unit, New Delhi.		1 Job.		
3.	Design & Supply of APFC Panel as per Drawing No: TP-16798 of P&D unit, New Delhi. **Note:** ➢ The APFC Panel should be designed & supply as per sanctioned load of 50KW and the bidder have to submit the necessary drawing & bill of material for approval by this office.		1 Job.		
4.	Supply, fabricating & fixing of MS angle iron stand using 50mm x 50mm x 5mm angle iron with primering & painting the size of frame: 1800mm x 300mm x 450 mm -------- 01 No.		1 Job.		
5.	Installation, Testing & commissioning of the above LT switchgear, SDB & APFC panel.		1 Job.		
6.	Transportation & unloading of LT switchgear, SDB & APFC panel including consumable hardware, interconnecting control cabling with cables, input & output supply cable termination with lugs to and fro from LT panel and extension of earth from clients earth bus etc.		1 Job.		
	Note: ➢ The switch Boards & panel shall present a flush appearance and shall be made of 2mm thick (14 SWG) M.S. Sheet and shall be free from rust, scales, grease and other foreign matters. ➢ LT Cable for input & Output shall be supplied by the Department. ➢ The HPT TV site Gurez site is situated at remote, hilly and difficult climatic terrain of Jammu & Kashmir region and HPT TV site Gurez is approx 125km from Srinagar. So, bidders should take proper information about ground reality of the site before submitting the bid process. ➢ All above shall be carried out and completed strictly in presence of authorized representative of this office or HPT TV site Gurez J&K.				
	Total				
	GST @				
	Grand Total				

Note:

1. **LT panel shall be CPRI approved Make and conform to the Indian Electricity Rules.**
2. **The LT panel shall be Electrically Double Earthed the approval shall be submitted also with Tender.**
3. **Test report from OEM in respect of MCCB, SPD, ATS etc. shall be submitted with the panel.**
4. **Internal wiring of the panels shall be made with hydrogen free fire retardant (HFFR) wire cables, copper lugs/thimbles of suitable size as per IS & IER.**
5. **Over load, short circuit & ground fault protection in X-1(MCCB) and load balance on all three phase shall be done by the firm in presence of installation officer/station authorizes.**
6. **Input & Output Cables for LT Panel will be provided by the Department at free of cost at site.**

- **Time of execution as per permission of Engineer Incharge at AIR Gurej (J&K).**
- **Before submission of offer, detailed site visit is required to access the quantum of scope and site specific requirements. Site visit may be carried out with consultation of I.O/Engineering head AIR Gurej (J&K).**
- **The bidder must be experienced in same kind of scope & shall submit documentary evidence with offer. The completion certificate is also to be attached issued by any Central and State Government agency, PSUs, Private organizations.**
  (In case of SITC/SETC and specialized scope, the contractor should also have sufficient experience and shall submit the experience certificate of satisfactory completion of at least three similar works, each of value not less than 40% of the estimated cost put to tender or two similar works, each of value not less than 60% of the estimated cost or one similar work of value not less than 80% of the estimated cost, all amounts rounded off to a convenient full figure, in the last 7 years ending on the last day of the month previous to the one in which the tenders are invited").
- **Execution of scope has to be completed without break in service at AIR Gurej (J&K).**
- **The firm has to produce a list all such labour along with the address proof which are to be Employed Office on signing contract. The firm shall issue the identity cards to all such persons to facilitate the entry in at AIR Gurej (J&K).**
- **Material is subject to Pre-dispatch Inspection will be carried out preferably in presence of Authorized representative of O/o ADG (NZ), AIR & DD, 8th floor, Soochna Bhawan, CGO Complex, New Delhi-110003**
- **Any damage or misplace in equipment will have to be provided by the firm during execution.**

1. Quantity of Material & Scope may increase or decrease as per actual requirement/constraints at site.

a) GSTIN No: …… **b) PAN No** ……

2. **Delivery at:** Setting up of 10kW (1+1) FM Transmitter at HPTV TV site Gurej (J&K).
3. **Consignee:** Installation officer, HPTV TV site Gurej (J&K).
4. **Completion Period:** Supply of Material & Completion of scope within 60days from the date of order.
5. **Validity:** 120days
6. **Schedule of Payments:**
   - 97% Payment on completion/execution of scope in good condition at site.
   - Balance payment of 03% will be paid after guarantee/warranty period of one year. However payment can be released against FDR/Account Payee Demand Draft/Banker's Cheque of equivalent amount in favour of Chief Engineer (NZ), AIR & DD, New Delhi valid for guarantee period at least.
7. **Performance Security:**
   a. The firm/contractor should submit performance security deposit in the form of FDR from a schedule commercial bank valid for one year in favour of Chief Engineer (NZ), AIR & DD, New Delhi.
   b. The Performance Guarantee/Security Deposit shall be 03% of cost of the order/contract value.
   c. For release of security deposit/performance security, the firm will submit his claim along with a certificate from the ultimate consignee that equipment supplied/SITC executed against this order has performed satisfactorily during its warranty/guarantee period and department have not suffered any loss/inconvenience on this account.
8. **Declaration:** We declare that all the conditions as given in the Quotation form have been read by us and are acceptable.

Name (in capital)_____

Seal: (Signature of the Tenderer)

Technical Specification for DSITC of L.T. Switch Board for Indoor Installation at HPTV TV site Gurej (J&K).

1. General:

1.1 This specification covers Design, Supply, Installation, Testing and Commissioning of cubicle type sheet steel switch board suitable for 415 volts, 3 phase, 4 wire, 50 Hz. Power supply with input power factor of 0.80 lagging.

1.2 The general power supply schematic and electrical arrangement are shown in the P/S schematic. The switch board will be installed indoors. It shall however be suitable for working under tropical conditions with ambient temperatures up to 50°C and with humidity going up to 95%.

1.3 The switchboard shall be designed for efficient and trouble free service for long period of continuous operations. All materials used in the construction shall be of high quality and conform to the relevant IS specifications.

1.4 All Electrical work shall be carried out in accordance with standard electrical practice. The units shall be designed for economical and compact accommodation of the necessary MCCBs and MCBs, for easy maintenance and complete safety to operating personnel.

1.5 The L.T. switch board shall be complete with interlocking arrangements, safety shutters wherever required, small wirings, earthing strips, digital meter and the connections, cable compression glands and all accessories for installation and normal service. The design and construction of the switch board and switch gear shall conform to relevant IS standard.

1.6 The switchboard offered shall be capable of withstanding rigorous use and of resisting rough handling during transport. Adequate lifting facility shall be provided for the complete equipment.

1.7 The successful tenderer will have to get the switch board inspected by a person authorized by indenter at site.

2. DETAILED TECHNICAL SPECIFICATIONS:

2.1 GENERAL:

2.1.1 The low tension switch board shall be suitable for working on 415 V, 3 phase, 4 wire, 50 Hz with earthed neutral supply system and for general requirement shall be as per relevant IS standard.

2.1.2 The switch board shall be indoor type, floor fixing compact metal clad totally enclosed and readily extensible. The markings and arrangement for switch gear and control gear shall conform to IS standard.

2.1.3 The type of enclosure shall provide a degree of protection conforming to relevant IS standard. The LT switch board shall be provided with necessary Moulded Case Circuit Breaker with Thermal overload and magnetic release. The sub distribution board shall be provided with the miniature circuit breakers.

2.1.4 The cubicle type L.T. switch board shall have a fault withstanding capability as per relevant IS standard.

2.2 CONSTRUCTIONAL FEATURES:

2.2.1 The switch board shall be designed for floor mounted. Incoming cables will enter the switch board vertically from the below. Switch board shall be provided with removable bottom plates with cable compression glands fixed for aluminum cables. Aluminum crimping type lugs shall be provided to cables. Outgoing cables shall be taken from the top of the switch board.

2.2.2 The switch board shall be of single front construction and equipments shall be mounted on the front only. The switch board shall have a uniform height & depth throughout its length. Maximum size of LT Board shall be 1800 x 300 x 1800mm (Width x Depth x Height). The board shall be installed on the floor. All cable connections shall be accessible from front side.

2.2.3 The switch board shall present a flush appearance and shall be made of 2 mm thick (14 SWG) M.S. sheet and shall be free from rust, scales, grease and other foreign matters.

2.2.4 For convenience of operation and ease of cable termination, there shall be adequate gap (minimum 500mm) between the floor level and the bottom most unit.

2.2.5 The frame work shall be rigid and with modular arrangement. The frame work 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.

2.2.6 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.

2.2.7 The compartment doors shall be so interlocked that it shall not be possible to open the door with the switch in ON position. Provision may also be made for pad locking the switches in off position wherever required.

2.2.8 All steel work shall undergo a process of degreasing, pickling in acid, cold rinsing, phosphorescing, 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 as per relevant IS standard.

2.2.9 A base channel, painted black shall be provided to prevent corrosion of sheet cubicles and to facilitate cleaning of floors.

2.3 BUS BARS

2.3.1 Single piece, air insulated bus-bars of hard drawn, high conductivity, Electro type Copper or equivalent aluminum, rated for the current indicated in the reference drawing and corrected for an ambient temperature of 50 °C and conforming to relevant IS standard shall be provided.

2.3.2 Bus bars shall be supported on unbreakable, non hygroscopic supports rigidly held to the frame work of the chamber so as to withstand the dynamic forces during worst fault conditions. These are to be insulated individually with an approved non deteriorating insulating material to make it dust proof.

2.3.3 The neutral bus bars should be insulated with provision for earthing at one point. Minimum clearances of bus bars between phase to phase, between phase and neutral and between phase and earth shall conform to relevant IS Standard.

2.3.4 The bus bars shall have continuous current rating throughout the length of the switch board. The neutral bus bar shall have continuous rating of at least 50% of the phase bus bar.

2.3.5 Red, Yellow & Blue indicating lamps with protective fuses shall be provided on the bus bar chamber to indicate the status of the R, Y, B phase.

2.4 MOULDED CASE CIRCUIT BREAKERS:

2.4.1 All the MCCBs shall be ISI marked.

2.4.2 The MCCBs should have thermal overload protection adjustable over a specified range of 70% to 100% of rated current & for microprocessor based release, overload protection should be adjustable over a specified range of 50% to 100% of rated current.

2.4.3 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.

2.4.4 Earth Leakage protection is to be provided with MCCBs for safety of operating personnel. All parts of the circuit breaker shall be enclosed in the moulded housing with only the terminals accessible for external connections.

2.4.5 The MCCBs shall be of reputed make. Test certificates shall be submitted as per relevant IS standard.

2.5 MINIATURE CIRCUIT BREAKER (MCB):

2.5.1 The MCBs shall be ISI marked.

2.5.2 All the necessary Cable compression glands for the incoming/out going cables will be provided including connections etc. complete as required by the tenderer.

2.6 All control and metering wiring shall be done by 1.5 sq.mm (stranded) copper conductor, PVC insulated, Fire retardant, low smoke (FRLS) wire. CTs wiring shall be done with 2.5 sq.mm copper conductors (stranded). All control wirings shall be fitted with identification ferrule at each end duly numbered identified. The wires shall be arranged and supported in such a manner that there shall be no strain on the terminations.

2.7 All the connection/interconnection inside the cubical type LT board shall be of copper conductor strip/solid circular bar/copper conductor (stranded) PVC insulated having rating at least 1.5 times the normal rating. These are to be insulated individually with an approved non deteriorating insulating material to make it dust proof. As per the requirement tenderer shall use suitable copper thimbles of suitable size duly crimped and fitted with nut bolt washer etc. in a neat, clean and in professional manner.

2.8 INDICATING INSTRUMENTS:

All the meters i.e. voltages of all the three phases, current of all three phases, frequency, and power factor meter shall be digital meters and ISI marked. Current and potential transformer shall be as per relevant ISI standard. Metering shall be provided as per schematic. All the meters shall be digital and flush mounting type, Phase sequence indicator will also be provided.

2.9 Earthing:

Earthing conductor shall be of aluminium, minimum size as 5 mm x 30 mm. The terminals will be provided for connecting the board to external earth through 25 mm wide 4 mm thick copper or G.I. strips.

2.10 All the test report of LT board as per relevant IS standard as applicable shall be submitted by the tenderer. All the connections incoming/ outgoing cable shall be done as per the relevant IS standard along with the testing, commissioning of the LT board.

2.11 Miscellaneous: In respect of following, the tenderer shall provide and comply in the SETC of the above LT board.

2.11.1 All the bus bar shall have colour identification.

2.11.2 All the incoming/outgoing MCCBs, MCBs etc. are to be duly marked for proper identification.

2.11.3 R, Y, B shall be in colour as well as in single letter form as R, Y, B.

2.11.4 All the openings/ holes in the LT board should be plugged/covered with the insulating sheet properly.

2.11.5 All the tools required for the maintenance should be the part of the SETC of the LT board.

2.11.6 Suitable danger notice board with sign of skull and bones with voltage level indication and confirming to the relevant IS shall be affixed on the electrical installations located in the various compartments.

2.11.7 The glands of all the incoming/outgoing cables shall be connected with two separate and distinct connections with earth.

2.11.8 All the earthing strip wherever continuity breaks shall be got brazed/welded (as the case may be) in addition to their being tightened with nut and bolts.

2.12 Two sets of spare fuses and lamps may also be included in the quotations.

2.13 Complete schedule of materials of each unit, wiring diagram of the electrical circuit & exact dimensional details of the equipment offered, its weight, mounting arrangements and minimum clearance required from the floor.

2.14 The trip settings of various breakers should be set at site after measuring the operating current values for best safety.

2.15 Tenderer is required to show calibrations & settings etc. and test certificates also to be given.

3. <u>SPARES (OPTIONAL):</u>

Necessary spares required for the maintenance of the equipment should also be quoted separately. All India Radio at its own discretion may procure essential spares for a value not exceeding 10% of the cost of equipments. All the tenderer should quote all the essential spares.

Schedule of Requirement/Material for DSITC of LT switchgear, SDB & APFC panel.

S. No.	Description	Qty
1.	Design & supply of Main LT board switchgear Panel as per site requirement to power supply room for feeding power supply to 10kW (1+1) FM transmitter & associated equipment including all cabling, connections with suitable lugs as per drawing. **Reference Suggestive drawing No. TP-16798**	1 Job.
2.	Design & supply of Sub Distribution Board (SDB) panel as per site requirement in transmitter hall for feeding power supply to 10kW (1+1) FM transmitter & associated equipment including all cabling, connections with suitable lugs as per drawing. **Reference Suggestive drawing No. TP-16798**	1 Job.
3.	Design & supply of Automatic Power Factor Correction (APFC) panel as per site requirement in transmitter hall for feeding power supply to 10kW (1+1) FM transmitter & associated equipment including all cabling, connections with suitable lugs as per drawing. **Reference Suggestive drawing No. TP-16798** **Note:** ➢ The APFC Panel should be designed & supply as per sanctioned load of 50KW and the bidder have to submit the necessary drawing & bill of material for approval by this office.	1 Job.
4.	Supply, fabricating & fixing of MS angle iron stand using 50mm x 50mm x 5mm angle iron with primering & painting the size of frame: 1800mm x 300mm x 450 mm -------- 01 No	1 Job.
5.	Installation, Testing & commissioning of the above LT switchgear, SDB & APFC panel.	1 Job.
6.	Transportation & unloading of LT switchgear, SDB & APFC panel including consumable hardware, interconnecting control cabling with cables, input & output supply cable termination with lugs to and fro from main LT board switchgear panel and extension of earth from clients earth bus etc.	1 Job.

(A) LT Board/panel to be installed in the Transmitter Hall.

1. Name of the Project : Installation of 10kW (1+1) FM Transmitter at HPTV TV site Gurej (J&K).
2. Location : Inside the Transmitter Hall 10kW (1+1) FM Transmitter at HPTV TV site Gurej (J&K).
3. Size of the Switchboard : Overall width shall not exceed 1800 mm
   Overall depth shall not exceed 300 mm
   Overall height shall not exceed 1800 mm
4. Details of required equipment : To be installed and wired-up in a single panel at the suitable location of Transmitter hall.

Description of equipment

Indoor Floor mounted type & totally enclosed steel cubical type L.T. Switchboard comprising of Air Circuit breakers, Bus bar complete with indicating instruments, Indicator cable glands and Protective Circuits as shown in the schematic Drawing No.TP-16798.

Rating of equipment required:

A) Main LT board switchgear Panel

S. No.	Type of Circuit breaker	Rating	Qty. in Nos.	Rupturing capacity	Remarks
1	Incoming MCCB	160A ,4 P CS#130A	1	>35 KA	MCCB to be interlocked mechanically and electrically so that only one MCCB is energized at a time and with earth fault relay.
2	MCCB	125A ,4 P CS#80A	2	>35 KA	Output of DG set as per drawing.
3	MCCB	125A ,4 P CS#80A	1	>35 KA	Spare as per drawing.
4	MCCB	100A ,4 P CS#80A	1	>35 KA	Input for UPS & AVR as per drawing.
5	MCCB	100A ,4 P CS#80A	1	>35 KA	Spare as per drawing.
6	MCCB	160A ,4 P CS#130A	1	>35 KA	Input for APFC Panel as per drawing.
7	MCB	63A (TPN)	2	>12 KA	As per drawing
8	MCCB	40A (TPN)	2	>35 KA	As per drawing
9	MCB	32A (TPN)	2	>12 KA	As per drawing
10	MCB	20A (SPN)	9	>12 KA	As per drawing
11	MCB	2A TPN	2		As per drawing

B. **SUB DISTRIBUTION BOARD (WALL MOUNTED)**

S. No.	Type of Circuit breaker	Rating	Qty. in Nos.	Rupturing Capacity	Remarks
1	MCCB	63A TPN	1	>35 KA	Incoming
2	MCB	40A TPN 'D' Curve	3	>12 KA	As per drawing
3	MCB	16A, SPN	1	>12 KA	As per drawing
4	MCB	6A, SPN	5		As per drawing
4	MCB	2 A TPN	1		As per drawing

BUS BARS (as per drawing.)

i. Main 415V, 3 Ph Neutral AL. BUS BAR (as per Drg,) — 400A (50x6mm) …. 1Set
300A (50x5mm) …. 1Set
200A (30x5mm) …. 1Set

Meters (as per Drg.)

i. Voltmeter (Digital) with Selector Switch : 0-500V — 03Nos.

ii. Ammeter (Digital) with CT with Selector Switch. : 0-1000A — 03Nos.

iii. Phase Sequence meter with push button on/off — 01No.

iv. Frequency meter (Digital) — 01 No.

v. Power factor meter (Digital) — 01 No.

vi. LED Indicator lamps: Red, Yellow & Blue with with Selector Switch. — 03 sets.

SCHEDULE OF TECHNICAL PARTICULARS:

S.No.	Particulars	Guaranteed Data.

(A) MCCBs 160A/125A/100A/40A
- (1) Make
- (2) Types
- (3) Rated current ..... Amps.
- (4) Overall dimensions and weight
- (5) Breaking current ... KA ..... MVA at ..... 415V.
- (6) Making Capacity ... KA ..... MVA at ..... 415V.

(B) MCBs 63A/40A/32A/20A/16A/6A/2A TPN/SPN
- (1) Make
- (2) Type
- (3) Rated current..... Amps.
- (4) Overall dimensions and weight
- (5) Breaking current ... KA..... MVA at.....230/415 V.
- (6) Making Capacity KA MVA at 230/415V

(C) Bus Bar- 400A/300A/200A
- (1) Make
- (2) Type
- (3) Rated current..... Amps.
- (4) Overall dimensions and weight
- (5) Breaking current ... KA .....MVA at 415V

(D) Ammeter (Digital)
- (1) Make
- (2) Type
- (3) Overall dimensions and weight

(E) Voltmeter (Digital)
- (1) Make
- (2) Type
- (3) Overall dimensions and weight

(F) Frequency meter (Digital)
- (1) Make
- (2) Type
- (3) Overall dimensions and weight

(G) Phase Sequence meter with push button
- (1) Make
- (2) Type
- (3) Overall dimensions and weight

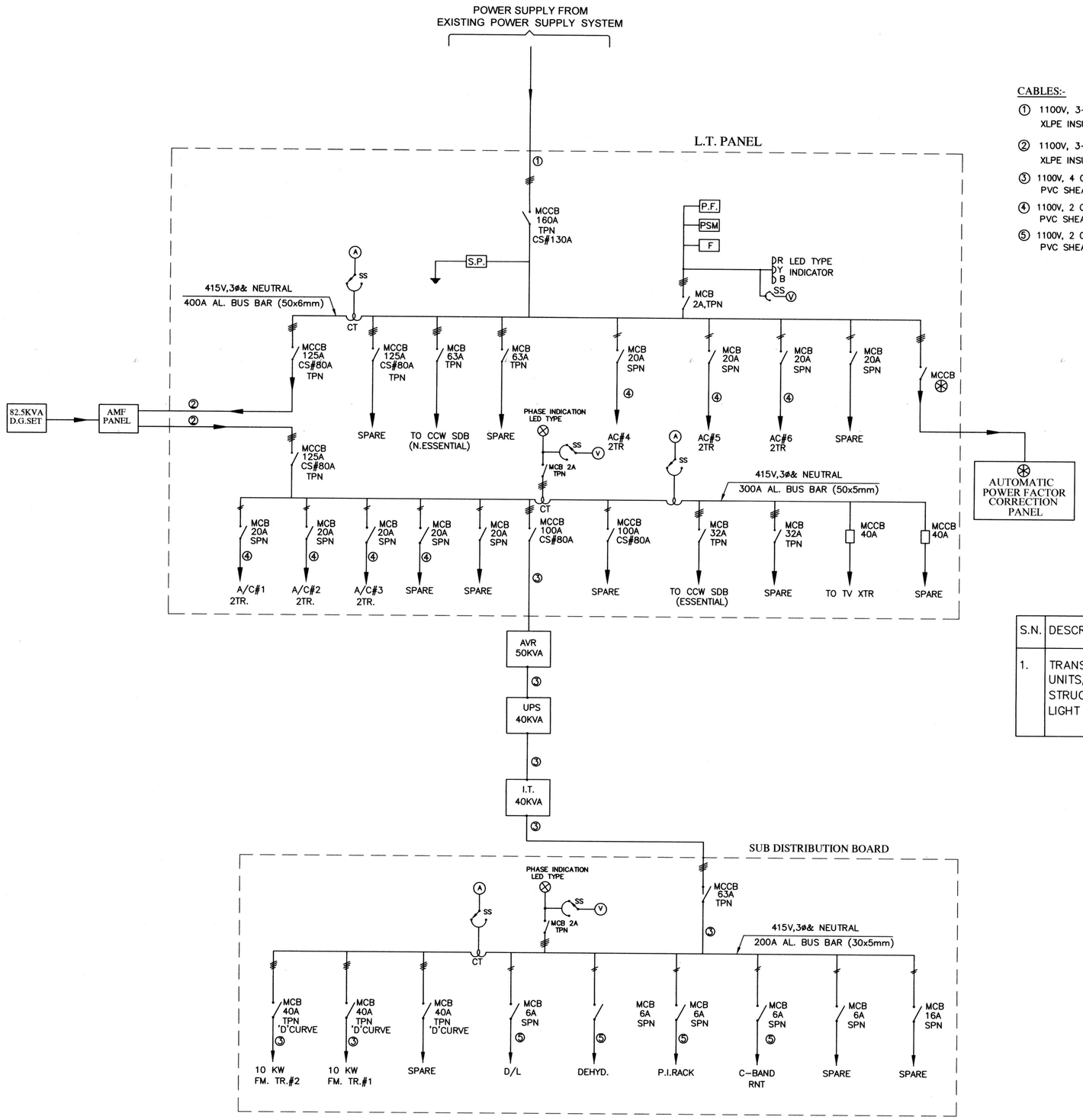
(H) Power Factor Meter (Digital)
- (1) Make
- (2) Type
- (3) Overall dimensions and weight

(I) Indicator Lamp
- (1) Make
- (2) Type
- (3) Rated current..... Amps.
- (4) Overall dimensions and weight

Name (in capital)_____
Seal: (Signature of the Tenderer)

SCHEMATIC DRAWING FOR 10 KW FM TRANSMITTER (1+1) AT DOORDARSHAN SITE , GUREJ

POWER SUPPLY SCHEMATIC



CABLES:-

① 1100V, 3-1/2 CORE, 160 SQ. MM ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED ARMOURED, CABLE.

② 1100V, 3-1/2 CORE, 70 SQ. MM ALUMINIUM CONDUCTOR, XLPE INSULATED, PVC SHEATHED ARMOURED, CABLE.

③ 1100V, 4 CORE, 25 SQ.MM COPPER CONDUCTOR (STRANDED), PVC INSULATED, PVC SHEATHED CABLE.

④ 1100V, 2 CORE, 6 SQ.MM COPPER CONDUCTOR (STRANDED), PVC INSULATED, PVC SHEATHED CABLE.

⑤ 1100V, 2 CORE, 2.5 SQ.MM COPPER CONDUCTOR (STRANDED), PVC INSULATED, PVC SHEATHED CABLE.

LEGEND:-

1. MCCB = MOULDED CASE CIRCUIT BREAKER (4POLE i.e. 3 PHASE&NEUTRAL)
2. MCB = MINIATURE CIRCUIT BREAKER (2POLE i.e. SINGLE PHASE&NEUTRAL)
3. A = AMMETER (DIGITAL)
4. V = VOLTMETER (DIGITAL)
5. SS = SELECTOR SWITCH
6. F = FREQUENCY METER (DIGITAL)
7. P.F. = POWER FACTOR METER (DIGITAL)
8. PSM = PHASE SEQUENCE METER WITH PUSH BUTTON
9. CT = CURRENT TRANSFORMER
10. C.S. = CURRENT SETTING
11. TPN = THREE PHASE & NEUTRAL
12. 3# = THREE PHASE
13. ESSN. = ESSENTIAL
14. N.ESSN. = NON ESSENTIAL
15. S.P. = SURGE PROTECTOR

P/S LOAD DETAIL

S.N.	DESCRIPTION OF LOAD	CONN. LOAD (IN KW)	MAX. DEMAND (IN KW)
1.	TRANSMITTER A/C UNITS, ANCILLARY STRUCTURE, STREET LIGHT ETC.	75	50

S.N.	DATE	MODIFICATIONS	INITIAL

NOTES:-

1. THE ELECTRICAL INSTALLATION SHALL BE AS PER RELEVENT B.I.S. SPECIFICATION/ I.E. RULES.
2. INSTALLATION WORK OF LT BOARD & SDB'S WILL BE CARRIED OUT BY ZONAL OFFICE. ELECTRICAL WIRING (EXTERNAL & INTERNAL) BY CCW (E).
3. ALL MCCB, MCB, BUSBAR MATERIAL & CABLES (ALUMINIUM/COPPER) SHALL BE OF I.S.I. MARKED.
4. ALL CABLES SHALL BE TESTED FOR INSULATION RESISTANCE BEFORE & AFTER LAYING & BEFORE ENERGISING.
5. THE SITE TEST RESULT OF TESTING ARE TO BE RECORDED & THE RECORD TO BE HANDED OVER TO I.O./STATION.
6. ROUTE MARKERS SHALL BE PROVIDED ON THE CABLE ROUTE.
7. ALL CABLES SHALL BE IDENTIFIED FOR INCOMING & OUTGOING CONNECTION LOCATION WISE ON LT DISTRIBUTION BOARD.
8. CABLES SHALL BE RUN IN CHANNELS FOR TR. & ASSOCIATED EQPT.

9(i). UPTO 160AMP MCCB SHALL BE OF >35KA (Ics=Icu) AT 433 VOLT SHORT CIRCUIT CURRENT RATING AND SHOULD BE THERMAL MAGNETIC.
(ii). FROM 200AMP-250AMP MCCB SHALL BE OF >50KA (Ics=Icu) AT 433 VOLT SHORT CIRCUIT CURRENT RATING AND SHOULD BE THERMAL MAGNETIC.
(iii). FROM 200AMP-630AMP MCCB SHALL BE OF >50KA (Ics=Icu) AT 433 VOLT SHORT CIRCUIT CURRENT RATING AND SHOULD BE MICRO PROCESSOR BASED HAVING OVER LOAD AND SHORT CIRCUIT PROTECTION. WHEN USED AS IN COMER, IT SHOULD HAVE EARTH FAULT PROTECTION TIME RELAY. EARTH LEAKEGE MODULES ARE NOT ACCEPTABLE.
(iv). FOR THERMAL MAGNETIC BASED RELEASE THE ADJUSTMENT SHOULD BE 80% TO 100% FOR OVER LOAD.
(v). FOR MICRO PROCESSOR BASED RELEASE THE ADJUSTMENT SHOULD BE 50% TO 100% FOR OVER LOAD.

10. ALL THE MCCBs SHALL BE OF 4 POLE TYPE & CONFORM TO IS/IEC 60947 STANDARD.
11. ALL THE MCB SHALL HAVE RUPTURING CAPACITY OF > 12 KA & CONFORM TO IS/IEC 60947 STANDARD.
12. ALL THE SINGLE PHASE MCB SHALL BE OF 2 POLE TYPE (SPN).
13. FOR EARTHING DETAILS PLEASE REFER DRG.No.TM-16599
14. ALL THE INPUTS/OUTPUTS OF THE LT PANEL SHALL HAVE RATED TERMINATIONS IN THE PANEL FOR PROPER CONNECTION OF THE CABLES. ALL THE CABLES SHALL BE ROUTED THROUGH CABLE GLANDS & TERMINATED THROUGH LUGS.
15. THE INCOMING MCCB & MAIN BUS BAR SHALL HAVE PROVISION OF EARTH FAULT PROTECTION (WITH DIFFERENT SETTINGS), POWER LINE SURGE PROTECTION ALONG WITH OTHER REQUIRED PROTECTION RELEVENT TO B.I.S. SPECIFICATION.
16. THE LT DISTRIBUTION BOARD SHALL BE OF CUBICAL TYPE & FLOOR / WALL MOUNTED TYPE AS PER AIR SPECS. FOR FM STATION HAVING APPROXIMATE DIMENSION 1800 (W) x 1800 (H) x 300 (D).
17. ALL THE INTERCONNECTION (i.e. SOLID RECTANGULAR CROSSECTION BUSBAR & SOLID CIRCULAR BARS) SHALL BE OF ADEQUATE CURRENT CARRYING CAPACITY.
18. CCW (E) SHALL CARRY OUT FOLLOWING WORK FOR 2.0 TR SPLIT TYPE AC UNITS:-
(i) LAYING OF CONDUITS;
(ii) COPPER CONDUCTOR (STRANDED) WIRING;
(iii) 20 AMP. SP&N MCBs (CLASS'C') WITH INDUSTRIAL SOCKET, PLUG & BOX ETC.

19(I) ALL SAFETY DISPLAY LIKE DANGER PLATES (AS PER I.E. RULES/B.I.S) SHALL BE DISPLAYED AT VARIOUS LOCATIONS AS PER I.E.RULES/B.I.S. CODES.
(II) SUITABLE IDENTIFICATION/MARKING FOR THE INCOMING/OUTGOING CIRCUIT BREAKERS SHALL BE DONE AS PER I.E. RULES/ B.I.S CODES.
(iii) SUITABLE MARKING FOR PHASE i.e. RED, YELLOW, BLUE, BLACK IN COLOURS AS WELL AS MARKING OF 'R', 'Y', 'B', 'N' SHALL BE DONE ON THE INCOMING/OUT-GOING CIRCUIT BREAKERS AS PER I.E. RULES/B.I.S CODES WITH PROPOER PHASE SEQUENCE.

20. THE RATING OF INCOMING/OUTGOING MCCBs/MCBs, BUSBAR, CAPACITOR & CABLES ETC. FOR POWER FACTOR IMPROVEMENT MAY BE DECIDED AS PER THE "INITIAL P.F" & "CORRECTION TO" BY THE LT BOARD MANUFACTURER. HOWEVER 'INITIAL P.F" & "CORRECTION TO" SHALL BE INTIMATED BY Z.O./STATION AS AN ADDITIONAL TECHNICAL INPUTS DURING PROCUREMENT ACTION.
21. COPPER CONDUCTOR CABLE SHALL BE PVC INSULATED, FIRE RETARDANT LOW SMOKE (FRLS) TYPE CONFIRMING TO BIS SPECIFICATION.
22. CABLE ENTRY AND EXIT SHALL BE FROM THE BOTTOM. PROVISION FOR POWER, EARTHING SHALL BE PROVIDED AT TWO POINTS.
23. THE LT PANEL SHOULD BE OF SUCH DESIGN THAT IT IS TO BE INSTALLED JUST IN FRONT OF THE WALL & ALL THE CABLE CONNECTION SHOULD BE ACCESSIBLE FROM FRONT SIDE ITSELF ZONAL OFFICE AS PER ACTUAL REQUIREMENT UNDER INTIMATION TO THIS DIRECTORATE.
24. THIS DRAWING IS FOR GUIDANCE ONLY. MINOR CHANGES MAY BE INCORPORATED BY
⊛ 25. THE RATING OF INCOMING/OUTGOING MCCBs/MCBs, BUSBAR, CAPACITOR & CABLES ETC. FOR POWER FACTOR IMPROVEMENT MAY BE DECIDED AS PER THE "INITIAL P.F" & "CORRECTION TO" BY THE LT. BOARD MANUFACTURER. HOWEVER "INITIAL P.F" & "CORRECTION TO" SHALL BE INTIMATED BY Z.O/STATION AS IN ADDITIONAL TECHNICAL INPUTS DURING PROCUREMENT ACTION.

	DATE	NAME
DRN	JULY-2025	RANJIT
TRD		
CHD		
COMP		
C.D.		

10KW FM TR. DOORDARSHAN SITE GUREJ

ALL INDIA RADIO
P & D UNIT
NEW DELHI, INDIA

SCALE :- N.T.S.

POWER SUPPLY SCHEMATIC

30.07.25
(K. N. PANDEY) A.D.E. (FM)

(O. N. PRADHAN) D.D.E(FM)

APPROVED:-

DRG. No TP - 16798

DRG. No TP - 16798