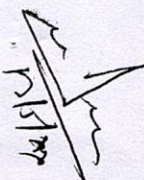
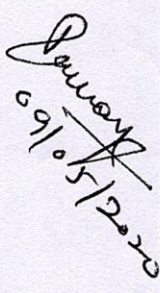
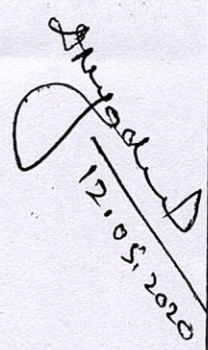




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| Spec No-                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                   |
| Item No                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | SP/MISC./7804/R-1 |
| Quantity                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | SP/MISC./1/8/7804 |
| Location                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | 01 LOT            |
|                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   | BAY-09 TEST       |
| VENDOR must submit complete information against clause No-12 (Qualifying condition) The offer meeting this clause would only be processed                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                   |
| The "offered" Column and where applicable, the "Deviation" Column of this format shall be filled in by the vendor and submitted along with the offer. Technical detail also submitted with the offer.                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                   |
| Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specification / requirements shall be treated as non-compliance.                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                   |
| The offer and all documents enclosed with offer should be in English language only                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                   |
| SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                   |
| SL. No.                                                                                                                                                                                                                                             | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |                   |
| 1.0                                                                                                                                                                                                                                                 | PURPOSE & WORKPIECE MATERIAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ACTION BY VENDOR  | OFFERED           |
|                                                                                                                                                                                                                                                     | BHEL is augmenting the Power Transformer Test facility, the work shall broadly comprise of the following:<br>A) Creation of one Test Point with 11/99 kV,40MVA transformer and 120MVAr Capacitor Bank in Bay-9 Testing Area. A new Test Point with a 40 MVA, 11/99 KV Testing Transformer( available in test area) is to be created in the Power Transformer test area.<br>B) Setting Up of Power Supply Source with 4 MVA Static Frequency Converter (SFC): A New 4MVA, (400 or 700) volts, Static Power Supply Source is being procured separately and shall be installed and commissioned by SFC supplier only. But Installation and Commissioning of Incoming 11kV/(400 or 700) Volts Step-down Transformer, Outgoing (400 or 700) volts/11kV Step-up Transformer and their Protection and Alarm Panel, required for creation of Power Supply Source shall be in the scope of this tender.<br>C) Utility Sub-Station Items for Integration of 4 MVA SFC with existing Test Setup: Installation and Commissioning of 11 kV Incoming and Outgoing 11kV VCB and 11kV Test point Selector panel will be required to integrate the 4MVA SFC with existing test setup such that the output of SFC can be switched to different Test Points.<br>In order to achieve the above objective, part of the items/equipment required (listed in point 2.1 to 2.4 as below shall be in Vendors scope, whereas other items/equipment shall be made available by BHEL. The E&C of all items (Scope of Work listed in point 3.0 below) shall be in Vendors scope:<br>The detailed Scope of Supply and Scope of Work are asmentioned below. | Vendor to confirm |                   |
| 2.0                                                                                                                                                                                                                                                 | SCOPE OF SUPPLY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                   |
| 2.1                                                                                                                                                                                                                                                 | CONTROL DESK FOR 99KV TEST POINT: Qty.- 01 Nos.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |                   |
| 2.1.1                                                                                                                                                                                                                                               | A new 99K V test point is being set-up for which a control desk is required having the following Specifications. The Control Desk shall be made of 3-4 mm thick CRCA Sheet Steel, powder coated to shade RAL 7032 having all standard accessories.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Vendor to confirm |                   |

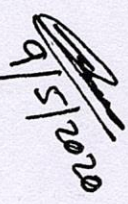
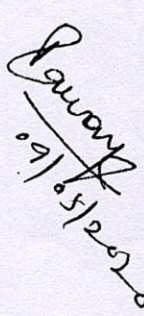
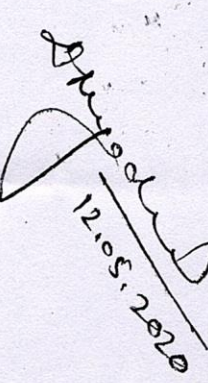
**SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.**

| SL. No. | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ACTION BY VENDOR                                                     | OFFERED | DEVIATION |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------|-----------|
| 2.1.2   | The layout of components shall be distributed into three compartments a) For MG Set Control, b) For Test & Measurement and c) For placement of Power analyzer and Laptop. The cable entry shall be from the bottom with gland plates. Panel access shall be from the back door having heavy duty door locks. The tentative size of the control desk shall be 3500 mm(L) X 1000 mm(W) X 1500 mmH) and Table Height - 900mm.                                                                                                                                                                      | Vendor to confirm                                                    |         |           |
| 2.1.3   | The panel wiring shall be done with multistrand PVC cable of 2.5 sq.mm, 1100V (Finolex, Havells, V-Guard Make), properly dressed/tied, routed in cable trays and terminated with crimped lugs. Wires of each compartment shall be separately terminated on heavy duty DIN Rail mounted Polymide Terminal Blocks rated for 1100V/24 Amps.                                                                                                                                                                                                                                                        | Vendor to confirm and specify the make                               |         |           |
| 2.1.4   | Devices to be mounted on the control desk shall be as follows:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                      |         |           |
| 2.1.4.1 | Push Buttons: Qty.- 10 Nos.<br><br>Potential Free, Normally Open, 6Amp/230V (SIEMENS/L&T, BCH Make) having the following nomenclature<br>1) DC Breaker Close PB (Green),<br>2) DC Breaker Open PB (Red),<br>3) Field Breaker Close PB (Green)<br>4) Field Breaker Open PB (Red)<br>5) Frequency Rise PB (Black)<br>6) Frequency Lower PB (Black)<br>7) Voltage Rise PB (Black)<br>8) Voltage Lower PB (Black)<br>9) Lamp Test PB (Yellow)                                                                                                                                                       | Vendor to confirm, specify make and attach catalogue of offered item |         |           |
| 2.1.4.2 | Breaker Control Switch Spring loaded 2 pole Trip and Close Middle Neutral : Qty.-01 Nos, 440 V, 25 Amps.( Kay Cee / L&T Make).                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Vendor to confirm, specify make and attach catalogue of offered item |         |           |
| 2.1.4.3 | Selector Switches: 12 Nos<br><br>16A, 440V ( Kay Cee / L&T Make) having the following other specifications:<br>1) CT Sencitivity make before break Selector switch 2 way 12 Pole: 1 Nos.<br>2) CT make before break Selector switch ( 2 CT per phase for 3 phase): 1 Nos.<br>3) Ammeter Selector switch for external meter: 1 Nos.<br>4) Ammeter Selector switch for Generator Amps Meter: 1 Nos.<br>5) VT Selector Switch 3 Pole 4 Way: 1 Nos.<br>6) Voltmeter selector for Watmeter Pressure Coil (1 pole 4 way No OFF): 6 Nos<br>7) Voltmeter selector switch for external voltmeter: 1 Nos. | Vendor to confirm, specify make and attach catalogue of offered item |         |           |

  
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SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.

| SL. No. | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ACTION BY VENDOR                                                     | OFFERED | DEVIATION |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------|-----------|
| 2.1.4.4 | Analog Meters: Qty.-3 Nos.<br>Size 144 X 144 mm, ( AE / RISHABH Make) having the following nomenclature<br>1) Ammeter CTR-100/1A, Range 0-100Amp.<br>2) KV Meter, 110 Volt, Range 0 to 15 kV(Top Scale), 0 - 8.66KV( Bottom Scale).<br>3) Frequency Meter - Range 0 to 200 Hz, FSD 200VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Vendor to confirm, specify make and attach catalogue of offered item |         |           |
| 2.1.4.5 | LED Indication Lamps, 230 VAC : Qty.-25 Nos.<br>Size 22mm, (Siemens / L&T /C&S Make ) having the following nomenclature<br>1) DC Breaker OFF indication Green<br>2) DC Breaker ON indication Red<br>3) Field Breaker OFF indication GREEN<br>4) Field Breaker ON indication RED<br>5) Gen. Breaker OFF Indication GREEN<br>6) Gen. Breaker ON Indication RED<br>7) Source Selection MG#1 YELLOW<br>8) Source Selection MG#3 YELLOW<br>9) Source Selection MG#4 YELLOW<br>10) Source Selection SFC YELLOW<br>11) Gen. Wdg. Selection Series YELLOW<br>12) Gen. Wdg. Selection Star YELLOW<br>13) Gen. Wdg. Selection Parallel YELLOW<br>14) Gen. Wdg. Selection Delta YELLOW<br>15) Capacitor Bank ON RED<br>16) Capacitor Bank OFF GREEN<br>17) Ammeter Reading X 1 White<br>18) Ammeter Reading X 4 White<br>19) Ammeter Reading X 12 White<br>20) KV Meter Top Scale X 1 White<br>21) KV Meter Top Scale X 1/2 White<br>22) KV Meter Bottom Scale X 1 White<br>23) KV Meter Bottom Scale X 1/2 White | Vendor to confirm, specify make and attach catalogue of offered item |         |           |
| 2.1.4.6 | 20 Amp, 440V Banana Knobs for Wattmeter Pressure coil , Current coil , external voltmeter and Ammeter Qty. 20 Nos.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Vendor to confirm and specify the make                               |         |           |

SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.

| SL. No.  | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ACTION BY VENDOR                                                     | OFFERED | DEVIATION |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------|-----------|
| 2.1.4.7  | Other Panel Accessories required are as follows:<br>Control Supply MCB 16A, 2 Pole, Qty. 01 Nos.<br>(C&S / Havells Make)<br>Panel Lighting LED Fitting, 9 W, 230 VAC with ON-OFF or door switch: Qty.-03Nos.<br>(Havells, Philips, C&S Make)<br>5 Amp Switch/Socket (Anchor / Havells Make) Qty.-03 Nos                                                                                                                                                                                                         | Vendor to confirm and specify the make                               |         |           |
| 2.1.4.8  | After placement of order, the OGA and layout drawings will have to be prepared by the vendor, in consultation with BHEL. Manufacturing shall only be undertaken after obtaining approval from BHEL.                                                                                                                                                                                                                                                                                                             | Vendor to confirm                                                    |         |           |
| 2.2      | 132KV, 03-POLE, 2000 AMP, DOUBLE BREAK MOTORISED ISOLATOR-QTY-1 Nos.                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                      |         |           |
| 2.2.1    | A 132KV, 2000 Amp. 3 pole outdoor motorised isolator for connection of capacitor bank to the testing transformer. It will be double break rotary type isolator with earth switch complete with all accessories, namely mounting stand, mounting bracket insulators, motor, manual operating mechanism, earth switch complete with manual operating handle, motor operating panel, conforming to IS-9921. Broad specification shall be as under, for which test certificate to be submitted along with material. | Vendor to confirm, specify make and attach catalogue of offered item |         |           |
| 2.2.2.1  | Rated Voltage- 132KV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Vendor to specify                                                    |         |           |
| 2.2.2.2  | Highest System Voltage 145KV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Vendor to specify                                                    |         |           |
| 2.2.2.3  | Rated Current 2000 AMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Vendor to specify                                                    |         |           |
| 2.2.2.4  | Breaking Current Capacity - As per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Vendor to specify                                                    |         |           |
| 2.2.2.5  | Rated Short Time withstand Current - 25KA for 03 Sec.                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Vendor to confirm                                                    |         |           |
| 2.2.2.6  | Rated peak withstand current 78.5 KA                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Vendor to confirm                                                    |         |           |
| 2.2.2.7  | System Frequency 50Hz(+/- 3%)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Vendor to confirm                                                    |         |           |
| 2.2.2.8  | Creeping Distance As per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Vendor to specify                                                    |         |           |
| 2.2.2.9  | Rated Power Frequency Withstand Voltage - INSULATION LEVEL                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                      |         |           |
|          | (A) Rated One Minute Power Frequency WET withstand Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to specify                                                    |         |           |
|          | (i) To Earth and Between Poles - As per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to specify                                                    |         |           |
|          | (ii) Across Isolating Distance - As per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to specify                                                    |         |           |
|          | (B) Rated One Minute Power Frequency DRY withstand Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to specify                                                    |         |           |
|          | (i) To Earth and Between Poles - As per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to specify                                                    |         |           |
|          | (ii) Across Isolating Distance - As per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to specify                                                    |         |           |
| 2.2.2.10 | Lightning Impulse Withstand Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Vendor to specify                                                    |         |           |
|          | (i) To Earth and Between Poles - As per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to specify                                                    |         |           |
|          | (ii) Across Isolating Distance - As per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to specify                                                    |         |           |
| 2.2.2.11 | Minimum Clearance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Vendor to specify                                                    |         |           |
|          | (i) Phase to Phase As Per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Vendor to specify                                                    |         |           |
|          | (ii) Phase to Earth - As Per IS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Vendor to specify                                                    |         |           |
| 2.2.2.12 | No of Poles - 03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Vendor to confirm                                                    |         |           |
| 2.2.2.13 | No of Breaks per pole - 02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to confirm                                                    |         |           |

9/15/2020

9/15/2020

SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.

| SL. No.    | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ACTION BY VENDOR                                                     | OFFERED | DEVIATION |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------|-----------|
| 2.2.2.14   | Auxiliary contacts for interlocking (8 NO + 8 NC), Aux Contacts in earthswitch (4NO+4NC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Vendor to confirm                                                    |         |           |
| 2.2.2.15   | Motor Make                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Vendor to confirm                                                    |         |           |
| 2.2.2.16   | Motor Rating (KW / HP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Vendor to specify                                                    |         |           |
| 2.2.2.17   | Motor Supply Voltage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Vendor to specify                                                    |         |           |
| 2.2.2.18   | Make Of Isolator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Vendor to specify                                                    |         |           |
| 2.2.2.19   | Model Of Isolator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Vendor to specify                                                    |         |           |
| <b>2.3</b> | <b>PROTECTION &amp; ALARM ANNUNCIATION PANEL QTY - 01 Nos</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                      |         |           |
| 2.3.1      | A Protection and Alarm Annunciation panel for 40MVA, 11/99KV testing transformer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Vendor to confirm                                                    |         |           |
| 2.3.2      | The panel shall foot mounted, rear door access, made from 4mm thick CRCA Sheet Steel, powder coated to shade RAL 7032 having all standard accessories. Tentative dimension of the panel shall be 600 mm(W) X 400 mm(D) X 2000 mm(H).                                                                                                                                                                                                                                                                                                                                                                                     | Vendor to confirm                                                    |         |           |
| 2.3.3      | The panel wiring shall be done with multistrand PVC cable of 2.5 sq.mm, 1100V (Finolex, Havells, V-Guard Make), properly dressed, cable tied, routed in cable trays and terminated with crimped lugs on heavy duty DIN Rail mounted Polyimide Terminal Blocks rated for 1100V/24 Amps.                                                                                                                                                                                                                                                                                                                                   | Vendor to confirm                                                    |         |           |
| 2.3.4      | <b>The Devices to be mounted in the panel as follows..</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                      |         |           |
| 2.3.4.1    | 12 Window annunciator panel for 40MVA 11/99KV Trf. : 1Nos<br>Supply Voltage 230 VAC (Minitec /equivalent Make),<br>Alarm Nomenclature ( Bucholtz Alarm, Bucholtz Trip, Winding Temp Alarm, Winding Temp Trip, Oil Temp Alarm, Oil Temp Trip, Low Oil Level Alarm, Over Current Trip.                                                                                                                                                                                                                                                                                                                                     | Vendor to confirm, specify make and attach catalogue of offered item |         |           |
| 2.3.4.2    | Master Trip Relay (86)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Vendor to confirm                                                    |         |           |
| 2.3.4.3    | Numerical Over Current and Earth Fault Relay for 40 MVA Trf. The relay shall be micro-controller based, having 4 programmable I/5 Amps analog current input, Bright LCD/LED display, having fault recording with time stamping and suitable for measuring true RMS with DFT filter having following protection functions:<br>- Three Phase Instantaneous, Time overcurrent protection (50/51)<br>- Three Phase Earth Instantaneous, Time overcurrent protection (50N/51N)<br>- Circuit Breaker failure protection.                                                                                                       | Vendor to confirm, specify make and attach catalogue of offered item |         |           |
| <b>2.4</b> | <b>11KV, TEST POINT SELECTOR PANEL</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                      |         |           |
| 2.4.1      | A 11 KV Test Point Selector panel is required for transfer of SFC output to various Test Points. The panel shall be made from CRCA sheet steel, powder coated to shade RAL 7032 having all standard accessories. The selector panel shall be fitted with 5 Nos. off-load break switches in two columns, with one Incoming Bus chamber at the centre and two columns of out going cable chamber. The tentative Schematic Diagram of Test Point selection Panel is shown in point 2.4.8 below. The entry of all the power & control cables are from the bottom. The major specifications of the panel shall be as follows: | Vendor to confirm                                                    |         |           |
| 2.4.2      | <b>Load Break Switches</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                      |         |           |
| 2.4.2.1    | 11KV, 1200A, 3-pole Off-Load Break Switch having following specifications: Qty.-01 Nos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                      |         |           |

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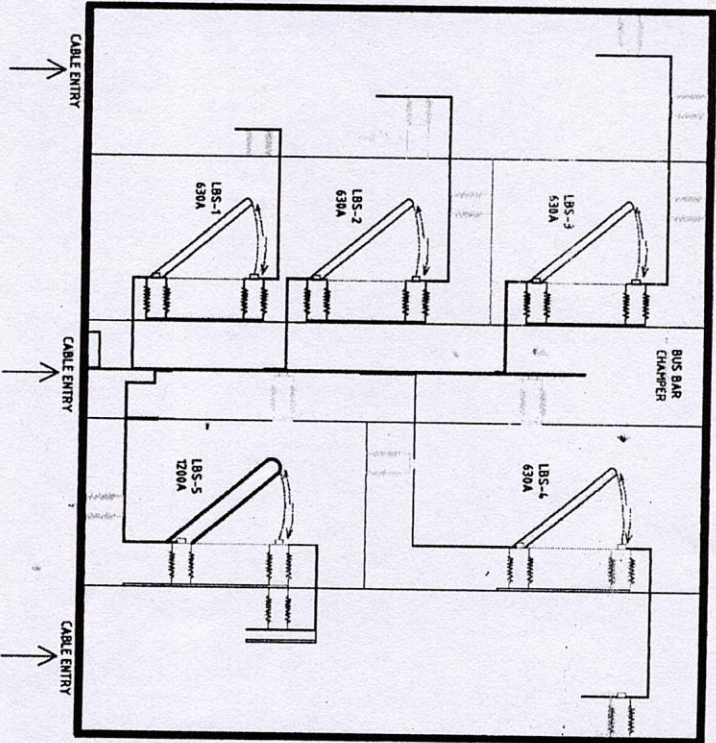
SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.

| Sl. No. | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                 | ACTION BY VENDOR                                                     | OFFERED | DEVIATION |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------|-----------|
|         | a) Rated Voltage - 11 KV<br>b) Highest System Voltage - 12.5 KV<br>c) Rated Current - 1200 Amp.<br>d) Number Of Poles - 03<br>e) Minimum Clearance from Line to Earth and Line to Line - As per IS<br>f) Operation - Manual and No Load operation only.<br>g) Break - Single<br>h) Aux. Contacts - 8NO + 8 NC ( Mechanically Operated)                                                                                           | Vendor to confirm, specify make and attach catalogue of offered item |         |           |
| 2.4.2.2 | 11KV, 630 A, 3-pole Off-load Break Switch having following specifications: Qty.-04 Nos.<br>a) Rated Voltage - 11 KV<br>b) Highest System Voltage - 12.5 KV<br>c) Rated Current - 630 Amp.<br>d) Number Of Poles - 03<br>e) Minimum Clearance from Line to Earth and Line to Line - As per IS<br>f) Operation - Manual and No Load operation only.<br>g) Break - Single<br>h) Aux. Contacts - 8NO + 8 NC ( Mechanically Operated) | Vendor to confirm, specify make and attach catalogue of offered item |         |           |
| 2.4.3   | <b>BUS BARS</b><br>The Main BUS and incoming and out going Bus Bar of 1200A Switch shall be made from Copper with a minimum cross section of 500 Sq.mm. Whereas the Bus Bars from and to 630A switches shall be made from copper with a minimum cross section of 300 Sq.mm.                                                                                                                                                      | Vendor to confirm                                                    |         |           |
| 2.4.4   | <b>Insulators - As Per IS</b><br>All the off-load break switches shall be mounted on insulators suitable for 11kV and all ratings as per IS.                                                                                                                                                                                                                                                                                     | Vendor to confirm                                                    |         |           |
| 2.4.5   | <b>Interlocks (Using Castle Lock &amp; Key)</b><br>The interlocks of selector switches shall be Mechanical Type. Sample set of LOCK & KEY shall be made available by BHEL.                                                                                                                                                                                                                                                       | Vendor to confirm                                                    |         |           |
| 2.4.5.1 | Insertion and withdrawal of key shall be from front facia without opening the panel cover.                                                                                                                                                                                                                                                                                                                                       | Vendor to confirm                                                    |         |           |
| 2.4.5.2 | <b>Interlock Condition to be fulfilled:</b> One set of three Locks shall be mounted in each load break switch. All the three keys are required to CLOSE / OPEN the switch. Two keys will not come out from the lock and the third one will come out from the lock when the switch is in CLOSE position. All the three keys will come out when the switch is in OPEN position.                                                    | Vendor to confirm                                                    |         |           |
| 2.4.6   | <b>Panel Accessories</b>                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                      |         |           |
| 2.4.6.1 | 2 Nos 9 W LED Fittings with door interlock                                                                                                                                                                                                                                                                                                                                                                                       |                                                                      |         |           |
| 2.4.6.2 | 2 Nos. 5 Amps Switch/Socket                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                      |         |           |
| 2.4.6.3 | LED Indication lamps( Close-Red and Open-Green) to be provided on the panel doors for each Load Break Switch.                                                                                                                                                                                                                                                                                                                    | Vendor to confirm                                                    |         |           |
| 2.4.7   | <b>Panel Wiring</b><br>All the wires from Aux. Contacts (8NO+8NC = 32 Wires including the wires used for internal wiring per Load Break Switch ) shall be done with multistrand PVC cable of 2.5 sq.mm, 1100V (Finolex, Havells, V-Guard Make), properly dressed, cable tied, routed in cable trays and terminated with crimped lugs on heavy duty DIN Rail mounted Polymide Terminal Blocks rated for 100V/24 Amps.             | Vendor to confirm                                                    |         |           |

21/5/2020  
21.05.2020



SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.

| SL. No. | DESCRIPTION OF BHEL REQUIREMENTS                                                    | ACTION BY VENDOR  | OFFERED | DEVIATION |
|---------|-------------------------------------------------------------------------------------|-------------------|---------|-----------|
| 2.4.8   | Tentative Schematic Diagram of 11KV Test Point Selection Panel (Item 2.4 above)     | Vendor to confirm |         |           |
|         |  | Vendor to confirm |         |           |

*[Signature]*  
15/5/2020

*[Signature]*  
19/05/2020

*[Signature]*  
12/05/2020

SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.

| SL. No. | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ACTION BY VENDOR  | OFFERED | DEVIATION |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|-----------|
| 3       | SCOP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   |         |           |
| 3.1     | ERECTION AND COMMISSIONING WORK FOR CREATION OF TEST POINT WITH 40MVA, 99 KV TESTING TRANSFORMER AND 120MVAR CAPACITOR BANK:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |         |           |
| 3.1.1   | <p>The Items/Equipment involved for this work are as follows:</p> <p>a) A 40MVA, 11/99 KV Testing Transformer- 1 Nos.: (This transformer oil filled and ready in all aspects is already placed in Test area and vendor is required to only place it suitable and make power and control connections ( Oil re-circulation etc if required shall be undertaken by BHEL).</p> <p>b) 132KV, 2000A, 3-Pole Isolator For Test Point- 1 Nos: (This shall be provided by BHEL).</p> <p>c) CT &amp; VT for 99KV Test Point -3 Nos each : (This shall be provided by BHEL)</p> <p>d) 132 KV Wall Bushings - 3 Nos: (This shall be provided by BHEL).</p> <p>e) 132KV, 2000A, 3-Pole Isolator For Capacitor bank- 1 Nos. : (Item No. 2.2 above).</p> <p>f) CT &amp; LA for Capacitor Bank -3 Nos each: (This shall be provided by BHEL)</p> <p>g) 120MVAR Capacitor Bank - 1 Nos. : (This shall be provided by BHEL)</p> <p>h) Control Desk For 99KV Test Point- 1 Nos.: (Sl.No. 2.1 above)</p> | Vendor to confirm |         |           |
| 3.1.2   | <p>The E&amp;C of the above equipment shall broadly comprise of following work.</p> <p>a) Shifting and installation of above equipments at their designated locations.</p> <p>b) The CT &amp; VT's shall be installed on Mild Steel platform. The vendor will have to undertake fabrication work of the MS Steel structure. The complete material including Welding M/c shall be provided by BHEL. The civil work required for erection shall also be in the scope of BHEL.</p> <p>d) The 11KV Copper busbars for all these equipments, will have to be supported by Porcelain Post Insulators at one or two places as per requirement. (The required post insulators shall be provided by BHEL)</p> <p>c) All precommissioning check and testing before energising the system/equipment. (All testing shall be undertaken by BHEL &amp; vendor to provide only assistance)</p>                                                                                                      | Vendor to confirm |         |           |
| 3.2     | ERECTION AND COMMISSIONING WORK FOR SETTING-UP POWER SUPPLY SOURCE WITH 4 MVA STATIC FREQUENCY CONVERTER(SFC):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |         |           |
| 3.2.1   | <p>The Items/Equipment involved or this work are as follows:</p> <p>a) 4MVA, (400 or 700 Volts) Static Frequency Converter- 1 Nos: (This SFC is being procured separately and its supply and E&amp;C shall be in scope of SFC Supplier. But Balance activities in setting-up of 4 MVA Power Supply Source shall be in scope of this tender.</p> <p>b) 2.5MVA, 11KV/(400 or 700V) Step-Down Transformer- 1 Nos.: (This shall be provided by BHEL)</p> <p>c) 6 MVA, (400 or 700V)/ 11KV/ Step-Up Transformer-1 Nos.: (This shall be provided by BHEL)</p> <p>d) Protection and Alarm &amp; Annunciation Panel - 1Nos: (Sl.No. 2.3 above)</p>                                                                                                                                                                                                                                                                                                                                           |                   |         |           |

17/5/17  
6/5/2020  
12/5/2020  
12.05.2020

**SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.**

| SL. No: | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ACTION BY VENDOR  | OFFERED | DEVIATION |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|-----------|
| 3.2.2   | The E&C of the above equipment shall broadly comprise of following work.<br>a) Shifting and installation of above equipments at their designated locations.<br>b) All precommissioning check and testing before energising the system/equipment. (All testing shall be undertaken by BHEL & vendor to provide only assistance)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to confirm |         |           |
| 3.3     | <b>ERECTION AND COMMISSIONING WORK FOR UTILITY SUB-STATION ITEMS FOR INTEGRATION OF 4 MVA SFC WITH EXISTING SET-UP:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |         |           |
| 3.3.1   | The Items/Equipment involved are as follows:<br>a) 11kV Input & Output VCB - 2 Nos: (This shall be provided by BHEL)<br>b) 11 kV Test Point Selection Panel-1 Nos: (SI.No. 2.3 above)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |         |           |
| 3.3.2   | The E&C of the above equipment shall broadly comprise of following work.<br>a) Shifting and installation of above equipments at their designated locations.<br>b) All precommissioning check and testing before energising the system/equipment. (All testing shall be undertaken by BHEL & vendor to provide only assistance)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vendor to confirm |         |           |
| 3.4     | <b>LAYING &amp; TERMINATION OF POWER AND CONTROL CABLES, BUSBARS:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                   |         |           |
| 3.4.1   | All the items/equipments listed in point 3.1.1, 3.2.1 & 3.3.1 above are to be wired as per the approved wiring/interconnection scheme.<br>a) Tentative estimated length of Power Cables to be laid and terminated, for work assessment purpose has been mentioned in point 3.4.2(a)&(b) below. (All power and control cables, cable trays, cable termination kits shall be provide by BHEL).<br>b) Tentative estimated length of 11kV Busbars for connection of Capacitor bank, Isolator, CT, LA, Wall Bushings, 40MVA Testing Transformer etc for work assessment purpose has been mentioned in point 3.4.2(c) below. ( All Copper bus-bars required for the purpose shall be provided by BHEL).<br>c) Tentative estimated length of Control cables for work assessment purpose has been mentioned in point 3.4.3 below. ( All Control cables required for the purpose shall be provided by BHEL). |                   |         |           |
| 3.4.2   | <b>a) Power Cables (Aluminium):</b><br>11KV, 1 Core X 500 Sqmm Cable- 2500 Meter<br>11KV, 3 Core X 95 Sqmm Cable - 200 Meter<br><b>b) Power Cables (Copper):</b><br>300 Sqmm X 1 Core - 240 Mtr<br><b>c) Power Busbars (Copper):</b><br>11 kV, Copper Busbars (12X60mm Size): 60 Meter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Vendor to confirm |         |           |
| 3.4.3   | <b>Control Cables (Multi-stranded Copper)</b><br>4 Core X 2.5 Sqmm - 300 Mtr.<br>12 Core X 2.5 Sqmm - 350 Mtr<br>24 Core X 2.5 Sqmm - 400 Mtr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Vendor to confirm |         |           |
| 3.5     | <b>PREPERATION OF EARTH PITTS:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |         |           |

**SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.**

| SL. No. | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                | ACTION BY VENDOR                       | OFFERED | DEVIATION |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------|-----------|
| 3.5.1   | 10 Nos Earth Pits are to be prepared for earthing connection of all the equipments. Digging of pits shall be through Pneumatic Drilling machine to be organised by vendor. (The Copper/GI pipe/rods shall be provided by BHEL and other material like charcoal/salt shall be in vendors scope). | Vendor to confirm                      |         |           |
| 3.6     | <b>LAYING AND TERMINATION OF GI EARTHING STRIPS:</b>                                                                                                                                                                                                                                            |                                        |         |           |
| 3.6.1   | All the equipments/items casing and neutral terminal are to be earthed. The laying of GI Strips (50X5 mm) and its termination shall be in vendors scope. (All the required GI strips shall be provided by BHEL).                                                                                | Vendor to confirm                      |         |           |
| 3.7     | <b>MISCELLANEOUS ITEMS/WORK:</b>                                                                                                                                                                                                                                                                |                                        |         |           |
| 3.7.1   | A wiring/interconnection schematic drawing will have to be prepared based on details/sketches to be provided by BHEL. All the cabling/wiring subsequently shall be done accordingly.                                                                                                            | Vendor to confirm                      |         |           |
| 3.7.2   | All the miscellaneous items required like, Lugs, ferrules, cable ties etc as per requirements shall be in vendors scope.                                                                                                                                                                        | Vendor to confirm                      |         |           |
| 4.0     | <b>ACCESSORIES:</b>                                                                                                                                                                                                                                                                             |                                        |         |           |
| 4.1     | Scope of work shall be in line with above details. Any things else which is required to complete the scope of work & performance of all supplied item, but not mentioned above shall be in the scope of vender.                                                                                 | Vendor to specify                      |         |           |
| 5.0     | <b>DOCUMENTATION :</b><br>3 copies of each of the following in English language (both in hard copies and soft copies in pen drive) shall be supplied along with the supply.                                                                                                                     | Vendor to Confirm                      |         |           |
| 5.1     | Detailed GA Drawing, catalogues, of all instrument/accessories included in scope of supply, to be provided along with the offer.                                                                                                                                                                | Vendor to Confirm                      |         |           |
| 5.2     | Operation & Maintenance manual all instrument/accessories with circuit diagrams and schematics for trouble shooting, which are part of supply                                                                                                                                                   | Vendor to Confirm                      |         |           |
| 5.3     | Test & Guarantee Certificate of supplied equipments.                                                                                                                                                                                                                                            | Vendor to Confirm                      |         |           |
| 5.4     | Calibration/test certificate of all supplied items.                                                                                                                                                                                                                                             | Vendor to Confirm                      |         |           |
| 6.0     | <b>SYSTEM INSPECTION:(Pre-dispatch inspection.)</b>                                                                                                                                                                                                                                             | Vendor to Confirm                      |         |           |
| 6.1     | Pre-dispatch inspection will be carried out by the representative of BHEL at suppliers works.                                                                                                                                                                                                   | Vendor to Confirm                      |         |           |
| 7.0     | <b>INSTALLATION &amp; COMMISSIONING (At BHEL Works)</b>                                                                                                                                                                                                                                         | Vendor to Confirm                      |         |           |
| 7.1     | Supplier to take full responsibility for carrying out Erection of supplied equipment, Start-up and Commissioning at BHEL works. Following shall be part of E&C activities                                                                                                                       | Vendor to Confirm                      |         |           |
| 7.2     | Demonstration of all features of the supplied items with all accessories to the satisfaction of BHEL for their efficient and effective use.                                                                                                                                                     | Vendor to Confirm                      |         |           |
| 7.3     | Successful proving of supplied items as per relevant IS by the supplier at BHEL works shall be part of commissioning.                                                                                                                                                                           | Vendor to Confirm                      |         |           |
| 8.0     | <b>TRAINING:</b>                                                                                                                                                                                                                                                                                | Vendor to Confirm                      |         |           |
| 8.1     | BHEL testing and maintenance person should be trained at BHEL Works for<br>(a) Use of all system Features of system & accessories etc.<br>(b) Electrical, Electronic & Maintenance aspects of system & accessories.                                                                             | Vendor to Confirm<br>Vendor to Confirm |         |           |
| 9.0     | <b>AMBIENT CONDITIONS &amp; THERMAL STABILITY :</b>                                                                                                                                                                                                                                             |                                        |         |           |

7

SCOPE: PART SUPPLY AND ERECTION & COMMISSIONING OF EQUIPMENTS FOR SETTING UP OF A) POWER SUPPLY SOURCE WITH 4MVA SFC, B) INTEGRATION OF SFC WITH EXISTING TEST POINTS AND C) SETTING UP OF ONE NEW TEST POINT WITH 99KV/40MVA TRANSFORMER IN BAY-9.

| SL. No. | DESCRIPTION OF BHEL REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ACTION BY VENDOR  | OFFERED | DEVIATION |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------|-----------|
| 9.1     | Total System and all supplied items should work trouble free and efficiently under following operating conditions and should give specified accuracies.<br>Input Power Supply: 11 kV, 3 phase, 3-wire system/415 v A/C, 3 phase, 3-wire system/220 v A/C<br>Frequency: 50 Hz □ 1.5 Hz<br>Operating Humidity : ≤10% to 80%<br>Operating Temperature : 5°C to 48 °C<br>(Vendor to confirm that all supplied items is suitable for above and details of provisions on the system for the same are to be furnished by Vendor) | Vendor to Confirm |         |           |
| 9.2     | Thermal Stability of the complete system keeping in view specified Ambient Conditions and accuracy requirements of BHEL components and trouble free operation of the system should be ensured by vendor.<br>(Vendor to confirm that system is suitable for above and details of provisions on the system for the same should be furnished by Vendor)                                                                                                                                                                      | Vendor to Confirm |         |           |
| 10.0    | <b>PACKING:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |         |           |
| 10.1    | Air worthy/Sea worthy & rigid packing for all items of complete system, all accessories and other supplied items to avoid any damage/loss in transit. When system is dispatched in containers, all small loose items shall be suitably packed in boxes                                                                                                                                                                                                                                                                    | Vendor to Confirm |         |           |
| 11.0    | <b>GUARANTEE :</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |         |           |
| 11.1    | 24 months from the date of commissioning of all supplied equipments/items .                                                                                                                                                                                                                                                                                                                                                                                                                                               | Vendor to Confirm |         |           |
| 12.0    | <b>QUALIFYING CONDITIONS:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                   |         |           |
| 12.1    | Only those vendors who have atleast completed 1 Nos of supply and /or E&C of 33 KV and above, Test Equipment/ Substation during last 7 years, shall be eligible for participating in the tender.<br>Following details from 12.1.1 to 12.1.5 are to be mandatorily furnished-                                                                                                                                                                                                                                              | Vendor to submit  |         |           |
| 12.1.1  | Name of the customer / company where similar work is completed. (Copy of Purchase order/work order/LOA should be furnished).                                                                                                                                                                                                                                                                                                                                                                                              | Vendor to submit  |         |           |
| 12.1.2  | Name and designation, phone, email address, postal address of the contact person of the customer.                                                                                                                                                                                                                                                                                                                                                                                                                         | Vendor to submit  |         |           |
| 12.1.3  | Year of completion of work.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Vendor to submit  |         |           |
| 12.1.4  | Work completion certificate regarding completion of work mentioned in clause 12.1 from the customer whose details have been mentioned in clause 12.1.1 to 12.1.3 above.                                                                                                                                                                                                                                                                                                                                                   | Vendor to submit  |         |           |
| 12.1.5  | Reference list of all customers mentioning the customer name, contact details and year of completion, where the work similar to that mentioned in point 12.1 above has been undertaken.                                                                                                                                                                                                                                                                                                                                   | Vendor to submit  |         |           |
| 13.0    | BHEL reserves the right to verify information submitted by vendor. In case the information is found to be false/incorrect, the offer shall be rejected.                                                                                                                                                                                                                                                                                                                                                                   | Vendor to note    |         |           |

Sh. Shashank Dubey  
Sr. Eng./Testing

Sh. Satish Soni  
Dy. Manager/ Electronics Maint.

Sh. D.M. Yadav  
Sr. Manager/ Testing

Sh. Pawan Kumar  
Sr. Manager/ WEX