

ERECTION, TESTING, COMMISSIONING TRIAL OPERATION AND HANDING OVER OF ELECTRICAL, CONTROL & INSTRUMENTATION PACKAGES FOR 1X250 MW, UNIT-6, SURATGARH THERMAL POWER STATION (STPS, STAGE-IV), SURATGARH (DISTT.-GANGANAGAR, RAJASTHAN) OF RAJASTHAN RAJYA VIDYUT UTPADAN NIGAM LIMITED.

**RATE SCHEDULE**  
**TENDER NO. BHEL:NR(SCT):SGR 6:ECI:518**

| Sl. No    | ITEM DESCRIPTION   | UNIT | QTY | TOTAL AMOUNT          |          |
|-----------|--|------|-----|-----------------------|----------|
|           |  |      |     | UNIT RATE<br>(IN Rs.) | (IN RS.) |
| <b>1</b>  | <b>HT TRANSFORMERS :</b><br>235 / 16.5 KV, 315 MVA, OFAF GENERATOR TRANSFORMER<br>OVERALL DIMENSIONS : 17000 X 9400 X 7500 MM<br><br>OVERALL WEIGHT : 297 MT<br>SHIPPING WEIGHT : 200 MT (N2 FILLED)<br>OIL QUANTITY : 66000 LITER                       | No.  | 1   |                       |          |
| <b>2</b>  | <b>HT BUSDUCT :</b><br><br>ISOLATED PHASE BUSDUCTS (IPB) FOR STG WITH ASSOCIATED ACCESSORIES LIKE SUPPORT STRUCTURES, CTS, PTS, LAVT, SA, NGR/ NGT, ETC (APPROXIMATE ROUTE LENGTH 200 M MAIN & 56 M TAP OFF SECTION) INCLUDING AIR PRESSURISATION SYSTEM | Set  | 1   |                       |          |
| <b>3</b>  | <b>MISC. (CONTROL PANELS, AVR ETC.) :</b>  |      |     |                       |          |
| <b>4</b>  | DIGITAL AVR PANEL (3100 X 800 X 2300)  | No.  | 1   |                       |          |
| <b>5</b>  | 415V SOOT BLOWER MCC-<br>10600MM(W)X2450MM(H)X1000MM(D)  | No.  | 1   |                       |          |
| <b>6</b>  | FURNACE TEMPERATURE PROBE LOCAL STARTER BOX 600MM(W)X600MM(H)X300MM(D)   | No.  | 1   |                       |          |
| <b>7</b>  | SCANNER AIR FAN DC MOTOR STARTER BOX 900MM(W)X1120MM(H)X375MM(D)   | set  | 1   |                       |          |
| <b>8</b>  | ERV LOCAL CONTROL BOX 600MM(W)X600MM(H)X350MM(D)   | No.  | 2   |                       |          |
| <b>9</b>  | EWLI ASCERTOR BOX 600MM(W)X600MM(H)X350MM(D)   | No.  | 2   |                       |          |
| <b>10</b> | GRAVIMETRIC FEEDER REMOTE CONTROL PANEL 1200MM(W)X2315MM(H)X600MM(D)   | No.  | 6   |                       |          |
| <b>11</b> | VMS-LOCAL WALL MOUNTED CABINET FOR MILLS, FD, ID & PA FANS A&B 760MM(W)X760MM(H)X300MM(D)  | No   | 19  |                       |          |
| <b>12</b> | MILL FIRE PROTECTION BOX FOR TUBE MILL 755MM(W)X1345MM(H)X340MM(D)   | No   | 3   |                       |          |
| <b>13</b> | GENERATOR AUXILIARY MONITORIN PANELS (GAMP)  | No   | 1   |                       |          |

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|        |   |      |     | ( IN Rs. ) | (IN RS.)     |
| 14     | STARTER CAB FOR DC.JOP / EOP /SOP   | No   | 3   |            |              |
| 15     | H2 GAS ANALYSER CABINET   | No   | 1   |            |              |
| 16     | GAS DRIER( REFERIGATION TYPE)   | No   | 2   |            |              |
| 17     | PT PAPERLESS RECORDER   | No   | 1   |            |              |
| 18     | ANNUNCIATION CABINET  | No   | 1   |            |              |
| 19     | GEN. INST. CABINET  | No   | 2   |            |              |
| 20     | SG CONTROL CABINET, 12 SHIPPING SECTION / SUITE CONSISTING 1-4 PANELS (ONE PANEL 750MMX2415MMX590MM), WT. 16T APPROX. | No   | 29  |            |              |
| 21     | TG CONTROL CABINET, 11 SHIPPING SECTION / SUITE CONSISTING 1-3 PANELS (ONE PANEL 750MMX2415MMX590MM), WT 9T APPROX.   | No   | 21  |            |              |
| 22     | NETWORK PANEL- DCS_HMI  | No   | 1   |            |              |
| 23     | LARGE VIDEO SCREEN 1020MMX1360MM  | No   | 2   |            |              |
| 24     | MAX OPERATOR PC, ENGINEER STATION PC , MAXTORIAN PC, LINK PC, LVS PC  | No.  | 12  |            |              |
| 25     | LASER, DOT MATRIX, INKJET PRINTER   | No.  | 6   |            |              |
| 26     | CONSOLE FOR CWA01,03,10,11  | No.  | 4   |            |              |
| 27     | COMISSIONING OF GENERATOR RELATED EQUIPMENTS LIKE STROBOSCOPE, EXCITER AIR DRIER, EXCITER AIR HEATER SYSTEM.          | No.  | 1   |            |              |
| 28     | DC SCANNER FAN FOR STARTER BOX 900LX1120HX400W  | No.  | 1   |            |              |
| 29     | <b><u>ACTUATORS COMMISSIONING OF MOTORISED ACTUATOR/GATE ACTUATOR</u></b>   |      |     |            |              |
| 30     | MOTORISED O/C ACTUATORS FOR DAMPERS/GATES   | No.  | 75  |            |              |
| 31     | PNEUMATIC DAMPER REGULATING ACTUATORS   | No.  | 33  |            |              |
| 32     | PNEUMATIC DAMPER O/C ACTUATORS / SOV OPERATED VALVES  | No.  | 31  |            |              |
| 33     | PNEUMATIC SADC + BTPC DAMPER ACTUATORS  | No.  | 60  |            |              |
| 34     | <b><u>LOCAL / FIELD MOUNTED INSTRUMENTS / EQUIPMENT</u></b>   |      |     |            |              |
| 35     | PRESSURE / DIFF. PRESSURE / TEMPERATURE/ LEVEL (DWLG) GAUGES  | No.  | 321 |            |              |

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| 36     | PRESSURE / DIFF. PRESSURE / TEMPERATURE / LEVEL SWITCH (LEVEL SWITCH CAN BE FLANGE TYPE OR WELDED TYPE / WITH OR WITHOUT ELECTRONIC UNIT) | No.  | 124 |                       |          |
| 37     | FLOW METER  | No.  | 1   |                       |          |
| 38     | REGULATING TYPE POSITIONER, PFT ETC.  | No.  | 10  |                       |          |
| 39     | LIMIT SWITCHES, SOLENOIDS ETC.  | No.  | 10  |                       |          |
| 40     | TEMP. ELEMENTS RTDS   | No.  | 50  |                       |          |
| 41     | SPEED PICK UP / AXIAL SHIFT / RELATIVE EXPANSION / SENSORS / VIBRATION PICK-UPS   | No.  | 5   |                       |          |
| 42     | METAL TEMPERATURE MEASUREMENT THERMOCOUPLES   | No.  | 122 |                       |          |
| 43     | ORIFICE PLATE   | No.  | 6   |                       |          |
| 44     | FURNACE TEMPERATURE PROBE REMOTE CONTROL STATION  | No.  | 2   |                       |          |
| 45     | EWLI DISPLAY UNIT 99MM(W) X 194MM(H) X 68MM(D)  | No   | 2   |                       |          |
| 46     | ERV CONTROL STATION   | No   | 2   |                       |          |
| 47     | FLAME SCANNER AMPLIFIER CHASSIS   | No   | 2   |                       |          |
| 48     | PRESSURE TRANSMITTER, LEVEL TRANSMITTER, POSITION TRANSMITTER   | No   | 20  |                       |          |
| 49     | THERMO COUPLE K TYPE 370°C  | No   | 12  |                       |          |
| 50     | THERMO COUPLE & T/W ASSEMBLY K TYPE   | No   | 36  |                       |          |
| 51     | DIFF. PRESSURE TXR. 0-250MM WC  | No   | 2   |                       |          |
| 52     | DIFF. PRESSURE TXR. 0-250MM WC  | No   | 6   |                       |          |
| 53     | THERMO COUPLE K TYPE 370°C  | No   | 6   |                       |          |
| 54     | FLTR AIR RGLTR  | No   | 56  |                       |          |
| 55     | OPEN TYPE INSTRUMENT RACK   | No   | 12  |                       |          |
| 56     | CLOSE TYPE INSTRUMENT RACK  | No   | 8   |                       |          |

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|        |  |      |        | ( IN Rs. ) | (IN RS.)     |
| 57     | FABRICATION / ERECTION OF STRUCTURAL STEEL   | MT   | 5      |            |              |
| 58     | <u>IMPULSE PIPE / TUBING, JBS ETC.</u>   |      |        |            |              |
| 59     | 15 NB, SA 106 GR. B (SCH.80 /160   | Mtr  | 600    |            |              |
| 60     | 6MM / 8MM /1 INCH COPPER TUBE  | Mtr  | 300    |            |              |
| 61     | 6MM / MISC. SIZES SS TUBING  | Mtr  | 100    |            |              |
| 62     | CS / AS/ SS IMPULSE PIPING   | Mtr  | 200    |            |              |
| 63     | <b>JUNCTION BOXES</b>  |      |        |            |              |
| 64     | UPTO 12 WAYS   | No.  | 49     |            |              |
| 65     | UPTO 13-24 WAYS  | No.  | 125    |            |              |
| 66     | UPTO 25-36 WAYS  | No.  | 8      |            |              |
| 67     | JBS WITH JUNCTION COMPENSATION   | No.  | 4      |            |              |
| 68     | <u>LT POWER / CONTROL / SIGNAL CABLES(ARMOURED/ UNARM.) &amp; INSTRUMENTATION CABLE (0.5 MM2, OA SHIELDED, ARMOURED/UNARMOURED) LAYING, DRESSING, TAGGING, FERRULLING, CLAMPING &amp; TERMINATION ETC.</u> |      |        |            |              |
| 69     | 2C X2.5 SQ.MM  | Mtr  | 2300   |            |              |
| 70     | 3C X 2.5 SQ.MM (ALUMINIUM)   | Mtr  | 1200   |            |              |
| 71     | 3C X 2.5 SQ.MM (COPPER)  | Mtr  | 29000  |            |              |
| 72     | 3C X 6-16 SQ.MM (ALUMINIUM)  | Mtr  | 1200   |            |              |
| 73     | 2P SIGNAL CABLE  | Mtr  | 13,700 |            |              |
| 74     | 4P SIGNAL CABLE  | Mtr  | 36,380 |            |              |
| 75     | 8P SIGNAL CABLE  | Mtr  | 21,000 |            |              |
| 76     | 12P SIGNAL CABLE   | Mtr  | 4000   |            |              |
| 77     | ABOVE 12P SIGNAL CABLE   | Mtr  | 500    |            |              |
| 78     | 2P FLAME SCANNER SHIELDED CABLE FOR FLAME SCANNER ETC.   | Mtr  | 8000   |            |              |

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| 79     | 16P SHIELDED CABLE   | Mtr  | 500   |           |              |
| 80     | 10P PTFE PROBE CABLE   | Mtr  | 60    |           |              |
| 81     | 3C CABLE FOR SENSORS, 15M WITH FLEXIBLE SS CONDUITS                            | No.  | 61    |           |              |
| 82     | 2C X1.5 SQ.MM  | Mtr  | 800   |           |              |
| 83     | 4C X 1.5 SQ.MM   | Mtr  | 2500  |           |              |
| 84     | 7C X 1.5 SQ.MM   | Mtr  | 6100  |           |              |
| 85     | 10C X 1.5 SQ.MM  | Mtr  | 10800 |           |              |
| 86     | 19C X 1.5 SQ.MM  | Mtr  | 2300  |           |              |
| 87     | UTP CABLE  | Mtr  | 500   |           |              |
| 88     | FEP/PTFE EXTRD 7/0.3 600V 4/2X0.5MM² IT-                                       | Mtr  | 1000  |           |              |
| 89     | FEP/PTFE EXTRD 7/0.3 600V 2/2X0.5MM² IT-                                       | Mtr  | 4000  |           |              |
| 90     | TUBE ROUND COPPER; BLACK PVC COVERED   | Mtr  | 30    |           |              |
| 91     | COMPENSATING CABLE T/C EXTSN FRLS KX*1PX1/1.29MM=16AW                          | Mtr  | 7200  |           |              |
| 92     | COMPENSATING CABLE T/C EXTSN FRLS KX*1PX1/1.29MM=16AW                          | Mtr  | 1000  |           |              |
| 93     | COMPENSATING CABLE CMPNSTG 0.5SQMM   | Mtr  | 2800  |           |              |
| 94     | <b>CABLE TRAY &amp; ACCESSORIES including Supports fabrication / erection;</b> |      |       |           |              |
| 95     | 100 MM width   | SET  | 830   |           |              |
| 96     | 150 MM width   | SET  | 500   |           |              |
|        | <b>TOTAL</b>   |      |       |           |              |

1) All dimensions are in mm unless otherwise specified.

2) The contractor is required to quote unit-rate as well as total price against each item in the above schedule. Sub-total on each page shall be indicated and brought forward to next page and duly signed. The contractor shall ensure that grand total on this page is arithmetically checked and corrected and certified accordingly while signing below. Despite this if any calculation error is noticed after tender opening. BHEL reserves the right to deal with it as deemed fit at their end.

3) The quantities indicated against each item above are tentative and same are liable to vary depending upon the site requirement. The contractor has to erect/ commission all items indicated by BHEL Engineer for achieving unit wise milestone

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|        |                  |      |     | (<br>IN Rs.) | (IN RS.)     |

- 4) The Rate shall be entered in figures as well as in words. In case of difference in rates between words and figures THE LESSER OF THE TWO will be treated as valid rate.
- 5) In case of omission in quoting any rate, the evaluation will be done considering the highest quoted rate obtained against that item but the work, if awarded, will be on the lowest quoted rate obtained against that item.
- 6) The bidders shall enter both 'Unit Rate' & 'Amount'. In case of any mismatch between 'Total Amount based on Unit Rate' & 'Total Amount as quoted', the lower of the two shall be considered for evaluation and award.

(Signature, date & seal of authorized representative)