



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

TCN - 04

Ref: PSER:SCT:SDG-E1222:TCN-04

Date: 23-07-2011

| | | |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Sub | Tender change notice (TCN) 04. | |
| Job | Supply, erection, testing, commissioning, operation & maintenance etc of Construction Power System for 2x500 MW units at Sagardighi STPP, WB. | |
| Ref | 1.0 | Tender no PSER:SCT:SDG-E1222:11. |
| | 2.0 | BHEL's NIT, vide reference no PSER:SCT:SDG-E1222:2439, dated 23-06-2011. |
| | 3.0 | BHEL's TCN, vide reference no PSER:SCT:SDG-E1222:TCN-01, dated 12-07-2011. |
| | 4.0 | BHEL's TCN, vide reference no PSER:SCT:SDG-E1222:TCN-02, dated 19-07-2011. |
| | 5.0 | BHEL's TCN, vide reference no PSER:SCT:SDG-E1222:TCN-03, dated 22-07-2011. |
| | 6.0 | All other pertinent issues till date. |

With reference to above, following points/ documents, relevant to tender, may please be noted and complied with while submitting offer.

- 1.0 Amendment/ modification/ clarification to tender terms as per enclosed Annexure-A.
- 2.0 Revised Volume-III A, Price Schedule, Rev-2, superseding earlier version. Bidder shall submit offer as per attached revised price schedule.
- 3.0 Revised 'No deviation certificate' as per enclosed Annexure-2. Bidder shall submit no deviation certificate as per enclosed format only.
- 4.0 All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,
for BHARAT HEAVY ELECTRICALS LTD

ENGR (SCT)

Encl

- 1.0 As above.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SECTOR-II, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : 23211691, 23211798, 23211796

FORMAT FOR NO DEVIATION CERTIFICATE
(To be submitted in the bidder's letter head)

BHARAT HEAVY ELECTRICALS LIMITED,
Power Sector - Eastern Region,
Plot no 9/1, DJ Block, Sector – II, Salt Lake City,
Kolkata – 700 091

| | | |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Sub | No Deviation Certificate. | |
| Job | Supply, erection, testing, commissioning, operation & maintenance etc of Construction Power System for 2x500 MW units at Sagardighi STPP, WB. | |
| Ref | 1.0 | Tender no PSER:SCT:SDG-E1222:11. |
| | 2.0 | BHEL's NIT, vide reference no PSER:SCT:SDG-E1222:2439, dated 23-06-2011. |
| | 3.0 | BHEL's TCN-01, vide reference no PSER:SCT:SDG-E1222:TCN-01, dated 12-07-2011. |
| | 4.0 | BHEL's TCN-02, vide reference no PSER:SCT:SDG-E1222:TCN-02, dated 19-07-2011. |
| | 5.0 | BHEL's TCN-03, vide reference no PSER:SCT:SDG-E1222:TCN-03, dated 22-07-2011. |
| | 6.0 | BHEL's TCN-04, vide reference no PSER:SCT:SDG-E1222:TCN-04, dated 23-07-2011. |
| | 7.0 | All other pertinent issues till date. |

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited site before submission of our offer and noted the job content & site conditions etc. We also confirm that we have not changed/ modified the tender documents as appeared in the website/ issued by you and in case of such observance at any stage, it shall be treated as null and void.

We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT. We hereby confirm our unqualified acceptance to all terms & conditions, unqualified compliance to technical specification, integrity pact (if applicable) and acceptance to reverse auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय) POWER SECTOR EASTERN REGION DJ-9/1, SECTOR-II, SALT LAKE CITY, KOLKATA - 700 091 फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211691, 23211798, 23211796</p> |
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representative of the bidder)

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION DJ 9/1, SALLAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960

फोन/Phone : बोर्ड/EPABX : 23211691/ 1684

| | |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| JOB | Supply, Erection, Testing, Commissioning, Operation & Maintenance etc of Construction Power System for 2X500 MW units at Sagardighi STPP. |
| TENDER NO | PSER:SCT:SDG-E1222:11 |

| SL NO | AMENDMENT/ MODIFICATION/ CLARIFICATION | |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.0 | Volume-IF (Technical Conditions of Contract) | |
| | CLAUSE NO | DESCRIPTION |
| 1.1 | 4.3.6 | Deleted. (It is clarified that all other civil works mentioned else where in the tender & BOQ remains unchanged & shall be within the contractor’s scope) |
| 1.2 | 7.1 | On successful completion of installation and commissioning of the construction power system (to be certified by BHEL Construction Manager), the contractor shall do the necessary operation and maintenance works of the system as per direction of BHEL Construction Manager. All T&Ps and consumables required for carrying out the maintenance works of the system shall be arranged by the contractor. Replacement of damaged materials if any, if found attributable to contractor, shall be done by the contractor within the quoted price for the materials supplied by them. |
| 1.3 | 7.2 | Operation and maintenance of total construction power network consisting of 11 KV ring-main system, 11KV/ 415V step down transformers, LT distribution boards (440 V), with all necessary rail poles, wires, insulators, hardwares, isolators, circuit breakers, protection panels, metering equipment, HT/ LT cables, conductors etc general illumination system during construction, tower lighting (approximately 7 nos lighting mast), temporary pole lighting, temporary lights at different floors/ areas till the permanent illumination system is established (IS or any other standard to be referred to). For regular day to day as well as breakdown maintenance of the entire system from the date of completion of construction power system as described above as per direction of BHEL Construction Manager on round the clock basis, necessary provision for experienced supervisor, licensed electrician, helper, T&Ps etc, replacement/ rectification of item & components to restore the system for making the system operational is to be made by the contractor, payment against which shall be made as per relevant item of Volume-III A. |
| 1.4 | 8.4 | On successful installation and commissioning of the system, the contractor shall do the necessary operation & maintenance works of the system (Section-C of Volume-III A, latest revision) for a period of 35 (Thirty five). All T&Ps and consumables required for carrying out the maintenance works of the system shall be arranged by the contractor (O&M part) |
| 1.5 | 8.5 | The total completion period or contract period shall be 43 (Forty three) months. However for the purpose of guarantee and imposition of LD, above stated specific periods together with respective price components for Supply Part, Service Part and O&M Part shall be reckoned. |
| 2.0 | Volume-III A | |
| | Revised Volume-III A, Price Schedule, Rev-2 is attached with this TCN, superseding earlier version. Bidder shall submit their offer as per revised schedule. | |
| 3.0 | General | |

| | |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.1 | All other terms & conditions shall remain unchanged. |
| 3.2 | Bidder shall submit offer strictly in compliance with technical specification and tender terms along with amendment/ clarifications issued till date within the due date. |

**VOLUME-III
PRICE SCHEDULE, REV-2**

SUPPLY, RECEIPT AT SITE, ALL HANDLING, TRANSPORTATION FROM STORE / STORE-YARD TO ERECTION SITE, ERECTION, TESTING AND COMMISSIONING OF EQUIPMENT AND SYSTEMS FOR CONSTRUCTION POWER DISTRIBUTION SYSTEM (11 KV OVERHEAD LINES, DISTRIBUTION TRANSFORMERS, LT KIOSKS ETC.) AND TEMPORARY ILLUMINATION SYSTEM INCLUDING OBTAINING CLEARANCES FROM VARIOUS AUTHORITIES FOR 2x500 MW SAGARDIGHI TPS, WEST BENGAL

TENDER NO - PSER:SCT:SDG-E1222:11

PREAMBLE

| | |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.0 | This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully in rates for various items. Clauses under this preamble shall be read in conjunction with various volumes of tender as per NIT together with subsequent changes/ modifications etc thereto as applicable as on date of submission of price offer. |
| 2.0 | The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions. |
| 3.0 | Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer. |
| 4.0 | Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc. equipment, strengthening of roads/culverts/bridges etc. including arranging all clearances etc. required for carrying out different activities & tests, materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the tender document and this schedule. |
| 5.0 | Unless otherwise specified & except for tender on lumpsum basis, for all item rate based tenders, the quantities of the various items mentioned in price schedule are approximate, based on very preliminary information and may vary to any extent or to be deleted altogether. The quoted/ accepted rates shall remain firm and valid as long as variation in total value of work executed under this contract including extra items, but excluding any price escalation, remains within +/- 30% (thirty percent) of the contract price given in the LOI/ WO. |
| 6.0 | The rates quoted shall be inclusive of cleaning of site of any vegetation, dressing and leveling etc including fixing of grid pillars, benchmarks etc required for commencement of site activities. No separate payment will be made towards the same. |
| 7.0 | Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English language. |
| 8.0 | All works item wise shall be measured upon completion and paid for at the rates quoted and accepted. |
| 9.0 | The tender shall be deemed to have studied the specifications, details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site. |
| 10.0 | Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract. |
| 11.0 | Evaluation shall be done on total price (SCH-1) combining all the schedules (SCH-2, SCH-3 & SCH-4). However, separate orders will be placed for 3 parts, namely Supply (SCH-2), Service (SCH-3) and O&M (SCH-3). |

| VOLUME-III PRICE SCHEDULE, REV-2 | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|
| SUPPLY, RECEIPT AT SITE, ALL HANDLING, TRANSPORTATION FROM STORE / STORE-YARD TO ERECTION SITE, ERECTION, TESTING AND COMMISSIONING OF EQUIPMENT AND SYSTEMS FOR CONSTRUCTION POWER DISTRIBUTION SYSTEM (11 KV OVERHEAD LINES, DISTRIBUTION TRANSFORMERS, LT KIOSKS ETC.) AND TEMPORARY ILLUMINATION SYSTEM INCLUDING OBTAINING CLEARANCES FROM VARIOUS AUTHORITIES FOR 2x500 MW SAGARDIGHI TPS, WEST BENGAL. | | | |
| TENDER NO - PSER:SCT:SDG-E1222:11 | | | |
| SCH-1 - TOTAL PRICE | | | |
| SL NO | SCHEDULE/ SECTION | DESCRIPTION | TOTAL PRICE (₹) |
| 1.0 | SCH-2/ SECTION-A | SUPPLY PART. | |
| 2.0 | SCH-3/ SECTION-B | SERVICE PART | |
| 3.0 | SCH-4/ SECTION-C | O&M PART. | |
| 4.0 | GRAND TOTAL PRICE OF SECTION-A, SECTION-B & SECTION-C). | | |
| NOTE | | | |
| 1.0 | Bidder's quoted total price at SL NO 4.0 above shall be taken into account for evaluation and awarding and hence, shall be complete in all respect for the full scope defined in specification and in accordance with all terms & conditions of tender. | | |
| 2.0 | Price format shall not be changed by bidder in any case, since it may lead to cancellation of offer. | | |

**VOLUME-III
PRICE SCHEDULE, REV-2**

SUPPLY, RECEIPT AT SITE, ALL HANDLING, TRANSPORTATION FROM STORE / STORE-YARD TO ERECTION SITE, ERECTION, TESTING AND COMMISSIONING OF EQUIPMENT AND SYSTEMS FOR CONSTRUCTION POWER DISTRIBUTION SYSTEM (11 KV OVERHEAD LINES, DISTRIBUTION TRANSFORMERS, LT KIOSKS ETC.) AND TEMPORARY ILLUMINATION SYSTEM INCLUDING OBTAINING CLEARANCES FROM VARIOUS AUTHORITIES FOR 2x500 MW SAGARDIGHI TPS, WEST BENGAL.

TENDER NO - PSER:SCT:SDG-E1222:11

SCH-2 - SUPPLY PRICE

| SL NO | DESCRIPTION OF ITEMS | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------|-----------------------|
| 1.1 | Supply of PCC pole 9 M long (W/L - 400 kg) as per SEB Specification (Size as per drg. TOP-230mmx100mm & BOTTOM 410 mmx 100 mm | 34 NO | | |
| 1.2 | Supply of Rail Pole 45kg/M,12.8 m long | 6 NO | | |
| 2.0 | 7/4 mm STAY SET WITH TURN BUCKLE / BOW TIGHTENER/ BOW SET WITH TURN BUCKLES : Supply of stay set complete Galvanised with 19/20 mm dia x1.8 meter long stay rod, anchor plate size 45 cm x45 cm x7.5 mm thick, thimble, stary clamp, turn buckle,(20 mm x60 mm) /bow tightener, 7/4.00 mm dia. GI stary wire and strain insulator, clamps, hardware etc. as required | 40 SET | | |
| 3.0 | Supply of of 11 KV pin type insulators (10KN) & fittings as per relevant IS: 731, IS: 3188, IS: 2486(Part-I) as per specification, complete with large steel head GI pins, nuts, washer etc. as required Make - BHEL Banglore /WSI Chennai /Jayashree Insulator Halol/ Calcutta /Modern Insulator Abu Road | 150 NO | | |
| 4.0 | Supply of 11 KV disc insulators (70KN) for 11 KV overhead line as per relevant IS: 731, IS: 3188, IS:2486(Part-I) as per specification with galvanised insulator fitting, ball and socket type and complete with galvanised strain clamps, bolts, nuts, washers etc. as required Make : BHEL Banglore /WSI Chennai /Jayashree Insulator Halol/ Calcutta /Modern Insulator Abu Road | 150 NO | | |
| 5.0 | Supply of lightning arrester distribution class type non-linear resistor as per IS: 3070 type, suitable for 11 kv over head lines with rated voltage of 9 Kv (rms) with nominal discharge current rating of 5 KA and complete with galvanised bolts, nuts, washers, fitting etc. as required. | 15 NO | | |
| 6.0 | Supply of 12 KV, rated current 100 Amps DO fuse assembly as per relevant IS complete with mounting base, harware, clamps insulators, operating rod, terminal connector including fuse rating suitable for 500 KVA, Transformer | 9 SET | | |
| 7.0 | Supply of 11 KV out door type gang operated AB switch tripple pole 800 Amps rating, with 3 post pin insulators per phase, bimetallic connector, suitable for horizontal or vertical position mounting with adequate length of G.I. Pipe for operating handle erected on extended square shaft. with necessary clamps, hardware etc. | 9 SET | | |
| 8.0 | Supply of 11 KV out door type gang operated AB switch tripple pole 400 Amps rating, with 3 post pin insulators per phase, bimetallic connector, suitable for horizontal or vertical position mounting with adequate length of G.I. Pipe for operating handle erected on extended square shaft. with necessary clamps, hardware etc. | 9 SET | | |

| SL NO | DESCRIPTION OF ITEMS | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|---------------|
| 9.0 | Supply of 11 KV out door type gang operated AB switch tripple pole 200 Amps rating, with 3 post pin insulators per phase, bimetallic connector, suitable for horizontal or vertical position mounting with adequate length of G.I. Pipe for operating handle erected on extended square shaft. with necessary clamps, hardware etc. | 9 | SET | |
| 10.0 | Supply of Cradle type Cage gauard (along /across the road for 11 KV single circuit) shall run along the line made out of 6 SWG GI wire confirming to IS 2633 including netting, stretching and joining of cage including lacing by 10/12 SWG GI wire, binding by 14/16 SWG GI wire. | 500 | MTR | |
| 11.0 | Supplying of 15 mm G.I. Pipe (Gr.B) 3 meter long for protection of earth wire | 170 | MTR | |
| 12.0 | Supply of GI strip size 50 x 6 mm for earthing | 250 | MTR | |
| 13.0 | Supply of GI strip size 25 x 3 mm for earthing | 125 | MTR | |
| 14.0 | Supply of GI pipe (Gr.B) 50 mm dia | 20 | MTR | |
| 15.0 | Supply of GI pipe (Gr.B) 75 mm dia | 20 | MTR | |
| 16.0 | Supply of CC spun pipe of 300 mm dia. | 10 | MTR | |
| 17.0 | Supply of 3/4" PVC Flexible pipe | 100 | MTR | |
| 18.0 | Supply of 40mm dia (OD) GI pipe for Fitting luminaires | 40 | MTR | |
| 19.0 | Supply of earth electrode 40 mm dia. 3 Mtr long GI pipe (grade -B) | 36 | NO | |
| 20.0 | Supply of earth wire size 6.09 mm. Dia. GI wire | 450 | MTR | |
| 21.0 | Supply of GI Earth Spike 1822 x 20 mm | 80 | NO | |
| 22.0 | Supply of 8 SWG GI wire earthing. | 600 | MTR | |
| 23.0 | Supply of 14 SWG GI earth continuity wiring. | 3300 | MTR | |
| 24.0 | Supply of Overhead ACSR conductor 'Dog' as per specification [6/4.72mm AL+7/1.57mm Steel as per IS 398(Pt-2) 196 or latest release | 6000 | MTR | |
| 25.1 | 11 KV Heat shrinkable XLPE cable Joint (Out Door) : Supplying outdoor cable end termination with heat shrinkable jointing kit cmplete with accessories including lugs suitable for cable size three core x 120 sqmm. Aluminium comductor. Make - Raychem or equivalent. | 10 | NO | |
| 25.2 | Indoor type cable end termination kit (Raychem make heat shrinkable type) for 3Cx120 sqmm 11 KV grade XLPE cable. | 2 | NO | |
| 26.0 | Supply of HT danger notice plate of size 250 mm x 200 mm x 2 mm thk., made of mild steel plate painted with vitreous enamelled white on both side and inscription in Red colour on front side as required. | 50 | NO | |
| 27.0 | Supply of Structural steel [IS] for 11KVaccessories /support members/clamps & hardware. | 5 | MT | |
| 28.0 | Supply of 200 amps indoor 415V 3 ph 4 wire type TPN wall mounted busbar with Incoming 250 A isolator & 5 nos outgoing main switch - 63 A complete with all wiring & terminations, mounting frames etc. | 1 | NO | |

| SL NO | DESCRIPTION OF ITEMS | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------|------------|
| 29.0 | Supply of MCB distribution board with sheet metal enclosure front cover, indoor type, Incoming 32 Amps TP MCB, outgoing 6 nos. 16 Amps SP MCBs (per phase) complete with internal TPN bus bars | 3 | NO | |
| 30.0 | Supply of MCB distribution board with sheet metal enclosure front cover, indoor type, Incoming 100 Amps TP MCB, outgoing 6 nos. 32 Amps SP MCBs (per phase) complete with internal TPN bus bars | 5 | NO | |
| 31.0 | Supply of Switchboard wooden 150x100 mm with matching cutouts and interconnections. | 50 | NO | |
| 32.0 | Supply of Switchboard wooden 200x300 mm with matching cutouts and interconnections. | 50 | NO | |
| 33.0 | Supply of Indicator lamp for Switchboard (Anchor / Pritam) | 50 | NO | |
| 34.0 | Supply of Fuse - 5Amps / 6 amps | 41 | NO | |
| 35.0 | Supply of 15/16 amps fuse & socket combined switch | 22 | NO | |
| 36.0 | 2x400W with lamp,control gear and all accessories.Model:Bajaj Equivalent of BJEF22CA.Aproved makes Bajaj/Phillips/Crompton/GE(sodium vapour lamps) | 40 | NO | |
| 37.0 | 1x400W with lamp,control gear and all accessories.Model:Bajaj Equivalent of BJEF15S.Aproved makes Bajaj/Phillips/Crompton/GE (sodium vapour lamps) | 20 | NO | |
| 38.0 | Supply of 70 WATTS Bajaj make luminaire Model :BJFL 70SV with lamp or equivalent for outside all round illumination | 20 | NO | |
| 39.0 | Supply of 3/4 " dia PVC conduit with bends/ tees/ ceiling roses with wooden base or boxes, fixing saddles/ clamps ECC tie wire etc. | 1170 | MTR | |
| 40.0 | Supply of 2.5mm Sqr. PVC wire for fixing of luminaries in open storage yard | 150 | MTR | |
| 41.0 | Supply of Cable 3.5 core x 95 sqmm Aluminium 1.1 KV grade PVC Armoured | 100 | MTR | |
| 42.0 | Supply of cable 3.5 core x 70 sqmm Aluminium 1.1 KV grade PVC Armoured | 100 | MTR | |
| 43.0 | Supply of 3.5 core 25 sqmm PVC, armoured Aluminium cable of 1.1 KV grade. As per IS-1554. | 1050 | RM | |
| 44.0 | Supply of 1C x1.5 sqmm 650 V/ 1.1 KV grade PVC insulated copper wire. | 3000 | MTR | |
| 45.0 | Supply of 1Cx2.5 sqmm 650 V/ 1.1 KV grade PVC insulated copper wire. | 1500 | MTR | |
| 46.0 | Supply of 1Cx4 sqmm 650V/1.1 KV grade PVC insulated Copper wire | 900 | MTR | |
| 47.0 | Supply of straight thru joint kit for 1.1 KV (LT) cables. | | | |
| 47.1 | 3-1/ 2 core cables, 300 sqmm. | 10 | NO | |
| 47.2 | 3-1/ 2 core cables, 120 sqmm. | 10 | NO | |
| 47.3 | 3.5 core x 95 sqmm cables | 10 | NO | |
| 47.4 | 3.5 core x 70 sqmm cables | 10 | NO | |
| 48.0 | MANDATORY SPARES | | | |

| SL NO | DESCRIPTION OF ITEMS | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|-----------------------------|------------------------------------------------------------------------------|----------|---------------|------------|
| 48.1 | Pin type Insulator | 50 NO | | |
| 48.2 | Disc type Insulator | 50 NO | | |
| 48.3 | AB switch Assembly (for each type/rating/size; 10% of the quantity supplied) | 1 LOT | | |
| 48.4 | Lighting Arrestor | 3 NO | | |
| 48.5 | DO Fuses (for each type/rating/size;10% of the total quantity supplied) | 1 LOT | | |
| TOTAL PRICE (SUPPLY) | | | | |

**VOLUME-III
PRICE SCHEDULE, REV-2**

SUPPLY, RECEIPT AT SITE, ALL HANDLING, TRANSPORTATION FROM STORE / STORE-YARD TO ERECTION SITE, ERECTION, TESTING AND COMMISSIONING OF EQUIPMENT AND SYSTEMS FOR CONSTRUCTION POWER DISTRIBUTION SYSTEM (11 KV OVERHEAD LINES, DISTRIBUTION TRANSFORMERS, LT KIOSKS ETC.)AND TEMPORARY ILLUMINATION SYSTEM INCLUDING OBTAINING CLEARANCES FROM VARIOUS AUTHORITIES FOR 2x500 MW SAGARDIGHI TPS, WEST BENGAL.

TENDER NO. PSER:SCT:SDG-E1222:11

SCH-3 - SERVICE PRICE

| SL NO | DESCRIPTION OF ITEM | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|---------------|
| 1.1 | Erection of PCC Poles :: Excavation (in all types of soil) including disposal of excess earth as per direction of engineer, for poles pit size 60 cms x 60 cms.x 1.5/1.8 Mtrs deep, erection of PCC poles [including supply & erection of anticlimbing devices] in true plumb, back filling the pit after erection with jhama brick bats of size 63 mm to 40 mm and down including watering, if necessary duly compacted in layers. The rate inclusive of excavation including disposal, supply of jhama bricks, labour, tools & tackles, etc all complete in the approved manner. | 34 | NO | |
| 1.2 | Erection of Rail Pole :Providing cement concrete foundation including excavation in all types of soil for poles pit size 60 cmsx 60 cms.x 1.8/2 Mtrs deep in 1:3:6 cement concrete (1 cement, 3 coarse sand, 6 graded stone aggregate 40 mm nominal size) including form work, concrete foundation of 200 mm all around the pole foundation and upto 20 cms above the ground level and tapered suitably into collar, height plinth duly plastered and with necessary curing and finishing, back filling etc. in the approved manner. | 6 | NO | |
| 1.3 | Dismantling , shifting , re-erection , testing & commissioning of PCC Poles as per BHEL Instruction. | 10 | NO | |
| 1.4 | Dismantling , shifting , re-erection , testing & commissioning of Rail Poles as per BHEL Instruction. | 10 | NO | |
| 2.0 | Erection of stay set complete with turn buckle, stay rod, anchor plate, thimble, staty clamp, bow tightener, staty wire and strain insulator, clamps, hardware etc. as required in cement concrete 1:3:6 (1 cement : 3 Coarse sand ; 6 Graded stone aggregate 40 mm nominal size) in foundation including excavation in all type of soil and back filling etc. as required including supply of cement & all other civil materials. | 40 | SET | |
| 3.0 | Erection of 11 KV pin type insulators complete with large steel head GI pins, nuts, washer etc. as required | 150 | NO | |
| 4.0 | Erection of 11 KV disc insulators for 11 KV overhead line with galvanised insulator fitting, ball and socket type and complete with galvanised strain clamps, bolts, nuts, washers etc. as required | 150 | NO | |
| 5.0 | Erection of lightning arrester distribution class type, suitable for 11 kv over head lines complete with galvanised bolts, nuts, washers, fitting, etc. as required for 500KVA transformer | 15 | NO | |
| 6.0 | Installation of 11 KV DO fuse assembly complete with mounting base, hardware, clamps insulators, operating rod, terminal connector, etc. | 9 | SET | |

| SL NO | DESCRIPTION OF ITEM | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|---------------|
| 7.0 | Installation of 11 KV out door type gang operated AB switch tripple pole 200 / 400 / 800 Amps rating with 3 post pin insulators per phase, bimetallic connector mounted horizontal or vertical position on provided cross arm with adequate length of G.I. Pipe for operating handle erected on extended square shaft. The operating handle provided with lock & key at suitable height from ground level with necessary clamps, hardware etc. | 9 | SET | |
| 8.0 | Installation of Cradle type Cage gauard (along /across the road for 11 KV single circuit) shall run along the line made out of 6 SWG GI wire confirming to IS 2633 including netting, stretching and joining of cage including lacing by 10/12 SWG GI wire, binding by 14/16 SWG GI wire. | 500 | MTR | |
| 9.0 | Installation of 15 mm G.I. Pipe 3 meter long for protection of earth wire lead to earth electrode with suitable clamping arrangment and hardware. | 170 | MTR | |
| 10.0 | Installation [including welding, etc & supply of matching hardwares like nut, bolts, washers, etc] of GI strip size 50 x 6 mm for interconnecting the earth pits ion sub station, transformer netrual earthing etc. | 250 | MTR | |
| 11.0 | Installation of GI strip size 25 x 3 mm [including welding, etc & supply of matching hardwares like nut, bolts, washers, etc] for earthing AB swtich, DO fuse assembly etc, | 125 | MTR | |
| 12.0 | Installation of GI pipe 50 mm dia including clamps, hardware etc. | 20 | MTR | |
| 13.0 | Installation of GI pipe 75 mm dia including clamps, hardware etc. | 20 | MTR | |
| 14.0 | Laying below ground in excavated trench (as per specification) of CC spun pipe of 300 mm dia. Wherever cable laid through pipe for road crossing purpose. | 10 | MTR | |
| 15.0 | Installation of 3/4" PVC Flexible pipe | 100 | MTR | |
| 16.0 | Installation of 40mm dia (OD) GI pipe for Fitting luminaires | 40 | MTR | |
| 17.0 | Installation of earth electrode 40 mm dia. 3 metre long GI pipe directly driven into earth including earth excavation if | 36 | NO | |
| 18.0 | Installation of earthwire 6.09 mm dia including supply of clamps, cleats, etc | 450 | MTR | |
| 19.0 | Erection of Earth Spike | 80 | NO | |
| 20.0 | Installation of 8 SWG GI wire earthing. | 600 | MTR | |
| 21.0 | Installation of 16 SWG GI earth contuinity wiring. | 3300 | MTR | |
| 22.0 | Fixing of HT danger notice plate on tubulat pole / DP structure of size 250 mm x 200 mm x 2 mm thk., made of mild steel plate painted with vitreous enamelled white on both side and inscription in Red colour on front side as required. | 50 | NO | |
| 23.0 | Making the earth pit as per IS 3043 including earth/ massonary work, (size of electrode 50 mm dia. G.I. Pipe, 3 Meter long, class 'B'). Pit shall be filled with alternative layer of charcoal & salt. GI Pipe shall be with funnel with wire mesh for watering. Mansonry block C.I.cover coplete as per IS. All the earth pits are to be inter connectecd with GI strip of size 50x6 mm. Supply of all required materials including G.I. pipe & G.I. strip and all necessary excavation is in the contractor's scope. | 10 | NO | |
| 24.0 | Installation of Fuse - 5Amps / 6 amps | 41 | NO | |

| SL NO | DESCRIPTION OF ITEM | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|---------------|
| 25.0 | Installation of 15/16 amps fuse & socket combined switch | 22 | NO | |
| 26.0 | Installation of 70 WATTS Bajaj make luminaire Model :BJFL 70SV with lamp or equivalent for outside all round illumination | 20 | NO | |
| 27.0 | Installation of 2x400W HPSV luminaire with lamp, control gear and all accessories | 40 | NO | |
| 28.0 | Installation of 1x400W luminaire with lamp, control gear and all accessories | 20 | NO | |
| 29.0 | Stringing ACSR conductor of size "Dog" conductor [6/4.72 mm Al + 7/1.57 mm Steel] for over head line with stringing binding with proper size of aluminium conductor, jumpering and suitable size of P.G. clamps for jumpering from overhead lines to lightning arrestors/ AB switch/ DO fuse assembly and transformer HT terminal as per the arrangement, etc. as required. [Rate inclusive of supply of accessories] | 6000 | MTR | |
| 30.0 | Laying of cable which includes excavation of trench in all kind of soil, laying below ground providing sand layer below/above the cable, brick lining both sides and above the cable and back filling as per specification | | | |
| 30.1 | 1.1KV LV grade PVC LT Cable | | | |
| 30.1.1 | 3.5CX300sqmm | 750 | MTR | |
| 30.1.2 | 3.5CX120sqmm | 750 | MTR | |
| 30.1.3 | 4CX6sqmm | 1750 | MTR | |
| 30.2 | 11KV grade XLPE HT cable | | | |
| 30.2.1 | 3C-120sqmm | 750 | MTR | |
| 31.0 | Laying of cable on existing structure, wall, floor etc providing support /clamps etc | | | |
| 31.1 | 1.1KV LV grade PVC LT Cable | | | |
| 31.1.1 | 3.5CX300sqmm | 750 | MTR | |
| 31.1.2 | 3.5CX120sqmm | 750 | MTR | |
| 31.1.3 | 4CX6sqmm | 1750 | MTR | |
| 31.2 | 11KV grade XLPE HT cable | | | |
| 31.2.1 | 3C-120sqmm | 750 | MTR | |
| 32.0 | Termination of cablearmoured cables including glanding, drilling the hole in gland plate & making termination with double compression cable gland and aluminium lugs for aluminium armoured cable (including supply of cable glands (COMET make /equivalent) and aluminium lugs) | | | |
| 32.1 | 1.1KV LV grade PVC LT Cable | | | |
| 32.1.1 | 3.5CX300sqmm | 30 | NO | |
| 32.1.2 | 3.5CX120sqmm | 20 | NO | |

| SL NO | DESCRIPTION OF ITEM | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|---------------|
| 32.1.3 | 4CX6sqmm | 30 | NO | |
| 32.1.4 | 3.5CX25sqmm | 30 | NO | |
| 32.1.5 | 3.5CX70sqmm | 30 | NO | |
| 32.1.6 | 3.5CX95 sqmm | 30 | NO | |
| 33.0 | Dismantling ,shifting ,re-laying, testing & commissioning of 1.1KV LV grade PVC LT cable as per BHEL Instruction. | | | |
| 33.1 | 3.5CX300sqmm | 250 | MTR | |
| 33.2 | 3.5CX120sqmm | 250 | MTR | |
| 33.3 | 4CX6sqmm | 250 | MTR | |
| 34.0 | Dismantling , shifting , re-laying , testing & commissioning of 11KV XLPE HT cable as per BHEL Instruction. | | | |
| 34.1 | 3C-120sqmm | 250 | MTR | |
| 35.0 | Erection of Indoor termination including supply of heat shrinkable termination kit of apporved make for 11KV HT | 2 | NO | |
| 36.0 | Erection of Outdoor termination including supply of heat shrinkable termination kit of approved make 11KV HT XLPE Cable | 10 | NO | |
| 37.0 | Installation of 3/4 " dia PVC conduit with bends/ tees/ ceiling roses with wooden base or boxes, fixing saddles/ clamps ECC tie wire etc. | 1170 | MTR | |
| 38.0 | Installation of 3.5 core 25 sqmm PVC, armoured Aluminium cable of 1.1 KV grade. on existing structure ,wall , floor etc providing support /clamps etc . | 1050 | RM | |
| 39.0 | Installation of cable 3.5 core x 70 sqmm Aluminium 1.1 KV grade PVC Armoured on existing structure, wall, floor etc providing support /clamps etc | 100 | MTR | |
| 40.0 | Installation of Cable 3.5 core x 95 sqmm Aluminium 1.1 KV grade PVC Armoured on existing structure, wall, floor etc providing support /clamps etc | 100 | MTR | |
| 41.0 | Installation of 1C x1.5 sqmm 650 V/ 1.1 KV grade PVC insulated copper wire. | 3000 | MTR | |
| 42.0 | Installation of 1Cx2.5 sqmm 650 V/ 1.1 KV grade PVC insulated copper wire. | 1500 | MTR | |
| 43.0 | Installation of 1Cx4 sqmm 650V/1.1 KV grade PVC insulated Copper wire | 900 | MTR | |
| 44.0 | Installation of 2.5mm Sqr. PVC wire for fixing of luminaries in open storage yard | 150 | MTR | |
| 45.0 | Installation, testing and commisioning of 11/0.433KV transformer, including assembly of loose supplied accessories, oil filling,drying out/oil filtration etc | | | |
| 45.1 | 500 KVA transformer | 7 | NO | |
| 45.2 | Dismantling , shifting , re-erection , testing & commissioning of 11/0.433KV transformer, including re-assembly of loose supplied accessories, oil filling,drying out/oil filtration etc as per BHEL Instruction. | 2 | NO | |
| 46.0 | Installation, testing and commissioning of LT distribution out door kiosk with all the provision as per specification. | | | |

| SL NO | DESCRIPTION OF ITEM | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|---------------|
| 46.1 | a] Type - A (Incomer 800 Amps, Outgoing 400 Amps - 2 Nos., Outgoing 200 A - 1 No & Outgoing 100 Amps - 2 Nos.] | 7 | NO | |
| 46.2 | Dismantling , shifting , re-erection , testing & commissioning of LT distribution out door kiosk with all the provision as per specification. as per BHEL Instruction. | 2 | NO | |
| 47.0 | Fixing of luminaries/lights on rail/PCC poles with suitable fixtures/hardwares and wiring thereon in open storage (Necessary luminaries, hardwares,wires etc. shall be supplied by BHEL free of cost) | 36 | NO | |
| 48.0 | Fabrication, installation of various structural members such as cross arms, top adaptors, etc for poles, straight line DP structure/ sub-station DP structure/ DP structure for Line Tap-Offs, bracings member , clamps, bracket for gaurd wire or any other fabrication if required and not specified elsewhere in the tender specification etc; including supply of required matching hardwares and painting of one coat of red oxide & two coats of aluminium paint. This also includes the fabrication of other items as required. | 5 | MT | |
| 49.0 | Installation of 200 amps indoor 415V 3 ph 4 wire type TPN wall mounted busbar with Incoming 250 A isolator & 5 nos outgoing main switch - 63 A complete with all wiring & terminations, mounting frames etc. | 1 | NO | |
| 50.0 | Installation of MCB distribution board with sheet metal enclosure front cover, indoor type, Incoming 32 Amps TP MCB, outgoing 6 nos. 16 Amps SP MCBs (per phase) complete with internal TPN bus bars. | 3 | NO | |
| 51.0 | Installation of MCB distribution board with sheet metal enclosure front cover, indoor type, Incoming 100 Amps TP MCB, outgoing 6 nos. 32 Amps SP MCBs (per phase) complete with internal TPN bus bars. | 5 | NO | |
| 52.0 | Installation of Switchboard wooden 150x100 mm with matching cutouts and interconnections. | 50 | NO | |
| 53.0 | Installation of Switchboard wooden 200x300 mm with matching cutouts and interconnections. | 50 | NO | |
| 54.0 | Installation of Indicator lamp for Switchboard (Anchor / Pritam) | 50 | NO | |
| 55.0 | Hiring Charges of portable Lighting Tower with in- built DG set power back up inclusive of all operator & maintenance cost. (These towers shall be 30 ft. height of heavy duty three-sections, noiseless,4X1000 W Metal Halide lights with fixtures, ignitors all complete with retractable tower, trailer mounted, 114 Litre fuel capacity,complete with panels, self starter for DG set,manual winch etc.) | | | |
| 55.1 | Monthly Hiring charges for each Lighting Tower with DG set (Total approx Tower months has been calculated considering 6 Nos towers for 6 months) | 36 | MON TH | |
| 55.2 | Fuel, lubricant etc charges per tower per hour. Total approx running Hourhas been calculated considering 6 Nos. towers, 8 Hrs. per working day of 30 days in month for 6 Months Payment shall be made as per actual total running hours of all the towers deployed on monthly basis. For example, say, during first month, Tower 1 run for 6 hrs., Tower2 run for 4 hrs., Tower3 run for 8 hrs, Tower4 run for 0 hrs., Tower5 run for 2 hrs., and Tower6 run for 0 hrs., then the total running hour shall be calculated as 6+4+8+0+2+0 = 20 running hours.) | 8640 | HR | |

| SL NO | DESCRIPTION OF ITEM | QUANTITY | | UNIT RATE (₹) | AMOUNT (₹) |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|------------------|---------------|
| 56.0 | Installation of 30m high lighting mast complete with accessories such as head frame,steel wire,trailing cable,double drum winch galvanized lantern carriage, luminaries and their control gear boxes (16 Nos of 2X400W) | 10 | NO | | |
| 57.0 | Erection of straight thru joint kit for 1.1 KV (LT) cables. | | | | |
| 57.1 | 3-1/ 2 core cables, 300 sqmm. | 10 | NO | | |
| 57.2 | 3-1/ 2 core cables, 120 sqmm. | 10 | NO | | |
| 57.3 | 3.5 core x 95 sqmm | 10 | NO | | |
| 57.4 | 3.5 core x 70 sqmm | 10 | NO | | |
| TOTAL PRICE (SERVICE) | | | | | |

**VOLUME-III
PRICE SCHEDULE, REV-2**

SUPPLY, RECEIPT AT SITE, ALL HANDLING, TRANSPORTATION FROM STORE / STORE-YARD TO ERECTION SITE, ERECTION, TESTING AND COMMISSIONING OF EQUIPMENT AND SYSTEMS FOR CONSTRUCTION POWER DISTRIBUTION SYSTEM (11 KV OVERHEAD LINES, DISTRIBUTION TRANSFORMERS, LT KIOSKS ETC.) AND TEMPORARY ILLUMINATION SYSTEM INCLUDING OBTAINING CLEARANCES FROM VARIOUS AUTHORITIES FOR 2x500 MW SAGARDIGHI TPS, WEST BENGAL.

TENDER NO - PSER:SCT:SDG-E1222:11

SCH-4 - OPERATION AND MAINTENANCE PRICE

| SL NO | DESCRIPTION OF WORK | QUANTITY | UNIT RATE (₹) | AMOUNT (₹) |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------------|---------------|
| 1.0 | Supervisor experienced in 33/ 11KV substation & overhead line maintenance {on lumpsum monthly pay basis, with paid weekly off & 10 + 2 (optional) holidays in a calender year. | 35 | MAN-MONTH | |
| 2.0 | Skilled electrician having experience in 33/ 11KV substation & overhead lines (minimum 5 years experience or ITI with one year experience) alongwith necessary tools, insulation tapes as required for the work [8 hrs shift per day, with paid weekly off & 10 + 2 (optional) holidays in a calender year. | 80 | MAN-MONTH | |
| 3.0 | Semiskilled electrician/ helper (minimum 3 years experience) alongwith necessary hand tools & miscellaneous consumables like insulation tape/emery papers/ drill bits etc as required for the work [8 hrs shift per day, with paid weekly off & 10 + 2 (optional) holidays in a calender year]. | 100 | MAN-MONTH | |
| 4.0 | Unskilled helper alongwith hand tools as required for the work [one shift of 8 hrs per day, with paid weekly off & 10 + 2 (optional) holidays]. | 100 | MAN-MONTH | |
| TOTAL PRICE (O&M) | | | | |