

## BOQ Cum Price Schedule (Annexure-I)

**Name Of Work:-** Receipt of equipment/ material at site, unloading, reconciliation, inspection, verification, storage, up-keeping during storage, erection, testing, commissioning and handing over of 400/220/132kV GIS substation at Shamli in Uttar Pradesh

**Customer:-** M/s U.P. Power Transmission Corporation Limited

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
1	<b>500 MVA, 400/220/33 KV, 3-phase Auto Transformer (ICT)</b> complete in all respect alongwith its MB Box, Radiator Bank and its cooling arrangement, Conservator, Cooler Control Cabinet/Marshalling Kiosk, accessories and insulating oil. Work includes erection of all auxiliaries viz turrets, bushings, terminal connectors, associated earthing works (excluding riser connections to main earthmat), laying of cable from Transformer auxiliaries to MK, Oil filtration, filling of oil, hot oil circulation, Oil testing etc as required to complete the installation of Transformer (Supervision of unloading, Erection, Testing and commissioning will be done by OEM). Note:- 1) Charges for Oil filtration, filling of oil, hot oil circulation etc for first time commissioning of Transformer are deemed to be covered in this line item. 2) Charges for testing of oil supplied in drums are covered separately under item no. 8 below. <b>Unloading of Transformer tank main body is excluded in this scope, the same is covered under a separate line item below.</b>	2	Nos.	13,25,075.00	26,50,150.00
2	500 MVA, 400/220/33 KV, 3-phase Auto Transformer (ICT) - RTCC Panel with Transformer Monitoring cum Tap Changer Control System alongwith associated accessories complete in all respect.	2	Nos.	5,000.00	10,000.00
3	500 MVA, 400/220/33 KV, 3-phase Auto Transformer (ICT) - Unloading of Transformer Tank (main body)	2	Nos.	1,25,000.00	2,50,000.00
4	500 MVA, 400/220/33 KV, 3-phase Auto Transformer (ICT) - Dragging/shifting charges of above mentioned transformer (1 No) on ground upto rail cum road / jacking on	80	Meter	2,500.00	2,00,000.00
5	500 MVA, 400/220/33 KV, 3-phase Auto Transformer (ICT) - Dragging / shifting charges of above mentioned transformer (1 No) on rail cum road	30	Meter	2,500.00	75,000.00
6	500 MVA, 400/220/33 KV, 3-phase Auto Transformer (ICT) - Complete dryout of Transformer by N2 filling/ vacuuming/ purging and heating (if required) as per BHEL procedure (Annexure-F). Complete in all respect excluding supply N2 gas.	2	Lot	37,800.00	75,600.00
7	500 MVA, 400/220/33 KV, 3-phase Auto Transformer (ICT) - Supply of N2 gas as per instruction of BHEL Site. Mode of measurement shall be number of gas cylinder (returnable) having 50kg N2 gas	160	Nos.	2,100.00	3,36,000.00
8	500 MVA, 400/220/33KV, 3-phase Auto Transformer (ICT) - Oil Testing (BDV, ppm, Resistivity & Tan delta etc for oil supplied in drums (if required). 1 set equals all the tests on 1 sample.	25	Set	2,100.00	52,500.00
9	<b>200 MVA, 220/132/33 KV, 3-phase Auto Transformer (ICT)</b> complete in all respect alongwith its MB Box, Radiator Bank and its cooling arrangement, Conservator, Cooler Control Cabinet/Marshalling Kiosk, accessories and insulating oil. Work includes erection of all auxiliaries viz turrets, bushings, terminal connectors, associated earthing works (excluding riser connections to main earthmat), laying of cable from Transformer auxiliaries to MK, Oil filtration, filling of oil, hot oil circulation, Oil testing etc as required to complete the installation of Transformer (Supervision of unloading, Erection, Testing and commissioning will be done by OEM). Note:- 1) Charges for Oil filtration, filling of oil, hot oil circulation etc for first time commissioning of Transformer are deemed to be covered in this line item. 2) Charges for testing of oil supplied in drums are covered separately under item no. 16 below. <b>Unloading of Transformer tank main body is excluded in this scope, the same is covered under a separate line item below.</b>	2	Nos.	5,25,000.00	10,50,000.00
10	200 MVA, 220/132/33 KV, 3-phase Auto Transformer (ICT) - RTCC Panel with Transformer Monitoring cum Tap Changer Control System alongwith associated accessories complete in all respect.	2	Nos.	5,000.00	10,000.00
11	200 MVA, 220/132/33 KV, 3-phase Auto Transformer (ICT) - Unloading of Transformer Tank (main body)	2	Nos.	1,15,000.00	2,30,000.00
12	200 MVA, 220/132/33 KV, 3-phase Auto Transformer (ICT) - Dragging/shifting charges of above mentioned transformer (1 No) on ground upto rail cum road / jacking on	80	Meter	2,200.00	1,76,000.00
13	200 MVA, 220/132/33 KV, 3-phase Auto Transformer (ICT) - Dragging / shifting charges of above mentioned transformer (1 No) on rail cum road	30	Meter	2,200.00	66,000.00
14	200 MVA, 220/132/33 KV, 3-phase Auto Transformer (ICT) - Complete dryout of Transformer by N2 filling/ vacuuming/ purging and heating (if required) as per BHEL procedure (Annexure-F). Complete in all respect excluding supply N2 gas.	2	Lot	37,800.00	75,600.00
15	200 MVA, 220/132/33 KV, 3-phase Auto Transformer (ICT) - Supply of N2 gas as per instruction of BHEL Site. Mode of measurement shall be number of gas cylinder (returnable) having 50kg N2 gas	100	Nos.	2,100.00	2,10,000.00
16	200 MVA, 220/132/33KV, 3-phase Auto Transformer (ICT) - Oil Testing (BDV, ppm, Resistivity & Tan delta etc for oil supplied in drums (if required). 1 set equals all the tests on 1 sample.	25	Set	2,100.00	52,500.00
17	<b>420kV 125 MVAr, 3-Ph, Reactor</b> complete in all respect alongwith its MB Box, Radiator Bank and its cooling arrangement, Conservator, Cooler Control Cabinet/Marshalling Kiosk, accessories and insulating oil. Work includes erection of all auxiliaries viz turrets, bushings, terminal connectors, associated earthing works (excluding riser connections to main earthmat), laying of cable from Transformer auxiliaries to MK, Oil filtration, filling of oil, hot oil circulation, Oil testing etc as required to complete the installation of Reactor (Supervision of unloading, Erection, Testing and commissioning will be done by OEM). Note: Charges for Oil filtration, filling of oil, hot oil circulation etc for first time commissioning of Transformer are deemed to be covered in this line item. 2) Charges for testing of oil supplied in drums are covered separately under item no. 23 below. <b>Unloading of Reactor tank main body is excluded in this scope, the same is covered under a separate line item below.</b>	1	Nos.	6,03,750.00	6,03,750.00
18	420kV 125 MVAr, 3-Ph, Reactor - Unloading of Reactor Tank (main body)	1	Nos.	1,08,675.00	1,08,675.00
19	420kV 125 MVAr, 3-Ph, Reactor - Dragging/shifting charges of above mentioned Reactor (1 No) on ground upto rail cum road / jacking on	80	Meter	1,449.00	1,15,920.00
20	420kV 125 MVAr, 3-Ph, Reactor - Dragging / shifting charges of above mentioned Reactor (1 No) on rail cum road	30	Meter	1,449.00	43,470.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
21	420kV 125 MVAR, 3-Ph, Reactor - Complete dryout of 400kV Bus Reactor by N2 filling/ vaccuming/ purging and heating (if required) as per BHEL Bhopal procedure (Annexure-F). Complete in all respect excluding supply N2 gas.	1	Lot	37,800.00	37,800.00
22	420kV 125 MVAR, 3-Ph, Reactor - Supply of N2 gas as per instruction of BHEL Site. Mode of measurement shall be number of gas cylinder (returnable) having 50kg N2.	80	Nos.	2,100.00	1,68,000.00
23	420kV 125 MVAR, 3-Ph, Reactor - Oil Testing (BDV, ppm, Resistivity & Tan delta etc for oil supplied in drums (if required). 1 set equals all the tests on 1 sample	25	Set	2,100.00	52,500.00
24	420kV 50 MVAR, 3-Ph, Reactor with LA & NGR complete in all respect alongwith its MB Box, Radiator Bank and its cooling arrangement, Conservator, Cooler Control Cabinet/Marshalling Kiosk, accessories and insulating oil. Work includes erection of all auxiliaries viz turrets, bushings, terminal connectors, associated earthing works (excluding riser connections to main earthmat), laying of cable from Transformer auxiliaries to MK, Oil filtration, filling of oil, hot oil circulation, Oil testing etc as required to complete the installation of Reactor (Supervision of unloading, Erection, Testing and commissioning work done by OEM). Note:- 1) Charges for Oil filtration, filling of oil, hot oil circulation etc for first time commissioning of Transformer are deemed to be covered in this line item. 2) Charges for testing of oil supplied in drums are covered separately under item no. 30 below. Unloading of Reactor tank main body is excluded in this scope, the same is covered under a	2	Nos.	3,43,500.00	6,87,000.00
25	420kV 50 MVAR, 3-Ph, Reactor with LA & NGR - Unloading of Reactor Tank (main body)	2	Nos.	80,000.00	1,60,000.00
26	420kV 50 MVAR, 3-Ph, Reactor with LA & NGR - Dragging/shifting charges of above mentioned Reactor (1 No.) on ground upto rail cum road / jacking on	80	Meter	1,200.00	96,000.00
27	420kV 50 MVAR, 3-Ph, Reactor with LA & NGR - Dragging / shifting charges of above mentioned Reactor (1 No.) on rail cum road	30	Meter	1,200.00	36,000.00
28	420kV 50 MVAR, 3-Ph, Reactor with LA & NGR - Complete dryout of 400kV Bus Reactor by N2 filling/ vaccuming/ purging and heating (if required) as per BHEL Bhopal procedure (Annexure-F). Complete in all respect excluding supply N2 gas.	2	Lot	37,800.00	75,600.00
29	420kV 50 MVAR, 3-Ph, Reactor with LA & NGR - Supply of N2 gas as per instruction of BHEL Site. Mode of measurement shall be number of gas cylinder (returnable) having 50kg N2.	160	Nos.	2,100.00	3,36,000.00
30	420kV 50 MVAR, 3-Ph, Reactor with LA & NGR - Oil Testing (BDV, ppm, Resistivity & Tan delta etc for oil supplied in drums (if required). 1 set equals all the tests on 1 sample	25	Set	2,100.00	52,500.00
31	4A1- 400kV Transformer Bay Module: GIS ( 400kV- 50kA for 3 sec)  Work shall include erection / installation, testing and commissioning of 400kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools & tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools & tackles/ plants, and testing instrument as per anenxure-A&B shall be under contractor's scope.  The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.	2	set	1,32,999.70	2,65,999.40
32	4A2- 400kV Bus Reactor Bay Module: GIS ( 400kV- 50kA for 3 sec) Work shall include erection / installation, testing and commissioning of 400kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools & tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools & tackles/ plants, and testing instrument as per anenxure-A&B shall be under contractor's scope.  The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.	1	set	1,32,999.70	1,32,999.70
33	4A3- 400kV Line Feeder Bay Module: GIS ( 400kV- 50kA for 3 sec)  Work shall include erection / installation, testing and commissioning of 400kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools & tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools & tackles/ plants, and testing instrument as per anenxure-A&B shall be under contractor's scope.  The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.	2	set	1,53,780.90	3,07,561.80

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
34	<p>4A3- 400kV Line Feeder Bay with PIR Module: GIS ( 400kV- 50kA for 3 sec)</p> <p>Work shall include erection / installation, testing and commissioning of 400kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	2	set	1,53,780.90	3,07,561.80
35	<p>4A4- 400kV Bus Bars: GIS ( 400kV- 50kA for 3 sec) Work shall include erection / installation, testing and commissioning of 400kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	2	Set	1,02,124.77	2,04,249.54
36	<p>4A5- 400kV Voltage Transformer module (for Busbars)GIS ( 400kV- 50kA for 3 sec) -</p> <p>Work shall include erection / installation, testing and commissioning of 400kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	2	Set	64,421.73	1,28,843.46
37	<p>4A6- 400kV Bus Coupler Bay Module: GIS ( 400kV- 50kA for 3 sec) Work shall include erection / installation, testing and commissioning of 400kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	1	set	52,500.00	52,500.00
38	<p>4A9- 400kV SF6 to Air Bushing GIS ( 400kV- 50kA for 3 sec) Work shall include erection / installation, testing and commissioning of 66kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	21	nos.	8,312.48	1,74,562.08

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
39	<p>4A10- 400kV GIS duct from GIS ICT/Line Bays to SF6 to Air bushing GIS ( 400kV- 50kA for 3 sec) -</p> <p>Work shall include erection / installation, testing and commissioning of 400kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	700	m	755.68	5,28,976.00
40	<p>4A11-Local Control Cainen (LCC) for 400kV GIS ( 400kV- 50kA for 3 sec)</p> <p>Work shall include erection / installation, testing and commissioning of 400kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	8	nos.	7,556.80	60,454.40
41	<p>4A12- Controlled Switching Device for ONE set of 2000A, 3x1-phase, SF6 insulated circuit breaker - GIS ( 400kV- 50kA for 3 sec)</p> <p>Work shall include erection / installation, testing and commissioning of 66kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	3	nos.	5,000.00	15,000.00
42	<p>GIS ( 400kV- 50kA for 3 sec) - SF6 Gas Filling/Recovery/Re-filling Cycle. The cycle of the gas filling/recovery/re-filling will be followed multiple time till the Completion of the HV test. Gas processing and filling unit ( DILO machine) shall be in the scope of BHEL/manufaturer.</p>	1	lot	1,56,749.65	1,56,749.65
43	<p>GIS ( 400kV- 50kA for 3 sec) - Structure work for Installation of GIS including (excluding bus duct) support structure, fixing of foundation bolts/ base frame, aligning, jointing, welding , fixing of embedded parts / support plates in floors etc., which are required for installation of GIS as per the specification.</p> <p>Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p> <p>Please refer notes and relevant technical specification/ drawings for additional deta</p>	9	bays	38,318.06	3,44,862.54
44	<p>GIS ( 400kV- 50kA for 3 sec) -HV Test for GIS - HV test kit shall be arranged by GIS Supplier. Test shall also be conducted by GIS supplier. All necessary support i.e. unloading, shifting, minor assembling of HV test kit, support for complete HV Test, dismantling &amp; loading on carrier. Complete in all respect.</p> <p>Please refer notes and relevant technical specification/ drawings for additional details.</p>	1	Lot	1,16,486.90	1,16,486.90
45	<p>GIS ( 400kV- 50kA for 3 sec) -Grounding/ Earthing for GIS complete including Gas Insulated Bus duct, LCC, SF6 to air bushing, using braided Cu wire (insulated/ non-insulated)/ earth strip (Cu/Al/GI flat). Work includes cutting, lug crimping , bolting , fixing etc. and connecting with riser/earth strip (GI/AL /Cu flat) complete in all respect. Grounding Material will be supplied by GIS Supplier /BHEL.</p> <p>Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p> <p>Please refer notes and relevant technical specification/ drawings for additional deta</p>	9	modules	13,170.17	1,18,531.53
46	<p>GIS ( 400kV- 50kA for 3 sec) - Cabling between LCC and GIS including including termination, ferruling , laying, dressing, tagging etc. including arrangement of consumables etc. Cable shall be provided by GIS supplier / BHEL.</p> <p>Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	9	bays	16,624.96	1,49,624.64

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
47	400kV, 1 Ph, <b>CVT</b> complete with terminal connector without support structure.	12	Nos.	8,176.50	98,118.00
48	400kV, 1 Phase, Gapless type Metal Oxide Surge Arrester complete with surge counter, leakage current meter, insulating base, connecting cable and terminal connectors. -Low level (upto 8 m height from plinth)	21	Nos.	2,918.78	61,294.38
49	400kV, 1 Phase, Gapless type Metal Oxide Surge Arrester complete with surge counter, leakage current meter, insulating base, connecting cable and terminal connectors. -High level (above 8 m to 11 m height from plinth)	6	Nos.	3,418.78	20,512.68
50	420kV, 3150A, 3-Ph Isolator with one Earth Switch, Double Break, motor operated, electrically ganged without insulator & structure but with MOM box and accessories	2	nos.	25,229.53	50,459.07
51	400kV, 1 phase, Pedestal type <b>Wave Trap</b> complete with 3 nos. post insulators per WT with terminal connectors without support structure	4	Nos.	11,868.80	47,475.20
52	400kV Post Insulators complete with corona ring & terminal connectors without support structure - low level (upto 8 m height from plinth)	24	Nos.	1,500.00	36,000.00
53	400kV - Post Insulators complete <del>without corona ring</del> & terminal connectors without support structure - High level (above 8 m to 11 m height from plinth)	9	Nos.	2,000.00	18,000.00
54	2A1- 220kV Transformer (LV side of 500MVA, 400/220kV) Bay Module: GIS (220kV- 40kA for 3 sec) -  Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools & tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools & tackles/ plants, and testing instrument as per anenxure-A&B shall be under contractor's scope.  The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.  <del>Please refer notes and relevant technical specification/ drawings for additional details.</del>	2	Set	78,219.79	1,56,439.58
55	2A2- 220kV Transformer (HV side of 160MVA, 400/220kV) Bay Module: GIS (220kV- 40kA for 3 sec) -  Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools & tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools & tackles/ plants, and testing instrument as per anenxure-A&B shall be under contractor's scope.  The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.  <del>Please refer notes and relevant technical specification/ drawings for additional details.</del>	2	Set	78,219.79	1,56,439.58
56	2A3- 220kV Line Feeder Bay Module: GIS (220kV- 40kA for 3 sec)  Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools & tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools & tackles/ plants, and testing instrument as per anenxure-A&B shall be under contractor's scope.  The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.	6	Set	90,441.63	5,42,649.78
57	2A4- 220kV Bus Bars: GIS (220kV- 40kA for 3 sec)  Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools & tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools & tackles/ plants, and testing instrument as per anenxure-A&B shall be under contractor's scope.  The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.	2	Set	44,468.70	88,937.40

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
58	<p>2A5- 220kV Voltage Transformer module (for Busbars) GIS (220kV- 40kA for 3 sec) -</p> <p>Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	2	Set	37,887.71	75,775.42
59	<p>2A6- 220kV Bus Coupler Bay Module:</p> <p>Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	1	Set	92,886.00	92,886.00
60	<p>2A7- 220kV Gas Insulated Bus Duct- GIS (220kV- 40kA for 3 sec)</p> <p>Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	330	Metre	444.44	1,46,665.20
61	<p>2A8- 220kV SF6 to Air Bushing -GIS (220kV- 40kA for 3 sec) -</p> <p>Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	12	nos.	4,888.74	58,664.88
62	<p>2A9- 220kV Cable termination for line bay Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	6	set	12,000.00	72,000.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
63	<p>2A10- LCC for 220kV GIS Work shall include erection / installation, testing and commissioning of 220kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p> <p>Please refer notes and relevant technical specification/ drawings for additional det</p>	11	nos.	4,444.30	48,887.30
64	GIS (220kV- 40kA for 3 sec) - Structure work for Installation of GIS including (excluding bus duct) support structure, fixing of foundation bolts/ base frame, aligning, jointing, welding , fixing of embedded parts / support plates in floors etc., which are required for installation of GIS as per the specification.	1	lot	68,747.86	68,747.86
65	GIS (220kV- 40kA for 3 sec) HV Test for GIS - HV test kit shall be arranged by GIS Supplier. Test shall also be conducted by GIS supplier. All necessary support i.e. unloading, shifting, minor assembling of HV test kit, support for complete HV Test, dismantling & loading on carrier. Complete in all respect.	1	lot	1,00,000.00	1,00,000.00
66	GIS (220kV- 40kA for 3 sec) Grounding/ Earthing for GIS complete including Gas Insulated Bus duct, LCC, SF6 to air bushing, using braided Cu wire (insulated/ non-insulated)/ earth strip (Cu/Al/GI flat). Work includes cutting, lug crimping , bolting , fixing etc. and connecting with riser/earth strip (GI/AL /Cu flat) complete in all respect. Grounding Material will be supplied by GIS Supplier /BHEL.	12	bays	5,340.74	64,088.88
67	GIS (220kV- 40kA for 3 sec) Cabling between LCC and GIS including including termination, ferruling , laying, dressing, tagging etc. including arrangement of consumables etc. Cable shall be provided by GIS	12	modules	9,777.47	1,17,329.64
68	220kV , 1 Ph, CVT complete with terminal connector without support structure	18	Nos.	5,960.10	1,07,281.80
69	216/198 kV, 1 Phase, Gapless type Metal Oxide Surge Arrester complete with surge counter, leakage current meter, insulating base, connecting cable and terminal connectors. - Low level (upto 6 m height from plinth)	18	Nos.	2,500.00	45,000.00
70	216/198 kV, 1 Phase, Gapless type Metal Oxide Surge Arrester complete with surge counter, leakage current meter, insulating base, connecting cable and terminal connectors. - High level (above 6 m to 9m height from plinth)	12	Nos.	3,000.00	36,000.00
71	220kV Post Insulators complete with terminal connectors without support structure low level (upto 4.6 m height from plinth)	18	Nos.	1,200.00	21,600.00
72	220kV Post Insulators complete with terminal connectors without support structure - High level (above 4.6 m to 9 m height from plinth)	18	Nos.	1,500.00	27,000.00
73	<p>1A1- Transformer (LV side of 160MVA, 220/132kV) Bay Module: GIS ( 132kV- 40kA for 3 sec)</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	2	Set	36,310.53	72,621.06
74	<p>1A2- 132kV Line Feeder Bay Module: GIS ( 132kV- 40kA for 3 sec)</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	9	Set	36,310.53	3,26,794.77

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
75	<p>1A3- Bus Bars: GIS ( 132kV- 40kA for 3 sec)</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	2	Set	20,000.00	40,000.00
76	<p>1A4- 132kV Voltage Transformer module (for Busbars)</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	2	Set	9,682.81	19,365.62
77	<p>1A5- 132kV Bus Coupler Bay Module:</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	1	Set	32,276.03	32,276.03
78	<p>1A6- 132kV Cable termination for line bay GIS ( 132kV- 40kA for 3 sec)</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	9	set	8,645.36	77,808.24
79	<p>1A7- 132kV Cable termination for ICT bay- GIS ( 132kV- 40kA for 3 sec)</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per anenxure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module/(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	2	set	8,645.36	17,290.72

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
80	<p>1A8- LCC for 132kV GIS</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per annexure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	12	nos.	5,000.00	60,000.00
81	<p>GIS ( 132kV- 40kA for 3 sec) - Structure work for Installation of GIS including (excluding bus duct) support structure, fixing of foundation bolts/ base frame, aligning, jointing, welding , fixing of embedded parts / support plates in floors etc., which are required for installation of GIS as per the specification.</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per annexure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	1	lot	72,621.06	72,621.06
82	<p>GIS ( 132kV- 40kA for 3 sec) -HV Test for GIS - HV test kit shall be arranged by GIS Supplier. Test shall also be conducted by GIS supplier. All necessary support i.e. unloading, shifting, minor assembling of HV test kit, support for complete HV Test, dismantling &amp; loading on carrier. Complete in all respect.</p> <p>Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p> <p><u>Please refer notes and relevant technical specification/ drawings for additional det.</u></p>	1	lot	72,621.06	72,621.06
83	<p>GIS ( 132kV- 40kA for 3 sec) - Grounding/ Earthing for GIS complete including Gas Insulated Bus duct, LCC, SF6 to air bushing, using braided Cu wire (insulated/ non-insulated)/ earth strip (Cu/Al/GI flat). Work includes cutting, lug crimping , bolting , fixing etc. and connecting with riser/earth strip (GI/Al/Cu flat) complete in all respect. Grounding Material will be supplied by GIS Supplier /BHEL.</p> <p>Work shall include erection / installation, testing and commissioning of 132kV GIS including LCC panels. The supervision for ETC works shall be provided by OEM/ GIS manufacturer. Arrangement of special tools &amp; tackles/ plants, and testing instrument shall be done by OEM/ BHEL on returnable basis, however, general tools &amp; tackles/ plants, and testing instrument as per annexure-A&amp;B shall be under contractor's scope.</p> <p>The scope includes complete installation of GIS bays, including Surge Arrester, Cable Connection Module(s), associated Local Control Cabinet (LCC) and any other module, if applicable. Any other services required for ETC of complete GIS, walkways/ support structure, earthing / grounding, Internal cabling between GIS to LCC, SF6 Gas treatment, handling / filling / top-up etc complete in all respect. Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	13	bays	5,763.58	74,926.54
84	<p>GIS ( 132kV- 40kA for 3 sec) - Cabling between LCC and GIS including including termination, ferruling , laying, dressing, tagging etc. including arrangement of consumables etc. Cable shall be provided by GIS supplier / BHEL.</p> <p>Any dismantling/ rework before commissioning shall be in also be in contractor's scope.</p>	13	modules	6,000.00	78,000.00
85	<p>120kV , 1 Phase, Gapless type Metal Oxide Surge Arrester complete with surge counter, leakage current meter, insulating base, connecting cable and terminal connectors. Low level (upto 5 m height from plinth) - Work includes unloading, receipt of material at site, storage, safety &amp; security of material, verification, upkeeping, handing, material shifting, erection, testing &amp; commissioning &amp; handing over</p>	27	Nos.	2,000.00	54,000.00
86	<p>120kV , 1 Phase, Gapless type Metal Oxide Surge Arrester complete with surge counter, leakage current meter, insulating base, connecting cable and terminal connectors. - High level (above 5 m to 9 m height from plinth)</p>	6	Nos.	2,500.00	15,000.00
87	<p>132kV Post Insulators complete with terminal connectors without support structure - low level (upto 5 m height from plinth)</p>	27	Nos.	1,000.00	27,000.00
88	<p>132kV Post Insulators complete with terminal connectors without support structure - High level (above 5 m to 9 m height from plinth)</p>	6	Nos.	1,200.00	7,200.00
89	<p><b>630kVA , 33/0.433kV LT Auxilairy Transformers</b> Work includes unloading, dragging upto plinth, erection of all auxiliaries, viz bushings, terminal connectors, ,filtration of oil (if required), testing &amp; Commissioning etc.</p>	2	Nos.	10,658.02	21,316.04

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
90	72.5kV Upto 2000 A SF6 Circuit Breaker (3-ph) with support structure and other accessories complete in all respects	1	Nos.	5,044.97	5,044.97
91	72.5kV, 630A, 3-Ph HDB Isolator with one Earth Switch, Horizontal Double Break, motor operated, mechanically ganged including insulator & MOM box and accessories but without support structure	1	Nos.	4,204.14	4,204.14
92	66kV, 1 Ph, <b>Current Transformer</b> (2000 A),Upto 2000 A live tank complete with terminal connectors without support structure	3	Nos.	2,564.53	7,693.59
93	66kV,1 Ph, <b>PT</b> complete with terminal connector without support structure.- Work includes unloading receipt of material at site, storage, safety & security of material, verification, upkeeping, handing, material shifting, erection, testing & commissioning & handing over	3	Nos.	2,312.28	6,936.84
94	<b>30kV</b> , 1 Phase, Gapless type Metal Oxide Surge Arrester complete with surge counter, leakage current meter, insulating base, connecting cable and terminal connectors. Low level (upto 5 m height from plinth)	3	Nos.	750.00	2,250.00
95	66kV , Post Insulators complete with terminal connectors without support structure -low level (upto 5 m height from plinth)	3	Nos.	1,000.00	3,000.00
96	33kV, 630A, 3-phase VCB alongwith terminal connectors and support structure -	1	Nos.	5,000.00	5,000.00
97	36kV, 630A, 3-Ph HDB Isolator with one Earth Switch, Horizontal Double Break, manually operated, mechanically ganged with insulator & MOM box and accessories but without structure	1	Nos.	4,681.67	4,681.67
98	33kV, 1 Ph, <b>Current Transformer Upto 2000 A</b> ,live tank complete with terminal connectors without support structure	3	Nos.	1,024.59	3,073.77
99	33kV , 1 Ph, <b>PT</b> complete with terminal connector without support structure. - Work includes unloading receipt of material at site, storage, safety & security of material, verification, upkeeping, handing, material shifting, erection, testing & commissioning & handing over	3	Nos.	1,024.59	3,073.77
100	30kV, 1 Phase, Gapless type Metal Oxide Surge Arrester complete with surge counter, leakage current meter, insulating base, connecting cable and terminal connectors. - Low level (upto 5 m height from plinth)	6	Nos.	750.00	4,500.00
101	33kV, Post Insulators complete with terminal connectors without support structure low level (upto 5 m height from plinth)	30	Nos.	512.30	15,369.00
102	400 kV Double Tension (160kN per string ) Hardware with double anchoring points for 2x25 nos. antifog disc with all hw accessories including Corona Ring with tension clamp for Twin ACSR Moose with 450mm sub conductor spacing	12	Sets	2,000.00	24,000.00
103	400 kV Double Tension (160kN per string ) Hardware with double anchoring points for 2x25 nos. antifog disc with all hw accessories including Corona Ring with tension clamp for Twin ACSR Moose with 450mm sub conductor spacing	12	Sets	2,000.00	24,000.00
104	400 kV Single Suspension (120kN) Hardware assembly for 1X25 nos. antifog disc with all hardware accessories including corona ring Drop Clamp suitable for Twin ACSR Moose with 450mm subconductor spacing	24	Sets	1,800.00	43,200.00
105	220 kV Double Tension string insulator (120 kN per string) with double anchoring points with 2X15 nos antifog disc with all hardware accessories including <b>Grading Ring</b> and tension clamp suitable for <b>Twin Moose</b> with 250mm sub conductor spacing with turn buckle	6	Sets	1,700.00	10,200.00
106	220 kV Double Tension string insulator (120 kN per string) with double anchoring points with 2X15 nos antifog disc with all hardware accessories including <b>Grading Ring</b> and tension clamp suitable for <b>Twin Moose</b> with 250mm sub conductor spacing without turn buckle	6	Sets	1,700.00	10,200.00
107	220 kV Single Suspension string insulator (90 kN) assembly with 1x15 nos antifog disc with all hardware accessories including <b>Grading Ring</b> with Drop clamp set suitable for <b>Twin Moose</b> with 250 mm sub conductor spacing	24	Sets	1,500.00	36,000.00
108	220 kV Single Suspension string insulator (90 kN) assembly with 1x15 nos antifog disc with all hardware accessories including <b>Grading Ring</b> with Drop clamp set suitable for <b>single Moose ACSR</b>	5	Sets	1,500.00	7,500.00
109	132 kV Single suspension string insulator assembly with 1X10 Nos.90 kN antifog type disc insulator per string with all hardwares accessories including <b>Grading Ring</b> for suitable for <b>drop</b> type clamp for <b>single Moose" ACSR</b>	27	Sets	1,200.00	32,400.00
110	GI Stranded Shield wire including tension clamp, PG clamp and clamping on structure for down conductor fixing/bolting with earth strip etc to complete	1.5	Km	25,851.18	38,776.77
111	<b>Conductor</b> complete with Tee connectors for droppers to equipment connections, PG clamps for busbar jumpering, Twin/Quad bundle spacers etc to complete	5	Km	50,868.45	2,54,342.25
112	<b>Al Tube 4.0"</b> (ETC of Al.Tube includes Aluminium welding and bending to be included. Welding sleeve tube will be supplied by BHEL )	300	m	296.23	88,869.00
113	415V, 3Ph 4 wire ,1250A, 25kA for 1 sec MAIN SWITCHBOARD	1	Set	20,000.00	20,000.00
114	415V, 3Ph, 4 wire, 800A, 20kA for 1s AC DISTRIBUTION BOARD	1	Set	30,000.00	30,000.00
115	415V,3ph 4 wire, 500A, MAIN LIGHTING DISTRIBUTION BOARD (including 2 nos. 150 kVA, 415/415V Lighting transformer)	1	Set	35,000.00	35,000.00
116	415V, 3ph 4 wire , 200A, EMERGENCY LIGHTING DISTRIBUTION BOARD (including 1 nos. 50 kVA 415/415V Lighting transformer)	1	Set	20,000.00	20,000.00
117	220V, 400A, 20kA (DC) for 1s DC DISTRIBUTION BOARD	2	Set	10,000.00	20,000.00
118	48V, 400A, 20kA (DC) for 1s DC DISTRIBUTION BOARD	2	Set	10,000.00	20,000.00
119	220V, 600AH VRLA Battery Bank with all accessories	2	Nos.	35,000.00	70,000.00
120	48V, 800 AH VRLA Battery Bank with all accessories	2	Nos.	25,000.00	50,000.00
121	220V, Float cum boost battery charger	2	Nos.	10,000.00	20,000.00
122	48V, Float cum boost battery charger	2	Nos.	10,000.00	20,000.00
123	Bay Marshalling Kiosks (Outdoor, Floor mounted on cable trench)	1	Nos.	3,585.18	3,585.18
124	CT Junction Box (on foundation/structure)	2	Nos.	2,114.34	4,228.68
125	VT Junction Box (on foundation/structure)	12	Nos.	2,114.33	25,371.96
126	<b>Control and Relay Panels and SAS (At Local End) -</b> 400kV Line Relay & BCU Panel (Approx 800mm Wide) {1Set = 2 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	4	Set	10,000.00	40,000.00
127	Control and Relay Panels and SAS (At Local End) -400kV Line Reactor Relay & BCU Panel (Approx 800mm Wide) {1Set = 2 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	2	Set	10,000.00	20,000.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
128	Control and Relay Panels and SAS (At Local End) - 400kV ICT (500MVA) Relay & BCU Panel (Approx 800mm Wide) {1Set = 2 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	2	Set	10,000.00	20,000.00
129	Control and Relay Panels and SAS (At Local End) -400kV Bus Reactor Relay & BCU Panel (Approx 800mm Wide) {1Set = 2 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	10,000.00	10,000.00
130	Control and Relay Panels and SAS (At Local End) - 400kV Bus Coupler Relay & BCU Panel (Approx 800mm Wide) {1Set = 1 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
131	Control and Relay Panels and SAS (At Local End) - 400kV Common Control Panel (Approx 800mm Wide) {1Set = 1 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
132	Control and Relay Panels and SAS (At Local End) - 400kV Busbar Relay Panel (Approx 800mm Wide Set=1 Panels) -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	2	Set	5,000.00	10,000.00
133	Control and Relay Panels and SAS (At Local End) - 220kV Line Relay & BCU Panel (Approx 800mm Wide) {1Set = 2 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	6	Set	10,000.00	60,000.00
134	Control and Relay Panels and SAS (At Local End) - 220kV ICT (500MVA) Relay & BCU Panel (Approx 800mm Wide) {1Set = 1 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	2	Set	5,000.00	10,000.00
135	Control and Relay Panels and SAS (At Local End) - 220kV ICT (200MVA) Relay & BCU Panel (Approx 800mm Wide) {1Set = 2 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	2	Set	10,000.00	20,000.00
136	Control and Relay Panels and SAS (At Local End) - 220kV Bus Coupler Relay & BCU Panel (Approx 800mm Wide) {1Set = 1 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
137	220kV Common Control Panel (Approx 800mm Wide) {1Set = 1 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
138	Control and Relay Panels and SAS (At Local End) - 220kV Busbar Relay Panel (Approx 800mm Wide Set=1 Panels) -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
139	Control and Relay Panels and SAS (At Local End) - 132kV Line Relay & BCU Panel (Approx 800mm Wide) {1Set = 2 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	9	Set	10,000.00	90,000.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
140	Control and Relay Panels and SAS (At Local End) - 132kV ICT200MVA Relay & BCU Panel (Approx 800mm Wide) {1Set = 1 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	2	Set	5,000.00	10,000.00
141	Control and Relay Panels and SAS (At Local End) - 132kV Bus Coupler Relay & BCU Panel (Approx 800mm Wide) {1Set = 1 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
142	Control and Relay Panels and SAS (At Local End) - 132kV Common Control Panel (Approx 800mm Wide) {1Set = 1 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
143	Control and Relay Panels and SAS (At Local End) - 132kV Busbar Relay Panel (Approx 800mm Wide Set=1 Panels) -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
144	Control and Relay Panels and SAS (At Local End) - 33kV feeder Relay & BCU Panel (Approx 800mm Wide) {1Set = 1 Nos. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	2	Set	5,000.00	10,000.00
145	Control and Relay Panels and SAS (At Local End) - SAS Network Panel (Approx 800mm Wide) {1 Set 1No. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
146	Control and Relay Panels and SAS (At Local End) - SAS Auxiliary BCU Panel (Approx 800mm Wide) {1 Set = 1No. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	1	Set	5,000.00	5,000.00
147	Control and Relay Panels and SAS (At Local End) - Synchronizing Trolley (Approx. 600mm wide) -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC contractor).	1	Nos.	500.00	500.00
148	Control and Relay Panels and SAS (At Local End) - Metering Panel comprising of main and check meter ( Approx 800mm Wide) {1 Set = 1 No. Panel} -  Relay & BCU Panels & 61850 Based Sub station Automation system complete with all accessories (Testing and commissioning of relays in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords to be in scope of ETC	8	Set	5,000.00	40,000.00
149	Control and Relay Panels and SAS (At Local End) - Secondary injection test kit	1	Nos.	500.00	500.00
150	Control and Relay Panels and SAS (At Local End) - SAS: Armoured Fibre Optic Cable for SAS and Busbar protection (to be laid in GI/ HDPE Pipe) (Scope - Laying of the cables in the 40mm GI/HDPE PIPE)	6000	m	13.37	80,220.00
151	Control and Relay Panels and SAS (At Local End) - Operator Work Station	3	Nos.	592.46	1,777.38
152	Control and Relay Panels and SAS (At Local End) - Engineering Work Station	1	Nos.	592.46	592.46
153	Control and Relay Panels and SAS (At Local End) - Colour Laser Jet Printer (A3 SIZE)	1	Nos.	296.23	296.23
154	Control and Relay Panels and SAS (At Local End) - Colour Laser Jet Printer (A4 SIZE)	1	Nos.	296.23	296.23
155	Control and Relay Panels and SAS (At Local End) - Dot Matrix printer	1	Nos.	454.02	454.02
156	Control and Relay Panels and SAS (At Local End) - Inverter with Battery Backup	2	Nos.	2,000.00	4,000.00
157	Control and Relay Panels and SAS (At Local End) - 67 inch Large Video Screen with all accessories	1	Nos.	7,166.88	7,166.88
158	Control and Relay Panels and SAS (At Local End) - Laptop with relay parameterisation software	1	Nos.	740.72	740.72
159	Control and Relay Panels and SAS (At Local End) - GPS receiver with 100mm TDU complete in all respects including antenna, all cables, processing equipment etc.	1	Nos.	5,185.03	5,185.03
160	Control and Relay Panels and SAS (At Local End) - Handling & installation of furniture required for O&M printer, chairs etc.	1	Lot	1,777.37	1,777.37

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
161	<b>Control and Relay Panels and SAS (At SLDC End)-</b> Gateway Panel (Approx 800mm Wide) {1 Set = 1No. Panel } at Remote End -  (Testing and commissioning of SAS items in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords and including shifting/ loading/ unloading of equipments to SLDC end to be in scope of ETC contractor).	1	Set	10,000.00	10,000.00
162	<b>Control and Relay Panels and SAS (At SLDC End)-</b> Operator Work Station at Remote End -  (Testing and commissioning of SAS items in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords and including shifting/ loading/ unloading of equipments to SLDC end to be in scope of ETC contractor).	1	Nos.	1,000.00	1,000.00
163	<b>Control and Relay Panels and SAS (At SLDC End)-</b> Colour Laser Jet Printer (A3 SIZE) at Remote End  (Testing and commissioning of SAS items in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords and including shifting/ loading/ unloading of equipments to SLDC end to be in scope of ETC contractor).	1	Nos.	1,000.00	1,000.00
164	<b>PLCC Equipments (at both Local End and Remote End Stations) -</b> Coupling device (Phase to Phase; set = 1 No. LMU Box)-  (Testing and commissioning of PLCC Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	4	Set	10,204.75	40,819.00
165	<b>PLCC Equipments (at both Local End and Remote End Stations) -</b> HF Cable -  (Testing and commissioning of PLCC Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	2500	m	9.87	24,675.00
166	<b>PLCC Equipments (at both Local End and Remote End Stations) -</b> Digital PLCC Panels -  (Testing and commissioning of PLCC Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	8	Nos.	10,204.75	81,638.00
167	<b>PLCC Equipments (at both Local End and Remote End Stations) -</b> Analog PLCC Panels -  (Testing and commissioning of PLCC Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	4	Nos.	10,204.75	40,819.00
168	<b>PLCC Equipments (at both Local End and Remote End Stations) -</b> 4 Wire telephone instrument along with telephone with wires - (Testing and commissioning of PLCC Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	2	Nos.	98.73	197.46
169	<b>PLCC Equipments (at both Local End and Remote End Stations) -</b> 5 Pair telephone cable, armoured, 0.5 mm dia, annealed copper conductor and petroleum jelly filled with polyethene outer jackets- (Testing and commissioning of PLCC Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	2000	m	9.87	19,740.00
170	<b>PLCC Equipments (at both Local End and Remote End Stations) -</b> Single Pair telephone cable, armoured, 0.5 mm dia, annealed copper conductor and petroleum jelly filled with polyethene outer jackets - (Testing and commissioning of PLCC Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	1000	m	9.87	9,870.00
171	<b>PLCC Equipments (at both Local End and Remote End Stations) -</b> EPAX ( 24/8) with 2 wire Telephone sets, Cables and accessories -  (Testing and commissioning of PLCC Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	1	Set	4,936.36	4,936.36
172	<b>FOTE Equipments (at both Local End and Remote End Stations)-</b> FOTE (4 Directions with redundancy) Equipments & PDH Equipment complete with all accessories {1 Set = 1No. Panel } -  (Testing and commissioning of FOTE Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	3	Set	5,923.63	17,770.89
173	<b>FOTE Equipments (at both Local End and Remote End Stations)-</b> Digital Tele-Protection Coupler (4 Commands) {1 Set = 1No. Panel } -  (Testing and commissioning of FOTE Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	8	Set	5,726.00	45,808.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
174	FOTE Equipments (at both Local End and Remote End Stations)-FODP (for 48 fibres) - (Testing and commissioning of FOTE Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords and including shifting/ loading/unloading of equipments to remote end to be in scope of ETC contractor).	5	Nos.	3,278.69	16,393.45
175	FOTE Equipments (at both Local End and Remote End Stations)-Optical Fibre approach cable Armoured OFAC (DWDM) of 24 Fibre capacity (to be laid in GI/ HDPE Pipe) (Scope - Laying of the cables in the 40mm GI/HDPE PIPE) - (Testing and commissioning of FOTE Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	4000	m	17.52	70,080.00
176	FOTE Equipments (at both Local End and Remote End Stations)-Optical Fibre approach cable Armoured OFAC (Multi-mode) of 6 Fibre capacity (to be laid in GI/ HDPE Pipe) (Scope - Laying of the cables in the 40mm GI/HDPE PIPE) - (Testing and commissioning of FOTE Equipments in scope of panel supplier. Necessary manpower support, tools, tackles and testing equipment including laying & termination of patch cords and including shifting/ loading/ unloading of equipments to remote end to be in scope of ETC contractor).	1500	m	17.52	26,280.00
177	LT Cabling 4C x 4 sq mm PVC/Copper, Armoured Control Cables including laying, tagging, dressing, ferruling, Glanding, lugging, soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground or through GI/PVC/HDPE pipe over / under ground, through wall, on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted separately.	17500	m	12.88	2,25,400.00
178	LT Cabling 4C x 10 sq mm PVC/Copper, Armoured Control Cables including laying, tagging, dressing, ferruling, Glanding, lugging, soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground or through GI/PVC/HDPE pipe over / under ground, through wall, on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted separately.	24000	m	12.88	3,09,120.00
179	LT Cabling 2C x 2.5 sq mm PVC/Copper, Armoured Control Cables including laying, tagging, dressing, ferruling, Glanding, lugging, soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground or through GI/PVC/HDPE pipe over / under ground, through wall, on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted separately.	5000	m	11.68	58,400.00
180	LT Cabling 4C x 2.5 sq mm PVC/Copper, Armoured Control Cables including laying, tagging, dressing, ferruling, Glanding, lugging, soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground or through GI/PVC/HDPE pipe over / under ground, through wall, on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted separately.	18000	m	11.68	2,10,240.00
181	LT Cabling 6C x 2.5 sq mm PVC/Copper, Armoured Control Cables including laying, tagging, dressing, ferruling, Glanding, lugging, soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground or through GI/PVC/HDPE pipe over / under ground, through wall, on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted separately.	11000	m	12.51	1,37,610.00
182	LT Cabling 10C x 2.5 sq mm PVC/Copper, Armoured Control Cables including laying, tagging, dressing, ferruling, Glanding, lugging, soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground or through GI/PVC/HDPE pipe over / under ground, through wall, on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted separately.	26000	m	12.51	3,25,260.00
183	LT Cabling 14C x 2.5 sq mm PVC/Copper, Armoured Control Cables including laying, tagging, dressing, ferruling, Glanding, lugging, soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground or through GI/PVC/HDPE pipe over / under ground, through wall, on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted separately.	37500	m	16.68	6,25,500.00
184	LT Cabling 1C x 150 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables including laying, tagging, dressing, ferruling, Glanding, lugging, soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground or through GI/PVC/HDPE pipe over / under ground, through wall, on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted separately.	1000	m	42.01	42,010.00
185	LT Cabling 3.5C x 70 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables including laying, tagging, dressing, ferruling, Glanding, lugging, soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground or through GI/PVC/HDPE pipe over / under ground, through wall, on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted separately.	9000	m	24.18	2,17,620.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
186	LT Cabling 3.5C x 35 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables including laying, tagging , dressing, ferruling, Glanding, lugging ,soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground, or through GI/PVC/HDPE pipe over / under ground, through wall , on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted	2500	m	16.68	41,700.00
187	LT Cabling 4C x 16 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables including laying, tagging , dressing, ferruling, Glanding, lugging ,soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground, or through GI/PVC/HDPE pipe over / under ground, through wall , on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted	26500	m	12.88	3,41,320.00
188	LT Cabling 4C x 6 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables including laying, tagging , dressing, ferruling, Glanding, lugging ,soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground, or through GI/PVC/HDPE pipe over / under ground, through wall , on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted	8500	m	12.88	1,09,480.00
189	LT Cabling 2C x 6 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables including laying, tagging , dressing, ferruling, Glanding, lugging ,soldering, tapping, jointing, crimping, termination, and drilling/ cutting holes in cable gland plates- laying can be either on trays, supports, underground, buried in ground, or through GI/PVC/HDPE pipe over / under ground, through wall , on structure/LM etc. All erection materials viz. ferrules, copper lugs, cable ties / straps, Al. tags, markers, GI / PVC wall sleeves with rubber / nylon bushes and flexible steel conduits shall be supplied by bidder. Glands shall be quoted	1000	m	12.88	12,880.00
190	1Cx630 sqmm XLPE Cables- Laying of buried cables as per IS / Buried cable trench section along with supply of trefoil clamps as require	2500	m	148.09	3,70,225.00
191	3.5Cx300 sqmm XLPE Cables - Laying of buried cables as per IS / Buried cable trench section along with supply of trefoil clamps as require	1500	m	54.50	81,750.00
192	4C X 16 sq mm - Directly buried cable - cables to be laid in directly buried trench , all civil activities such as excavation, backfilling, compaction & supply and laying of sand, bricks etc shall be in contract scope. excluding supply of Cable Gland & Cable Lug which are covered separately (as separate BOQ	800	m	315.00	2,52,000.00
193	3.5C x 35 sqmm - Directly buried cable - cables to be laid in directly buried trench , all civil activities such as excavation, backfilling, compaction & supply and laying of sand, bricks etc shall be in contract scope. excluding supply of Cable Gland & Cable Lug which are covered separately (as separate BOQ	100	m	350.00	35,000.00
194	3.5C x 70 sqmm - Directly buried cable - cables to be laid in directly buried trench , all civil activities such as excavation, backfilling, compaction & supply and laying of sand, bricks etc shall be in contract scope. excluding supply of Cable Gland & Cable Lug which are covered separately (as separate BOQ	100	m	350.00	35,000.00
195	Minor civil work required for termination of 220/132kV XLPE cable/ loop formation i.e. excavation, sand bedding, RCC Slab & sand filling, placing the warning tape & back filling etc. for laying the cable out of trench , in ground near termination.	30	M	1,000.00	30,000.00
196	Supply of CABLE GLANDS - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.- 4C x 4 sq mm PVC/Copper, Armoured Control Cables	680	Nos.	250.00	1,70,000.00
197	Supply of CABLE GLANDS - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make. 4C x 10 sq mm PVC/Copper, Armoured Control Cables	720	Nos.	250.00	1,80,000.00
198	Supply of CABLE GLANDS - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make. - 2C x 2.5 sq mm PVC/Copper, Armoured Control Cables	100	Nos.	166.78	16,678.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
199	Supply of CABLE GLANDS - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make. - 4C x 2.5 sq mm PVC/Copper, Armoured Control Cables	700	Nos.	166.78	1,16,746.00
200	Supply of CABLE GLANDS - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make. - 6C x 2.5 sq mm PVC/Copper, Armoured Control Cables	400	Nos.	200.14	80,056.00
201	Supply of CABLE GLANDS - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make. - 10C x 2.5 sq mm PVC/Copper, Armoured Control Cables	1020	Nos.	225.15	2,29,653.00
202	Supply of CABLE GLANDS - - 14C x 2.5 sq mm PVC/Copper, Armoured Control Cables - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.	1480	Nos.	250.17	3,70,251.60
203	Supply of CABLE GLANDS - 1C x 150 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables- Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.-	40	Nos.	300	12,000.00
204	Supply of CABLE GLANDS -- 3.5C x 70 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables- Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.	150	Nos.	333.56	50,034.00
205	Supply of CABLE GLANDS - - 3.5C x 35 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.	40	Nos.	291.87	11,674.80
206	Supply of CABLE GLANDS - - 4C x 16 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.	320	Nos.	250.17	80,054.40

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
207	Supply of CABLE GLANDS - - 4C x 6 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.	350	Nos.	250.17	87,559.50
208	Supply of CABLE GLANDS - 2C x 6 sq mm PVC/Aluminium, Armoured Auxiliary Power Cables - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.	40	Nos.	183.86	7,354.40
209	Supply of CABLE GLANDS - 1Cx630 sqmm -Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.	40	Nos.	520.00	20,800.00
210	Supply of CABLE GLANDS - - 3.5Cx300 sqmm - Cable glands shall be double compression type nickel plated (coating thickness not less than 10 microns) brass cable glands complete with necessary armour clamp and tapered washer, etc. for all power and control cables to provide dust and weather proof terminations. Cable glands shall match with the sizes of different HT/LT/Control cables. The cable glands shall conform to BIS: 6121. They shall comprise of heavy duty brass casting, machine finished and nickel plated, to avoid corrosion and oxidation. Rubber components used in cable glands shall be neoprene and of tested quality. Cable glands shall be of approved make.	50	Nos.	600.00	30,000.00
211	33kV,1CX630 SQMM Cu, XLPE Cable including joints, lugs, glands, ferrules, route markers etc to complete WORK INCLUDES laying in buried cable trench (buried cable section as per CABLE TRENCH LAYOUT DRG) on cable racks	CH 500	m	172.77	86,385.00
212	33kV Cable termination kits - Installation , testing & commissioning	12	set	1,974.54	23,694.48
213	Laying of Cable trays: including bends, tees, elbow, reducers, stiffeners coupler plates, bolting to racks, structure etc. to complete. Scope of minor fabrication is also involved.100 to 150 mm wide, 2.5 M long Perforated type	100	Meter	48.25	4,825.00
214	Laying of Cable trays: including bends, tees, elbow, reducers, stiffeners coupler plates, bolting to racks, structure etc. to complete. Scope of minor fabrication is also involved. 100 to 750 mm wide, 2.5 M long Ladder type	100	Meter	39.07	3,907.00
215	<b>Cable Rackwork</b> includesweldingof galvanisedsteel racks on inserts of trench walls in trenches/ceiling/ floor in switchyard / control room/ GIS Building. Cable rack assembly will be of 2/3/4 tier.	30	MT	23,698.21	7,10,946.30
216	Laying of GI conduits at a depth of 300mm including excavation, backfilling, making and repairing of walls in trenches, cutting, threading, fixing of sockets/ bends where required etc. complete. Both ends of GI conduits shall be closed by plastering. (Payment will be made for the as erected pipe length) GI pipe, 50	100	m	64.35	6,435.00
217	Laying of GI conduits at a depth of 300mm including excavation, backfilling, making and repairing of walls in trenches, cutting, threading, fixing of sockets/ bends where required etc. complete. Both ends of GI conduits shall be closed by plastering. (Payment will be made for the as erected pipe length) GI Pipe, 75	100	m	76.88	7,688.00
218	Laying of PVC pipes/ conduits at a depth of 300mm including excavation, backfilling, making and repair of walls in trenches, cutting, threading, fixing of sockets/ bends where required etc. complete. Both ends of PVC conduits shall be closed by plastering. (Payment will be made for the as erected pipe length) PVC pipe, 50	500	m	64.35	32,175.00
219	Laying of PVC pipes/ conduits at a depth of 300mm including excavation, backfilling, making and repair of walls in trenches, cutting, threading, fixing of sockets/ bends where required etc. complete. Both ends of PVC conduits shall be closed by plastering. (Payment will be made for the as erected pipe length) PVC Pipe, 75	500	m	76.88	38,440.00
220	Supply and Laying of HDPE pipe -40mm	1000	m	242.74	2,42,740.00
221	Supply and Laying of HDPE pipe -25mm	1000	m	137.74	1,37,740.00
222	Fixing of GI Pipes 50 mm dia on Lattice/ Pipe Stucture includingclamping,fixing of sockets/ bendsas requiredetc. complete.Both ends of GI Pipes shall be closedby plastering.(Payment will be made for the as erected pipe length) GI Pipe, 50	50	m	64.35	3,217.50
223	Fixing of GI Pipes 100 mm dia on Lattice/ Pipe Stucture includingclamping,fixing of sockets/ bendsas requiredetc. complete.Both ends of GI Pipes shall be closedby plastering.(Payment will be made for the as erected pipe length) GI Pipe, 75	50	m	76.88	3,844.00
224	The <b>Fire proof sealing</b> / fire stop system / fire protection coating system required to prevent spreading of fire from one place to other place (or one zone to other zone) through the openings in wall / floor, cables laid in trays / racks and openings below Electrical Switchgear / MCC / Distribution boards /Cabinets / Panels, etc.	20	sq.m	592.46	11,849.20
225	Supply & fixing of Panel Supporting Angles / Channel etc on cable trench in Control Room / GIS buildings(400/220/132kV)	5	MT	60,170.96	3,00,854.80

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
226	Structural Steel Work welded in built up sections like angles, channels & framed work etc including providing , cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete - Galvanised steel Lattice Structures including hardwares for Towers, beams & equipment	250	MT	3,752.59	9,38,147.50
227	Structural Steel Work welded in built up sections like angles, channels & framed work etc including providing , cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete - Galvanised steel Pipe Structures including hardwares for equipment support	80	MT	3,168.86	2,53,508.80
228	Providing holes of following dia. In GI Structural Member like Angle & Plate (Ir-respective of size and thickness) for Erection of Tower, Beam & Equipment Support Structure: 13.5mm Dia hole for fixing of M12 Bolt- Quantity	10	Nos.	46.69	466.90
229	Providing holes of following dia. In GI Structural Member like Angle & Plate (Ir-respective of size and thickness) for Erection of Tower, Beam & Equipment Support Structure:17.5mm Dia hole for fixing of M16 Bolt- Quantity	50	Nos.	46.69	2,334.50
230	Providing holes of following dia. In GI Structural Member like Angle & Plate (Ir-respective of size and thickness) for Erection of Tower, Beam & Equipment Support Structure: 22mm dia hole for fixing of Stringing Hardwar	10	Nos.	46.69	466.90
231	Providing holes of following dia. In GI Structural Member like Angle & Plate (Ir-respective of size and thickness) for Erection of Tower, Beam & Equipment Support Structure:28mm dia hole for fixing of Stringing Hardwar	10	Nos.	46.69	466.90
232	Earthing works- 75 x 12 mm GI Flat - The earthing includes earthing of all switchyard equipment, towers, pipe structure, cable trenches, fence, pipe electrode for LA, CVT, neutral of transformer & at interconnections of other grids, Control room equipments using necessary connectors for earthing flats. Earthing clamping shall be carried out by ETC contractor. GS strip including cutting, bending, welding with 40 mm dia MS rod riser/earth strip, applying zinc rich paint, clamping to structure/building wall etc. to complete. Hardware required for connecting flat on pads of structure & equipment included in scope. The Earthing of equipments shall be carried out as r	36	MT	8,342.62	3,00,334.32
233	Earthing works - 50 x 6 mm GI Flat- The earthing includes earthing of all switchyard equipment, towers, pipe structure, cable trenches, fence, pipe electrode for LA, CVT, neutral of transformer & at interconnections of other grids, Control room equipments using necessary connectors for earthing flats. Earthing clamping shall be carried out by ETC contractor. GS strip including cutting, bending, welding with 40 mm dia MS rod riser/earth strip, applying zinc rich paint, clamping to structure/building wall etc. to complete. Hardware required for connecting flat on pads of structure & equipment included in scope. The Earthing of equipments shall be carried out as r	10	MT	19,474.11	1,94,741.10
234	Laying of 40 mm dia MS Rods at a depth of 600 mm measured from the top of Finished Ground Level and bringing out risers just below gravel level near the equipment foundations as per requirement including following works: - excavation of trenches - laying of MS rod - welding of rods (refer Drg No. C/ENG/STD/EARTHINGS/09, SH-2&3 Rev 00 for Welding details of rods) - backfilling of soil for bringing out pig tail risers of 40 dia MS rod (approximately 1000) for equipments. Riser shall be raised from the earthmat (at 600 mm depth) to 150 mm above ground level to the near point of the equipment. This shall include all cutting, bending, welding, fixing, application of zinc rich paint on cutting surface, etc to the main earthmesh.	1	MT	10,257.09	10,257.09
235	Earthing works 50 x 6 mm MS Flat- The earthing includes earthing of all switchyard equipment, towers, pipe structure, cable trenches, fence, pipe electrode for LA, CVT, neutral of transformer & at interconnections of other grids, Control room equipments using necessary connectors for earthing flats. Earthing clamping shall be carried out by ETC contractor. GS strip including cutting, bending, welding with 40 mm dia MS rod riser/earth strip, applying zinc rich paint, clamping to structure/building wall etc. to complete. Hardware required for connecting flat on pads of structure & equipment included in scope. The Earthing of equipments shall be carried out as r	1	MT	19,474.11	19,474.11
236	Earthing works- - 25 x 6 mm MS Flat- The earthing includes earthing of all switchyard equipment, towers, pipe structure, cable trenches, fence, pipe electrode for LA, CVT, neutral of transformer & at interconnections of other grids, Control room equipments using necessary connectors for earthing flats. Earthing clamping shall be carried out by ETC contractor. GS strip including cutting, bending, welding with 40 mm dia MS rod riser/earth strip, applying zinc rich paint, clamping to structure/building wall etc. to complete. Hardware required for connecting flat on pads of structure & equipment included in scope. The Earthing of equipments shall be carried out as r	1	MT	19,474.11	19,474.11
237	Earthing works- - 25x3 mm GI flat- The earthing includes earthing of all switchyard equipment, towers, pipe structure, cable trenches, fence, pipe electrode for LA, CVT, neutral of transformer & at interconnections of other grids, Control room equipments using necessary connectors for earthing flats. Earthing clamping shall be carried out by ETC contractor. GS strip including cutting, bending, welding with 40 mm dia MS rod riser/earth strip, applying zinc rich paint, clamping to structure/building wall etc. to complete. Hardware required for connecting flat on pads of structure & equipment included in scope. The Earthing of equipments shall be carried out as r	1	MT	19,474.11	19,474.11
238	Earthing works- 75 x 12 mm Copper Flat - The earthing includes earthing of all switchyard equipment, towers, pipe structure, cable trenches, fence, pipe electrode for LA, CVT, neutral of transformer & at interconnections of other grids, Control room equipments using necessary connectors for earthing flats. Earthing clamping shall be carried out by ETC contractor. Copper strip including cutting, bending, welding with 40 mm dia MS rod riser/earth strip, applying zinc rich paint, clamping to structure/building wall etc. to complete. Hardware required for connecting flat on pads of structure & equipment included in scope. The Earthing of equipments shall be carried out as r	2.5	MT	26,281.21	65,703.02
239	Earthing works - 50 x 6 mm Copper Flat- The earthing includes earthing of all switchyard equipment, towers, pipe structure, cable trenches, fence, pipe electrode for LA, CVT, neutral of transformer & at interconnections of other grids, Control room equipments using necessary connectors for earthing flats. Earthing clamping shall be carried out by ETC contractor. Copper strip including cutting, bending, welding with 40 mm dia MS rod riser/earth strip, applying zinc rich paint, clamping to structure/building wall etc. to complete. Hardware required for connecting flat on pads of structure & equipment included in scope. The Earthing of equipments shall be carried out as r	1	MT	26,281.21	26,281.21

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
240	Lighting Panel (Outdoor) Type ACP-2 as per technical specification. Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	6	Nos.	4,000.00	24,000.00
241	Lighting Panel (Outdoor) Type ACP-3 as per technical specification Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	2	Nos.	4,000.00	8,000.00
242	Sub-lighting panel (outdoor) Type SLP as per technical specification Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier . Details of scope of work as per Annexure -Illumination	4	Nos.	1,000.00	4,000.00
243	LED flood lighting fixtures- type " FL2" as per technical specification Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	160	Nos.	1,200.00	1,92,000.00
244	LED flood lighting fixtures- type " FL1" as per technical specification Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	36	Nos.	1,200.00	43,200.00
245	63A, 415V : Interlocked switch socket outdoor Receptacle (Type RP) complete in all aspect except cable. Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	3	Nos.	4,000.00	12,000.00
246	15A, 240V: Outdoor Receptacle 2 pole, 3-pint type (Type RO) complete in all aspect except cable. Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	3	Nos.	1,000.00	3,000.00
247	Type L1 Street Lighting Pole of 6 meter - for SL-L1 type fixture including civil works as per BHEL provided drawing Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier . Details of scope of work as per Annexure -Illumination	60	Nos.	7,500.00	4,50,000.00
248	Type D1 Post top lantern pole of 4 meter - for SL-D1 type fixture including civil works as per BHEL provided drawing Details of scope of work as per Annexure -Illumination	4	Nos.	6,000.00	24,000.00
249	3m , 20mm dia ms rod electrode including civil works - Details of scope of work as per Annexure -Illumination	65	Nos.	100.00	6,500.00
250	Street lighting Fixture type " SL-L1" including junction box and wire as per BHEL provided drawing- Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	60	Nos.	500.00	30,000.00
251	Street lighting Fixture type " SL-D1" including junction box and wire as per BHEL provided drawing- Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	4	Nos.	500.00	2,000.00
252	Street lighting pole, 13 m high including junction box and wire including civil works as per BHEL provided drawing - Details of scope of work as per Annexure -Illumination Street lighting pole, 1	2	Nos.	7,500.00	15,000.00
253	High beam fixtures on swivel support - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring , conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier . Details of scope of work as per Annexure -Illumination	3	Nos.	1,500.00	4,500.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
254	Outdoor Power Receptacle for Oil Filtration Unit (250A) - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	2	Nos.	4,000.00	8,000.00
255	30 m high lighting mast with lantern carriage (doubledrum winch type) including junction box, suitable for mounting 12 luminaires including civil works as per BHEL provided drawing .	3	Nos.	1,22,500.00	3,67,500.00
256	Junction boxes for outdoor - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying etc. including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	6	Nos.	1,500.00	9,000.00
257	Lighting Panel (Indoor) Type ACP-1 as per technical specification - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	8	Nos.	2,500.00	20,000.00
258	Lighting Panel (Indoor) Type DCLP as per technical specification - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	4	Nos.	2,500.00	10,000.00
259	Recess mounted 2X2 LED Luminaire- Type 'RSQ-1' - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	250	Nos.	350.00	87,500.00
260	Recessed mounted, circular LED downlight luminaire, Type RC-I - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	5	Nos.	350.00	1,750.00
261	Surface mounted, circular LED downlight luminaire, Type SC-I - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	20	Nos.	350.00	7,000.00
262	Surface mounted 2X2 LED Luminaire - Type 'SSQ-1' - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	10	Nos.	350.00	3,500.00
263	Recess mounted 4x1 feet LED panel, Type RL-I - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	4	nos.	350.00	1,400.00
264	Surface mounted linear LED Tube with box, type SL-I - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	220	nos.	350.00	77,000.00
265	LED Indoor high bay fittings Type IHB - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	55	Nos.	500.00	27,500.00
266	Portable emergency lights - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	4	Nos.	200.00	800.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
267	Fitting type -IB - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	20	Nos.	350.00	7,000.00
268	Fitting type -IF - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	20	Nos.	350.00	7,000.00
269	Fitting Type - BL - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	5	Nos.	350.00	1,750.00
270	Exit Sign Board - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	10	Nos.	350.00	3,500.00
271	DPMCB receptacles with 32A MCB for split AC supply - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	40	Nos.	500.00	20,000.00
272	Air Conditioning Supply Panel with 160A TP MCCB incoming & 12 Nos 32A DP MCB outgoing feeders - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	5	Nos.	6,000.00	30,000.00
273	Occupancy sensors and other accessories as required for control of lighting in the stairs area and corridors of control room cum administrative building as per specification - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	16	Nos.	500.00	8,000.00
274	Light level sensors and other accessories as required for control of lighting in the stairs area and corridors of control room cum administrative building as per specification - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	18	Nos.	500.00	9,000.00
275	32 A TP receptacles with MCB (3 phase) - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	4	Nos.	500.00	2,000.00
276	Temperature Transducer - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	10	Nos.	500.00	5,000.00
277	5A/15A receptacle Type RI - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	15	nos.	450.00	6,750.00
278	15A/240V Receptacle type RO (Industrial type) - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	15	nos.	750.00	11,250.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
279	63A/415V Receptacle type RP (industrial type) - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	2	nos.	4,000.00	8,000.00
280	Telephone points- single outlet telephone socket including cable/wire and accessories - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	10	nos.	100.00	1,000.00
281	Telephone JB - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	1	Nos.	350.00	350.00
282	LAN points including accessories - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	5	Nos.	500.00	2,500.00
283	LAN Cable - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .	300	metres	15.00	4,500.00
284	Switchboards as per Technical specification - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	40	nos.	500.00	20,000.00
285	1400mm sweep Ceiling fan with electronic Step regulator - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	15	nos.	350.00	5,250.00
286	300 mm sweep Exhaust fans - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	6	nos.	350.00	2,100.00
287	400mm sweep wall mounted fan - Scope of work shall include unloading, storage, erection, testing, commissioning & handing over, point wiring, conduit laying and fixing of lights, switches, fans, call bell, exit sign boards, receptacles, switchboards including minor civil works etc to complete as per instruction of engineer-in-charge under the supervision of Illumination system supplier .  Details of scope of work as per Annexure -Illumination	5	nos.	350.00	1,750.00
288	Supply items- to be supplied after clearance from site in charge as per requirement - 25mm Conduits, PVC rigid	500	m	113.26	56,630.00
289	Supply items- to be supplied after clearance from site in charge as per requirement - 20mm Conduits, PVC rigid	500	m	89.50	44,750.00
290	Supply items- to be supplied after clearance from site in charge as per requirement - PVC accessories for Conduiting - All the accessories required for successful installation of work i.e. 3 / 4 way JB, Spacer, Inspection bend, Solid bend, Circular boxes (with gasket as applicable), bends, closer, socket, saddle, Fan box, mounting hardwares, nut, bolt, washer, screw, reducer, U clamp, etc complete material required for complete installation of conduit system (As applicable)	50	Kg	160.00	8,000.00
291	Supply items- to be supplied after clearance from site in charge as per requirement - GI accessories for Conduiting - Hot dip galvanized. all the accessories required for successful installation of work i.e. 3 / 4 way JB, Spacer, Inspection bend, Solid bend, Circular boxes (with gasket as applicable), bends, closer, socket, saddle, Fan box, mounting hardwares, nut, bolt, washer, screw, reducer, U clamp, etc complete material required for complete installation of conduit system. Bidder to submit detailed BOM with weight conversion during detailed engineering. (As applicable)	250	Kg	60.00	15,000.00
292	Supply items- to be supplied after clearance from site in charge as per requirement - Accessories for Conduiting work, as above but without Hot dip galvanization. (As applicable)	150	Kg	480.00	72,000.00
293	Supply items- to be supplied after clearance from site in charge as per requirement - Supply of GI wire for Earthing of size 8 SWG to 16 SWG as per technical requirement	50	kg	100.00	5,000.00
294	Supply items- to be supplied after clearance from site in charge as per requirement - Supply of 4 Sq mm Cu PVC Wire Red/Yellow/Blue/Black/Grey (ISI marked with valid CML number). Colour coded	1000	m	26.40	26,400.00

Sl. No.	Description_of_Item	Quantity	UOM	Unit Rate (Rs.)	Amount (Rs.)
295	Supply items- to be supplied after clearance from site incahrge as per requirement - Supply of 2 Sq mm Cu PVC Wire Red/Yellow/Blue/Black/Grey (ISI marked with valid CML number). Colour coded.	2000	m	12.00	24,000.00
296	Supply items- to be supplied after clearance from site incahrge as per requirement - Supply of 1.5 Sq mm Cu PVC Wire [Green/Red/Yellow/Blue/Black/Grey (ISI marked with valid CML number).	1000	m	7.20	7,200.00
297	Supply items- to be supplied after clearance from site incahrge as per requirement - Supply of 2 wire telephone cable. (ISI marked)	200	m	16.00	3,200.00
298	Unloading, storage & handing over of Essential/ Mandatory spares to Customer as per <del>annexure-spares</del>	1	Lot	59,527.70	59,527.70
299	<b>Supply &amp; ETC</b> of UPPTCL approved make 2 HP Automatic Start/ Stop type <b>Centrifugal pump</b> and accessories for sump pit	1	nos.	11,335.00	11,335.00
300	<b>Supply &amp; ETC</b> of UPPTCL approved make 1 HP Automatic Start/ Stop type <b>Centrifugal pump</b> and accessories for sump pit	1	nos.	10,500.00	10,500.00
301	<b>Supply &amp; ETC</b> of UPPTCL approved make 0.5 HP Automatic Start/ Stop type <b>Centrifugal pump</b> and accessories for sump pit	1	nos.	6,801.12	6,801.12
302	Supply & Mounting of Phase Color Discs, Danger Plate and Identification Plates for bays & Equipments as per IS-2551- 1982 & IS-5- 1978	1	Lot	1,13,352.02	1,13,352.02
303	Supply of Equipment Fixing Hardware as per specification TB-XXX-618-002a- M20 x 80 LG Bolts (Fully Threaded) with nut	20	kg	84.00	1,680.00
304	Supply of equipment fixing hardware as per specification TB-XXX-618-002a - M30 x 150 LG Bolts (Fully Threaded) with nut	20	kg	84.00	1,680.00
305	Supply of equipment fixing hardware as per specification TB-XXX-618-002a- Plain washer suitable for M20 Bolts	20	kg	84.00	1,680.00
306	Supply of equipment fixing hardware as per specification TB-XXX-618-002a - Plain washer suitable for M30 Bolts	20	kg	84.00	1,680.00
307	Supply of equipment fixing hardware as per specification TB-XXX-618-002a - Spring washer suitable for M20 Bolts	10	kg	84.00	840.00
308	Supply of equipment fixing hardware as per specification TB-XXX-618-002a - Spring washer suitable for M30 Bolts	10	kg	84.00	840.00
309	<b>INSULATION MAT:</b> The scope covers supply and laying of insulating mats of "class A" conforming to IS: 15652-2006. These insulating mats shall be laid in front of all floor mounted AC and DC switchboards and control & relay panels located in control room building/ Switchyard panel room / GIS LCC Panel etc. refer scope note for details	100	Sq Meter	1,364.34	1,36,434.00
310	Watch & ward of stored / erected material at project site and storage area or any other locations as per instruction of site in charge. (round the clock security by authorised service agency consisting of armed guards)	24	months	44,427.23	10,66,253.52
311	250 KVA DG SET ALONG WITH ACCESSORIES, 990 LTR. DAY TANK AND SPARES - Scope of work : Unloading, storage & safety at site and shifting from storage to DG foundation	1	Set	1,536.89	1,536.89
312	Air conditioning system for CRB - High wall type split unit of 2 TR capacity (Indoor, Outdoor and stabiliser etc.) : Scope of work : Unloading, storage & safety of below item	40	Set	409.84	16,393.60
313	Air conditioning system for CRB - Copper refrigerant piping : Scope of work : Unloading, storage & safety of below items	400	Meter	0.94	376.00
314	Air conditioning system for CRB - Controllers : Scope of work : Unloading, storage & safety of below items	10	Nos.	37.61	376.10
315	CCTV System- Laying of cable in conduit	1000	m	20.00	20,000.00
316	Double Girder EOT Crane in GIS halls - 10 T EOT crane including girder, hook, motor, festoon cables etc Scope of work : Unloading, storage & safety of below items	1	Set	2,000.00	2,000.00
317	Double Girder EOT Crane in GIS halls - 6 T EOT crane including girder, hook, motor, festoon cables etc Scope of work : Unloading, storage & safety of below items	2	Set	1,500.00	3,000.00
318	Providing and fixing in position False Flooring System including panels, understructures, pedestals, etc., all complete as per Customer specifications & directions of Engineer-in-charge.	100	sqm	6,882.75	6,88,275
<b>Total Amount (in Rs.) Excluding GST</b>					<b>288,53,497</b>

Note:-

1) This BOQ covers unloading, receipt of material at site, storage, safety & security of material, verification, upkeeping, handing, material shifting, erection, testing & commissioning & handing over of 400/220/132 kV Switchyard associated equipment/ material/ system. Work includes up-keeping of records & issuing of material to other contractors as if required. Final material reconciliation and handing over of spares to customer.

2) Refer SCOPE NOTE-01 attached alongwith Tender Document for "Standard scope of work for ETC works".

3) Refer SCOPE NOTE-2 attached alongwith tender documents for "Project Specific Scope of work for ETC Works"

## **ANNEXURE-II**

### **TRANSMISSION BUSINESS GROUP (SUB- CONTRACTS MANAGEMENT) TBG - NOIDA**

#### **PRICE SCHEDULE FORMAT**

**SUB: TENDER FOR "RECEIPT OF EQUIPMENT/MATERIAL AT SITE, UNLOADING, RECONCILIATION, INSPECTION, VERIFICATION, STORAGE, UP-KEEPING DURING STORAGE, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF 400/220/132KV GIS SUBSTATION AT SHAMLI IN UTTAR PRADESH".**

**TENDER SPEC. NO.:- TBSM/SHAMLI /ETC/TENDER /19-20, DATE: 17.10.2019**

(a) I/ We hereby agree to execute the above work at ----- % (in figure).....  
----- (in words) Above / Below/ At Par the rates of items given in BOQ  
(Annexure-I) of subject tender.

#### **NOTE:**

1. In this annexure the tenderer shall quote a percentage above/ below/At Par the rates shown in the Bill of Quantities (Annexure-I) of subject tender. The percentage quoted shall be clearly written both in words and figures In case of discrepancy in rates in figure and words, the minimum will be taken into account by BHEL.
2. The quoted percentage will apply to the individual items uniformly.

Date:

Place:

Signature of tenderer  
Name & Designation of authorized person(s) with seal

**ANNEXURE-III**  
**( Summary Of Prices)**

**NAME OF WORK :- "RECEIPT OF EQUIPMENT/MATERIAL AT SITE, UNLOADING, RECONCILIATION, INSPECTION, VERIFICATION, STORAGE, UP-KEEPING DURING STORAGE, ERECTION, TESTING, COMMISSIONING AND HANDING OVER OF 400/220/132KV GIS SUBSTATION AT SHAMLI IN UTTAR PRADESH"**

<b>Sl No.</b>	<b>Description</b>	<b>Amount (Rs.)</b>
1	Total Amount as per rates in BOQ for "Receipt of equipment/ material at site, unloading, reconciliation, inspection, verification, storage, up-keeping during storage, erection, testing, commissioning and handing over of 400/220/132kV GIS substation at Shamli in Uttar Pradesh" <b>(Annexure-I)</b>	288,53,497.00
2	Value of percentage above/below/at par (As indicated in Price Schedule Format, <b>Annexure-II</b> ) applicable to the total amount of ETC work ( at Sl. no. 1 above)	.....% above/below/ at par
3	<b>Total amount after consideration of percentage above/below/ at par.</b>	