

**TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED**

**VIDYUT SOUDHA :: VIJAYAWADA**

APTRANSCO – Standard Schedule of Rates for material items for adoption in Construction, RMI and O&M works pertaining to 400kV, 220kV & 132kV Transmission lines, Substations and Bay extension works for the year 2025-26 - Communicated – Reg.

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**T.O.O. No. Chief Engineer (Transmission) Ms.No. 3676**

**Dt. 09.07.2025**

Read the following: -

- Ref :- 1. T.O.O. No. Chief Engineer (Transmission) Ms.No.2920 Dt.17.08.2023.  
2. T.O.O. No. Chief Engineer (Transmission) Ms.No.3206 Dt.19 .03.2024.

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APTRANSCO communicates Standard Schedule of rates for material items for Construction, RMI and O&M works pertaining to 400kV, 200kV & 132kV Transmission lines, Substations and Bay extension works for adoption in preparation of estimates. Accordingly, the SSR23-24 communicated earlier vide reference (1) & (2) is revised for material rates and communicated herewith.

**ORDER**

Standard Schedule of Rates for material items for Construction, RMI and O&M works pertaining to 400kV, 220kV & 132kV Transmission lines, Substations and Bay extension works for the year 2025-26 approved by Transmission Corporation of Andhra Pradesh is communicated herewith for adoption in preparation of estimates.

The standard scheduled of Rates for the year 2025-26 will come into force from the date of issue of this T.O.O and shall be valid till further orders. The SSR 2025-26 (Material) pertaining to 400kV, 220kV & 132kV Transmission lines, Substations and Bay extension works is available in the APTRANSCO website

This order is issued in concurrence with the Chairman and the Managing Director/APTRANSCO vide **Computer No:2831169 File No: ENE51-TRM0MISC/26/2025 -EE2**

(BY ORDER AND IN THE NAME OF TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED)

A.K.V Bhaskar

Director (Grid & Transmission Management)

**TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED**



**STANDARD SCHEDULE OF RATES OF  
MATERIAL RATES FOR 400kV  
TRANSMISSION LINES, SUBSTATIONS AND  
BAY EXTENSION WORKS  
FOR THE YEAR 2025-26**

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## **PREAMBLE**

- 1.** Steel rates for structural steel and Tower parts are to be taken from monthly steel rates issued by APTRANSCO. The steel rates are without taxes and to be added with transportation charges from Manufacturer (Hyderabad) site to destination site/ store in preparation of estimates.
- 2.** The rates of other material are exclusive of freight and hence 3% Freight shall be added to the material rates in preparation of estimate.
- 3.** The other taxes are applicable as per latest government taxation rules.
- 4.** The SSR 2025-26 Material rates are in force until new SSR for materials issued.
- 5.** The MS and GI flats rates shall be kept as Schedule-A item.

<b>PROPOSED EQUIPMENT/MATERIAL RATES FOR 400KV, 220kV &amp; 132kV SUBSTATIONS &amp; LINES WORKS FOR SSR 2025-26</b>				
<b>Sl. No.</b>	<b>SAP Code</b>	<b>Material Description</b>	<b>Unit</b>	<b>SSR 2025-26 in Rs.</b>
<b>A</b>		<b>ISOLATORS</b>		
<b>I</b>		<b>420kV, Triple pole, Horizontal Center Break (HCB), Motor operated (3-Ø, 415 V, 50 Hz AC) isolator (With Aluminum moving blade with copper contacts and Electrically gang Individual Pole operated), With Terminal Connectors and Without Insulators &amp; Support Structure (Creepage Distance: 31mm/KV).</b>		
1		420kV 3150A, 63kA HCB Isolators without Earth Switch	Sets	6,44,274
2	10002550	420kV 3150A, 63kA HCB Isolators with one Earth Switch	Sets	8,86,270
3	10002551	420kV 3150A, 63kA HCB Isolators with two Earth Switch	Sets	12,01,597
<b>II</b>		<b>245kV, 50kA Triple pole, Horizontal Double Break (HDB), Motor operated (3-φ, 415V, 50Hz, AC) isolator with terminal connectors and without Insulators &amp; Support Structure (Creepage Distance: 31mm/KV).</b>		
4		245kV, 2500A, 50KA HDB Isolator without earth switch	Sets	4,47,969
5	10002580	245kV, 2500A, 50KA HDB Isolator with earth switch	Sets	4,81,437
6	10002581	245kV, 2000A, 50KA HDB Isolator without earth switch	Sets	4,12,000
7	10002582	245kV, 2000A, 50KA HDB Isolator with earth switch	Sets	4,68,000
8	10002590	245kV, 1600A, 50KA HDB Isolator without earth switch	Sets	3,12,275
9	10002588	245kV, 1600A, 50KA HDB Isolator with earth switch	Sets	4,26,365
10	10002586	245kV, 1600A, 50KA HDB Isolator with double earth switch	Sets	5,40,455
11	10002590	245kV, 1200A, 50KA HDB Isolator without earth switch	Sets	2,50,677
12	10002592	245kV, 1200A, 50KA HDB Isolator with earth switch	Sets	4,00,654
13	10002594	245kV, 800A, 50KA HDB Isolator without earth switch	Sets	1,77,202
14	10002593	245kV, 800A, 50KA HDB Isolator with earth switch	Sets	2,51,441
<b>III</b>		<b>145kV, 40kA, Triple pole, Horizontal Double Break (HDB), <u>manual operated</u> isolator with terminal connectors and without insulators and structure (Creepage Distance: 31mm/KV).</b>		
15	10002624	145kV, 1600A, 40kA HDB Isolator without earth switch	Sets	2,00,000

16	10002623	<b>145kV, 1600A, 40kA HDB</b> Isolator with one earth switch	Sets	2,53,584
17	10002627	<b>145kV, 800A, 40kA HDB</b> Isolator without earth switch	Sets	1,13,818
18	10002626	<b>145kV, 800A, 40kA HDB</b> Isolator with one earth switch	Sets	1.67,402
<b>IV</b>		<b>145kV, 40kA, Triple pole, Horizontal Double Break (HDB), Motor operated (3-<math>\phi</math>, 415V, 50Hz, AC) isolator with terminal connectors and without insulators and structure (Creepage Distance: 31mm/KV).</b>		
19		<b>145kV, 800A, 40kA HDB</b> Isolator without earth switch	Sets	1,78,800
20		<b>145kV, 800A, 40kA HDB</b> Isolator with one earth switch	Sets	2,26,500
21		<b>145kV, 1600A, 40kA HDB</b> Isolator without earth switch	Sets	2,64,982
22		<b>145kV, 1600A, 40kA HDB</b> Isolator with one earth switch	Sets	3,18,566
<b>V</b>		<b>36kV, 31.5kA Triple pole, Horizontal Double Break, manual operated isolator with terminal connectors and without insulators and structure (Creepage Distance: 31mm/KV)</b>		
23	10002501	<b>36kV, 2000A</b> Isolator without earth switch <b>for Bus sectionalizer</b>	Sets	1,26,945
24		<b>36kV, 800A,</b> Isolator without earth switch	Sets	68,454
25	10002501	36kV, 2000A Isolator without earth switch for PTR LV side	<b>Sets</b>	1,26,945
26		<b>Mandatory Spares for 420kV Isolators:</b>		
	10002815	Support insulator stack for one phase of Isolator - 1Set		
		Female contact assembly (for main and Earth switch of one isolator) - 1 Set		
		Rotary bearings for Isolators (for one phase of Isolator) - 1 Set		
		Male contact assembly (for main and Earth switch of one isolator) - 1 Set	Set	63,074
		Limit switch and auxiliary switch (for one phase of Isolator) - 3 Sets		
		Terminal pad and connectors - 9 Nos.		
27		<b>Mandatory Spares for 245kV Isolators:</b>		
	10002863	Support insulator stack for one phase of Isolator - 1 Set	Set	60,179

		Female contact assembly (for main and Earth switch of one isolator) - 1Set		
		Rotary bearings for Isolators (for one phase of Isolator) - 1Set		
		Male contact assembly (for main and Earth switch of one isolator) - 1 Set		
		Limit switch and auxiliary switch (for one phase of Isolator) - 3 Sets		
		Terminal pad and connectors - 9 Nos.		
		Operating mechanism box complete set (both <b>BOM &amp; MOM</b> boxes for one isolator with one earth switch) - 1Set.		
<b>B</b>		<b>CIRCUIT BREAKERS WITH SF6 GAS TRANSDUCER</b>		
1	10001368	420kV 3 pole SF6 Gas filled out door circuit breakers, <b>without PIR</b> , 3 phases 50 c/s of <b>3150Amps</b> and fault level of 63 KA for 3 seconds, Open/Close spring operated with charged motor operated with all accessories, auxiliaries including terminal connectors and marshalling boxes and first fill of SF6 Gas with additional 10% gas and others as specified including Support structures complete as specified for the 420kV Circuit Breakers ( <b>Creepage Distance: 31mm/KV</b> ).	Sets	32,33,810
2	10001369	420kV 3 pole SF6 Gas filled out door circuit breakers <b>with PIR</b> , 3 phases 50 c/s of <b>3150Amps</b> and fault level of 63 KA for 3 seconds, Open/Close spring operated with charged motor operated with all accessories, auxiliaries including terminal connectors and marshalling boxes and first fill of SF6 Gas with additional 10% gas and others as specified including Support structures complete as specified for the 420kV Circuit Breakers. ( <b>Creepage Distance: 31mm/KV</b> ).	Sets	41,90,400
3		420kV 3 pole SF6 Gas filled out door circuit breakers <b>with PIR &amp; CSD</b> , 3 phases 50 c/s of 3150Amps and fault level of 63 KA for 3 seconds, Open/Close spring operated with charged motor operated with all accessories, auxiliaries including terminal connectors and marshalling boxes and first fill of SF6 Gas with additional 10% gas and others as specified including Support structures complete as specified for the 420kV Circuit Breakers. ( <b>Creepage Distance: 31mm/KV</b> ).	Sets	47,70,400

4		420kV 3 pole SF6 Gas filled out door circuit breakers <b>with CSD</b> 3 phases 50 c/s of 3150Amps and fault level of 63 KA for 3 seconds, Open/Close spring operated with charged motor operated with all accessories, auxiliaries including terminal connectors and marshalling boxes and first fill of SF6 Gas with additional 10% gas and others as specified including Support structures complete as specified for the 420kV Circuit Breakers.( <b>Creepage Distance: 31mm/KV</b> ).	Sets	38,13,810
5	10001442	Control Switching Device in the Circuit Breaker.	Nos.	5,80,000
6	10001500	<b>420kV SF6 Gas Circuit Breaker Mandatory Spares:</b>	Set	13,08,282
		a.1. One pole of Circuit Breaker with grading Capacitor (if applicable) complete with pole column and interrupter with M.B but without support structure and operating mechanism	1 No.	
		SF6 Gas @ 40% of main order	LS	
		Trip coils	6 No.	
		Closing coils	3 No.	
		Terminal pad & connectors	2 No.	
		Molecular filter	2 No.	
		Density / Pressure monitoring system	1 No.	
		Corona rings	1 No.	
		Relays, Power contactors, switch fuse units, limit switches, push buttons, timers & MCB etc.(one for each item for control cubicle)	1 Set	
		Pressure switches	1 Set	
		Pressure Gauges & Coupling.	1 Set	
		Aux. Switch assembly.	1 Set	
		Operation counter	1 No.	
		Magnetic Ventile(if applicable)	1 No.	
		Actuator rings (If applicable)	1 No.	
		Control valves (If applicable)	1 No.	
Gas filling nipples with pipe	2 Sets			
7	10001969	<b>245kV SF6 Gas Circuit Breaker Mandatory Spares:</b>	Set	9,06,293
		<b>Spares for 245kV SF6 Gas Circuit Breaker</b>		
		b.1. One pole of Circuit Breaker with grading Capacitor (if applicable) complete with pole column and interrupter with M.B but without support structure and operating mechanism	2 No.	
		SF6 Gas @ 40% of main order	LS	
		Trip coils	12 No.	
		Closing coils	6 No.	

		Terminal pad & connectors	4 No.	
		Molecular filter	4 No.	
		Density / Pressure monitoring system	4No.	
		Corona rings	2No.	
		Relays, Power contactors, switch fuse units, limit switches, push buttons, timers & MCB etc.	2Sets	
		Pressure switches	2Sets	
		Pressure Gauges & Coupling.	2Sets	
		Aux. Switch assembly.	2Sets	
		Operation counter	2No.	
		Magnetic Ventile (If applicable)	2No.	
		Actuator rings (If applicable)	2No.	
		Control valves (If applicable)	2No.	
		Gas filling nipples with pipe	2Sets	
8	10001479	<b>Mandatory Maintenance Equipment for SF6 Gas Circuit Breakers :</b>	Set	
a)		Gas leakage detector	1No.	
b)		Gas filling and evacuating equipment portable with necessary union couplings, house pipes etc.,	1No.	
c)		Operation analyser along with Portable Dynamic contact resistance meter	1Set	72,66,973
d)		SF6 Gas filtering, drying, storage and recycling plant	1No.	
e)		Contact Resistance Meter	1No.	
f)		SF6 Dew point meter	1No.	
9	10001372	<b>245kV SF6 Gas Circuit Breakers, 3pole, 3150A, 50KA 3 seconds with SF6 Transducer (Creepage Distance: 31mm/KV)</b>		15,45,600
10	10001377	<b>145kV SF6 Gas Circuit Breakers, 3pole, 3150A, 40KA 3 seconds with SF6 Transducer (Creepage Distance: 31mm/KV)</b>		5,96,961
11	10001350	<b>36kV VCB, 3 Pole, 2500A, 31.5 KA 3 Sec (Creepage Distance: 31mm/KV)</b>		2,83,250
<b>C)</b>		<b>LIGHTNING ARRESTORS</b>		
		Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing, forwarding, handling at port of disembarkation, transportation to project site, unloading of the following surge arrestors complete with surge counters, insulating bays and all associated accessories and auxiliaries in accordance with specification including terminal connectors ( <b>Creepage Distance: 31mm/KV</b> )		
1	10003100	360 / 390kV Lightning Arrestor (Porcelene) ( <b>Creepage Distance: 31mm/KV</b> ).	Nos	1,48,647

2	10003137	360 / 390kV Lightning Arrestor (Polymer Housing) <b>(Creepage Distance: 31mm/KV).</b>	Nos	2,09,805
3	10003102	<b>216kV</b> LAs (Porcelene Housing) <b>(Creepage Distance: 31mm/KV)</b>	Nos	62,618
4	10003104	<b>216kV</b> LAs (Polymer Housing) <b>(Creepage Distance: 31mm/KV)</b>	Nos	84,985
5	10003105	<b>120KV</b> LAs (Porcelene Housing) <b>(Creepage Distance: 31mm/KV)</b>	Nos	44,136
6	10003107	<b>120KV</b> LAs (Polymer Housing) <b>(Creepage Distance: 31mm/KV)</b>	Nos	54,305
7	10003108	<b>30kV</b> LAs (Porcelene Housing) <b>(Creepage Distance: 31mm/KV)</b>	Nos	4,210
8	10003109	<b>30kV</b> LAs(Polymer Housing) <b>(Creepage Distance: 31mm/KV)</b>	Nos	9,060
<b>D)</b>		<b>BATTERY AND BATTERY CHARGER</b>		
1	10005209	220V, 400AH, capacity sealed maintenance free valve regulated lead acid <b>(VRLA) 2 Nos.</b> Battery banks supplied in factory charged condition along with all other required accessories (i.e.) connectors etc.	Sets (1 set contains 2 Nos.)	13,61,364
2		2 Nos., 60/100 A FC & Float-Cum-Boost charger with communication interface suitable for SAS IEC 61850 and for SMF/ VRLA / <b>NVRLA</b> Battery banks along with all required accessories etc. with center zero DC earth leakage ammeter <b>with dropper diode in separate enclosure</b>	Sets (1 set contains 2 Nos)	13,11,974
3	10005204	220V, 800AH, capacity sealed maintenance free valve regulated lead acid <b>(VRLA) 2 Nos.</b> Battery banks supplied in factory charged condition along with all other required accessories (i.e) connectors etc.	Sets (1 set contains 2Nos)	35,72,320
4	10005318	2 Nos., 120/120 A Float -Float-Cum-Boost charger with communication interface suitable for SAS IEC 61850 and for SMF/VRLA/ <b>NVRLA</b> Battery banks along with all required accessories etc. with center zero DC earth leakage ammeter <b>with dropper diode in separate enclosure</b>	Sets(1 set contains 2 Nos.)	16,53,900

5		<p><b>Mandatory Spares for Battery and Battery Charger as listed below</b></p> <p><b>Battery Spares:</b>  Battery cells complete with separators, support insulators and connectors and and ductable 1 No. battery charger 0-15volts adustble smps charger, <b>Cells: 5 Nos.</b>  Thermometer for measuring room temperature (wall mountable type): 1 No  Cell testing voltmeters (3-0-3V) complete with leads: 2 Nos.  Digital cell testing multimeter: 1 No.  Tool Box:- 1 Set</p> <p><b>Spares for Battery Chargers:</b>  Rectifier fuses: 10 Nos.  Filter condenser fuses: 6 Nos.  Control fuses: 10 Nos.  SCRs: 4 Nos.  Diodes: 4 Nos.  Indicating lamps: 5 Nos. for each  Charger blocking diode: 2 Nos.  MCBs: one per model - 1set  Contactor of each rating &amp; type: one per module- 1 Set  Selector switch: 3 Nos.  Potentiometer: 2 Nos.  Micro switches: 2 Nos.  Set of control cards (Firing card,sensing card, AVR card power supply cards, Amplifier card, Earth fault defective card, if any used etc.): 1 Set  Shunts for DC Ammeter: 1 No.  Micro controller Display with modbus RS 485: 1 No.</p>	Sets	3,76,198
6	10004160	<b>Design, Manufacture, Shop testing, Supply of AC &amp; DC Distribution Boards as per the specification.</b>		
6(a)		<p>415V AC Main Board (Sub-Boards-I &amp; II) as per Specn. &amp; Drawing as detailed below</p> <p>i) ' I ' Type Module with a rating of 1250 A (ACB): 2 Nos.</p> <p>ii) ' I (BC) ' Type Module with a rating of 1250 A (ACB): 1 No.</p> <p>iii)' F1 ' Type Module with a rating of 800 A: 2 Nos.</p> <p>iv) ' F1 ' Type Module with a rating of 400 A: 7 Nos.</p> <p>v)' I ' Type Module with a rating of 1250 A (ACB): 1 No.</p> <p>vi)' F1 ' Type Module with a rating of 630 A: 3 Nos.</p> <p>vii) ' E1' Type Module suitable for incoming feeder: 2 Nos.</p> <p>viii) ' V1 ' Type Module with a rating of 0 - 500 V: 2 Nos.</p> <p>ix) Cost of all Busbars, Cabling, Wiring meters etc. &amp; all other required accessories etc. as per specification: 1 set</p> <p>x) Cost of the panel with all other required accessories etc. as per specification: 1 set</p>	set	18,91,763

6(b)	10004167	COMPACT OUT DOOR ACMB incl. disconnect- 1000 amps- 1 No., MCCB-630 A: 2 Nos., MCCB-400 A: 2 Nos., MCCB-63 A: 4 Nos.	sets	5,64,878
7	10004161	415V AC Distribution Board (Sub-Boards-I & II) as per Specn. & Drawing as detailed below i) 'F1' Type Module with a rating of 800 A: 2 Nos. ii) 'F1 (BC)' Type Module with a rating of 800 A: 1 No. iii) 'DG' Type Module with a rating of 1250 A (ACB): 1 No. iv) 'F1' Type Module with a rating of 200 A: 4 Nos. v) 'F1' Type Module with a rating of 150 A: 2 Nos. vi) 'F1' Type Module with a rating of 125 A: 4 Nos. vii) 'F1' Type Module with a rating of 63 A: 67 Nos. viii) 'F1' Type Module with a rating of 32 A: 12 Nos. ix) 'F1' Type Module with a rating of 16 A: 4 Nos. x) 'V2' Type Module with a rating of 0 - 500 V: 2 Nos. xi) Cost of the panel with all other required accessories etc. as per specification: 1 set xii) Cost of all Busbars, Cabling, Wiring meters etc. & all other required accessories etc. as per specification: 1 set	set	17,11,494
8	10004162	415V AC Lighting Board (Sub-Boards-I & II) & Emergency Lighting Board as per Specn. & Drawing as detailed below. i) 'F1' Type Module with a rating of 63 A: 2 Nos. ii) 'F1 (BC)' Type Module with a rating of 63 A: 1 No. iii) 'F1' Type Module with a rating of 63 A (ACB): 16 Nos. iv) 'F1' Type Module with a rating of 125 A: 4 Nos. v) 'V2' Type Module with a rating of 0-500V: 3 Nos. vi) 'F1' Type Module with a rating of 125 A: 1 No. vii) 'F1' Type Module with a rating of 32 A: 4 Nos. viii) Cost of the panel with all other required accessories etc. as per specification: 1 set ix) Cost of all Busbars, Cabling, Wiring meters etc. & all other required accessories etc. as per specification: 1 set	set	3,69,455
9	10005702	DC Distribution Board (Sub-Boards-I & II) as per Specn. & Drawing. As detailed below. i) 'DC' Type Module with a rating of 250 A: 2 Nos. ii) 'DC (BC)' Type Module with a rating of 250 A: 1 No.	set	3,55,699

		<p>iii) ' F2' Type Module with a rating of 20 A (ACB): 78 Nos.</p> <p>iv) ' F2' Type Module with a rating of 32 A: 10 Nos.</p> <p>v) ' PM' Type Module with a rating of 0-300 V: 2 Nos.</p> <p>vi) Cost of the panel with all other required accessories etc. as per specification: 1 set</p> <p>vii) Cost of all Busbars, Cabling, Wiring meters etc. &amp; all other required accessories etc. as per specification: 1 set.</p> <p>viii) Centre zero DC earth leakage ammeter: 2 Nos.</p>		
10	10005867	<p>Mandatory Spares for AC &amp; DC Distribution Boards as listed below-</p> <p>Mandatory spares for 1250A ACB (ACMB).</p> <p>1 No. Air Circuit Breaker 1250A with motor operated mechanism (complete) Control Switch: 1 No.Over current, earthfault relay: 1 No.MFM/EM: 1 No.Voltmeter, Ammeter: 1 setTransducers: 1 setClosing coil: 1 No.Opening Coil: 1 No.Busbar seal off insulator as percentage of total quantity: 5% No.Busbar support insulator as percentage of the total quantity: 10% No.MANDATORY SPARES FOR 1250A ACBs (DG)Air Circuit Breaker with motor operated mechanism (complete)Control Switch: 1 No.Over current, earthfault relay: 1 No.MFM/EM: 1 No.Voltmeter, Ammeter: 1 setTransducers: 1 setClosing coil: 1 No.Opening Coil: 1 No.Busbar seal off insulator as percentage of total quantity: 5% No.Busbar support insulator as percentage of the total quantity: 10% No.</p>	set	3,10,375
11		415V Emergency lighting board including 1No. 100KVA 0.415/0.415kV Lighting Transformer as per speciication & Drawing as detailed below	set	81,125
<b>E)</b>		<b>INSTRUMENT TRANSFORMERS (31mm/kV)</b>		
<b>a)</b>		<b>Current Transformers (CTs) (Creepage Distance: 31mm/KV)</b>		
1	10001158	<p>Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding handling transportation to project site, unloading, of 420kV, 63kA <b>for 1 second, 3000-2000-1000-500/1-1-1-1A,</b> Single Phase <b>Current Transformers</b> in accordance with specification, including first fill of transformer oil and all accessories, auxiliaries including marshalling boxes and terminal connectors for CTs as specified 400kv technical specification. <b>(Porcelain Housing)</b></p>	No.	5,94,451

2		Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding handling transportation to project site, unloading, of 420kV, 63kA for 1 second, <b>3000-2000-1000-500/1-1-1-1A</b> , Single Phase <b>Current Transformers</b> in accordance with specification, including first fill of transformer oil and all accessories, auxiliaries including marshalling boxes and terminal connectors for CTs as specified 400kv technical specification. <b>(Polymer Housing)</b>	No.	6,07,320
3	10001166	Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding handling transportation to project site, unloading, of 420kV, 63kA for 1 second, <b>3000 /1A</b> , Single Phase <b>Current Transformer for Metering, Accuracy Class: 0.2S, Burden: 5VA and ISF ≤ 5</b> , in accordance with specification, including first fill of transformer oil and all accessories, auxiliaries including marshalling boxes and terminal connectors for CTs as specified 400kv technical specification. <b>(Porcelain Housing)</b>	No.	5,94,451
4		Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding handling transportation to project site, unloading, of 420kV, 63kA for 1 second, <b>2000 /1A</b> , Single Phase <b>Live Tank Current Transformer for Metering, 0.2S Class, 5VA and ISF ≤ 5</b> , in accordance with specification, including first fill of transformer oil and all accessories, auxiliaries including marshalling boxes and terminal connectors for CTs as specified 400kv technical specification. <b>(Porcelain Housing)</b>		5,94,451
5	10001187	Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding, handling at port of disembarkation, transportation to project site, unloading, of <b>245kV, 50kA for 1 second, 1600-1200-800/1-1-1-1A</b> Single Phase <b>Current Transformers</b> in accordance with specification, including first fill of transformer oil and all accessories, auxiliaries including marshaling boxes and terminal connectors for CTs as specified in 400kv technical specification.	No.	3,14,865

6		Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding, handling at port of disembarkation, transportation to project site, unloading, of <b>245kV, 50kA for 1 second, 2400-2000-1600/1-1-1-1A Single Phase Current Transformers</b> in accordance with specification, including first fill of transformer oil and all accessories, auxiliaries including marshaling boxes and terminal connectors for CTs as specified in 400kv technical specification. ( <b>Porcelain Housing</b> )	No.	3,14,865
		<b>245 KV CT, 50 KA 1 sec, Creepage Distance: 31mm/KV in Porcelain Housing with following ratios</b>		
7	10001198	245kV CT (1600-800-500/1-1-1-1A)	Nos	3,14,865
8		245 KV CT (150-100/1-1-1-1-1)	Nos	3,14,865
9	10001207	245 KV CT 600/1 for Metering with 0.2S Class, 5VA and ISF $\leq$ 5	Nos	3,14,865
10	10001208	245 KV CT 400/1 for Metering with 0.2S Class, 5VA and ISF $\leq$ 5	Nos	3,14,865
11	10001209	245 KV CT 200/1 for Metering with 0.2S Class, 5VA and ISF $\leq$ 5	Nos	3,14,865
12	10001192	245 KV CT 100/1 for Metering with 0.2S Class, 5VA and ISF $\leq$ 5	Nos	3,14,865
		<b>145 KV CT, 40 KA 1 sec, Creepage Distance: 31mm/KV in Porcelain Housing with following ratios</b>		
13	10001250	145kV CT (800-600-500/1-1-1A)	Nos	1,61,476
14	10001266	145 KV CT for 300/1A for Metering with 0.2S Class, 5VA and ISF $\leq$ 5	Nos	1,61,476
15	10001287	145 KV CT 200/1A for Metering with 0.2S Class, 5VA and ISF $\leq$ 5	Nos	1,61,476
16	10001271	145 KV CT 150/1A for Metering with 0.2S Class, 5VA and ISF $\leq$ 5	Nos	1,61,476
17	10001286	145 KV CT 100/1A for Metering with 0.2S Class, 5VA and ISF $\leq$ 5	Nos	1,61,476
		<b>36 KV CT, 25 KA 3 sec, Creepage Distance: 31mm/KV in Porcelain Housing with following ratios</b>		
18	10001100	36 kV CTs (2000-1200-800/1-1-1-1A) (4th core in a separate secondary box with sealing arrangement, 0.2 S class, 5VA Burden and ISF: $\leq$ 5)	Nos	81,780.00
19	10001147	36 kV CTs (400/1-1 A)	Nos	31,500.00

b)		<b>Potential Transformers (PTs)</b>		
1		Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding handling transportation to project site, unloading, of <b>420kV Single Phase PT with 3 secondary windings, Accuracy Class: 3P/0.5-3P/0.5-0.2, Burden: 50VA-50VA-50VA</b> (in accordance with specification, including first fill of <b>SF6 Gas</b> and all accessories, auxiliaries including marshalling boxes and terminal connectors for <b>PT</b> as specified in technical specification. <b>Creepage Distance: 31mm/KV in Polymer Housing</b>	No.	13,86,252
2		Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding handling transportation to project site, unloading, of <b>420kV Single Phase PT with 3 secondary windings, Accuracy Class: 3P/0.5-3P/0.5-0.2, Burden: 50VA-50VA-50VA</b> (in accordance with specification, including first fill of <b>Oil</b> and all accessories, auxiliaries including marshalling boxes and terminal connectors for <b>PT</b> as specified in technical specification. <b>Creepage Distance: 31mm/KV in Porcelain Housing</b>	No.	9,64,141
3	10001326	<b>245kV</b> PTs with 3 secondary windings. <b>Accuracy Class: 3P-3P-0.2</b> and Burden: 50VA-50VA-50VA. <b>Creepage Distance: 31mm/KV in Porcelain Housing</b>	Nos	2,68,003
4	10001329	145kV PTs with 3 secondary windings. Accuracy Class: <b>3P-3P-0.2</b> and Burden: 50VA-50VA-50VA. <b>Creepage Distance: 31mm/KV in Porcelain Housing</b>	Nos	1,28,020
5	10001320	36kV PTs with 2 secondary windings, <b>Accuracy class: 0.2-0.2, Burden: 50VA-10VA. 2nd winding shall be provided in 2nd secondary box with sealing arrangement. Creepage Distance: 31mm/KV in Porcelain Housing</b>	Nos	55,000
c)		<b>Trivector Meters</b>		
1	10004700	Supply of 3-ph 4-wire Electronic Trivector meter (ABT Meters) of secure/L&T /equivalent reputed approved meters, make with <b>5 min. integration</b> 12 previous MD records,0.2S class accuracy with auto reset to 1st 00.00 hrs of every month, minimum 60 days load survey provision with individual currents and voltages including third party testing in presence of APTRANSCO officials and transportation to site (AS per APCPDCL Specification)	No.	80,569.00

d)		CVTs		
1	10001300	Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding handling transportation to project site, unloading, of 420kV Single Phase CVT, <b>Accuracy Class: 3P/0.5-3P/0.5-0.2, Burden: 50VA-50VA-50VA</b> in accordance with specification, including first fill of transformer oil and all accessories, auxiliaries including marshalling boxes and terminal connectors for CVTs as specified in 400kv technical specification. <b>Creepage Distance: 31mm/KV in Porcelain Housing</b>	No.	3,85,070
2	10001306	Design, Engineering, manufacture, assembly, shop testing, supply and delivery at site including packing forwarding handling transportation to project site, unloading, of 420kV Single Phase CVT Accuracy Class: 3P/0.5-3P/0.5 -0.2, Burden: 50VA-50VA-50VA in accordance with specification, including first fill of transformer oil and all accessories, auxiliaries including marshalling boxes and terminal connectors for CVTs as specified in 400kv technical specification. <b>Creepage Distance: 31mm/KV in Polymer Housing</b>	No.	4,82,071
3	10001301	245kV CVTs with 3 secondary windings. Accuracy class: 3P-3P-0.2. Burden: 50VA-50VA-50VA. Creepage Distance: 31mm/KV in Porcelain Housing	Nos	1,40,231
4		245kV CVTs with 3 secondary windings. Accuracy class: 3P-3P-0.2. Burden: 50VA-50VA-50VA. Creepage Distance: 31mm/KV in in Polymer Housing	Nos	1,68,277
5	10001303	145kV CVTs with 3 secondary windings. Accuracy class: 3P-3P-0.2. Burden: 50VA-50VA-50VA. Creepage Distance: 31mm/KV in Porcelain Housing.	Nos	1,28,020
6		145kV CVTs with 3 secondary windings. Accuracy class: 3P-3P-0.2. Burden: 50VA-50VA-50VA. Creepage Distance: 31mm/KV in Polymer Housing	Nos	1,53,624
7	10009201	Marshalling Kiosk	Nos	30,426
8	10009209	CT Marshalling boxes (220/132/33KV)	Nos	5,870
9	10009214	PT and CVT Marshalling boxes (220/132/33KV)	Nos	7,822
F)		EARTHING AND EARTHMAT		
1	10006901	Discharge rods 10 ft long with suitable screw type clamp suitable for moose conductor & 15 Mtrs long 25 sqmm. Copper lead with heavy duty crocodile clamp.(Set Consists 3 Nos )	Set	11,614
2	70004306	Electrical safety hand gloves suitable for the operation in 400/220kV switchyard of ISI Quality.	Set	3,562
3	70004363	2 Mtr x 1 Mtr, 10mm thick Neoprine Rubber mats of ISI Quality.	No.	3,651

4	10000651	Stainless container of 2 litres capacity for collection of oil samples with cock arrangements at both ends.	No.	1,549
5	70004406	Electrical safety Belts, Shoes and Helmets suitable for the operation in 400/220kV switchyard of ISI Quality.	Set	3,826
<b>G)</b>		<b>BUS BAR MATERIAL,HARDWARE &amp;ACCESSORIES</b>		
		<b>400 KV SUBSTATIONS</b>		
1	10010128	4.5" IPS Aluminum tube of electrical grade including welding sleeves	Mtrs	2,979
2	10009058	4" IPS Aluminum tube of electrical grade including welding sleeves.	Mtrs	2,444
3	10009246	Bay Marshalling Boxes for 400KV, 220 and 132 KV Bays with 3mm Aluminum sheet.	Nos.	64,561
4	10007014	400 KV Single suspension hardware suitable for Twin Moose	sets	7,514
5	10007009	400 KV Double Suspension hardware suitable for Quad Moose.	Sets	9,826
6	10007002	400 KV Double Tension hardware suitable for Twin Moose.	Sets	14,664
7	10007005	400 KV Double Tension hardware suitable for Quad Moose	Sets	20,962
8	10007083	220 KV / 132kV Single suspension hardware suitable for Twin Moose.	Sets	4,259
9	10007073	220 KV double suspension hardware suitable for Twin Moose	Sets	6,090
10	10007071	220 KV Double suspension hardware suitable for Quad Moose	Sets	8,490
11	10007021	220 KV / 132kV Double tension hardware suitable for Twin Moose.	Sets	8,152
12	10007020	220 KV Double tension hardware suitable for Quad Moose	Sets	15,509
13	10008085	400 KV Conductor Spacers for Quad moose	Nos	1,572
14	10008086	400 KV Conductor Spacers for Twin moose	Nos	589
15	10008096	220 KV Conductor Spacers for Twin moose	Nos.	589
16	10008095	220 KV Conductor Spacers for Quad moose	Nos.	1,310
17		<b>400 kV clamps &amp; connectors including jumper sleeves</b>		
(a)	10008040	BPI Clamp for Twin moose through/expansion type	Nos.	1,584
(b)	10008698	BPI Clamps for 4.5" IPS Rigid /sliding /expansion type	Nos.	3,096
(c)	10008041	BPI Clamps for 4" IPS Rigid /sliding type/expansion	Nos.	3,019
(d)	10008042	T Connectors SM to SM	Nos.	1,194
(e)	10008043	Spacer T-Clamp for TM to SM	Nos.	2,001
(f)	10008032	Inter connector TM to 4.5" IPS Al. Tube	Nos.	2,445

(g)	10008030	Inter connector QM to 4.5" IPS Al. Tube	Nos	4,889
(h)	10008037	Inter connector TM to 4" IPS Al. Tube	Nos.	806
(i)	10008089	Corona spheroid	Nos.	907
(j)	10008092	PG Clamps Moose to Moose	Nos	669
18		<b>220 kV /132kV Clamps &amp; connectors</b>		
a)	10008026	BPI Clamp for Single moose	Nos	688
b)	10008097	BPI Clamp for Twin moose through/expansion type	Nos.	1,584
c)	10008098	BPI Clamps for 4" IPS Rigid/sliding/expansion type	Nos.	3,019
d)	10008100	T Connector SM to SM	Nos.	987
e)	10008931	T Connector TM to SM	Nos.	1,682
f)	10008080	Isolator connecting Clamps suitable to Twin Moose	Nos.	2,649
g)	10008102	Corona spheroid	Nos.	725
h)	10008103	PG Clamps Moose to Moose (applicable to Zebra & Panther ACSR also)	Nos.	629
i)	10008101	Inter connector TM to 4" IPS Al. Tube	Nos.	1,473
j)	10008761	Inter connector QM to 4" IPS Al. Tube	Nos.	2,970
19	10008105	Pad type Compressor clamp for GS Earth wire to 75 x 12 Flat	Nos.	105
20	10008106	Cleat type clamp for G.S Earth wire	Nos.	103
21	10008104	T clamp for GS Earth wire with flexible jumpers	Nos.	393
22	10010451	Terminal connector on 400kV SF6 to Air bushing to suit 4.5"IPS AL Tube -Expansion Type	Nos	2,477
23	10010452	Terminal connector on 220 kV SF6 to Air Bushing to suit 4" IPS Al. Tube Expansion Type	Nos	2,416
		<b>220 KV and 132 KV SUBSTATIONS</b>		
24	10007021	Double tension hardware suitable for Twin Moose		7,778
25	10007024	Double tension hardware suitable for Quad Moose		14,797
26	10007086	Single Suspension Hard ware for Twin Moose		4,375
27		Double Suspension hardware for Quad Moose		8,100
28	10007039	5 bolted type single tension h/w for single moose / zebra conductor for 220kV & 132kV	Nos	2,375
29	10007029	5 bolted twin zebra / moose tension h/w 400mm spacing for 132/220kV bus	Sets	4,875
30	10007038	3 bolted type single tension h/w for single moose or zebra conductor for 33KV	Nos	1,723
31	10007036	3 bolted tension hardware for twin moose with 150mm spacing to 33KV bus	Nos	4,275
32	10008276	T Clamps for single Moose all three ways	Nos	825
33	10008918	T clamps for twin Moose T off single Moose with 150mm spacing	Nos	746
34	10008576	Spacer clamps with 150mm spacing for twin moose	Nos	413
35	10008933	Post type insulators clamps for twin conductor for 220kV & 132kV	Nos	968

36	10008932	Post type insulators clamps for single conductor for 220kV & 132kV	Nos	688
37	10007526	Post type insulators clamps for twin conductor for 33KV	Nos	963
38	10008740	Post type insulators clamps for single conductor for 33KV	Nos	638
39	10008105	Pad type compressor clamp for GS Earth wire to 75 x 12 flat	Nos	110
40		Twin Moose pad clamps for breaker 400mm X 100mm X 100mm	Nos	1,890
41		Single Moose clamps for CVT	Nos	1,890
42		Single Moose pad clamps for Lightning Arrestor	Nos	1,890
43	10008818	Moose to Moose Ampact clamps ( C clamps)	Nos	2,100
44		T clamps suitable for ACSS Moose take off ACSR Moose	Nos	2,100
45		T clamps suitable for ACSS zebra conductor all 3 ways	Nos	2,100
46		Pad clamps for ACSS Zebra conductor 100X100X10mm	Nos	2,240
47		Spacer for Quad Moose conductor		1,250
48		CT Stud clamps for Moose Conductor	Nos	2,310
49		Pad clamps for ACSS Moose conductor	Nos	2,100
50		Post type insulator support clamp for twin conductor for 220 kV Bus long jumper	Nos	2,156
51		5 Bolted Twin Zebra / Moose Tension Hardware with 400mm spacing tor 220 kV Jack bus	Nos	2,450
52		PG Clamps suitable for ACSS Panther conductor	Nos	910
53		PG clamps suitable for ACSS Moose - Moose conductor	Nos	1,190
54		PG clamps suitable for ACSS Panther/Moose conductor	Nos	910
55		Zebra to Moose Ampact clamps (C clamps)	Nos	1,050
56	10008106	Cleat type clamp for G.S. Earth wire	Nos	104
57	10008104	T clamp for GS Earth wire	Nos	413
58	10008865	Bolted earth wire tension clamp	Nos	738
59	10002935	Supply and fixing GI flexible earth bonds	Nos	330
60	10006608	Supply and erection of LED lamps (120W) with fixture	Nos	7,850
61	70000187	D Shackle - 16mm	Nos	198
62	70001106	D Shackle - 20mm	Nos	261
63		T Clamp (Panther through & Moose Takeoff)	Nos	790
64	10008276	T Clamp (All three ways Moose)	Nos	820
65		PG Clamps Moose-Moose	Nos	629

66	10008230	PG Clamps Moose-Panther	Nos	629
67		PG Clamps Moose-Zebra	Nos	629
68		PG Clamps Panther - Panther	Nos	297
69		PG Clamps Panther - Zebra	Nos	629
70		C-Clamps Moose-Moose	Nos	1,963
71		C-Clamps Moose-Panther	Nos	1,963
72		C-Clamps Moose-Zebra	Nos	1,963
73	10009228	LT Distribution Box with MCCB	Nos	15,302
74	10009221	Lighting Pillar Box	Nos	11,032
75	10004150	LTAC Panel	Nos	179,000
76	10009262	220 KV PTDB Panel	Nos	207,000
77	10004156	132 KV PTDB Panel	Nos	164,500
<b>H)</b>		<b>POWER AND CONTROL CABLES</b>		
		<b>Design of complete cabling system for the entire substation, preparation of cable scheduling, manufacture, shop testing, packing and forwarding, transportation to site/stores, providing conduits, cable termination kits, cable lugs and glands of the following Power &amp; Control Cables as per requirement.</b>		
		<b>ARMoured CABLES</b>		
1	10003381	Single core, 630 Sq. mm, 1100V XLPE, FRLS insulated PVC sheathed, Aluminium wire armoured, stranded aluminum conductor cable.	Km	7,98,903
2	10003383	Single core, 300 Sq. mm, 1100V XLPE, FRLS insulated PVC sheathed, Aluminium wire armoured, stranded aluminium conductor cable.	Km	4,71,861
3	10003385	3½ core 300 Sq. mm, 1100V XLPE, FRLS insulated PVC sheathed, galvanized steel wire armoured, stranded aluminium conductor cable.	Km	13,03,601
4		1100V, PVC, FRLS insulated PVC sheathed, galvanised stranded aluminium conductor cable.		
(a)	10003391	3.5 core, 35 Sq. mm (with galvanized steel strip armour)	Km	2,18,842
(b)	10003392	4 core, 16 Sq. mm (with galvanized steel strip armour)	Km	1,24,632
(c)	10003395	4 core, 6 Sq. mm (with galvanized steel wire armour)	Km	89,592
(d)	10003396	2 core, 6 Sq. mm (with galvanized steel wire armour)	Km	67,037
5		<b>1100 V, PVC, FRLS insulated PVC sheathed, galvanized steel wire - armoured, stranded copper conductor cable</b>		
(a)	10003299	3 core 2.5 Sq. mm.	Km	1,12,832
(b)	10003221	5 core 2.5 Sq. mm.	Km	1,37,518
(c)	10003300	7 core 2.5 Sq. mm.	Km	1,80,207
(d)	10003278	10 core 2.5 Sq. mm.	Km	2,46,781
(e)	10003280	14 core 2.5 Sq. mm.	Km	3,32,832

(f)	10003281	19 core 2.5 Sq. mm.	Km	4,35,838
(g)	10003597	27 core 2.5 Sq. mm.	Km	6,02,653
6		Galvanized cable trays with 2mm thick perforated CRC sheet		
(a)	10003603	200 mm size	Mtrs	412
(b)	10003531	450 mm size	Mtrs	691
7		GI Pipe for entry into cable trench		
(a)	10003548	4" Dia 3 mm thick GI Pipe Including Socials, Bends etc.,	Mtrs	828
(b)	10003549	6" Dia 3 mm thick GI Pipe Including Socials, Bends etc.,	Mtrs	1,172
8	10003211	2 Core, 2.5 sq. mm Cu. PVC	Km	66,540
9	10003242	2 Core, 1.5 sq. mm Cu. PVC	Km	66,540
10	1011946	4 Pair, 0.5 sq. mm Cu. PVC	Km	66,540
11	10003210	50 Sq. mm Multistrand flexible copper cable	Km	1,87,000
12	10003364	3.5 Core 70 Sq. mm AL conductor cable with galvanised steel strip armour	Km	1,94,813
		<b>UN ARMoured CABLES</b>		
13		<b>1100 V, PVC, FRLS insulated PVC sheathed, galvanized steel wire / strip Un-armoured, stranded copper conductor cable</b>		
(i)	10003211	2 Core 2.5 Sq.mm unarmoured copper control cable	Km	66,540
(ii)	10003217	4 Core 2.5 Sq.mm unarmoured copper control cable	Km	1,05,486
(iii)	10003223	6 Core 2.5 Sq.mm unarmoured copper control cable	Km	1,70,444
(iv)	10003228	10 Core 2.5 Sq.mm unarmoured copper control cable	Km	2,51,187
(v)	10003230	12 Core 2.5 Sq.mm unarmoured copper control cable	Km	2,96,127
14	10003389	3.5 Core 120 Sq.mm Al. power cable	Km	4,76,165
15	10003408	3.5 Core 50 Sq.mm Al. power cable	Km	2,58,461
16	10003365	3.5 Core 95 Sq.mm Al. power cable	Km	4,42,037
<b>I)</b>		<b>INDOOR &amp; OUTDOOR ILLUMINATION</b>		
1		<b>Indoor Lighting Fixtures.</b>		
(a)	10009529	Control room lighting fixtures. Make: CGL-LCBOR-40- CDL or equivalent model in Philips/Bajaj.	Nos	5,241
(b)	10009452	Decorative Pendant mounting lighting fixtures. Make: CGL-LCLR66-60-CDL or equivalent model in Philips/Bajaj.	Nos	7,361
(c)	10009451	Pendant mounting lighting fixtures. Make: CGL-LCLP54- 36-CDL or equivalent model in Philips/Bajaj.	Nos	5,031
(d)	10009519	Lighting fixtures. Make CGL-LHBL-60-CD or equivalent model in Philips/Bajaj.	Nos	6,522
(e)	10009520	Lighting fixtures. Make: CGL-LPLLA-18-CDL or equivalent model in Philips/Bajaj.	Nos	733

(f)	10009381	1 x 11W CFL lamp Emergency light with Battery operated portable fixtures with built in chargeable batteries and battery charger suitable for a lighting period of six hours of make: Bajaj/Philips/CGL/BPL.	Nos	1,179
(g)	10009443	Decorative type lighting fixtures with 4 Nos. 18 watts CFL Lamp for Portico, main gate etc, make Bajaj / Philips / CGL are equivalent.	Nos	2,063
(h)	10005051	Wireless Buzzer anchor make or equivalent approved make with ISI mark.	Nos	105
2		Following items for providing and fixing concealed in roof and walls with PVC Conduit piping of ISI standards with necessary GI wire of suitable gauge to draw wires at later date including cost of junction boxes etc.cost and conveyance of all materials.		
a)	10009106	40 mm dia - 2mm thick	Mtrs	100
b)	10011978	32mm dia - 2mm thick	Mtrs	80
c)	1011979	25mm dia - 2mm thick	Mtrs	69
d)	1011982	12mm dia - 1.5mm thick	Mtrs	49
3	10009303	Indoor Modular Main distribution board suitable for wall insert with 1No 63A TP MCB for I/C and 6 Nos 32A SPMCB, 8 Nos 10A SPMCB & 10 Nos 16A SPMCB with neutral link for O/G complete make Havells /LEGRAND or MDS or equivalent.	Nos	11,218
4	10004170	AC Distribution Boards Mains for usage in AC Kiosks for supply (indoor wall inserted/mounted) with SP 16A MCBs - 3 Nos., 6A SP MCBs-2Nos., 2A SP MCBs 3 Nos.	Nos	20,788
5	10007466	Decorative Type Ten panel Switch boards in AC Kiosks with 5A switches - 5/ 7 Nos.& 5/15A plug-1 No with 1 No 15 A Switch.(Anchor/Havells)	Nos	19,014
6		<b>Out Door street Lighting Fixtures</b>		
a)	10009389	Street lighting fixtures: Make: CGL-LSTN1-150-CDL-A or equivalent model	Nos	9,826
b)	10009427	Decorative Post Lantern: Make: CGL-LPTO-60-CDL/M or equivalent model	Nos	7,861
c)		Flood Light fixtures. Make: CGL, Model No. CGL-LSFO-350-CDL/60 (or equivalent model ).	Nos	25,154
d)	10009364	Flood lighting fixtures: Make: CGL, Model No. CGL-LSTN-250-CDL-A (or equivalent model).	Nos	15,722
7		<b>Lighting Masts / Poles with junction boxes, earthing materials and all accessories as per drawing enclosed.</b>		
a)	10009400	Type A1 with junction box	Nos	14,695
b)	10009402	Type E1 with junction box	Nos	8,341
8	10009407	Lighting Panels for Control house I/C 63A TPN SFU - 1 No. O/G 16A-32A SPMCB - 24 Nos.	Nos	16,474

9	10009434	Outdoor Junction Box with 32A-SP-MCB-2 Nos,10A-SP- MCB-4 Nos & terminal blocks (bolt type) for 6 circuits and neutral link.	Nos	5,102
10	10009412	415V, 63A - Interlocked Switch and Socket outdoor Power Recepticle.	Nos	4,344
11	10009465	Decorative Type Six panel Switch boards with 5A switches - 5 Nos., 5 & 15A plug-2 No with 2 No 15A Switch.(Anchor/Havels).	Nos	1,136
12	10009466	Decorative Type Ten panel Switch boards with 5A switches - 7 Nos., 5 & 15A plug-3 Nos with 3 No 15 A Switch.(Anchor/Havels).	Nos	1,378
13	10009444	Decorative Type Three panel Switch boards with 5A switches - 3 Nos, 5A Plug - 1No(Anchor/Havels)	Nos	596
14	10009445	Decorative Type Three panel Switch boards with 15A switches - 2 Nos.&15A plug-2 No .(Anchor/Havels)	Nos	998
15		<b>Telephone Junction Boxes</b>		
(a)	10010965	MDF box suitable for 50 pair Telephones with crones and surge protection complete.	Nos	2,052
(b)	10010967	MDF box suitable for 10 pair Telephones with crones and surge protection complete.	Nos	1,530
(c)	1011014	Single socket outlet comprising RJ-45 Socket.	Nos	204
(d)	10011015	Dual socket outlet comprising RJ-45 Socket.	Nos	408
16	10009418	1400 mm sweep ceiling fans with Electronic regulator CGL/Bajaj/Usha/Khaitan make.	Nos.	1,416
17	1009346	Wall mounted Fans with 400 mm sweep with Electronic regulator CGL/Bajaj/Usha/Khaitan make.	Nos.	2,250
18	10004152	Outdoor AC Distribution Board with 2 Nos Incomings, 3 Phase, 440V, 300 Amps, with Cu Bar and 300 Amps Fuse units & Neutral link complete and outgoing 2 Nos, 3P, 125A, MCBs including all accessories including CT meter arrangement (200/1 ratio).	No.	40,075
19	10009420	Wheel Mounted ladders (10 Mtrs Height)	No.	27,430
20	70000965	Aluminium ladders (12ft Height)	No.	14,072
21	70000977	Telescopic aluminium ladder (18feet)	No.	28,860
22	70000966	Aluminium ladders (8ft Height)	No.	10,927
23	10009529	40W LED Light Fixture complete with accessories. Model No. CCR-126-50-40-SL-NWH	No.	5,766
24	10009307	150W LED, High Bay Fixture, Model No.LHBM-150-CDL/60-M	No.	8,539
25	10009320	2X20 W LED type Fixture complete with accessories & suitable for wall mounting, Model No. IPFC122LT8	No.	1,594
26	10009329	1X20 W LED type Fixture complete with accessories & suitable for suspended/wall mounting Model No. IPFC121LT8	No.	1,604
27	10009351	9W Exit lamp	No.	3,271

28	10009364	250W LED Flood Lighting Fixture model Crompton Greaves, Model No. LSFO-250-CDL/60-M	No.	14,824
29	10009529	40W LED Posttop light Fixture model Crompton Greaves, Model No. LPTO-40-CDL-M	No.	6,290
30	10009406	Outdoor AC Lighting Panels , I/C 63A TPN SFU with suitable copper busbar Outgoing 32A SP MCB - 15 Nos with timer arrangement.	No.	33,212
31	10009405	AC Emergency Panel - I/C 32A TPN SFU & O/G 16 A SP MCB - 4 Nos. (Indoor)	No.	27,677
32	10009408	Indoor DC Emergency decorative type wall inserted distribution board with 1No 32A DP MCB for I/C and 6 Nos 10A DPMCB , 4 Nos 6 A DPMCB with neutral link for O/G complete of make Havells/ LEGRAND.	No.	33,212
33	10004159	220V DC Emergency Lighting Panels (Indoor) I/C 32A DP SFU - 1 No. O/G10A BP MCB - 4 Nos.	No.	21,230
34		9W CFL lamp in Bulk head fixtures with cast aluminium alloy body suitable for column, wall and ceiling mounting finished stove enameled silver grey outside white inside to be supplied complete ( prisat front glass ,wire guard, tropicalised, gasket,and E.S Porcelain , lamp holder taped 3/4" E.T for conduit entry) similar to Philips Cat. No. FXC 101/ Bajaj Cat. No. BJBE - 19 / Crompton Greaves.		
a)		Lamps	No.	88
b)		Fixtures	No.	645
35		1 x 36W flourescent lamp fitting wall mounted or pendent mounted of Philips, Bajaj, CGLmake or equivalent		
a)		Lamps	No.	97
b)		Fixtures	No.	1,576
36	10009419	Oscillating air circulator (Pedastal Fan) Telescopically adjustable stand, with electronic regulator with 600 mm sweep CGL/Bajaj/Usha/Khaitan make.	No.	8,405
37		Portable Twin Tube 20W emergency portable Lamp of make Philips or Bajaj	Nos	1,788
38		Supply and erection of LED lamps (120W) with fixture	Nos	7,850
<b>J)</b>		<b>AIR CONDITIONING AND VENTILLATION SYSTEM</b>		
<b>I)</b>		<b>Air Conditioning.</b>		
1	10009818	Wall mounted Split air conditioners 2.0 Ton capacity with cooling capacity of 6000 K.Cal/Hr with stabilisers, receptacles including all support structures and all other accessories with MCB of 25KA--.5 star model	No.	56,686
2	10009803	Supply of 4 HP industrial VRV type AC Units	No.	2,36,016

<b>II)</b>		<b>Ventilation</b>		
1		Supply of exhaust fans of propeller type/ axial type, each with a suitable drive motors, DOL starters, vain protection with screen, grouting bolts etc.,.		
a)	10009835	3ph, 24" Sweep 1440 RPM, 3000 cum/hr, exhaust fan or equivalent with 3- ph MCBs.	Nos.	5,600
b)	10009836	3ph, 18" Sweep 960 RPM, 2000 cum/hr, exhaust fan or equivalent with 3- ph MCBs.	Nos.	5,228
c)	10009837	3ph, 12" Sweep 960 RPM, 500 cum/hr, exhaust fan or equivalent with 3- ph MCBs.	Nos.	2,844
		<b>Ventilation units without cabinet</b>		
2		SITC of DIDW backward curved centrifugal fan complete with pressure switch, belt drive, motor complete with all accessories like belt guard, base frame, cushion foot isolators, etc. outlet velocity > 10m/s.		
a)	10009806	Ventilation Unit Capacity :49300 CMH @60 mmwg	Nos.	3,34,270
b)	10009807	Ventilation Unit Capacity :57800 CMH @60 mmwg	Nos.	3,92,255
<b>III)</b>		<b>AIR DISTRIBUTION SYSTEM</b>		
1		AIR DISTRIBUTION SYSTEM consists of sheet metal ducting without powder coating complete with suspenders of GI rods/ISMC, wall brackets, cradles, angle iron supports, GI bolts and nuts, 4mm thk, food grade rubber gasket stiffeners, fixing of anchor grip bolts, zinc chromate painted angle iron flanges. Shall belong to IS:277, Grade-120		
a)	10009884	400kV GIS Room-Ducting	SQM	1,676
b)	10009884	220kV GIS Room-Ducting	SQM	1,645
2		<b>GRILLES &amp; DAMPERS</b>		
a)	10009885	Size-1200mmx1200mm	Nos.	34,004
b)	10009888	Size-800mmx800mm	Nos.	15,113
3		Supply, Installation, Testing & Commissioning of Aluminium motorized damper ( at blower mouth) with necessary accessories and position relays. Compatible for 230V		
a)	10009810	400kV GIS Room	Nos.	65,490
b)	10009810	220kV GIS Room	Nos.	87,320
4		Fresh air/extract louver in Aluminium powder coated construction with bird		
a)	10009811	Size-2500mmx2500mm	Nos.	78,863
b)	10009814	Size-3750mmx1900mm	Nos.	89,906
4	10009833	Prefilters with 90% efficiency down to 10 micron (610mmx610mmx50mm) and fine filter with 99% efficiency down to 5 micron filter (610mmx610mmx300mm).	Nos.	6,992

5		Aluminium powder coated pressure relief motorized Exhaust damper with all necessary accessories. Motorised actuator for exhaust damper with differential pressure switch. Compatible for 230V AC.(ED)		
a)	10009848	Size-600mmx600mm	Nos	55,735
6		Supply, testing, installation and commissioning of Aluminium powder coated Grill complete with VCD and necessary accessories.		
a)	10009855	1450 CFM	Nos	3,669
b)	10009856	1360 CFM	Nos	3,442
7		Supply, installation, testing and commissioning of Fire and Smoke damper in GI construction with control panel(FD)		
a)	10009882	Size-1200mmx1200mm	Nos	27,549
b)	10009887	Size-800mmx800mm	Nos	36,733
8		Electrical works & Other misc. Items		
a)	10009880	Required panels, cable, LCP etc to complete the electrical works for ventilation unit a. Starter Panels including LCP (1 AHU Panels per Room) - 1 Nos per set b. Cables -10 Mtrs per set.	Set	1,54,703
<b>K)</b>		<b>DIESEL GENERATOR SET</b>		
1	10009973	DG Set 250KVA (with acoustic insulation), 1500RPM, 0.8 PF, 415 V, 3 phase, 50 Hz with the following as per latest CPCB - IV + norms.	set	18,20,248
		(1) Diesel Engine complete with all accessories as specified.		
		(2) Alternator directly coupled to the engine through coupling complete with all accessories.		
		(3) Automatic voltage Regulator.		
		(4) Complete starting arrangement including two Nos. Batteries & chargers and Power and Control Cables and cable glands and lugs etc.		
		(5) Base Frame and Foundation bolts.		
		(6) Day Tank of 990 litre capacity with all the accessories and fittings.		
		(7) Oil pump for transferring to Day Tank as per specification.		
		(8) Engine cooling and Lubricating system.		
		(9) Engine Air filtering System.		
		(10) Exhaust silencer package with flexible coupling and thermal Insulator.		
		(11) Set of GI Pipes, Valves, Strainers, unloading hose pipes are required.		
	(12) All lubricants, diesel oil, consumables, touch up paints etc, for the first filling, testing & commissioning			

		at site.		
		(13) AMF panel for Control & Metering, and alarm as per specification including all power and control cables, with Cable glands & lugs etc suitable to Substation Automation System.		
		(14) Acoustic insulation for DG Set as per the norms of Central Pollution Control Board.		
		(15) All the equipment/material required for control /monitoring of DG set through Sub-Station Automation System.		
2		Mandatory spares : (a) Current Transformers - 1 set. (b) Measuring Instruments on AMF panel - 1 Set. (c) Protection Relays and Timers - 1 Set. (d) Indicating Lamps with Resistors - 2 Sets. (e) Oil Filter packs 1 Set. (f) Fuses - 2 Sets. (g) Diesel filter packs - 1 Set. (h) V - belt for radiator fan - 1 No. (i) Diodes & Diode fuses - 1 Set.	Set	3,53,625
3	10009957	15KVA DG set	Nos	3,08,072
4	10009956	25KVA DG set	Nos	4,09,501
<b>L)</b>		<b>FIRE PROTECTION, DETECTION &amp; ALARM SYSTEMS</b>		
1	10009618	(a) Horizontal centrifugal Electric Driven Hydrant/HVW Spray, pump of capacity 410M3/hr and total dynamic head of 88MWC with all accessories & fittings - 1 No. (b) Electric Induction Motor Squirrel cage type for the above with all accessories & fittings as per specifications - 1 No.	Set	7,80,835
2	10009617	(a) Horizontal centrifugal Diesel Engine Driven Hydrant/HVW spray pump of capacity 410M3/hr and total dynamic head of 88MWC with all accessories and fittings. Both the HVW pumps, one motor driven and one diesel driven shall be of same model and their components interchangeable - 1 No. (b) Diesel Engine, multi cylinder type, four stroke cycle with mechanical airless injection cold starting type for the above with all accessories and fittings as per specification - 1 No. (c) Set of Batteries - 2 Nos. (d) Fuel tank having capacity to hold fuel oil for six hours of full load run - 1 No.	Set	9,62,680

3	10009619	(a) Horizontal centrifugal Electric Driven jockey pump of capacity 10.8 m <sup>3</sup> /hr and Total dynamic head of 88MWC with all accessories and fittings.(b) Electric Motor for the above with all accessories and fittings as per specification.	Sets	2,36,848
4	10009620	Air vessels with vent valves etc. as per specification and system requirement.	No.	3,57,103
5	10009621	Sump pumps of capacity 10M <sup>3</sup> /hr. MWC with motor starter and all accessories.	Nos.	39,967
6	10009629	Basket strainer 300 NB.	Nos.	1,25,248
7	10009605	Control panel equipped with all accessories for motor drives of Fire water pumps and 2 Nos. jockey pumps as per specifications suitable for 2 sources supply and 2 Nos. Battery chargers.	Set	2,05,218
8	10009607	Control Panel for Diesel Engine driven fire water pumps as per specification.	Set	1,97,462
9(a)	10009613	(a) Annunciation panel at fire water pump house as per specification.	Set	1,88,448
9(b)	10009614	(b) Annunciation panel in Control Room as per specification.	Set	1,42,739
10		<b>Supply of the following Hydrant and HVWS system Accessories</b>		
a)	10009134	Single headed Hydrants.	Nos.	11,357
b)	10009135	Landing Valves.	No.	4,909
c)	10009033	Hose cabinets.	Nos.	5,679
d)	10009034	Hoses of 15.0m length with coupling.	Nos.	4,796
e)	10009035	Hoses of 7.5m length with coupling.	Nos.	3,655
f)	10009036	Branch pipe with Nozzles.	Nos.	3,197
11		<b>Supply of the following Mild steel black pipes and Mild steel galvanized pipes as per specifications</b>		
a)	10009037	300 NB	Mtrs	4,130
b)	10009038	250 NB	Mtrs	3,527
c)	10009039	200NB	Mtrs	2,618
d)	10006447	150NB	Mtrs	2,398
e)	10009084	100NB	Mtrs	2,016
f)	10009085	80NB	Mtrs	1,403
g)	10009074	50NB	Mtrs	1,101
h)	10009075	25NB	Mtrs	255
i)	10009076	15NB	Mtrs	179
12	10006448	Set of GI & MS Piping beyond deluge valves for transformer including detection piping and pipe supports including all accessories complete.	Sets	257,728
13		<b>Supply of the following valves :-</b>		

a)	10006450	300 NB Gate	Nos.	37,751
b)	10006451	250 NB Gate	Nos.	36,731
c)	10009136	250 NB Check	Nos.	23,467
d)	10009137	200 NB Gate	Nos.	29,589
e)	10009138	150 NB Gate	Nos.	16,325
f)	10009139	100 NB Gate	Nos.	15,954
g)	10009140	80 NB Gate	Nos.	12,995
h)	10009141	80 NB Check	Nos.	10,699
i)	10009142	50 NB Gate	Nos.	7,451
j)	1009143	50 NB Check	Nos.	4,591
k)	10009144	25 NB Gate	Nos.	2,551
l)	10009109	15 NB Gate	Nos.	1,938
m)	10009145	Float operated valve 100NB	Nos.	23,467
14a)	10009146	Float operated Level guage	Nos	18,953
14b)	10009147	Level switch	Nos	19,830
15	10009148	Pressure Gauge	Nos	2,253
16	10009149	Pressure Switch	Nos	6,423
17	10009150	Differential Pressure Gauge	Nos	4,118
18	10009151	Deluge valve with motor gounge, pr. switch, pr.guage, solenoid valve to drain - size 150 NB	Sets	1,27,537
19	10009615	Local control panel for Deluge valve	Nos.	12,939
20	10009616	Strainer Y type, 150 NB	Nos.	33,823
21	10009622	Quartzoid bulb detectors	Nos	556
22	10009623	HVW spray nozzles	Nos	1,352
23		<b>Supply of Detection and Alarm system including all hardware and all other accessories</b>		
a)	10006637	Multi criteria detectors	Nos	3,051
b)	10009626	Heat detector	Nos	2,586
c)	10009627	Response indicator	Nos	345
d)	10009628	Manual call point	Nos	2,169
e)	10009604	Fire detection & Alarm panel for control room with 2 Nos hooters, 2 Nos. sirens and 2 Nos. relay modules with RS- 485 communication port & all accessories for integrating in SAS.	Set	1,51,224
f)	10009630	Water pressure transducer with input of 0-16 bars and with 2nos ports as output of range 4-20mA for integrating in SAS.	Nos	83,445
g)	10010267	Temperature transducer in control room for measuring ambient temperature with input of 0-75 degree centigrade and with 2nos ports as output of range 4-20mA for integrating in SAS.(CR-1, ACK-10)	Nos	56,858
24		<b>Supply of the following Portable Fire Extinguishers with all accessories as per specification</b>		

a)	10009711	Dry chemical powder type Fire extinguishers of 9 kgs. Capacity.	Nos	2,847
b)	10009712	Dry chemical powder type Fire extinguishers of 25 kgs. Capacity (trolley mounted).	Nos	11,784
c)	10009713	Dry chemical powder type Fire extinguishers of 50 kgs. Capacity (trolley mounted).	Nos	15,815
d)	10009714	Dry chemical powder type Fire extinguishers of 150 kgs. Capacity (trolley mounted).	Nos	51,881
e)	10009726	CO2 type portable Fire extinguishers of 45kgs. Capacity (trolley mounted).	Nos	36,221
f)	10009725	CO2 type portable Fire extinguishers of 22.5kgs/ 50 Lbs. Capacity (trolley mounted).	Nos	16,784
g)	10009724	CO2 type portable Fire extinguishers of 9 kgs. Capacity (trolley mounted).	Nos	9,183
h)	10009701	CO2 portable fire extinguishers of 15 Lbs capacity without trolley and hose pipe	Nos	6,188
i)	10009719	CO2 type portable/wall mounted Fire extinguishers of 2 kgs. Capacity.	Nos	1,218
j)	10009735	9 liters capacity Mechanical foam type fire extinguishers.	Nos	2,959
k)	10009715	Sand / water Buckets 9 liters capacity with stand.	Nos	472
25	10009602	Fire Alarm Panel for the above detectors with 24V (12+12) Batteries for supply to be installed in AC Kiosk	Nos.	4,799
26		<b>Mandatory spares</b>		
a)	10009044	Self starter of HVW Pumps	No	55,659
b)	10009046	Fuel oil filter elements of Diesel engine drive	No	12,595
c)	10009048	Gland packing of jockey pumps	No	6,411
d)	10009622	Quartzoid bulb detector	Nos	555
e)	10009049	Projectors (Nozzles)	Nos	1,347
f)	10009626	Heat detectors	No	2,806
g)	10009149	Pressure switch	No	7,275
h)	10009154	Flaps for check valves 250NB	Nos	14,010
i)	10009153	Flaps for check valves 80NB	Nos	5,301
j)	10009152	Flaps for check valves 50NB	Nos	6,835
k)	70003320	Set of bearings for HVW pumps	Set	11,733
l)	70003321	Set of bearings for Jockey pumps	Set	7,287
m)	10009148	Pressure Gauge	No	2,914
27	10009043	Gland packing of HVW Pumps	Nos	8,380
28	10009046	Lubricating oil filter elements of Diesel engine drive	Nos	13,285
29	10006637	Multicretiria detectors	Nos	13,285
30	10009625	Beam Detector	Nos	42,523
31		15NB Check Value for deluge valve	Nos	2,237

32	10006558	SF6 gas cylinder of 50Kg capacity	Nos	41,580
33	10001937	SF6 gas cylinder of 25Kg capacity	Nos	24,475
34	10001940	SF6 gas cylinder of 11Kg capacity	Nos	12,815
<b>M)</b>		<b>33kV STATION POWER SUPPLY FACILITIES</b>		
1	10000702	33kV/415V, 630 KVA Station supply transformers with all accessories and fittings as per specifications and shall comply IS 1180. <b>Creepage Distance for Bushings: 31mm/KV</b>	Nos.	23,72,171
2	10009247	HT Trivector Meter box.	Nos.	5,007
3	10000712	33 KV 3 Phase HG Fuse sets with Insulators.	Set	7,594
4	10012509	150 x 150 mm RS Joists, MS channels & Misc. Structural Steel for 33KV Switchyard CT's, LA's, PT's, CB's, Isolators & HG Fuse sets.	MT	As per Steel rates circular
5	10007320	Hard ware, Clamps, connectors, galvanized bolts, nuts and washers and other miscellaneous items required for complete erection and commissioning of 33 KV /433 V facilities as per the specification.	Set	1,16,098
6	10001112	33kV CTs with junction box and terminal connectors and all accessories as per specification, 25-15/1-1-1A. (Px-Px-0.2S). Creepage Distance: 31mm/KV	Sets	18,152
7	10001350	36kV, 2500A, 31.5KA for 3 seconds Vacuum Circuit Breaker. Creepage Distance: 31mm/KV	Nos.	2,83,250
8	10004066	33kV Twin Feeder C&R panel with BCUs as per BOM	Nos.	11,20,000
9	10001320	33kV Potential Transformer with terminal connectors and all accessories as per specification, Ratio: 33kV/ $\sqrt{3}$ / 110/ $\sqrt{3}$ -110/ $\sqrt{3}$ , Accuracy Class: 0.2-0.2 and Burden: 50VA-10VA. Creepage Distance : 31mm/KV	Nos.	55,000
10	10001320	33kV Potential Transformer with terminal connectors and all accessories as per specification, Ratio: 33kV/ $\sqrt{3}$ / 110V/ $\sqrt{3}$ , Accuracy Class:0.2 and Burden: 10VA with sealing arrangement. Creepage Distance: 31mm/KV	Nos.	55,000
11	10004517	Spare BCU+Spare <b>Directional</b> Over current and earth fault relay/BCPU (same type as offered in the tender)	Nos.	73,367
12		33kV CTs with junction box and terminal connectors and all accessories as per specification, 25/1A with sealing arrangement. Accuracy Class: 0.2S, Burden: 5A and ISF: $\leq 5$ . Creepage Distance: 31mm/KV	Sets	18,152
		<b>Supply of 33 kV Line Material :</b>		
1	10010108	100 Sq. mm AAA Conductor	Km	1,02,250
2		4 Bolted Aluminium Pad Clamps suitable for AAA 100 Sq mm Conductor	Nos.	205
3	10007538	33 kV Polymer Pin insulator with pin	Each	736

4	10007531	33 kV string insulator sets with metal parts (1 set = 3 Nos. strain insulator with 1 No. metal part and accessories etc.,)	Sets	1,164
5	10012428	9.1 mtrs Prestressed cement concrete (PSCC) poles with base plates, earth coils.	Nos.	3,885
6	10008770	Back clamp for 9.1Mtrs. PSCC pole with 75X8mm MS Flat	Each	133
7	10012592	Stay clamp for 9.1Mtrs. PSCC pole with 75X8mm MS Flat	Set	280
8		Fabricated, galvanised DP structures, GI Bolts, Nuts and washers, vertical formations, V cross arms, top cleats etc. with channels, angles, flat, rods etc. as per complete requirement.	MT	71,382
9	10007352	Supply of 33kV M+06 towers	MT	As per Steel rates circular
10	10010181	Stay wire 7/3.15 mm (10SWG)	MT	105,000
11	10007765	Eye bolts and anchor rods etc for complete stay set	Sets	793
12	10007537	Guy insulator sets	Sets	47
13		Danger boards at important locations as directed by the Engineer-in-charge	Nos.	176
14	10008206	33 kV PG Clamps	Nos.	350
15	10012429	11/12.5 mtrs Spun Poles including clamps	Nos.	17,457
16	10007536	33KV SRC Pin Insulator with GI Rods	Nos.	659
17		33KV SRC Pin Insulator with metal	Nos.	659
18		33kV Double Tension Hardware for AAA Conductor	sets	4,900
		<b>Mandatory Spares for 33 kV/ 415V Station power supply Transformer.</b>		
19	10000709	Bushings with metal parts set for each rating (HV-1 No. & LV-1 No.)	Sets	18,242
20	10000479	Silica Gel Breather	Nos.	3,545
21		33kV, 800A Isolator with terminal connectors without earth Switch	Sets	68,454
22	10007535	Solid core insulators for the above isolator	Nos.	2,196
23	10007608	70kN Composite Polymer insulators	Nos.	558
<b>N)</b>		<b>Territory Winding</b>		
1		<b>33KV/415V, 630 KVA Station supply transformers with all accessories and fittings as per specifications (as per IS 1180). HV shall be insulated for 52KV. Creepage Distance for 52KV Bushings: 31mm/KV</b>	<b>No</b>	34,10,109
2	10002637	72.5KV, 800Amps Isolators with terminal connectors including support insulators complete. Creepage: 31mm/KV	No	1,06,246
3	10001283	72.5KV CTs with Junction box and terminal connectors and all accessories as per the specification. Ratio: 25-15/1-1-1A, Accuracy Class: Px-Px-0.2S. <b>Creepage: 31mm/KV</b>	No	98,507

4	10001330	72.5KV PTs with Junction box and terminal connectors and all accessories as per the specification. Ratio: 33KV/ $\sqrt{3}$ /110V/ $\sqrt{3}$ -110V/ $\sqrt{3}$ . <b>Accuracy Class: 0.2-0.2, Burden: 50VA-10VA. Creepage: 31mm/KV</b>	No	98,507
5		72.5KV CTs with Junction box and terminal connectors and all accessories as per the specification for Metering with sealing arrangement. Ratio: 25/1A, Accuracy Class: 0.2S, Burden: 5VA and ISF: $\leq 5$ . <b>Creepage: 31mm/KV</b>	No	98,507
6		72.5KV PTs with Junction box and terminal connectors and all accessories as per the specification for meteringf with sealing arrangement. Ratio: 33KV/ $\sqrt{3}$ /110V/ $\sqrt{3}$ . <b>Accuracy Class: 0.2, Burden: 10VA. Creepage: 31mm/KV</b>	No	98,507
7		72.5KV SF6 Gas Circuit Breaker with all accessories complete integrated to the substation automation system with 2 Nos. CTDs. <b>Creepage: 31mm/KV</b>	LS	6,32,700
8		33kV Control & relay panel with BCU suitable to SAS Control and Relay with Terminal Connectors and all accessories including. Ammeter, Voltmeter, MW Meter, 0.2 Class accuracy Energy Meter/Multi Function meter, TNC Switch, Indication Bulbs, 3 Nos. Over Current, 1 No. Earth Fault Realy (IDMT Non Directional ), Neutral Displacement Relay for tertiary arrangement	No	11,20,000
9	10007521	72.5KV Bus Post Insulators (Solid core insulators) required for tertiary arrangement. <b>Creepage: 31mm/KV</b>	No	13,919
10		Heat Shrinkable insulation sleeves for ACSR moose conductor (31.77 mm) (RBPM-50)	Mts	566
<b>O)</b>		<b>CONTROL HOUSE FURNITURE AND MONITORING SYSTEM</b>		
1	70002812	Godrej make Tables (Model EARL Size 200 W x 1900 D x 750H mm) or Wipro make (Model Kingsley Premium Type-A main table).	No.	7,093
2	70002813	Credenzas for above (Make Godrej, Model: EARL Size 2100 W x 350D x 1520H) or Wipro make, Model Wudsafe-LHS:size 750Lx425Dx740HT or equivalent as per approval of APTRANSCO M/s. Godrej make with revolving chair.	No.	2,091
3	70002727	Self Containing 12 Nos Racks with safety locker make Godrej or Wipro or equivalent.	Set	17,352
4	70002591	Junior Executive table (1365 x 680 x 7350) mm with decolam Model No.T-9 make Godrej or Wipro or equivalent.	Nos.	27,769

5	70002589	Steel Table (1199 x 590 x 735) mm with single drawer and Decolam Top Model. T-111 make Godrej or Wipro or equivalent.	Nos.	5,659
6	70002668	Steel revolving chair model No. CH – 1014 with heavy base seat and back in cane make Godrej or Wipro make model: That's it or equivalent.	Nos	11,100
7	70002669	Steel Tubular `S` Type chair (Continuous Arm) Model No. Chr-7 in 1" dia and 14 gauge pipe, cane seat and back in teak wood with quality cane make Godrej or Wipro make model: That's it or equivalent.	Nos	5,550
8	70002666	Steel Tubular `S` Type chair (without arm) Model No. Chr 4 in 1" dia and 14 SWG pipe, cane seat and back in teak wood with quality cane make Godrej Wipro make model: That's it or equivalent.	Nos	4,440
9	70002711	Steel store well plain (900 x 507 x 1950) mm Make Godrej, Model: Slimline 4S Text purple colour or Wipro make model Endura.	Nos	22,622
10	70002787	Plastic file trays ( 16" x 11"x3")	Nos	348
11	70002703	Steel Stools (15"x15"x18") with MS top sheet thickness 20mm 1" square pipe 16 gauge make Godrej or equivalent.	Nos	2,220
12	70002788	Steel waste paper baskets (12"x10"x10")	Nos	487
13	70002726	Steel rack (6'x3'x16") with 6 shelves making 5 compartments (22 Gauge)	Nos.	13,330
14	70002745	Short bench (4'x14"x1/2') with laminated Top.	Nos.	1,665
15		<b>Display Board for Substation Layout</b>		
a)	70002814	6' x 5' Plywood Novapan finish with suitable border and computerized symbols, labels etc of single line diagram as directed by Site Engineer complete suitable for Wall/Floor stand mounted.	No.	6,141
b)	70002815	Aluminium Floor stand for the above.	No.	11,335
16	70002816	3' x 2' Wooden key board suitable for holding 30 Nos Key chains	No.	1,416
17	70001850	Brother P-Touch Sticker lable printer with Software and all accessories (Model PT-2700) / Latest Model.	No.	19,111
18		<b>Sticker lables, printer cartridges suitable for (Brother P make) Touch sticker Lables, Printer.</b>		
a)	70001851	24 mm size.	No.	519
b)	70001852	18 mm size.	No.	426
c)	70001853	12 mm size.	No.	330
19	70004318	Supply and fixing of teak wood name boards with enamel painting letters of size 12"x4" for rooms in control room.	Nos.	4,159
20	70002817	Supply and fixing of Bay Indicator boards of thickness 18" with MS sheet and MS angles of size 10"x26" including cost of letters.	Nos.	2,402

21	70004411	Supply and fixing of name board indicating 400/220kV SS, APTRANSCO, XXXXXXXXXX, XXXXXXXXXX Dist. Of size 4x8 feet with MS 18gauge sheet MS 1.5"angles.1.5"pipes and concreting foundation including cost of painting letters(1no. In English & 1no. In Telugu).	Nos.	25,715
22	70004412	Supply and fixing of notice board of size 2x2.5feet.	No.	949
23	70004412	Pictograph of size 2x4feet with letters.	No.	7,112
24	70004414	<b>Personal computer (with the following configuration)</b>		
a)	70001915	Intel core i-7-3920XM Process 512KB level-8M cache upto 3.80 GHz, 8GB RAM , 128bit graphic accelerator with 4MB SG RAM,160GB Ultra DMA-HDD,1.44MB FDD,52X Creative DVD-ROM,1x16550 fast serial ports & IEPP ECP parallel ports , 4X, universal serial bus (USB) ports, PS/2 compatible key board/mouse ports, 19" colour monitor, Internet ready multimedia key board, Optical scroll mouse and built in modem 128KBPS along with telephone instrument & other accessories and complete installation of the system, DVD writer with latest software. (HP/ACER make or equivalent reputed make	Nos.	70,969
b)	70001867	10/100 MBPS Ethernet Card	Nos.	25,625
c)	70005269	Windows-10 or later version of OS and latest MS OFFICE software - preloaded along with Media & Manuals, Power management software, ACPI and windows 10 / Latest.	Nos.	42,695
d)	70005258	Latest updated versions of Antivirus software kit - Norton, macfee, hill view etc alongwith Media & Manuals	Nos.	11,094
25	70002246	HP laser jet printer 101 0 to 1015 series.(1020 series)		14,646
26	70002240	Laser Jet Printer with Fax, Scan, and Photostat along with 2sets of Spare cartridges and Scanner.	Nos.	29,128
27	70002092	2 kVA inverter (input 220V DC, output 220V AC)	Nos.	19,090
28	70001712	Laptop of latest version with all software, multimedia and manuals of make <b>Dell</b> or equivalent etc.	Nos.	64,153
29	70005310	Latest AutoCAD software licensed copy	No.	45,760
30	70000505	Binoculars(latest version with night vision)	No.	5,204
31	7001856	Xerox Machine (RICOH /Canon / Brother Digital Multi Functional Network Device Model MP 2001 SP / Latest model with RADF Network, Printer, Scanner, Fax Option (LP Printer latest version with 2Nos Spare cartridges)	Nos.	110,051
32	70004448	Water Purifier ISI standard make.	Nos.	10,207
33	70002502	Furniture consisting of a table and revolving chair for PC and a table for printer	Nos.	7,138

34		Supply of GPS(Garmin GPS 72H)/ Latest Model	No.	15,635
<b>P)</b>		<b>CONDUCTORS</b>		
1	10010101	ACSR Panther conductor	Km	2,28,941
2	10010103	ACSR Moose Conductor	Km	5,30,873
3	10010102	ACSR Zebra Conductor	Km	4,07,064
4		ACSS (TW) Zebra Conductor	Km	4,50,100
5	10010121	ACSS (RW) Zebra Conductor	Km	4,50,440
6		ACSS (TW) Moose Conductor	Km	5,65,500
7	10010136	ACSS (RW) Moose Conductor	Km	5,60,000
8		ACSS (RW) Panther	KM	2,36,340
9		ACSS (TW) Panther	KM	2,75,000
10	10010115	AL-59 Zebra Conductor	Km	3,76,200
11	10010106	AL-59 Moose Conductor	Km	4,34,700
12		AL-59 Panther Conductor	Km	2,91,900
13	10010110	AAAC Panther	Km	2,49,756
14	10010176	7/3.15mm HTGS wire	Km	37,152
15	10010175	7/3.66mm HTGS Earth Wire	Km	37,152
16	10007650	Bolts &Nuts	MT	1,15,979
<b>Q)</b>		<b>400KV LINE MATERIALS</b>		
1		<b>Anti climbing devices</b>		
a)	67500033	Tangent towers	Nos	5,136
b)	67500034	Small angle towers	Nos	6,848
c)	67500035	Medium angle towers	Nos	8,559
d)	67500036	Large angle towers	Nos	8,559
2		<b>Earthing of the towers</b>		
a)	10006927	Pipe type Earthing Sets	Sets	1,665
b)	10003006	Counter poise earthing	Sets	3,995
3		<b>Insulator Hardware &amp; Accessories for conductor and earth wire.</b>		
(a)		<b>For Quad Moose ACSR conductor</b>		
i)	10007009	Double Suspension Hardware for Quad ACSR Moose Conductor	Sets	13,253
ii)	10007001	Quadruple tension Hardware for ACSR Moose conductor	Sets	49,546
iii)	10007011	Pilot string Hardware for Quad ACSR Moose conductor	Sets	13,783
iv)	10007274	Quadruple spacer dampers for ACSR Moose Conductor	No.	1,838
v)	10007319	Rigid/ Bundle spacers (Quadruple ACSR Moose conductor) for jumpers.	No.	1,376
vi)	10007201	Mid span compression joints for ACSR Moose conductor	No.	1,216

vii)	10007218	Repair Sleeves	No.	475
<b>(b)</b>		<b>For Twin Moose ACSR conductor</b>		
i)	10007027	Double tension Hardware for ACSR Moose conductor	Sets	14,063
ii)	10007010	Double 'T' Suspension Hardware for ACSR Conductor	Sets	14,825
iii)	10007083	Single Suspension Hardware for ACSR Conductor	Sets	8,035
iv)	10007501	Single Suspension Pilot string Insulator Hardware for Twin Moose ACSR Conductor complete	Sets	14,446
v)	10007276	Vibration dampers for ACSR Moose Conductor	No.	1,267
vi)	10008569	Rigid spacers (Twin ACSR Moose conductor) for jumpers.	No.	992
vii)	10007275	Spacer Dampers for ACSR Moose conductor	No.	1,256
<b>(c)</b>		<b>For HTLS ACSS Moose RW/TW</b>		
(i)		Single Suspension Insulator hardware for HTLS ACSS Moose Conductor (RW/TW)	Nos	6,532
(ii)		Single Tension Insulation hardware complete for HTLS ACSS Moose Conductor (RW/TW)	Nos	5,299
(iii)		Single Suspension pilot Insulator hardware for HTLS ACSS Moose Conductor (RW/TW)	Nos	3,325
(iv)		Bundle /Rigid spacers for HTLSS ACSS Moose (RW/TW)	Nos	1,145
(v)	10007016	Vibration Dampers for HTLS ACSS Moose Conductor (RW/TW)	Nos	736
(vi)		Twin HTLS ACSS Moose (RW/TW) Rigid spacers for jumpers (250mm spacing)	Nos	992
(vii)	10007015	Mid Span compression joints HTLS ACSS Moose (RW/TW)	Nos	1,000
(viii)		Repair sleeves for HTLS ACSS (RW/TW)	Nos	382
(ix)		wedge connectors for ACSS moose to Moose	Nos	2,907
(x)		T Clamps	Nos	1,194
<b>(d)</b>		<b>For HTLS ACSS Panther RW/TW</b>		
(i)		Single Tension Hardware suitable for ACSS Panther	Nos	2,724
(ii)		Double Tension Hardware suitable for ACSS Panther	Nos	6,300
(iii)		Single suspension H/W for ACSS Panther (Pilot)	Nos	1,317
(iv)		Midspan Compressor Joints for ACSS Panther	Nos	573
(v)		Vibration Dampers for ACSS Panther	Nos	415
(vi)		Double suspension hardware suitable for Panther	Nos	4,793
(vii)		Repair Sleeves for ACSS Panther	Nos	194
<b>(e)</b>		<b>For AAAC Panther Conductor</b>		
(i)		Single Tension Hardware for AAAC Panther	Nos	2,106
(ii)		Double Tension Hardware for AAAC Panther	Nos	5,193
(iii)		Pilot Suspension Hardware for AAAC Panther	Nos	675
(iv)		Vibration dampers for AAC Panther	Nos	415

(v)		Midspan Joints for AAAC Panther	Nos	573
(vi)		Repair Sleeves for AAAC Panther	Nos	194
<b>f)</b>		<b>For ACSS Zebra conductor</b>		
(i)		Single Suspension H/W for ACSS Zebra (Pilot)	Nos	1,089
(ii)		Single Suspension H/W for ACSS Zebra with AAH arrangement including AGS type clamp	Nos	2,652
(iii)		Single Suspension H/W for ACSS Zebra with FAH arrangement including AGS type clamp	Nos	2,652
(iv)		Double suspension H/W (AGS type) for ACSS Zebra conductor	Nos	4,571
(v)		Mid Span Compression Joints for ACSS Zebra	Nos	745
(vi)		Repair sleeves for ACSS Zebra	Nos	290
(vii)		Single Tension H/W for ACSS Zebra	Nos	2,170
(viii)		Double Tension H/W for ACSS Zebra	Nos	3,779
(ix)		Vibration dampers for ACSS Zebra	Nos	707
<b>g)</b>		<b>For ACSS Lynx Conductor</b>		
(i)		Single Suspension H/W for ACSS Lynx (Pilot)	Nos	1,833
(ii)		Single Suspension H/W for ACSS Lynx with AAH arrangement including AGS type clamp	Nos	1,833
(iii)		Single Suspension H/W for ACSS Lynx with FAH arrangement including AGS type clamp	Nos	1,833
(iv)		Double suspension H/W (AGS type) for ACSS Lynx conductor	Nos	3,952
(v)		Mid Span Compression Joints for ACSS Lynx	Nos	418
(vi)		Repair sleeves for ACSS Lynx	Nos	137
(vii)		Single Tension H/W for Lynx ACSS	Nos	1,712
(viii)		Double Tension H/W for Lynx ACSS	Nos	3,370
(ix)		Vibration dampers for Lynx ACSS	Nos	344
<b>h)</b>		<b>For ACSS Twin Moose conductor</b>		
(i)		Single Suspension H/W for ACSS Twin Moose (Pilot)	Nos	5,749
(ii)		Single Suspension H/W for ACSS Twin Moose with AAH arrangement including AGS type clamp	Nos	10,430
(iii)		Single Suspension H/W for Twin Moose with FAH arrangement including AGS type clamp	Nos	10,430
(iv)		Double Tension H/W for ACSS Twin Moose	Nos	16,293
(v)		Vibration dampers for Twin Moose	Nos	736
(vi)		Damper spacers Twin moose ACSS	Nos	1,386
(vii)		Suspension Tower Hangers	Nos	974
(viii)		Twin rigid spacers (150 mm spacing) for twin ACSS conductor	Nos	540
<b>i)</b>		<b>For ACSR Panther Conductor</b>		
(i)		Double suspension H/W (AGS type) for Panther conductor	Nos	4,905

(ii)	Single Suspension H/W for Panther (Pilot)	Nos	1,570
(iii)	Single Suspension H/W (AGS-FAH) Panther ACSR	Nos	2,376
(iv)	Single Suspension H/W (AGS -AAH) for Panther ACSR	Nos	2,550
(v)	Double Tension H/W for Panther ACSR	Nos	4,452
(vi)	Single Tension H/W for Panther ACSR	Nos	2,149
(vii)	Mid Span Compression joints for Panther	Nos	533
(viii)	Vibration dampers for Panther ACSR	Nos	596
(ix)	Repair sleeves for Panther conductor	Nos	260
<b>j)</b>	<b>For ACSR Moose Conductor</b>		
(i)	Single Suspension H/W (AAH type) for Moose Conductor	Nos	4,591
(ii)	Double Tension H/W suitable for Moose	Nos	6,675
(iii)	Single Tension H/W suitable for Moose	Nos	3,835
(iv)	Double suspension h/w (AGS type) for moose conductor	Nos	6,641
(v)	Single Suspension H/W (FAH) for Moose	Nos	4,418
(vi)	Single Suspension H/W suitable for Moose (Pilot)	Nos	1,633
(vii)	220kV Single suspension hardware for Twin moose	Nos	4,563
(viii)	220kV Double suspension hardware for twin moose	Nos	6,524
(ix)	Spacer clamps with 400mm spacing for twin moose	Nos	658
(x)	T clamps for twin moose to single moose with 400mm spacing	Nos	1,041
(xi)	Suspension clamps suitable for twin Moose conductor for 220kV and 132kV	Nos	818
(xii)	Mid Span Compression joints for Moose	Nos	1,216
(xiii)	Repair sleeves for Moose conductor	Nos	475
(xiv)	Vibration dampers for Moose conductor	Nos	1,110
(xv)	Armour Rods for Moose ACSR conductor	Nos	2,170
(xvi)	Arcing Horns for Single suspension Moose	Nos	386
(xvii)	Arcing Horns for Single V-Suspension Moose	Nos	321
<b>k)</b>	<b>For ACSR Zebra Conductor</b>		
(i)	Double suspension H/W (AGS type) for Zebra conductor	Nos	6,092
(ii)	Single suspension H/W for Zebra (Pilot)	Nos	1,588
(iii)	Single suspension H/W (AGS-FAH) Zebra ACSR	Nos	2,891
(iv)	Single suspension H/W (AGS-AAH) for Zebra ACSR	Nos	3,095
(v)	Double Tension H/W for Zebra ACSR	Nos	5,542
(vi)	Single Tension H/W for Zebra ACSR	Nos	2,910
(vii)	Mid span compression joints for Zebra	Nos	922
(viii)	Vibration dampers for Zebra ACSR	Nos	859
(ix)	Repair sleeves for Zebra conductor	Nos	340
<b>l)</b>	<b>AL59 Zebra Conductor Hardware &amp; Accessories</b>		

(i)		Single Suspension H/W for AL59 Zebra (Pilot)		2,145
(ii)		Single Suspension H/W for AL59 Zebra with AAH arrangement including AGS type clamp		3,588
(iii)		Single Suspension H/W for AL59 Zebra with FAH arrangement including AGS type clamp		3,588
(iv)		Double suspension H/W (AGS type) for AL59 Zebra		5,559
(v)		Single Tension H/W for AL59 Zebra		2,836
(vi)		Double Tension H/W for AL59 Zebra		5,559
(vii)		Vibration dampers for AL59 Zebra		648
(viii)		Mid Span Compression Joints for AL59 Zebra		790
(ix)		Repair Sleeves for AL59 Zebra		352
<b>m)</b>		<b>7/3.15 mm Earth Wire</b>		
(i)	10007112	Suspension clamps for HTGS Earth Wire	Nos	595
(ii)	10007063	Tension clamps for HTGS Earth Wire	Nos	593
(iii)	10007279	Vibration dampers for HTGS Earth wire	Nos	474
(iv)	10006923	Flexible copper bonds for earth wire.	Nos	569
(v)	10007228	Repair Sleeves	Nos	209
(vi)		Tension hardware with earth bond	Nos	920
(vii)		Suspension hardware with earth bond	Nos	896
(viii)		Mid Span compression Joints for earth wire	Nos	122
(ix)		Zinga Coating Material on GI Towers		
(x)		Zinga Zinc rich coating or Film Galvanising System containing 96% zinc (dust) in its dry film	Kg	991
(xi)		Zinga Solvent	Ltr	594
<b>n)</b>		<b>Tower Accessories</b>		
1	67500060	Number plates with Bolts &Nuts and Washers	Nos	208
2	67500058	Phase Plates with Bolts &Nuts and Washers (set of Three)	Set	244
3	67500055	Circuit plate with Bolts &Nuts and Washers (set of Two)	Set	300
4	67500061	Danger Boards with Bolts &Nuts and Washers	Nos	231
5	67500042	Bird guards	Nos	250
6	67500028	Anti-Climbing devices( for 220 KV and 1332 KV Towers)	Set	3,576
7	10007787	U Bolts 16mm	Nos	175
8	10007790	U Bolts 20mm	Nos	234
9	67500046	Hangers 132 KV	Nos	744
10	67500076	Hangers 220 KV	Nos	750
11	10008844	Armour Rods for Panther ACSR conductor	Nos	680
12	10007289/ 10007290	Arcing Horns for Panther ACSR conductor	Nos	550
13	67500039	Supply & Fixing of Bird Diverters (Non-LED Type) as per forest department	Nos	1,470

<b>R)</b>		<b>INSULATORS</b>		
1	10007510	120KN Disc Insulators (Antifog type with Zinc Sleeve) 460mm creepage	No.	751
2	10007601	120KN SRC Insulators -13020mm creepage	No.	7,070
3	10007508	160KN Disc Insulators (Antifog type with Zinc Sleeve) 470mm creepage	No.	1,379
4	10007600	160KN SRC Insulators -13020mm creepage	No.	8,192
5	10007604	220kV 70KN SRC Insulators	Nos	4,392
6	10007603	220kV 120KN SRC Insulators	Nos	4,606
7	10007607	132kV 70KN SRC Insulators	Nos	3,064
8	10007605	132kV 120KN SRC Insulators	Nos	3,294
9	10007514	70KN Porcelain normal Disc Insulators	Nos	435
10	10007512	120KN Porcelain normal Disc Insulators	Nos	737
11	10007509	160KN Porcelain normal Disc Insulators	Nos	750
12	10007513	70KN Antifog Disc Insulators (Creepage dist.435mm)	Nos	777
13	10007510	120KN Antifog Disc Insulators(Creepage dist.435mm)	Nos	844
14		120KN Antifog Disc Insulators(Creepage dist.475mm)	Nos	1,018
15	10007508	160KN Porcelain Antifog Disc Insulators with Zinc Sleeve 470mm creepage	Nos	1,380
		<b>Bus Post Insulators</b>		
16	10007505	400 kV Bus Post Insulators of 8kN Strength (31 mm/kV)	Nos	56,245
17	10008687	220 kV Bus Post Insulators of 8kN strength (31mm/KV)	Nos	27,853
18		220 kV Bus Post Insulators of 6kN strength (31mm/KV)	Nos	23,500
19		132 kV Bus Post Insulators (31mm/KV)	Nos	14,000
20		33 KV 6 KN Bus Post Insulator 31mm/KV		3,500
<b>S)</b>		<b>CONTROL AND RELAY PANELS ALONG WITH SAS EQUIPMENT</b>		
		Design, engineering, manufacture, assembly, shop testing, supply and delivery at sites including packing forwarding handling and unloading at site of complete set of the following control and relay and protection panels and other equipment with all equipment accessories and others as per APTRANSCO specification.		
		<b>400kV Voltage Level</b>		
1	10004002	Common Control and Busbar Protection Panels with duplicate bus bar arrangement for <b>400kV</b> side As per 400KV Specification for Control & Relay Panels: 24 bays Distributed	Set	1,27,33,333
2	10004303	Common Control and Busbar Protection Panels for <b>220kV</b> side As per 400KV Specification for Control & Relay Panels: 24 Bays Distributed	Set	1,27,33,333

3	10004004	400kV Line CB Control and Relay Panels As per 400KV Specification for Control& Relay Panels	Nos	21,33,333
4	10004005	400kV Line Differential protection with backup impedance protection Panels As per 400KV Specification.	Nos	24,50,000
5	10004007	400kV Tie CB Control and Relay panels As per 400KV Specification for Control & Relay Panels.	Nos	19,16,667
6	10004013	400kV side of 400/220kV 500/315 MVA ICT Circuit Breaker Control and Relay Panels as per 400KV Specification for Control & Relay Panels.	Nos	18,66,667
7	10004014	400/220kV 500/315MVA ICT Protection Panels As per 400KV Specification for Control & Relay Panels.	Nos	16,78,320
8	10010251	Sub-Station Automation System as per 400KV Specification including Software with unlimited tags and 8 Nos. 104 Ports for Sub-Station Automation System along with Visual monitoring system.	Nos	1,59,46,043
9	10010313	Integration and Installation, Testing & Commissioning of ICT/feeder Bay to the existing Substation Automation System (including Hardware and Software)	Nos	26,27,723
10	70001502	Relay Test kit and Testing Instruments as per 400KV Specification for Control& Relay Panels.	Nos	29,70,000
11	10004011	125MVAR Bus Reactor Main CB Control & Relay Panel as per 400KV Specification.	Nos	18,50,000
12	10004009	125MVAR Bus Reactor Circuit Breaker Protection Panel as per 400KV Specification.	Nos	20,50,000
13	10004253	Mandatory Spares for Control and Relay Panels as per 400KV Specification.	Lot	60,00,000
		<b>For 220KV Voltage Level</b>		
14	10004013	220kV side of 400/220kV 500/315 MVA ICT Circuit Breaker Control and Relay Panels as per 400KV Specification for Control & Relay Panels.	Nos	18,66,667
15	10004004	220kV Line Circuit Breaker Control and Relay Panels As per 400KV Specification for Control & Relay Panels.	Nos	20,33,333
16	10004022	220kV Line Differential Protection with backup impedance protection Panels As per 400KV Specification for Control & Relay Panels.	Nos	23,50,000
17	10004023	220kV Bus Coupler Control, Relay and Protection Panels As per 400KV Specification for Control & Relay Panels.	Nos	14,16,667
18	20004024	220kV Transfer Bus Coupler Control, Relay and Protection Panels 400KV Specification for Control & Relay Panels.	Nos	14,16,667

19	10004035	220 kV Feeder Control & Relay Panels with BCUs suitable for SAS Integration including Protection Panel complete set as per specification.	Nos	35,50,000
20	10004037	220/132kV Power Transformer Control & Relay Panels with BCUs suitable for SAS Integration including Protection Panel complete set as per specification.	Nos	25,83,333
21	10004027	220kV Bus Bar Scheme Panel (for 16 Bays) for double bus system	Nos	67,16,667
22	10004023	220kV Bus Coupler Panel with BCUs as per specification.	Nos	13,00,000
23	10010303	Industrial grade desktop PC with 24" (TFT) Monitor with software & furniture as per APTRANSCO Spec.	SET	9,50,000
24	70002326	A4 Laser color printer with furniture.	Nos	1,47,500
25	10010292	GPS clock, antenna along with Associated equipment for time synchronization with existing relays.	SET	2,62,500
26	70002094	3 KVA Inverters, Cabling & Installation as per APTRANSCO Specification.	SET	2,97,500
27	10012127	Data Concentrator for Energy Meters interface with IEC61850.	SET	4,50,000
28	10011651	REMOTE Gateway consists of chassis, mother board, power supply, processor with communication ports: a) IEC 60870-5-101 and b) IEC 60870-5-104. (Suitable for 400kvSS, 220kv SS ,132 kV SS).	SET	7,50,000
29	10011665	Industrial grade Ethernet Switches & Accessories.	Nos	2,72,500
		<b>132kV Voltage Level</b>		
32		132 kV Feeder Control & Relay Panel with BCUs with Line Differential relay with backup impedance protection and Directional O/L & E/L Protection.	Nos	18,50,000
33		132 /33 KV Power Transformer Control & Relay Panel with BCUs as per BOM.	Nos	18,50,000
35		132kV Feeder C&R Panel with Line Differential Protection with backup impedance protection and Directional O/L & E/LR Protection: Conventional		16,50,000
36		132kV Feeder C&R Panel (Traction) - Conventional	Nos	13,50,000
37		132kV PTR C&R Panel - Conventional	Nos	15,50,000
		<b>33kV Voltage Level</b>		
38		33 kV Twin feeder Control & Relay Panel with Directional O/L and E/L Relays and BCUs as per BOM.	Nos	11,20,000
39		33kV Twin feeder C&R panel with Directional O/L and E/L Relays - Conventional	Nos	7,50,000
42		Spare Transformer Differential relay (220/132KV )	Nos	3,00,000

		<b>RTU</b>		
43	10011302	Remote terminal unit along with interface cabinet, Relays, Transducers, Cabling, Switches etc., and necessary spares to provide data acquisition from 220kV Substations	Nos	17,00,578
44		Remote terminal unit along with interface cabinet, Relays, Transducers, Cabling, Switches etc., and necessary spares to provide data acquisition from 132kV Substations	Nos	15,67,721
<b>T)</b>		<b>VISUAL MONITORING SYSTEM FOR 400KV SS</b>		
1	70002228	4MP IP Bullet Cameras, IP 66, 50Mtrs IR, Day & Night with 16x Digital Zoom	Nos	8,138
2	70002230	4MP PTZ Cameras with 45x200 (100Mtrs), IR, IP 66 with 30x Digital Zoom IP 66, 50Mtrs IR, Day & Night with 16x Digital Zoom	Nos	99,820
3	10011677	64 Channel Network video recorder with 4 Sata cable & adopter	Nos	81,918
4		8TB Surveillance Hard disc	Nos	21,157
5	10011641	VMS metal surface boxes with power manager and termination box for OFC splicing and MCB connection with 1KVA Surge protection	Nos	7,052
6	10011784	Fiber Duplex patch card LC-LC or LC-SC as per the LIU functionality	Nos	1,085
7		6 PORT loaded LIU with Fiber Pigtails and adapters	Nos	3,798
8	10011628	6 Core Single mode armoured OFC Cable	Mtrs	46
9		32mm HDPE for ducting purpose with anti redundant and suitable T Junctions/ C sections, reducers & Couplers etc	Mtrs	56
10	10011950	Power Cables 2 Core, 2.5 Sqmm	Mtrs	44
11		HDMI Cable	Nos	923
<b>U)</b>		<b>GIS</b>		
1	10010469	420kV, 63kA SF6 GIS Feeder Bay Module (without PIR)	SET	3,46,46,302
2	10010511	420kV, 63kA SF6 GIS Line feeder bay module (with PIR).	SET	4,77,32,488
3	10010470	420kV, 63kA SF6 GIS ICT Bay Module (with CSD)	SET	4,03,63,400
4		420kV, 63kA SF6 GIS ICT Bay Module (without CSD)	SET	3,41,58,487
5	10010468	420kV, 63kA SF6 GIS Bus Bar module for Spare Transformer/feeder with end piece module.	SET	1,93,95,400
6	10010471	420k, 63kA SF6 GIS Bus Reactor bay module (with CSD).	SET	3,77,42,400
7		420kV, 63kA SF6 GIS Line Reactor bay module		3,77,42,400

8		420kV, 63kA SF6 GIS Bus Sectionalizer module.	SET	5,49,24,550
9	10010512	420kV, 63kA SF6 GIS Tie bay module (with PIR).	SET	4,04,32,225
10	10010472	420kV, 63kA SF6 GIS Tie bay module (without PIR).	SET	3,35,48,800
11		420kV, 63kA SF6 GIS Tie bay module (with CSD).	SET	3,35,48,800
12	10010451	420kV, 63kA SF6/Air Bushing for connecting GIS to AIS	SET	7,55,784
13	10010473	420kV Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure.	mtrs	78,618
14		SF6 Gas processing Unit.	SET	54,46,789
15	70001118	Supply and Erection of EOT Crane for GIS Building (400 KV)	SET	27,25,840
16	10010467	Online Partial Discharge Monitoring System for 400kV GIS station.	SET	2,62,10,000
17		420kv bus VT/CVT module.	SET	35,00,000
18	10010402/ 10010401	245kV, 50kA SF6 GIS transformer/ feeder bay module.	SET	2,09,68,000
19	10010513	245kV, 50KA SF6 GIS Bus bar module suitable for double bus arrangement with end piece module	SET	1,57,26,000
20	10010403	245kV, 50kA SF6 GIS Bus coupler bay module suitable for double bus arrangement.	SET	1,99,19,600
21	10010442	245kV, 50kA SF6/Air Bushing for connecting GIS to AIS.	SET	1,92,210
22	10010441	245kV, 50kA Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure.	mtrs	75,484
23	10010440	245kV, 50kA SF6 GIS Bus Sectionalizer bay Module	SET	1,00,46,542
24	70001119	Supply and Erection of EOT Crane for GIS Building (220 KV)	SET	22,01,640
25	10010467	Partial Discharge Monitor (220kV & 132 KV GIS) - OFFLINE.	SET	62,90,400
26		245kv bus VT/CVT module.	SET	22,00,000
27		145kV SF6 GIS Line feeder/PTR bay module.	SET	87,19,413
28		145kV, 40kA SF6 GIS Bus bar module suitable for double bus arrangement with end piece module.	SET	60,00,000
29		145kV SF6 GIS Bus bar coupler bay module as per Section-Project, Technical specification.	SET	96,41,412
30		145kV SF6 TO AIR BUSHING.	SET	3,85,000
31		145kV, 3 Phase, SF6 Gas Insulated Bus duct (GIB) outside GIS Hall alongwith associated support structure.	mtrs	1,12,483
32		145kv VT/CVT module	SET	16,00,000
33		SF6 Gas Processing Unit for 145kV GIS Station	SET	89,98,651

34		Supply and Erection of EOT Crane for GIS Building (132kV GIS station).	SET	17,00,000
35		36kV, 2500A, 25KA for 1 second, SF6 GAS-Insulated metal enclosed bus bar module for double bus arrangement	SET	30,00,000
36		36kV GIS transformer/ feeder bay module.	SET	35,00,000
37		36kV, 3 - phase, 2500A, 25KA SF6 for 1 second, 33kV SF6 GAS Insulated metal enclosed bus section bay module.	SET	35,00,000
		<b>SPARES</b>		
38	10001551	Dew Point Meter for 400kV & 220kV GIS	One No.	7,68,958
39	10001599	SF6 Gas Leakage Detector for 400kV & 220kV GIS System	One No.	1,94,405
40	10001971	SF6 Gas Analyser	One No.	16,01,997
<b>41</b>		<b><u>SPARES FOR 420kV GIS</u></b>	One No.	
<b>(i)</b>		<b>General</b>		
a.	10000186	SF6 gas Pressure Relief Devices, 1 Nos. of each type	One No.	59,817
b.	10001983	SF6 Pressure gauge cum switch OR Density monitors and pressure switch as applicable (1 no. of each type)	One No.	47,255
c.	10000605 0	Coupling device for pressure gauge cum switch for connecting Gas handling plant	One No.	19,142
d.	70003269	Rubber Gaskets, "O" Rings and Seals for SF6 gas of each type	One No.	4,187
e.	10006533	Molecular filter for SF6 gas with filter bags(20% of total weight)	One No.	159,113
f.	10006096	All types of Control Valves for SF6 gas of each type	One No.	5,982
g.		SF6 gas Cylinder 50 Kgs	One No.	52,000
h.	10006096	All types of coupling for SF6 gas (1 no. of each type)	One No.	6,580
i.	10010474	For Single phase enclosure if applicable	One No.	17,347
j.	10002873	Locking device to keep the Dis-connectors (Isolators) and Earthing switches in close or open position in case of removal of the driving Mechanism	One No.	10,169
k.	10007505	Bus Support insulator of each type for 3 phase/single phase enclosure.	One No.	3,26,002
l.	10010451	SF6 to air bushing (400kV) each type as applicable	One No.	7,77,620
<b>(ii)</b>		<b>420 KV SF6 CIRCUIT BREAKER:</b>	<b>One No.</b>	
a.	10001402	Complete Circuit Breaker pole of each type & rating complete with interrupter, main circuit enclosure and Marshalling Box with operating mechanism	One No.	22,79,022
b.	70003269	Rubber gaskets, 'O' rings and seals for SF6 gas (1 No. of each type)	One No.	2,393
c.	10002159	Trip coil assembly with resistor as applicable	One No.	38,881
d.	10002345	Closing coil assembly with resistor as applicable.	One No.	38,881

e.	10006098	Relays, Power contactors, push buttons, timers & MCBs etc (1 No. of each type & rating)	One No.	11,963
f.	10002194	Closing coil assembly (including valve, if applicable)	One No.	1,16,045
g.	10002195	Trip coil assembly (including valve, if applicable)	One No.	1,16,045
h.	70003970	Auxiliary switch assembly of each type	One No.	17,945
<b>(iii)</b>		<b>420 KV ISOLATORS :</b>	<b>One No.</b>	
a.	10002812	Complete set of 3-phase dis-connector (one no. of each type) including main circuit, enclosure, driving mechanism	One No.	34,09,560
b.	10003025	Single Phase/ 3-phase Earthing switch (one no. of each type) including main circuit, enclosure, driving mechanism.	One No.	10,94,468
c.	10003026	Copper contact fingers for dis-connector male & female contact for one complete (3-phase) dis-connector of each type and rating	One No.	2,23,715
d.	10003027	Copper contact fingers for earthing switch male & female contacts, for one complete(3-phase) earthing switch of each type and rating	One No.	2,46,446
e.	10003028	Open / Close contactor assembly, timers, key interlock for one complete (3 phase) dis-connector and (3 phase) earthing switch (1 No. of each type and rating)	One No.	8,374
f.1	10002831	For isolator	One No.	11,365
f.2	10003029	For earth switch	One No.	22,132
<b>iv)</b>		<b>420 KV CURRENT TRANSFORMER</b>	<b>One No.</b>	
a.	10010475	Gas insulated complete CT of each type and rating with enclosure.	One No.	7,17,802
b.	10010476	Secondary bushing of each type	One No.	25,722
v)		<b>420 kV VOLTAGE TRANSFORMER</b>	One No.	
a.	10010477	Gas insulated complete PT of each type and rating with enclosure.	One No.	8,97,253
<b>42</b>		<b>SPARES FOR 245kV GIS</b>	One No.	
<b>(i)</b>		<b>General</b>	<b>One No.</b>	
a.	10000186	SF6 gas Pressure Relief Devices, 1 No. of each type	One No.	39,283
b.	10001983	SF6 Pressure gauge cum switch OR Density monitors and pressure switch as applicable (1 no. of each type)	One No.	31,510
c.	10006050	Coupling device for pressure gauge cum switch for connecting Gas handling plant	One No.	9,512
d.	10006263	Rubber Gaskets, "O" Rings and Seals for SF6 gas of each type	One No.	7,728
e.	10006533	Molecular filter for SF6 gas with filter bags(20% of total weight)	One No.	7,18,181
f.	10006096	All types of Control Valves for SF6 gas of each type	One No.	18,430
g.	10001935	SF6 gas (20 % of total gas quantity)	One No.	21,61,677
h.	10006097	All types of coupling for SF6 gas (1 no. of each type)	One No.	9,512

i.	10010479	For Single phase enclosure if applicable	One No.	1,04,635
j.	10002873	Locking device to keep the Dis-connectors (Isolators) and Earthing switches in close or open position in case of removal of the driving Mechanism	One No.	7,728
k.	10007505	Bus Support insulator of each type for 3 phase/single phase enclosure.	One No.	8,75,135
l.	10010442	SF6 to air bushing (245kV) as applicable	One No.	3,09,745
<b>(ii)</b>		<b>245 KV SF6 CIRCUIT BREAKER:</b>	<b>One No.</b>	
a.	10001406	Complete Circuit Breaker pole of each type & rating complete with interrupter, main circuit enclosure and Marshalling Box with operating mechanism	One No.	9,94,633
b.	10001476	Rubber gaskets, 'O' rings and seals for SF6 gas (1 No. of each type)	One No.	4,162
c.	10002159	Trip coil assembly with resistor as applicable	One No.	23,127
d.	10002345	Closing coil assembly with resistor as applicable.	One No.	26,219
e.	10006098	Relays, Power contactors, push buttons, timers & MCBs etc (1 No. of each type & rating)	One No.	7,728
f.	10002194	Closing coil assembly (including valve, if applicable)	One No.	99,880
g.	10002195	Trip coil assembly (including valve, if applicable)	One No.	99,880
h.	70003970	Auxiliary switch assembly of each type	One No.	17,241
<b>(iii)</b>		<b>245 KV ISOLATORS :</b>	<b>One No.</b>	
a.	10003030	Complete set of 3-phase dis-connector (one no. of each type) including main circuit, enclosure, driving mechanism	One No.	29,46,445
b.	10003031	Single Phase/ 3-phase Earthing switch (one no. of each type) including main circuit, enclosure, driving mechanism.	One No.	6,92,023
c.	10003026	Copper contact fingers for dis-connector male & female contact for one complete (3-phase) dis-connector of each type and rating	One No.	1,93,219
d.	10003027	Copper contact fingers for earthing switch male & female contacts, for one complete(3-phase) earthing switch of each type and rating	One No.	1,71,816
e.	10003028	Open / Close contactor assembly, timers, key interlock for one complete (3 phase) dis-connector and (3 phase) earthing switch (1 No. of each type and rating)	One No.	59,452
f.1	10003036	For isolator	One No.	7,728
f.2	10003035	For earth switch	One No.	7,728
<b>(iv)</b>		<b>245 KV CURRENT TRANSFORMER</b>	<b>One No.</b>	
a.	10010480	Gas insulated complete CT of each type and rating with enclosure.	One No.	5,46,959
b.	10010481	Secondary bushing of each type	One No.	22,843
<b>(v)</b>		<b>245 kV VOLTAGE TRANSFORMER</b>	<b>One No.</b>	

a.	10010482	Gas insulated complete PT of each type and rating with enclosure.	One No.	5,95,710
<b>43</b>		<b>Testing &amp; Maintenance Equipment for GIS</b>		
i	10006527	SF6 Gas filling & evacuating plant	No	54,46,789
ii	10001599	SF6 Gas Leakage Detector for 400kV & 220kV GIS System	No	1,94,405
iii	70000959	Self Support Aluminium Ladder	No	10,667
iv)	70000962	Cart Wheel mounted Aluminium Ladder	No	92,587
v)		Outdoor Power Receptacle for Oil Filtration Unit (400A)	No	9,958
44		400kV 63KA Metering Module		35,00,000
45		245kV, 50KA Metering Module		22,00,000
46		145 KV 40 KA Metering Module		16,00,000
47		36kV Bus VT Module, 33kV/110V		16,00,000
48		36kV Bus Coupler Bays		35,00,000
49		36kV Bus Sectionalizer Bays		35,00,000
50		33kV/415V Station Transformer Modules		17,08,418
<b>V)</b>		<b>XLPE Cables</b>		
		<b>400KV</b>		
1		Supply of 400 KV XLPE Underground Single Core 2500 Sq.mm. Copper Cable.	KM	4,25,64,701
2		400kv 2500Sq.mm Pre moulded joints without cross bonding arrangements with copper casing and coffin box.	Nos	21,94,115
3		400kV 2500Sq.mm Pre moulded joints with cross bonding arrangements (Insulated joints) with copper casing and coffin box.	Nos	21,94,115
4		Design, Supply of 400KV, 2500 Sq.mm outdoor type cable end terminations (sealing ends) with all materials complete in all respects.	Nos	26,62,101
5		Design, supply of 400KV, 2500Sqmm cable end terminations complete in all respects (SF6 type cable terminations).	Nos	19,46,494
6	10003662	3 Phase Link boxes with SVL to cross bond the sheath suitable for 400kV XLP UG cable.	Nos.	1,41,318
7	10003663	3 Phase Link boxes without SVL to cross bond the sheath suitable for 400kV XLP UG cable.	Nos.	63,813
8	10003665	1 phase Link boxes without SVL suitable for 400kV XLP UG cable.	Nos.	28,817
9		1 phase Link boxes with SVL suitable for 400kV XLP UG cable.	Nos.	43,574
		<b>220KV</b>		
10	10003701	Supply of 220 KV XLPE Underground Single Core 1000 Sq.mm. Copper Cable.	KM	1,67,02,171

11	10003705	220kV 1000 Sq.mm Pre moulded joints without cross bonding arrangements with copper casing and coffin box.	Nos	8,68,310
12	10003707	220kV 1000Sq.mm Pre moulded joints with cross bonding arrangements (Insulated joints) with copper casing and coffin box.	Nos	9,70,220
13	10003709	Design, Supply of 220KV, 1000 Sq.mm outdoor type cable end terminations (sealing ends)with all materials complete in all respects.	Nos	12,85,522
14	10010457	Design, supply of 220 KV 1000Sqmm cable end terminations complete in all respects (SF6 type cable terminations).	Nos	9,20,969
19		220kV, 1200sqmm, 50kA, XLPE insulated, Aluminium corrugated Metallic screen, single core UG cable with Cu conductor	Km.	1,98,60,000
20		220kV 1200 Sq.mm Pre moulded joints without cross bonding arrangements with copper casing and coffin box.	Nos.	8,68,310
21		220kV 1200Sq.mm Pre moulded joints with cross bonding arrangements (Insulated joints) with copper casing and coffin box.	Nos.	9,70,220
22		Design, Supply of 220KV, 1200 Sq.mm outdoor type cable end terminations (sealing ends)with all materials complete in all respects.	Nos.	12,85,522
23		220 KV 1200 Sqmm cable end terminations complete in all respects (SF6 type cable terminations).	Nos.	9,20,969
24	10003662	3 Phase Link boxes With SVL to cross bond the sheath suitable for 220kV XLP UG cable.	Nos	1,33,909
25	10003663	3 Phase Link boxes Without SVL to cross bond the sheath suitable for 220kV XLP UG cable.	Nos	63,813
26	10003664	1 phase Link boxes with SVL suitable for 220kV XLP UG cable.	Nos	36,894
27	10003665	1 phase Link boxes without SVL suitable for 220kV XLP UG cable.	Nos	28,817
28		<b>132kV</b>		
29	10003713	Supply of 132 KV XLPE Under ground Single Core 630 Sq.mm. Copper Cable.	KM	98,41,778
30	10003721	132kV 630 Sq.mm Pre moulded joints without cross bonding arrangements with copper casing and coffin box.	Nos	7,06,501
31	10003720	132kV 630 Sq.mm Pre moulded joints with cross bonding arrangements (Insulated joints)with copper casing and coffin box.	Nos	7,75,015
32	10003722	Design, Supply of 132 KV, 630 Sq.mm outdoor type cable end terminations (sealing ends)with all materials complete in all respects.	Nos	5,30,645

33	10010456	Design, supply of 132 KV 630Sqmm cable end terminations complete in all respects (SF6 type cable terminations).	Nos	5,97,159
34	10003662	3 Phase Link boxes With SVL to cross bond the sheath.	Nos.	1,33,909
35	10003663	3 Phase Link boxes Without SVL to cross bond the sheath.	Nos.	63,813
36	10003665	1 phase Link boxes without SVL.	Nos.	28,817
37	10003664	1 phase Link boxes with SVL.	Nos	43,574
38	10003206	Supply of 240 sq. mm coaxial copper cable conductor PVC insulated 6.6 KV grade with suitable lugs and glands for joint bays.	KM	53,56,340
39	10003209	Supply of 240 sq. mm Single core copper cable conductor PVC insulated 6.6 KV grade with sheath bonding without cross bonding joints to link box.	KM	31,22,531
40		Supply of 300 sq. mm coaxial copper cable conductor PVC insulated 6.6 KV grade with suitable lugs and glands for joint bays.	KM	54,49,000
41		Supply of 300 sq. mm Single core copper cable conductor PVC insulated 6.6 KV grade with sheath bonding without cross bonding joints to link box.	KM	31,76,548
a		ECC (Earth continuity Cable) (1.1KV)		
b		a) 240 sq. mm.	KM	27,02,977
c		b) 300 sq. mm.	KM	33,72,548
d		c) 400 sq. mm.	KM	44,92,597
42	10003361	33KV 400 Sq. mm 1 core copper XLPE cable	KM	39,84,280
43		33KV 400 Sq. mm 3 core Al XLPE cable	KM	27,58,840
44		33kV, 3 core 300 Sq. mm Aluminium XLPE Armoured Cable	Mtr	2,205
45		33kV Jointing kits ( 3C x 400 sq. mm Terminal type)	No	15,293
46		33kV Jointing kits ( 3C x 300 sq. mm Terminal type)	No	15,293
47	1003376	11kV, 3 Core 185 Sq. mm Aluminium XLPE Armoured Cable	Mtr	1,204
48	10003584	11kV Jointing kits ( 3C x 185 sq. mm Terminal type)	No.	3,918
49	10003377	3.5 core 185 Sq. mm Aluminium XLPE Armoured Cable	Mtr	338
<b>W)</b>		<b>Hybrid GIS</b>		
		<b>With creepage 31mm/kV</b>		
1		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Line Bay</b> consists of 1set of CTs, CB, Bus Isolator, Line Isolator with Earth Switch, <b>Without VT</b>	<b>Set</b>	1,39,10,000

2		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Line Bay</b> consists of 1set of CTs, CB, Bus Isolator, Line Isolator with Earth Switch, <b>With VT</b>	<b>Set</b>	1,49,80,000
3		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Transformer Bay</b> consists of 1set of CTs, CB, Bus Isolator, Transformer side Isolator with Earth Switch, <b>Without VT</b>	<b>Set</b>	1,46,05,500
4		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Transformer Bay</b> consists of 1set of CTs, CB, Bus Isolator, Transformer side Isolator with Earth Switch, <b>With VT</b>	<b>Set</b>	1,56,75,500
5		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Bus Sectionalizer Bay</b> consists of 1set of CTs, CB, Bus 1side Isolator, Bus 2 side Isolator Line Isolator with Earth Switch	<b>Set</b>	1,60,50,000
6		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Bus Sectionalizer Bay</b> consists of 1set of CTs, CB, Bus 1side Isolator, Bus 2 side Isolator Line Isolator with Earth Switch	<b>Set</b>	1,60,50,000
7		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Line Bay</b> consists of 1set of CTs, CB, Bus Isolator, Line Isolator with Earth Switch, <b>Without VT</b>	<b>Set</b>	2,08,65,000
8		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Line Bay</b> consists of 1set of CTs, CB, Bus Isolator, Line Isolator with Earth Switch, <b>With VT</b>	<b>Set</b>	2,30,05,000
9		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Transformer Bay</b> consists of 1set of CTs, CB, Bus Isolator, Transformer side Isolator with Earth Switch, <b>With VT</b>	<b>Set</b>	2,12,93,000
10		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Transformer Bay</b> consists of 1set of CTs, CB, Bus Isolator, Transformer side Isolator with Earth Switch, <b>Without VT</b>	<b>Set</b>	2,34,33,000
11		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Bus Sectionalizer Bay</b> consists of 1set of CTs, CB, Bus 1side Isolator, Bus 2 side Isolator Line Isolator	<b>Set</b>	2,35,40,000
12		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Bus Sectionalizer Bay</b> consists of 1set of CTs, CB, Bus 1side Isolator, Bus 2 side Isolator Line Isolator	<b>Set</b>	2,35,40,000

		<b>With creepage 25mm/kV</b>		
1		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Line Bay</b> consists of 1set of CTs, CB, Bus Isolator, Line Isolator with Earth Switch, <b>Without VT</b>	<b>Set</b>	1,30,00,000
2		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Line Bay</b> consists of 1set of CTs, CB, Bus Isolator, Line Isolator with Earth Switch, <b>With VT</b>	<b>Set</b>	1,40,00,000
3		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Transformer Bay</b> consists of 1set of CTs, CB, Bus Isolator, Transformer side Isolator with Earth Switch, <b>Without VT</b>	<b>Set</b>	1,36,50,000
4		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Transformer Bay</b> consists of 1set of CTs, CB, Bus Isolator, Transformer side Isolator with Earth Switch, <b>With VT</b>	<b>Set</b>	1,46,50,000
5		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Bus Sectionalizer Bay</b> consists of 1set of CTs, CB, Bus 1side Isolator, Bus 2 side Isolator Line Isolator	<b>Set</b>	1,50,00,000
6		Design, Manufacture and Supply of <b>145kV Single Bus Bar Hybrid GIS Module as a Bus Sectionalizer Bay</b> consists of 1set of CTs, CB, Bus 1side Isolator, Bus 2 side Isolator Line Isolator	<b>Set</b>	1,50,00,000
7		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Line Bay</b> consists of 1set of CTs, CB, Bus Isolator, Line Isolator with Earth Switch, <b>Without VT</b>	<b>Set</b>	1,95,00,000
8		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Line Bay</b> consists of 1set of CTs, CB, Bus Isolator, Line Isolator with Earth Switch, <b>With VT</b>	<b>Set</b>	2,15,00,000
9		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Transformer Bay</b> consists of 1set of CTs, CB, Bus Isolator, Transformer side Isolator with Earth Switch, <b>With VT</b>	<b>Set</b>	1,99,00,000
10		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Transformer Bay</b> consists of 1set of CTs, CB, Bus Isolator, Transformer side Isolator with Earth Switch, <b>Without VT</b>	<b>Set</b>	2,19,00,000
11		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Bus Sectionalizer Bay</b> consists of 1set of CTs, CB, Bus 1side Isolator, Bus 2 side Isolator Line Isolator	<b>Set</b>	2,20,00,000

12		Design, Manufacture and Supply of <b>245kV Single Bus Bar Hybrid GIS Module as a Bus Sectionalizer Bay</b> consists of 1set of CTs, CB, Bus 1side Isolator, Bus 2 side Isolator Line Isolator	<b>Set</b>	2,20,00,000
<b>X)</b>		<b>SCEINTIFIC INSTRUMENTS</b>		
		<b>Relay Test Kit and Testing Equipmnet</b>		
1		Microprocessor Based Universal Realy Test Kit with necessary accessories, Software, adv. Features comapatible to IEC 61850 and associated Laptop (latest features) & as per 400 KV specification	<b>No</b>	29,70,000
2		Relay Test Plug	<b>No</b>	12,000
3		Digital Mutimeter	<b>No</b>	12,240
4		Digital low range Tong Tester	<b>No</b>	68,000
5		Digital High Range Tong Tester, Fluke make	<b>No</b>	14,200
6		Phase sequence indicator	<b>No</b>	12,000
7		Relay Tool Kit	<b>No</b>	45,000
		<b>Sceitntific Equipments</b>		
8	10000621	Transformer oil Breakdown voltage test kit (reputed make)	No.	9,30,000
9	70001542	10kV Heavy duty Mains-cum-Battery operated Insulators tester (Induction compensated in 400kv Switchyard)	No.	3,70,000
10	70001533	12kV Fully Automatic capacitance & Tandelta Test equipment with Industrial Laptop(with latest features) and other accessories (Megger/ Dobbble/ Omicron)	No.	25,00,000
11	70001505	3 Phase Transfomrer Turns ratio test kit ,includes Transformer Winding Resistance Kit (Megger make -MTO-210 or better features/ Omicron) (Megger/ Omicron)	No.	12,00,000
12		Screw Guage: Reputed Make		9,000
13	70000303	Vernier Callipers : Reputed Make		9,500
14	70001504	CT Primary Current Injection test kit Programa Megger make	No.	22,50,000
15	70001548	Battery AH Capacity meters	No.	17,50,000
16	10004516	Battery Discharge Resistor	No.	7,00,000
17	70001526	Earth Tester Meggar Make	No.	1,35,000
18	70001541	Third Harmonic Resistive Current Measurement test kit (Doble/Scope make)	No.	12,90,000
19	70001574	CT, PT Analyser (Megger/Omicron make) with Industrial Laptop (with Latest Features) and other Accesspries	No.	25,70,000
20	10012211	Hand held Walky talky with charger and accessories: Reputed Make	No.	15,000
21	70001503	Secondary Injection kits	No.	9,70,000

24	70001965	Infrared Thermo vision camera	No	11,50,000
25		Insulation, Diagnostic Analyser	No	36,00,000
26		AC High Voltage kit, 35kV rms, 50mA	No	8,00,000
27		High Voltage kit for VCB	No	9,00,000
<b>Y)</b>		<b>TELECOM MATERIAL</b>		
1	10011416	OPGW 96F Capacity DWSM type Cable	Km	3,00,000
2	10011476 10011470	OPGW 48 Fiber capacity DWSM type cable	Km	1,63,539
3	10011407	OPGW 24 Fiber capacity DWSM type cable	Km	1,25,000
4	10011410	Suspension Assembly for 96F/48F/24F OPGW cable (Grounding clamps are part of suspension assembly)	No.	2,594
5	10011433	Tension Assembly for 96F/48F/24F OPGW cable (Dead End clamps and Grounding clamps are part of Tension assembly)	No.	2,612
6	10011435	Vibration dampers for 96F/48F/24F OPGW cable	No.	565
7	10011458 10011421	Downlead Clamps for 96F/48F/24F OPGW cable	No.	289
8	-	96F 4 way Splice box (OPGW-OPGW-OPGW-OPGW)	No.	10,500
9	10011448	96F 3 way Splice box (OPGW-OPGW-OPGW/UG OFC)	No.	9,700
10	10011444	96F Splice box (OPGW-OPGW)	No.	8,633
11	10011437	96F Splice box (OPGW-OFAC/UG OFC)	No.	8,633
12	-	48F 4 way Splice Box (OPGW-OPGW-OPGW-OPGW)	No.	10,075
13	10011467 10011473	48F 3 way Splice box (OPGW-OPGW-OPGW/UG OFC)	No.	7,600
14	10011466	48F Splice Box (OPGW-OPGW)	No.	7,517
15	10011465	48F Splice Box (OPGW-OFAC/UG OFC)	No.	7,517
16		24F 4 way Splice box (OPGW-OPGW-OPGW-OPGW)	No.	6,400
17		24F 3 way Splice box (OPGW-OPGW-OPGW)	No.	6,200
18	10011457 10011482	24F Splice box (OPGW-OPGW)	No.	6,567
19	10011456 10011479	24F Splice box (OPGW-OFAC)	No.	6,567
20	10011442	Fibre Optic Cable of ADSS type with DWSM, 24 fibre capacity	Km	1,37,718
21	10011471	Suspension clamp sets (grounding clamps are part of suspension assembly) for 24F ADSS cable	No.	3,500
22	10011472	Tension clamp sets (dead end clamps and grounding clamps are part of tension assembly) for 24F ADSS cable	No.	3,925
23	10011431	24F Splice boxes (ADSS-ADSS/OFAC)	No.	5,100

24	10011439	Vibration Dampers Assembly for 24F ADSS cable	No.	698
25		UG O.F.Cable unarmoured 96F DWSM type	Km	1,25,000
26		UG O.F.Cable armoured 96F DWSM type	Km	1,40,000
27	10011497	UG O.F.Cable unarmoured 48 F DWSM type	Km	1,06,700
28	10011469	UG O.F.Cable armoured 48 F DWSM type	Km	1,22,375
29	10011408	UG O.F.Cable unarmoured 24F DWSM type	Km	83,235
30	10011447	UG O.F.Cable armoured 24F DWSM type	Km	95,700
31		Splice box 96 F U/G (Joint closures)	No.	15,422
32	10011432	Splice boxes 48 F U/G (Joint closures)	No.	8,938
33	-	Splice boxes 24 F U/G (Joint closures)	No.	8,678
34	10011971	HDPE DUCT of 40/33 mm dia of standard Make for UG cable	km	89,899
35	10011972	RCC Chambers (120/76/5)cm W/L/T with base and top plates	Each	6,771
36	10011743	Fibre approach cable (DWSM) of 96 Fibre capacity with HDPE pipe	Km	2,20,000
37	10011469 10011475	Fibre approach cable (DWSM) of 48 Fibre capacity with HDPE pipe	Km	1,47,288
38	10011408	Fibre approach cable (DWSM) of 24 Fibre capacity with HDPE pipe	Km	1,07,800
39	-	Fibre approach cable (DWSM) of 48 Fibre capacity.	Km	120,000
40	10011446	Fibre approach cable (DWSM) of 24 Fibre capacity.	Km	1,00,000
41	10011474 10011468	Fibre distribution panels for termination of Fibres of 96 F capacity	No.	45,694
42	10011692 10011695 10011866	Fibre distribution panels for termination of Fibres of 48 F capacity	No.	25,000
43		Fibre distribution panels for termination of Fibres of 24 F capacity	No.	17,500
44	-	Fibre distribution panels for termination of Fibres of 96 F capacity with rack	No.	69,100
45	-	Fibre distribution panels for termination of Fibres of 48 F capacity with rack	No.	57,300
46	70000317	Fusion Splicing Machine (FSM) along with standard accessories	No.	1,94,000
47	10012199	Optical Time Domain Reflector (OTDR) (distance upto 150 km)	No.	4,77,000
48	10004917	Optical Power Meter	No.	45,000
49	10011802	Optical Laser Source	No.	75,000
50	10011655	OFC tool kit consisting of Fibre stripping tool and tools for cutting and stripping of sheathing, jacket armoring of OFAC/ADSS/OPGW cables including two binoculars	Set	95,000
51	70001525	Earth Megger	No.	19,234

52		4 1/2 Digit True RMS Digital Multimeter	No.	32,720
53	10012175	Medium Size Tool kit 1)Screw Driver with detachable bits (Taparia) 2) Spanner set (Taparia)3) Cutting Plier 4) Nose plier 5) Wire Stripper & cutter 6) 25Watt Soldering Iron 8) 50 Watt Soldering Iron 8) Crimping Tool 4/6/8 pin 9) 3 1/2 Digit Multimeter with briefcase	No.	15,410
54	10011566	VO IP SIP enabled instrument	No.	7,150
55	10010989	EPB Telephone	No.	850
56	10005696	25 Sq.mm Battery cable	Mt	320
57	10011965	Cat 6 cable (305 mtrs each box)	Box	6,470
58		2 port WAN & 4 port LAN 10/100/1000 Mbps Router with 48V DC-DC adaptor	No.	48,167
59	10011630	8 Port 10/100Mbps Unmanaged Ethernet Switch	No.	1,056
60	70001733	24 Port 10/100Mbps Unmanaged Ethernet Switch	No.	2,983
61		8 port 10/100 Mbps 48V DC operated Ethernet Switch	No.	17,800
62	10011701	10/100/1000Mbps Optical Media Converter 20Km range	No.	4,180
63	10011704	10/100/1000Mbps Optical Media Converter 40Km range	No.	6,660
64	10009859	2 Ton 5 Star Inverter type Split AC unit alongwith 5 KVA Stabilizer including stand for outdoor unit and copper kit with cable	No.	52,400
65	10009812	1.5 Ton 5 Star Inverter type Split AC unit alongwith 4 KVA Stabilizer including stand for outdoor unit and copper kit with cable	No.	42,770

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