POWERING TAMILNADU'S PROGRESS

TAMIL NADU GENERATION AND DISTRIBUTION CORPORATION LIMITED

COST DATA

2021 – 2022

VISION STATEMENT

To make
TANGEDCO Synonymous with
availability of quality and reliable power at
competitive rates

NOTE

Illustations / Working Sheets given in the Cost Data 2021-22 are only guidelines to prepare estimate in the field.

However, depending upon the nature of estimates, the percentage rates for Storage, Contingencies etc. may be adopted as per the instruction in vogue.

All material rates are inclusive of GST.

The cost data model estimates have been prepared including EPF @ 13%, ESI @ 3.25% and GST @ 18% on Labour,Transport,EPF & ESI.

TAMILNADU ELECTRICITY BOARD
ACCOUNTS BRANCH

800, Anna Salai,
Chennai – 2.

Circular Memo.DFC/Works/AAO/Est/568/98 dt.7.11.98.

Sub: Estimate – Preparing of estimates Instructions for the provision of Labour and transport and contingencies charges – Reg.

&&&&&

On review of estimates received for obtaining sanction from the competent authority it is seen that contrary to Manual provisions, a lumpsum provision is made for materials in large number of cases.

As per para 493 (15) of the TNEB Manual Vol.I "No item showing a lumpsum provision should be made in the estimate irrespective of the cost and therefore, complete details must be worked out and shown in the estimate in each case".

Further the provision for labour and transport has been made in one lumpsum and sometimes the same has been provided based on percentage basis. Though clear instructions have been issued in para 493 (3) of the TNEB Manual regarding the method of providing for labour charges, they have not been followed in many cases. Hence, it is requested to adhere to the instructions issued and the provision for labour may be made by working out the rates, the tender accepted for works during the twelve proceeding months and the tendency of rates and prices to raise or fall should also be taken into account. In respect civil works the schedule of rates of the Public Works Department M.D.S.S. (Madras Detailed Standard Specification) an extra percentage is allowed, on account of special local conditions, it should be so stated in a note at the end of the data statements accompanying schedule of rates and this extra percentage should not be described as Contractors profit. Further the estimate should show clearly the cost of materials, labour and transport separately and the practice of providing for the labour and transport in one lumpsum should be avoided.

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CONTINGENCY CHARGES:-

As per para 493 (14) of TNEB Manual Vol.I 5% contingencies should provided for unforeseen expenses. It is seen from the estimates received for getting sanction that the above provision has been made invariably in all the estimates even small works where there is no possibility for any unforeseen expenses. Further wher the estimate is prepared based on actuals such as replacement of stolen materials for regularization provision of contingencies need not be made. In such cases above provision has to be excluded from the estimates. Further taking into account present cost of materials, the provision made @ 5% for the contingencies boost cost of the estimates. Hence it is requested to provide for contingencies to minimum percentage based on the merit of the case a maximum provision of 5% as Manual may be made in the proposal for obtaining administrative approval and same may be limited to 1% while obtaining technical sanction after giving full details the unforeseen expenses.

STORAGE CHARGES:

There is no need for a provision of storage charges @ 3% in all t estimates and this has to be included only in large estimate involving project execut at a distant place involving long period say more than a year.

Kindly note that the instructions issued in this reference will apply only preparation of estimate for Board's works and shall not apply to the DEPOS CONTRIBUTION WORKS estimates.

The receipt of this reference may be acknowledged to Chief Financ Controller/General.

SD/-
(S.THANGARATHINAM)
For ACCOUNTS MEMBER

To
All Chief Engineers & Superintending Engineers

Copy to all Superintending Engineers & Chief Engineers of Headquarters.

Copy to PA to Tamil Development for publication in the Gazettee.

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TAMILNADU GENERATION & DISTRIBUTION CORPORATION LIMITED

From
Er.N.BALAJI, M.E.,
Chief Engineer/Planning &RC,
144, Anna Salai,
Chennai.2

To
All the Chief Engineers/Distribution Regions &
All the Superintending Engineers/EDCs

Lr.No.CE/PLG&RC/SE/RE&I(D)/EE/PC-I/A2/F.cd 21-22/D.74/2021, Dt.31.03.2021

Sir,

Sub: TANGEDCO – Cost Data 2021-22 rates for Materials – Communicated – Regarding

****

The soft copy of Cost data 2021-22 based on the approved rates for materials, is enclosed for further action. The preparation of Sub-Station materials, Labour, Transport and sample estimates are under process and after completion, the same will be communicated separately. The Cost Data 2021-22 will be effective from 01.04.2021 onwards.

The above cost data rates of materials may be circulated to all the officers under your control.

Further, CEs/Distribution/Regions and Superintending Engineer/EDCs are requested to furnish their suggestions / modification if any in the model estimate 20-21 to this office before 07.04.2021 by email to sereid@tnebnet.org

The receipt of this letter shall be acknowledged.

Encl: As above

31/3/21

for CHIEF ENGINEER/PLANNING&RC 2/2

Copy submitted to Director (Distribution)/TANGEDCO: For kind information please.
Copy submitted to Director(Finance)/TANGEDCO
Copy to CE/IT/TANGEDCO, CE/MM/TANGEDCO, CE/Commercial, CE-RAPDRP
Copy to CFC/General/TANGEDCO
Copy to CE/Civil/Design/TANGEDCO; Copy to CE/Transmission/TANTRANSCO
Copy to SE/Planning, SE/System Studies,SE/CDC

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RATES FOR MATERIALS

ANNEXURE - I

COST DATA FOR THE YEAR 2021-22 (MATERIALS)

Item code No		Description	Unit	2021-22 Rate (in Rs.)
GROUP I - Distribution transformers and materials				
Distribution Transformers				
		11 KV/433V		
022-076	*	16KVA (Copper Winding)	No.	**117377**
022-078		16KVA (Copper winding) Energy Efficient Level-2	No.	**99089**
022-091	*	25KVA (Copper Winding)	No.	**137977**
022-093		25KVA (Copper winding) Energy Efficient Level - 2	No.	**112665**
022-336	*	63KVA (Copper Winding)	No.	**233574**
022-337		63KVA (Copper winding) Energy Efficient Level - 2	No.	**202736**
022-356	*	100KVA	No.	**231758**
022-360	*	100 KVA (3 Star rated)	No.	**149749**
022-408		100 KVA (Copper winding) Energy Efficient Level 2	No.	**260936**
022-407		160 KVA (Amorphous core 5 star rated)	No.	**247107**
022-376	*	250 KVA	No.	**476300**
022-380		250KVA Energy Efficient	No.	**512450**
022-401		250 KVA (Copper Winding) Energy efficient Level 2	No.	**465718**
022-386	*	500 KVA	No.	**678478**
022-387		500 KVA (Copper Winding) Energy efficient Level 2	No.	**789753**
*** - indicates not procured / Existing inventory**				

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		22 KV/433V(Each)		
022-421	*	16KVA	No.	**42350**
022-426	*	25KVA	No.	**48400**
022-441	*	63 KVA	No.	**217037**
		63 KVA (Copper Winding) Energy efficient Level 2	No.	**211975**
022-451	*	100 KVA	No.	**348293**
022-522		100 KVA (Copper Winding) Energy efficient Level 2	No.	**298963**
022-466		200 KVA	No.	**528946**
022-505		200 KVA (Copper Winding) Energy efficient Level 2	No.	**433093**
022-511		500 KVA	No.	**931578**
022-524		500 KVA (Energy efficient)	No.	**685059**
		Air Break(A.B)Switches(with PT insulators) (Set) Line type		
330-125		11 KV AB switch (200A) With PT insulators	No.	**16038**
330-200		22 KV AB switch (200 A) With PT insulators	No.	**17386**
		22 KV AB switch with polymer composite PT insulators	No.	**17747**
330-157		11 KV AB Switch Fixed contact-200A	No.	**1012**
330-161		11 KV AB Switch moving contact - 200 A	No.	**1195**
330-179		11 KV AB Switch Fixed contact - 400 A	No.	**2118**
		11 KV AB Switch Moving contact - 400 A	No.	**2825**
330-230		Fixed contact for 22 KV AB Switch	No.	**817**
330-233		Moving contact for 22 kv AB Switch	No.	**958**
330-227		22 KV Fixed & Moving contact	No.	**1736**

*** - indicates not procured / Existing inventory**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
330-166		11 KV double break centre rotating AB Switch without PT insulator	No.	**33158**
		11 KV double break centre rotating AB Switch with PT insulator	No.	**35514**
330-271		33 KV Double break Centre rotating AB switch without PT insulators	No.	**22441**
330-269		33 KV Double break Centre rotating AB switch with PT insulators	No.	**38345**
		Fuses and Fuse wires (Set)		
		Horn Gap (H.G)Fuses		
330-604		11 KV HG Fuse Set(without insulator)	Set	**2038**
330-619, 330-679		22 KV HG Fuse Set(without insulator)	Set	**2086**
330-704		LT Open type fuse unit (without insulator)	Set	**1052**
		Tinned Copper (TC) Fuse wire		
312-419		12 Standard Wire Gauge (SWG)	Kg.	**725**
312-420		14 SWG	Kg.	**744**
312-422		16 SWG	Kg.	**719**
312-424		18 SWG	Kg.	**715**
312-426		20 SWG	Kg.	**722**
312-428	*	22 SWG	Kg.	**549**
312-430		24 SWG	Kg.	**598**
312-432		26 SWG	Kg.	**696**
312-434	*	28 SWG	Kg.	**679**

*** - indicates not procured / Existing inventory**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
312-436		30 SWG	Kg.	**730**
312-438		32 SWG	Kg.	**794**
312-439		33 SWG	Kg.	**789**
312-440		34 SWG	Kg.	**740**
312-441		35 SWG	Kg.	**765**
312-442		36 SWG	Kg.	**798**
		37 SWG	Kg.	**779**
		Lightning Arresters		
		Distribution Type		
330-000		Low Tension (L.T)	No.	**286**
330-007		11 KV	No.	**399**
330-008		22 KV	No.	**589**
500-440		New Transformer Oil	KL	**70440**
		Station Type		
330-080		Lightning Arrestor Station type 9KV/11KV	No.	**1859**
330-082		Lightning Arrestor Station type 18 KV/22KV	No.	**3393**
330-083		Lightning Arrestor Station type 25KV/33KV	No.	**4134**
		Distribution Boxes		
331-590		`A' Type Box	No.	**726**
331-594		`B' Type Box	No.	**1274**
331-602		`C' Type Box with clamp	No.	**674**
331-604	*	LT metering box	No.	**5566**
331-606		LT metering box (Double compartment)	No.	**9995**

*** - indicates not procured / Existing inventory**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
331-605		HT metering box	No.	**12343**
331-612		LTCT Box	No.	**13745**
331-619		DT Metering Box SMC-with accessories - 16/25KVA	No.	**12069**
331-620		DT Metering Box SMC-with accessories - 63KVA	No.	**12759**
		Fuse Unit and cut-out		
340-352	*	5A - 415V Fuse Unit	No.	**39**
340-331	*	16 A - 415 V Fuse Unit	No.	**51**
340-334		32 A - 415 V Fuse Unit	No.	**132**
340-337		63 A - 415 V Fuse Unit	No.	**314**
340-340		100 A - 415 V Fuse Unit	No.	**642**
340-346		200 A - 415 V Fuse Unit	No.	**777**
340-356		300 A - 415 V Jaws	No.	**165**
340-351		300 A - 415 V Base	No.	**435**
340-358		500 A-415V, Jaws	No.	**275**
340-354		500 A-415V, Base	No.	**1514**
340-175	*	16 A - 500 V ,S.P.I.C Cutout	No.	**28**
340-176	*	32 A - 500 V, S.P.I.C.Cutout	No.	**45**
340-178	*	63 A - 500 V, S.P.I.C.Cutout	No.	**81**
340-179	*	100 A - 500 V, S.P.I.C.Cutout	No.	**389**
		Poly Vinyl Chloride(P.V.C)/		
		(S.C) Single Core. Cable		
320-282		2.5 Sq.mm	per 100 m	**1600**
320-283		2.65 Sqmm	per 100 m	**755**

*** - indicates not procured / Existing inventory**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
320-285		6 Sq.mm	per 100 m	**880**
320-289		25 Sq.mm	per 100 m	**2200**
320-292		50 Sq.mm	per 100 m	**4070**
320-294		95 Sq.mm	per 100 m	**10780**
320-295		120 Sq.mm	per 100 m	**5830**
320-296		185 Sq.mm	per 100 m	**15845**
		Double Paper Covered (DPC) Aluminium Wire		
		DPC Aluminium Wire		
312-581		12 SWG	Kg.	**460**
312-693		13 SWG	Kg.	**329**
312-695		13.5 SWG	Kg.	**257**
312-696		14 SWG	Kg.	**251**
312-700		16 SWG	Kg.	**326**
312-583		16.5 SWG	Kg.	**366**
312-702		17 SWG	Kg.	**187**
312-704		18 SWG	Kg.	**347**
312-706		19 SWG	Kg.	**669**
		Double Paper Covered (DPC) Copper Wire		
312-292		12 SWG	Kg.	**1005**
		Super Enamelled Aluminium Wire (SEAW)		
312-597		12 SWG	Kg.	**678**
312-598		13 SWG	Kg.	**435**
312-599		13.5 SWG	Kg.	**435**
312-596		14 SWG	Kg.	**289**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
312-607		15 SWG	Kg.	**307**
312-600		16 SWG	Kg.	
312-602		17 SWG	Kg.	**271**
312-604		18 SWG	Kg.	
		Super Enamelled Copper Wire (SECW)		
312-140		12 SWG	Kg.	**796**
312-141		13 SWG	Kg.	**697**
312-142		14 SWG	Kg.	**652**
312-143		15 SWG	Kg.	**675**
312-144		16 SWG	Kg.	**674**
312-145		17 SWG	Kg.	**691**
312-146		18 SWG	Kg.	**714**
312-147		19 SWG	Kg.	**607**
312-149		20 SWG	Kg.	**1020**
312-150		21 SWG	Kg.	**703**
312-151		22 SWG	Kg.	**893**
312-152		23 SWG	Kg.	**767**
312-153		24 SWG	Kg.	**1063**
312-185		25 SWG	Kg.	**643**
312-156		27 SWG	Kg.	**643**
		BUSHING RODS		
022-580		LT Brass bushing rod 12 mm (1/2")	No.	**391**
022-582		LT Brass bushing rod 18 mm (3/4")	No.	**904**
022-583		LT Bushing Rod 20mm dia (0.8")	No.	**1553**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
022-584		LT TRANSFORMER BUSHING ROD 25 MM (1")	No.	**2572**
022-585		LT Bushing Rod 30mm dia (1.25")	No.	**4100**
022-611		HT Brass bushing rod 1/2"	No.	**410**
		PIPES		
		Galvanised Iron (G.I.) Pipes		
630-001		20 mm	mtr.	**83**
630-002		25 mm	mtr.	**83**
630-004		40 mm	mtr.	**586**
630-005		50 mm	mtr.	**597**
630-018		100 mm	mtr.	**1173**
630-008		160 mm	mtr.	**1408**
630-009	*	160 mm	mtr	**1491**
		P.V.C.Pipe		
635-001		20 mm	mtr.	**19**
635-002		25 mm	mtr.	**44**
635-006		32 mm	mtr.	**53**
635-004		40 mm	mtr.	**67**
635-005		50mm	mtr.	**108**
635-017		75 mm	mtr.	**236**
		90 mm	mtr.	**334**
635-02		110 mm	mtr.	**503**
635-012		140 mm	mtr.	**812**
635-022		160 mm	mtr.	**1054**

*** - indicates not procured / Existing inventory**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
635-015		200 mm	mtr.	**1666**
		315 mm	mtr.	**4325**
GROUP II - OVERHEAD LINE MATERIALS				
CONDUCTOR				
		Aluminium Conductor Steel Reinforced (ACSR)		
312-022		Weasel 7/2.59 mm	Km.	**26423**
312-025		Rabbit 7/3.35 mm	Km.	**38681**
312-027		Raccoon 7/4.09 mm	Km.	**71830**
312-030		Dog 6/4.72 & 7/1.57 mm	Km.	**116251**
		All Aluminium Alloy Conductor (AAAC)		
312-010		7/2.0 mm	Km.	**28600**
312-011		7/2.5 mm	Km.	**23058**
312-012		7/3.15 mm	Km.	**30422**
		Aerial Bunched Cable (ABC)		
321-817		1.1 KV, 3x70(Phase)+1x16(Insulated Street Light)+1x50 sq.mm (Bare Messenger cum Neutral)	Km.	**480000**
321-818		11KV class 3 phase AB cable of size 3x95 + 1x95 sq.mm	Km.	**597163**
		22 KV, 3x95(Phase)+1x95 sq.mm	Km.	**989500**
		Aerially Bunched cable fittings		
		Suspension clamp assembly suitable for 50 sq.mm Bare or insulated messenger	Each	**530**
		Anchoring/Dead end clamp assembly suitable for 50 sq.mm Bare or insulated messenger	Each	**730**
		Pre insulated Bimetallic termination lug for 70sq.mm phases	Each	**620**
		Pre insulated Bimetallic termination lug for 16sq.mm phases	Each	**620**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		Pre insulated Bimetallic termination lug for 50sq.mm phases	Each	**620**
		Pre insulated Midspan joint for 70sq.mm phases	Each	**290**
		Pre insulated Midspan joint for 16sq.mm phases	Each	**290**
		Pre insulated Midspan joint for 50sq.mm Neutral phases	Each	**290**
		Suspension clamp assembly including pole clamp	Set	**299**
		Dead end clamp / Anchor clamp Assembly including brackets, pole clamps	Set	**310**
		Suspension clamp assembly including pole clamp	Set	**785**
		Dead end clamp / Anchor clamp Assembly including brackets, pole clamps	Set	**865**
		Pin & Pin Insulators		
311-001		LT pin insulator	No.	**20**
311-023		11 KV pin insulator	No.	**58**
311-026		22 KV pin insulator	No.	**129**
311-029		33 KV pin insulator	No.	**468**
311-073		11 KV post type insulator	No.	**345**
311-074		22 KV post type insulator	No.	**602**
311-075		33 KV post type insulator	No.	**2127**
311-121		LT shackle insulator	No.	**19**
311-403		LT Guy shackle insulator	No.	**26**
311-404		HT Guy shackle insulator	No.	**27**
311-175		11 KV 45 KN strain disc insulator	No.	**316**
311-260		11 KV 120 KN Ordinary disc insulators	No.	**538**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
311-002		LT GI pin	No.	**37**
311-024		11 KV GI pin	No.	**76**
311-027		22 KV GI pin	No.	**160**
311-030		33 KV GI Pin	No.	**240**
311-126		LT Shackle hardware / LT Metal Parts	No.	**55**
311-179		11 KV Metal Parts	No.	**203**
		Composite polymer insulators		
311-043		11 KV Polymer Composite **pin** Insulators	No.	**148**
311-044		22 KV Polymer composite **pin** insulator	No.	**432**
311-045		33 KV Polymer composite **pin** insulator	No.	**609**
311-192		11 KV Polymer Composite **disc** Insulators	No.	**140**
311-280		22 KV Polymer Composite **disc** Insulators	No.	**325**
311-276		33KV Polymer composite **disc** Insulator	No.	**192**
		LINE SUPPORTS		
		Reinforced Cement Concrete (RCC) Poles		
310-006	*	7.5 m RCC	No.	**2881**
310-007	*	8.0 m RCC	No.	**2915**
310-004	*	9.14 m.G.201 Special RCC	No.	**5723**
310-009		9.0 m (150 Kg) Square section RCC pole	No.	**5842**
*** - indicates not procured / Existing inventory**				

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		Pre-Stressed Concrete (PSC) Pole		
310-063		7.5 m PSC (ordinary)	No.	**1868**
310-016		7.5 M PSC High Wind Zone (HWZ)	No.	**2006**
310-064		8.0 m PSC (140 Kgs.)	No.	**2523**
310-017		8.0 m PSC Pole (200 Kgs)	No.	**2330**
310-065		9.0 M PSC pole 300 KG WL	No.	**3451**
310-061		9.0 M PSC pole 400 KG WL	No.	**4075**
		Ribbed Tor Steel (RTS) Grills		
310-026	*	7.5 mts.RTS Grill	No.	**2550**
310-027	*	8.0 mts.RTS Grill	No.	**2751**
310-024	*	9.14 mts.RTS Grill	No.	**6281**
		Cross arm and fittings		
331-081		1068 mm (3'-6") V Cross arm	No.	**702**
331-096		1068 mm (3'-6") V Cross arm **(GI)**	No.	**1097**
331-083		1373 mm (4'-6") V Cross arm	No.	**1241**
331-097		1373 mm (4'-6") V Cross arm **(GI)**	No.	**1931**
331-084		1525 mm (5'-0") V Cross arm	No.	**1378**
331-086		1525 mm (5'-0") V Cross arm **(GI)**	No.	**2006**
331-152		Tapping channel cross arm	No.	**913**
331-162		Tapping channel cross arm **(GI)**	No.	**1234**

*** - indicates not procured / Existing inventory**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
331-163		Tapping channel cross arm for 33 KV	No.	**3214**
331-138		Double channel cross arm	No.	**6937**
331-134		Guarding cross arm	No.	**857**
331-139		Guarding cross arm **(GI)**	No.	**1299**
331-759		Cross bracing set	No.	**8816**
331-054		LT 3 phase angle cross arm	No.	**469**
331-055		LT 3 phase channel cross arm	No.	**471**
331-066		LT 3 phase channel cross arm **(GI)**	No.	**441**
331-050		LT single phase angle cross arm	No.	**204**
331-064		LT single phase angle cross arm **(GI)**	No.	**322**
331-051		LT single phase channel cross arm	No.	**201**
331-065		LT single phase channel cross arm **(GI)**	No.	**303**
331-701		HT TI fitting	No.	**189**
331-708		HT TI fitting **(GI)**	No.	**274**
331-704		HT TI fitting for 33 KV	No.	**318**
331-700		LT TI fitting	No.	**199**
331-707		LT TI fitting **(GI)**	No.	**316**
311-008		Aluminium Knob	No.	**21**
331-712		Transformer structure materials 10'	Set	**13588**
331-715		Transformer structure materials **(GI)**	Set	**15586**
331-505		Transformer structure clamp	Set	**3718**
331-507		Transformer structure clamp **(GI)**	Set	**4106**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		Materials for single pole HVDS		
331-719		11 KV HVDS Single pole transformer structure material with clamp	No.	**5724**
331-717		11KV HVDS single pole mounted structure materials complete set (11 KV Vertical type AB (GOS) switch with composite Polymer insulator & 11 KV Solid core type HG fuse set with composite polymer insulators & Single pole Transformer structure materials with clamp)	No.	**33652**
331-722		22 KV HVDS Single pole Transformer centre set with clamp	No.	**7691**
		22 KV HVDS single pole Structure materials complete (22 KV Vertical type AB (GOS) Switch with polymer insulators, 22 KV Solid core type HG Fuse set with polymer insulator and Transformer Centre set & clamp)	No.	**45607**
330-128		11 KV HVDS Single pole vertical type AB switch with insulator	No.	**16972**
330-123		22KV HVDS Vertically mounted AB Switch with composite polymer insulator and 22 KV HG Fuse set with solid core type compoiste polymer insulator with all switch accessories	set	**35400**
330-608		11 KV HG fuse Set with solid core insulator for (GOS) single pole structure - Vertical type	set	**5892**
330-622		22 KV HG Fuse set with solid core insulator for (GOS) Single Pole structure - Vertical type	set	**9986**
		Paint		
700-444		Aluminium paint	No.	**201**
700-422		Red oxide paint	No.	**123**
700-300		Enamel Paint - White	No.	**485**
700-305		Enamel Paint - Black	No.	**490**
700-310		Enamel Paint - Red	No.	**480**
700-320		Enamel Paint - Green	No.	**465**
700-325		Enamel Paint - Blue	No.	**480**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
700-330		Enamel Paint - Yellow	No.	**480**
700-335		Enamel Paint - Grey	No.	**288**
500-485		Silicagel	kg	**195**
022-600		Silicagel Breather 1/2" (63 &100 KVA)	No.	**338**
022-061		Silicagel Breather 3/4" (200 KVA &250 KVA)	No.	**532**
022-602		Silicagel Breather 1" (500 KVA)	No.	**865**
022-604		Silicagel Breather for Power Transformer	No.	**5133**
		Clamp/Stay/Base Plate (Each)		
331-467	*	Back clamp for 7.5m RCC pole	No.	**109**
331-465		Back clamp for 7.5m PSC pole	No.	**92**
331-241	*	Back clamp for 8m RCC pole	No.	**83**
331-466		Back clamp for 8m PSC pole	No.	**82**
331-242		Back clamp for 9.14m special RCC pole	No.	**109**
331-248		Back Clamp for 9.14 Mts RCC Pole **(GI)**	No.	**109**
331-244		Back clamp for 9.0 m PSC Pole	No.	**104**
331-264		Back clamp for RSJ pole	No.	**175**
331-350	*	Stay clamp (Pair) for 7.5m RCC pole	No.	**134**
331-354		Stay clamp (Pair) 7.5 m PSC pole	No.	**164**
331-231	*	Stay clamp (Pair) 8.0m RCC pole	No.	**169**
331-356		Stay clamp (Pair) 8.0m PSC pole	No.	**153**
331-358		Stay Clamp (Pair) for 8.0 Mts PSC Pole (**GI**)	No.	**171**
331-353		Stay clamp (Pair) for 9.0 m PSC pole	No.	**242**
331-357	*	Stay clamp (Pair) 9.14m RCC pole	No.	**263**
*** - indicates not procured / Existing inventory**				

Item code No		Description	Unit	2021-22 Rate (in Rs.)
331-368 &331-487		RSJ pole Stay Clamp Special A side (200 x 100mm)	No.	**427**
331-488		RSJ pole Stay Clamp Special B side (200 x 100mm)	No.	**418**
		Stay clamp pair for 9.0 m square pole	No.	**165**
310-014		Base plate	No.	**261**
310-015		Stay plate	No.	**261**
331-752		stay bow	No.	**91**
331-753		Stay Eye Blot & Nut	No.	**122**
331-751		Stay Rod	No.	**196**
331-750		Stay set complete (eye, bow & rod) without GI wire	No.	**413**
331-755		GI Stay set complete without GI wire	No.	**578**
312-563		GI Stay wire 7/12 SWG (kg)	kg	**78**
314-484		Aluminium 'U' Clamp for Pillar Box	No.	**56**
314-480		Aluminium 'Z' Clamp for Pillar Box	No.	**160**
021-418		Aluminium Flat 50 X 12mm for Pillar Box	kg	**237**
313-990		Aluminium switch end clamp with tail		**263**
313-991		Aluminium switch end clamp without tail	No.	**237**
021-419		GI Stem Bolts and Nuts 155X12.5mm or 6" X 1/2" for Pillar Box	No.	**32**
021-420		GI Stem Bolts and Nuts 155X16.0 mm or 6" X 5/8" for Pillar Box	No.	**54**
021-416		Hexagonal Insulator 1/2" for pillar box	No.	**8**
021-417		Hexagonal Insulator 5/8" for pillar box	No.	**10**
315-102/ 315-526		BIMETALLIC CLAMPS (Transfomer bushing clamp) FOR LT SIZE 95 SQ.MM CABLE	No.	**222**
315-104		BIMETALLIC CLAMPS (Transfomer bushing clamp) FOR LT SIZE 120 SQ.MM CABLE	No.	**216**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
315-106		BIMETALLIC CLAMPS (Transfomer bushing clamp)FOR LT SIZE 185 SQ.MM CABLE	No.	**413**
315-107		BIMETALLIC CLAMPS (Transfomer bushing clamp)FOR LT SIZE 240 SQ.MM CABLE	No.	**1109**
		Clamps for Conductors as per relevant IS & its amendments		
314-515		L Clamp for DOG Conductor	No.	**900**
314-517		L Clamp for Panther	No.	**1305**
315-168		L Clamp for Kundah	No.	**1355**
314-532		L Clamp for Zebra	No.	**1175**
314-730		Aluminium 'T' Clamp	No.	**244**
314-815		'T" clamp for Kundah to Kundah	No.	**1493**
314-466		T CLAMP FOR 2" BUS TO KUNDAH	No.	**1537**
314-467		T" clamp for 3" busbar to Kundah	No.	**1982**
314-469		T Clamp for Double Kundah to Single Kundah	No.	**2975**
314-816		'T" clamp for single Zebra to single Zebra	No.	**1486**
314-765 &314-955		T" clamp for 2" busbar to zebra	No.	**1551**
314-769		"T" Clamp for 2" bus bar to double zebra	No.	**2950**
314-930		T" clamp for 3" busbar to zebra	No.	**1630**
		"T" Clamp for 3" bus bar to double zebra	No.	**2955**
314-958		'T" clamp for Double Zebra to Double Zebra	No.	**2980**
314-971		'T" clamp for Double Zebra to Single Zebra	No.	**2960**
314-932		Aluminium switch end clamp for 2" Bus bar	No.	**1579**
		Aluminium switch end clamp for 3" Bus bar	No.	**1845**
		Aluminium switch end clamp for Panther	No.	**1325**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
314-933		Aluminium switch end clamp for Kundha	No.	**1375**
315-520		Aluminium switch end clamp for Zebra	No.	**1359**
		Aluminium switch end clamp for Mink	No.	**1340**
314-471		Reducer clamp for 2" Busbar to Kundah	No.	**2062**
314-504		Reducer clamp for 3" Busbar to Kundah	No.	**2655**
314-489		Reducer clamp for 2" Busbar to Zebra	No.	**2378**
314-534		Reducer clamp for 3" Busbar to Zebra	No.	**2532**
314-033		Parallel Groove clamp (PG Clamp) suitable for DOG conductor	No.	**1138**
314-458		Parallel Groove clamp (PG Clamp) suitable for Panther conductor	No.	**1061**
314-457		Parallel Groove clamp (PG Clamp) suitable for Kundah conductor	No.	**1195**
		Aluminium P.G.Clamp for Kundha to Kundha	No.	**1120**
		Parallel Groove clamp (PG Clamp) suitable for Zebra conductor	No.	**1175**
314-455		Free end clamp for 2" bus bar with bolts & Nuts	No.	**1107**
314-456		Free end clamp for 3" bus bar	No.	**1082**
		Aluminium Mink Clamp for 7/4.09 AAA Conductor	No.	**1328**
		Aluminium Power Transformer bushing clamp for Kundha	No.	**1510**
314-176		Terminal connector for Kundha conductor	No.	**932**
		CT Bushing clamp for Kundah	No.	**1115**
315-521		CT Bushing clamp for Zebra	No.	**1115**
		BOLTS & NUTS Per MT		
610-189		MS Hexagonal Bolt & Nut 1-1/2" x 5/8" (38X16 mm) per MT	MT.	**105413**
610-254		MS Hexagonal Bolt & Nut 2" x 5/8" (50 x 16 mm)	MT.	**71920**
610-252		MS Hexagonal Bolt & Nut 2-1/2" x 5/8" (63 x 16 mm)	MT.	**79985**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
610-258		MS Hexagonal Bolt & Nut 3" x 5/8" (75 x 16 mm)	MT.	**81874**
610-256		MS Hexagonal Bolt & Nut 3-1/2" x 5/8" (89 x 16 mm)	MT.	**79919**
610-262		MS Hexagonal Bolt & Nut 4" x 5/8" (100x16mm)	MT.	**81997**
610-260		MS Hexagonal Bolt & Nut 4-1/2" x 5/8" (113x16mm)	MT.	**80398**
610-265		MS Hexagonal Bolt & Nut Size -5"X 5/8" (125 x 16 mm)	MT.	**96799**
610-267		MS Hexagonal Bolt & Nut 6" x 5/8" (150 x 16 mm)	MT.	**80522**
610-269		M.S. BOLT & NUTS 6 1/2 X 5/8" (165X16 mm)	MT	**115180**
610-271		MS Hexagonal Bolt and Nut 7x5/8 Inch (178X16mm)	MT.	**92000**
610-272		MS Hexagonal Bolt & Nuts 8" x 5/8" (200X16 mm)	MT.	**86139**
610-274		MS BOLTS & NUTS 9"X 5/8" (225X16 mm)	MT.	**76000**
610-276		MS Hexagonal Bolt & Nuts 10" x 5/8" (255X16 mm)	MT.	**72405**
610-278		MS Hexagonal Bolt & Nut 11" x 5/8" (275x 16 mm)	MT.	**86462**
610-279		MS Hexagonal Bolt & Nut 12" x 5/8" (300x16 mm)	MT.	**78435**
610-280		MS Hexagonal Bolt & Nut 13x5/8 Inches (330x16mm)	MT.	**93220**
		MS Hexagonal Bolt & Nut 13-1/2"X5/8" (350x16mm)	MT.	**90330**
		MS Hexagonal Bolt & Nut 14" x 5/8" (355X16 mm)	MT.	**90276**
610-282		MS Hexagonal Bolt & Nut 15" x 5/8" (380x16mm)	MT.	**86260**
		MS Hexagonal Bolt & Nut 15 1/2" x 5/8" (400x16mm)	MT.	**74772**
620-180		GI Bolts & Nuts 2-1/2"x5/8" (63x16 mm)	MT.	**135400**
620-181		GI Bolts & Nuts 3-1/2"X5/8" (89x16 mm)	MT.	**118390**
620-131		GI Hexagonal Bolt & Nut 4-1/2" x 5/8" (113x16mm)	MT.	**78010**
		GI Hexagonal Bolt & Nut 5"X 5/8"(125 x 12 mm)	MT.	**90808**
620-185		G.I. Bolt and Nut 6" x 5/8" (150 x 16 mm)	MT.	**115000**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		GI Hexagonal Bolt & Nut 10" x 5/8"(255 x 12 mm)	MT.	**99470**
611-206		M.S.Washer-½" (12 mm dia)	MT.	**74760**
610-208		M.S.Washer 5/8" (16mm dia)	MT.	**87374**
620-737		G.I. Washer 1/2" (12 mm dia)	MT.	**91000**
620-739		G.I. Washer 5/8" (16 mm dia)	MT.	**80240**
		Copper Flexible Wire		
321-466		2.5 Sq.mm	mtr.	**20**
321-467		4 Sq.mm	mtr.	**30**
		Galvanised Iron (GI) Wires (Per M.T)		
312-562 & 312-582		7/11 Standard Wire Gauge (SWG)/ 7/2.80 mm Stranded	MT.	**75755**
312-563 & 312-584		7/12 SWG/ 7/2.50 mm Stranded	MT.	**77560**
312-565		7/20 SWG stranded	MT.	**75900**
312-566		7/10 SWG/ 7/3.15 mm stranded wire	MT.	**63800**
312-567		7/9 SWG/ 7/3.55 mm stranded wire	MT.	**84700**
		GI Solid Wire		
		No.12 SWG Solid wire (2.65 mm solid wire)	MT.	**71430**
		No.11 SWG Solid wire (3 mm solid wire)	MT.	**65490**
312-508		No.6 SWG Solid wire (4mm Solid wire)	MT.	**70112**
312-509		No.8 SWG Solid wire (5mm Solid wire)	MT.	**69336**
		Earth pipe/rod		
331-673		G I Earth pipe 40mm dia (10 feet -3mts length)	No.	**970**
331-674		G I Earth pipe 50mm dia	No.	**1999**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		Discharge/earth rod		
331-675		Discharge/ Earth rod 4 feet (per set) (Distribution type)	Set	**3400**
331-688 &331-689		Discharge/ Earth rod 10 feet (per set) (SS type)	Set	**7330**
331-678		Telescopic Earth Rod extendable type per set (Material - PVC Pipe, 1 Set of 3 Nos, Size 4 Feet) (Distribution type)	Set	**2276**
331-681		Telescopic Earth Rod with copper wire 10' (SS Type) (per set)	Set	**6955**
		Line seperators		
340-885		LT, 3 Phase, 4 wire spiral phase line separator	No.	**280**
		LT, 3 Phase, 3 wire spiral phase separator		**246**
340-886		LT line spacer single phase 2 wire	No.	**150**
340-887		Line Separator 1 Phase, 3 Wire Spiral type	No.	**245**
504-614		Rubber Gauntlets	Set	**458**
504-613		Rubber Gloves	Set	**490**
		Bolt & nuts & binding wire /pole	lump sum	**888**
		Cement		
700-160		Ordinary Portland (O.P)Cement 53 Grade	per bag	**290**
331-685		**Earthing Device** made up of MS Angle 40x40x6mm along with MS Rod 3/8" (10mm) - As per IS of latest issue with up to date amendments	No.	**670**
		Pipe Earthing		
		G.I.Earth Pipe (40 mm dia) 3 mts and G.I.wire 8 SWG, Bolt & Nuts- 4 1/2 x 5/8" Set (970x3)+(69*10)+ (80*5)= 2910+690+400=4000	lump sum	**4000**
		Coil earthing per pole		
		G.I. Wire (8 SWG)(10 Kg), Bolt & Nut (3 1/2x5/8")- 5 Kg) - Set = (69*10)+(80*5)=690+400=1290	lump sum	**1290**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		Structure Earthing		
		Structure Earthing with GI Earth pipe 40 mm dia 3 Nos, MS Flat 50x6 MM 5 KG Bolt & Nut (11x5/8") 6 Kg, GI No.8 SWG wire 35 Kg) (970x3)+(60x5)+(86x6)+(69x35)=6141	lump sum	**6141**
		Concreting		
		concreting per pole(cement 1/2 bag, River Sand,Blue metal) (290/2+447+430)=1022	lump sum	**1022**
		Concreting per structure (290/2+447+430)*2=2044	lump sum	**2044**
		Group III - Street Light		
511-217	*	250W sodium vapour ballast	No.	**1751**
501-109	*	Sodium vapour lamp 250W	No.	**814**
501-212	*	Sodium vapour lamp fitting complete with 250 W bulb	No.	**2882**
331-498		Street light fixture clamp (Pair)	No.	**316**
331-541		Street light fixture pipe	No.	**352**
501-011		9 watts LED lamps	No.	**100**
501-249		4 Feet 16 W LED Tube light with fitting	No.	**322**
		20 watts LED tubular lamps	No.	**398**
501-232		36W/40W FLOURESCENT TUBE	No.	**40**
501-202		40 W choke(ELECTRONIC BALLAST)	No.	**280**
501-241		36/40W Flourescent street light fitting without bulb	No.	**903**
501-246		LED Lamp 40 Watts with Fittings	No.	**1300**
		72 W LED Street Light Fittings	No.	**1513**
501-248		72 Watts LED Street Light Bulb	No.	**1804**
510-245		72W LED street Light Fitting with Lamp	No.	**3705**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		Group IV - Ring Main Unit (RMU)		
		VARIOUS TYPES OF 11 RMUs with FRTU, Structures for DTs and associated materials (including DT/RMU earthing, foundation and termination)		
023-367		5 way 11 KV RMU configuration R-R-R-R-R	Each	**1399019**
021-803		5 way 11 KV RMU configuration R-R-R-R-L	Each	**1619325**
021-804		5 way 11 KV RMU configuration R-R-R-L-L	Each	**1834008**
021-805		5 way 11 KV RMU configuration R-R-L-L-L	Each	**1957974**
021-806		3 way 11 KV RMU configuration R-R-R	Each	**972654**
021-807		3 way 11 KV RMU configuration R-R-L	Each	**1211126**
		GROUP V - INNOVATIVE EQUIPMENTS		
		New equipment's		
021-437		LT fixed capacitor 1x9 KVAR	Each	**7757**
021-438		LT fixed capacitor 2x9 KVAR	Each	**14666**
		Electronic (Static) type:-		
400-079		1 PH STATIC METER 5-20A	No.	**670**
400-078		Single phase Bidirectional Static Meter 5-20A (Solar)	No.	**1240**
400-085		Three phase meter 10-60A STATIC	No.	**1800**
400-500		Three phase meter 50-100A Static Meter Bi- directional meters for sloar - net metering	No.	**6275**
400-345		Three phase meter 100A static	No.	**7500**
		Single Phase whole current Smart Meter 5-20 / 30 A	No.	**3509**
		Three Phase whole current Smart Meter 10-60A	No.	**5401**
		Three Phase whole current Smart Meter 10/20/50-100 A	No.	**6520**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		Three Phase LTCT operated Smart Meter for consumer	No.	**9123**
		Three Phase LTCT operated Smart Meter with Box, CTs and Cabling for DTs	No.	**26927**
		Modular RF Mesh Module (for installation with each meter)	No.	**1731**
		Data Concentrator Units/Gateway/Router for forming FR Mesh Canopy	No.	**55745**
		MODEM (HT & Ring Fencing)	No.	**9000**
		DCUs for SS Feeders	No.	**167313**
		LTCT 5A Composite Meter	No.	**2735**
		110 KV Metering CT	No.	**89844**
		HT 110/1A, DLMS 0.5 s Feeder Meter	No.	**7080**
400-330		3 PH 4 WIRE LT CT OPERATED STATIC METER 240V/5A 0.5 S DLMS	No.	**2258**
420-093		Resin cast Ring type LT CT 200/5A Electronic (Static) type Meter	No.	**546**
420-106		Resin cast Ring type LT CT 400/5A Electronic (Static) type Meter	No.	**570**
420-127		Resin cast Ring type LT CT 800/5A Electronic (Static) type Meter	No.	**388**
400-193		3 Phase (10-60A) Solar Bidirectional Meters	No.	**3960**
400-083		50-100 Amps Three phase Static meter	No.	**5817**
203-048		Common Meter Reading Instrument (CMRI)	No.	**22243**
		Trivector meters (Time Of Day (TOD) Type)		
400-348		3 Phase HT Static trivector meter 110V/1A (With TOD)	No.	**7080**
400-255		3 Phase HT Static trivector meter 110V/5A (With TOD)	No.	**23050**
400-343		3 Phase HT Static trivector meter 240V/5A (with TOD)	No.	**2250**
400-501		3 Phase HT Static trivector meter 110V/5A TOD-DLMS 0.2 S ABT (Available Base Tariff) Future	No.	**26800**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
400-270		HT TOD - 110V/5A static meter Bi-Directional meter for solar -net metering	No.	**6408**
400-328		3 Phase 4 Wire LT CT operated static meter 240V/5A.	No.	**2310**
400-503		3 phaseLT CT Bi-directional static meter 240V/5A (Solar)	No.	**11018**
340-850		PolyCarbonate Seals	No.	**4**
		Metering Sets per Each (Accuracy class 0.2 S)		
021-120		11 KV set , 10/5A	No.	**63720**
021-120		11 KV set, 20/5A	No.	**63720**
021-120		11 KV set, 40/5A	No.	**63720**
021-120		11 KV set, 60/5A	No.	**63720**
021-120		11 KV set, 100/5A	No.	**63720**
021-120		11 KV set, 150/5A	No.	**63720**
021-120		11 KV set, 200/5A	No.	**63720**
021-120		11 KV set, 300/5A	No.	**63720**
021-120		11 KV set, 100/5A	No.	**63720**
021-221		22 KV set 5/5A	No.	**130980**
021-221		22 KV set, 10/5A	No.	**130980**
021-221		22 KV set, 15/5A	No.	**130980**
021-221		22 KV set, 20/5A	No.	**130980**
021-221		22 KV set, 25/5A	No.	**130980**
021-221		22 KV set, 30/5A	No.	**130980**
021-221		22 KV set, 40/5A	No.	**130980**
021-221		22 KV set, 50/5A	No.	**130980**
021-221		22 KV set,60/5A	No.	**130980**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
021-221		22 KV set,80/5A	No.	**130980**
021-221		22 KV set,100/5A	No.	**130980**
021-221		22 KV set,120/5A	No.	**130980**
021-221		22 KV set,150/5A	No.	**130980**
021-221		22 KV set,175/5A	No.	**130980**
021-221		22 KV set,200/5A	No.	**130980**
021-221		22 KV set,250/5A	No.	**130980**
021-221		22 KV set,300/5A	No.	**130980**
021-221		22 KV set,400/5A	No.	**130980**
		33 KV set 10/5A	No.	**156350**
		33 KV set 20/5A	No.	**156350**
		33 KV set 30/5A	No.	**156350**
		33 KV set 40/5A	No.	**156350**
		33 KV set 50/5A	No.	**156350**
		33 KV set 60/5A	No.	**156350**
		33 KV set 100/5A	No.	**156350**
		33 KV set 150/5A	No.	**156350**
		33 KV set 200/5A	No.	**156350**
		33 KV set 300/5A	No.	**156350**
		Meter Board/Meter Box		
340-047		457 x 305 x 12 mm (Teak Wood) T.W.Board	No.	**599**
340-048		457 x 610 x 12 mm T.W.Board	No.	**734**
340-049		915 x 610 x 16 mm T.W.Board	No.	**569**
340-051		208 x 243 x 10 mm T.W.Board	No.	**264**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
340-050		200 x 200 x 12 mm T.W.Board	No.	**75**
331-604		LT METERING BOX	No.	**5060**
331-605		HT METERING BOX	No.	**14814**
		High Tension (HT) Cables		
		Cross Linked Poly Ethylene Aluminium (XLPE) cables		
321-801		33KV UG ALU XLPE CABLE 1x1000 SQ MM.	Km.	**1670880**
321-807		33 KV 1x630 Sq.mm	Km.	**1296820**
321-821		33 KV 3x630 Sq.mm	Km.	**4484000**
321-804		33 KV 3x400 Sq.mm	Km.	**2318181**
321-684		11 KV 1x630 Sq.mm	Km.	**883159**
321-594		11 KV 3x300 Sq.mm	Km.	**1711000**
321-593		11 KV 3x120 Sq.mm	Km.	**881460**
		Low Tension (LT) Under Ground(UG) cables		
321-020		2x16 Sq.mm	Km.	**61216**
321-119		4x25 Sq.mm	Km.	**118529**
321-120		4x120 Sq.mm	Km.	**457979**
321-121		4x240 Sq.mm	Km.	**878170**
		Pillar Boxes Open Type		
021-412		MS Open type 6 way pillar boxes	Each	**33197**
021-405		PILLAR BOX MS 6 way with HRC fuse	Each	**68347**
021-422		Fibre Reinforced Plastic (FRP) 6 way Pillar box	Each	**42534**
		PILLAR BOX MS 4 way with HRC fuse	Each	**50193**
021-404		Fibre Reinforced Plastic (FRP) 4 way Pillar box	Each	**23286**
021-470		Fibre Reinforced Plastic (FRP) Mini Pillar box	Each	**11011**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
021-408		LT open type Mini pillar box	Each	**9075**
		Joint Kits for Cables		
		Joint Boxes		
		Straight through type		
		Cross Linked Poly Ethylene (XLPE) cables		
322-548		STRAIGHT JOINT KIT (Heat Shrinkable (HS) TYPE) FOR XLPE 33KV 3X400 SQMM	Each	**21887**
322-554		STRAIGHT JOINT KIT (OUTDOOR - TAPEX TYPE) FOR XLPE 33KV 3X400 SQMM	Each	**23895**
322-559		Straight Joint Kit (HS type) for 33KV, 1X 630 Sq mm cable	Each	**9366**
322-552		STRAIGHT JOINT KIT (HS TYPE) FOR XLPE 11KV 3X300 SQMM	Each	**5735**
322-550		STRAIGHT JOINT KIT (HS TYPE) FOR XLPE 11KV 3X120 SQMM	Each	**5066**
		STRAIGHT JOINT KIT (HS TYPE) FOR XLPE 11KV 1X630 SQMM	Each	**12803**
		Straight Joint Boxes		
		(a) Low Tension		
		Heat Shrinkable (HS) type, XLPE cable		
322-050		1.1 KV 2x16 Sq.mm	Set	**710**
322-764		1.1 KV 4 x 25 Sq.mm	Set	**352**
322-765		1.1 KV 4x120 Sq.mm	Set	**770**
322-766		1.1 KV 4 x 240 Sq mm	Set	**1495**
		Heat shrinkable type transition kit for		
		XLPE cable to PILC		
322-633		Transition kit (HS Type) 11KV PILC TO 3X300 Sq.mm XLPE	Each	**14298**
322-627		Transition kit (HS Type) 11KV PILC TO 3X120 Sq.mm XLPE	Each	**9461**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		Outdoor type cable termination joint kit		
		Heat Shrinkable (HS) type		
322-740		OD termination kit (outdoor - HS type) for 33KV 3X400 sq.mm	Each	**7847**
322-742		OD termination kit (outdoor - HS type) FOR 33KV 1X630 sq.mm	Each	**6714**
322-562		OD termination kit (outdoor - HS type) FOR XLPE 11KV 3X300 sq.mm	Each	**2420**
322-560		OD termination kit (outdoor - HS type) FOR XLPE 11KV 3X120 sq.mm	Each	**2117**
		Indoor type Termination kit (HS type for XLPE cable)		
		Heat Shrinkable (HS) type		
322-591		ID termination kit (Indoor) FOR XLPE 33KV 3X400 sq.mm	Each	**6500**
322-738		ID termination kit for XLPE 33 KV 1x630 Sq.mm	Each	**3046**
322-588		ID termination kit for XLPE 11KV 3X300 sq.mm	Each	**2087**
322-586		ID Termination kit for 11 KV, 3X120 sqmm	Each	**1652**
		Cable Compound		
322-520		LT	Tonne	**80302**
		`V' Trough		
322-513		V Trough for 33KV	Each	**392**
322-512		V TROUGHS FOR 11KV	Each	**245**
322-517		33 KV RCC cover slab	Each	**307**
		Spun Pipes		
710-810		Spun pipe 225 mm (RCC)	Each	**1170**
710-811		Spun pipe 150 mm (RCC)	Each	**801**
710-836		Spun pipe 100 mm (RCC)	Each	**627**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
		Under Ground (UG) service connection material		
340-736		Aluminium LUGS 120 Sq.mm	Each	**9**
340-737		Aluminium LUGS 240 Sq.mm	Each	**22**
340-747		Aluminium line connector 120 Sq.mm	Each	**8**
340-749		Aluminium line connector 240 Sq.mm	Each	**18**
		Aluminium Hollow pipe (Rate per kg)		
642-163		Hollow pipe Alu. 1 inch OD - 3.1m length	Kg.	**1408**
642-150		Hollow pipe 38mm (1.5 Inch) dia,(Alu.Bus bar)	Kg.	**987**
642-152		Alu. Bus bar 50 mm-(2 In) Dia	Kg.	**378**
		GROUP V - STEEL ITEMS		
		Mild Steel (M S) Rods/Rounds		
600-720		12 mm	MT	**61360**
600-721		16 mm	MT	**61360**
600-722		20 mm	MT	**61360**
600-728		40 mm	MT	**61360**
		Mild Steel (MS) Flats		
600-450		50 x 6 mm	MT	**59590**
600-471		50 x 8 mm	MT	**59118**
600-491		65 x 10 mm	MT	**59118**
		200 x 6 mm	MT	**61832**
		300 x 8 mm	MT	**61832**
		Rolled Steel (R.S.) Joist		
600-426		250 x 125 mm **(11.19 kg/feet)**	MT	**44863**
		42' RSJ pole	Each	**21085**
		40' RSJ pole	Each	**20081**
		36' RSJ pole	Each	**18073**

Item code No		Description	Unit	2021-22 Rate (in Rs.)
310-083		200 x 100 mm **(7.26 kg/feet)**	MT	**55100**
310-305		42' RSJ pole	Each	**16801**
310-304		40' RSJ pole	Each	**16001**
310-303		36' RSJ pole	Each	**14401**
310-302		33' RSJ pole	Each	**13201**
310-301		30' RSJ pole	Each	**12001**
		Mild Steel (M.S.)Angles		
600-021		50 x 50 x 6 mm	MT	**60534**
600-035		65 x 65 x 6 mm	MT	**60652**
		M.S.Channel		
600-305		75x40 mm	MT	**60888**
600-311		100x50 mm	MT	**60593**
600-316		125x 65 mm	MT	**61360**
600-335		150x75 mm	MT	**60298**
600-356		200x 75mm	MT	**60298**
		Copper control cables		
		2C x 2.5 sq.mm armoured copper control cable	Km.	**70555**
321-399		4C x 2.5 sq.mm armoured copper control cable	Km.	**107762**
321-412		4C x 4 sq.mm armoured copper control cable	Km.	**151285**
		8C x 2.5 sq.mm armoured copper control cable	Km.	**180405**
321-459		8C x 4 sq.mm armoured copper control cable	Km.	**285140**
321-501		14C x 2.5 sq.mm armoured copper control cable	Km.	**297757**
		50mm Aluminium Bus Bar	No.	**405920**

SAFETY ITEMS

Item code No	Description	Unit	**Recommended rate for 2021-22 (in Rs.)**
	PERSONNEL PROTECTIVE EQUIPMENTS		
504-613	Rubber hand gloves	Set	**490**
502-160	Rain Coat	No	**576**
206-170	Rechargable torch light	No	**513**
200-745	Safety Belt	No	**1790**
505-201	20 mm White cotton belt rope	No	**168**
505-203	18mm Cotton Belt rope	No	**155**
505-200	16mm Cotton Belt rope	No	**208**
505-195	12mm White cotton belt rope	No	**217**
505-182	Manila rope 3/4"	No	**648**
505-183	Manila rope 1"	No	**648**
502-174	Rescue Jacket	No	**748**
502-175	Hi-Visibility Reflective Safety Jacket	No	**979**
	Fluorescent Orange Jacket	No	**258**
502-176	Safety Shoe oil Proof	No	**1173**
	Fire Rescue Equipments		
200-449	6 KG ABC type	No	**1705**
200-429	6.5 Kg Co2 type	No	**7500**
200-441	6.8 Kgs. Co2 type	No	**9709**
200-431	9 Kgs. DCP (Dry Chemiccal Powder) Type	No	**4097**
200-433	9L Foam type	No	**2769**
200-480	10L Fire Bucket	No	**313**
200-447	25 Kgs. DCP Type Trolley mounted	No	**11419**

Item code No	Description	Unit	**Recommended rate for 2021-22 (in Rs.)**
	ROPE		
505-192	Polypropyelene rope 1/2" dia (12 mm)	No	**190**
505-193	Polypropyelene rope 3/4" dia (18 mm)	No	**216**
505-189	Polypropyelene rope (20 mm)	No	**193**
505-191	Polypropyelene rope 1" dia (25 mm)	No	**182**
505-194	Polypropyelene rope (32 mm)	No	**215**

ANNEXURE

NEWLY ADDED ITEMS FOR 11 KV RMUs IN COST DATA 2021-22

Sl. No.	Description	Unit	Recommended rate for 2021-22 (in Rs.)
	Items for RMUs		
1	11 KV, 3 x 300 sq.mm / 3 x 120 sq.mm Indoor termination kit for RMU including insulating boots (3 Nos.) (Rs.2950+3186=6136)	Nos.	**6136**
2	11 KV, 3 x 300 sq.mm / 3 x 120 sq.mm Touch Proof termination kit for RMU	Nos.	**19470**
3	11 KV Distribution transformer structure with associated materials / Structure materials for DT (Concrete plinth)	Each	**110939**
4	Materials for earthing including earth spike, GI pipe and GI Flats (For RMU and DT)	Each	**41539**
5	Earthing and Plinthing for Pillar Box	Each	**8114**

NEW SUB STATION MATERIALS

Sl No.	Item Code No.	Description	Unit	Recommended rate for 2021-22 (in Rs.)
1		**33 KV Breakers (Outdoor)**		
i	023-076	33 KV VCB outdoor	No	**252874**
2		**33 KV Breakers (Indoor)**		
i	023-230	33 KV VCB Indoor (Transformer HV)	No	**1195930**
ii		33 KV VCB Indoor (Transformer LV)	No	**1290330**
iii	023-231	33 KV VCB Indoor (feeder)	No	**1066130**
iv	023-232	33 KV VCB Indoor (Bus coupler)	No	**1465560**
v		33 KV Bus adapter	No	**195414**
vi		33 KV Indoor GIS panel (Transformer HV)	No	**3117817**
vii		33 KV Indoor GIS panel (for incoming feeder)	No	**3791998**
viii		33 KV Indoor GIS panel with Bus raiser suitable for Bus Sectionaliser control	No	**4188464**
3		**11 KV Breakers (Outdoor)**		
i	023-078	11 KV VCB outdoor	No	**137352**
4		**11 KV Breakers (Indoor)**		
i	023-235	11 KV VCB Indoor (Transformer LV)	No	**442500**
ii	023-234	11 KV VCB Indoor (feeder)	No	**381211**
iii	023-233	11 KV VCB Indoor (Bus coupler)	No	**396244**
iv		11 KV Bus adapter	No	**165893**
v		11 KV GIS Indoor (Transformer LV)	No	**2980597**
vi		11 KV GIS Indoor (for outgoing Feeder)	No	**3169258**
vii		11 KV Indoor GIS panel with Bus raiser suitable for Bus Sectionaliser control	No	**3792804**
5		**Power Transformers per Each**		
i		33/11 KV, 16 MVA with OLTC	No	**9536171**
ii		33/11 KV, 8 MVA with OLTC	No	**4599720**
6		**AC Panels**		
i	023-229	AC Panel for 33 KV SS	No	**81715**
ii		AC Panel with autochangeover facility for 33 KV Indoor GIS SS	No	**319676**

Sl No.	Item Code No.	Description	Unit	Recommended rate for 2021-22 (in Rs.)
7		**DC Panels**		
i	023-224	110 V DC ANNUNCIATION PANEL TYPE-A	No	**70000**
ii	023-225	110V DC Annunication Panel (Type B)	No	**85668**
iii	023-226	110V DC Distribution Panel (Indoor)	No	**96961**
iv		DC Panel with autochangeover facilityfor 33 KV Indoor GIS SS	No	**236654**
8		**CONTROL & RELAY PANEL**		
a		**110 V DC C&R (Indoor)**		
i	023-223	110V DC Indoor C&R Panel for GC Breaker	No	**154707**
ii	023-222	110V DC Indoor C&R Panel for LV Breaker	No	**308317**
iii		110V DC Indoor C & R Panel for Twin Feeder Breaker	No	**224554**
b		**220 V C&R (Indoor)**		
i		220 V DC Indoor C&R GC Panel	No	**50613**
ii		220 V DC C&R LV Panel	No	**100394**
iii		220 V DC C&R Twin Feeder	No	**66639**
9		**CURRENT TRANSFORMERS**		
a		**33 KV Outdoor CT**		
i	420-846	33 KV Outdoor CT 1200-600-300/ 1-1A	No	**23130**
ii	420-211	33 KV Outdoor CT (600-300-150/1-1A)	No	**16319**
b		**11KV Indoor CT**		
i		11 KV Indoor CT (900-600/1A)	No	**35662**
c		**11KV Outdoor CT**		
i	420-302	11 KV Outdoor CT 1200-600/1-1A	No	**19824**
ii	420-208	11 KV OUT DOOR CT 1200-600-300/1-1A	No	**21122**
iii	420-299	11 KV OUTDOOR CT 400-200-100/1-1A	No	**17458**
iv		11 KV OUTDOOR CT 400-200-100/1A	No	**17995**
v		11 KV Outdoor CT Ratio 400-200/1-1A	No	**17395**
vi		11 KV single phase oil filled self cooled outdoor Current Transformer 300/5A	No	**30680**

Sl No.	Item Code No.	Description	Unit	Recommended rate for 2021-22 (in Rs.)
10		**POTENTIAL TRANSFORMERS**		
i		110 KV Outdoor PT	No	**139240**
ii		33 KV Outdoor PT (1 Phase)	No	**23789**
iii		11 KV Outdoor PT (3 Phase)	No	**36226**
iv		11KV single phase oil filled self cooled outdoor Potential Transformer	No	**28320**
11		**BATTERIES**		
a		**12V BATTERIES**		
i	023-558	12 V, 150 AH Tubular battery	No	**13500**
ii	045-401	12 V, 150 AH SMF battery	No	**12300**
b		**30V BATTERIES**		
i	023-212A	30V, 60 AH Battery with stand and all accessories	No	**53408**
ii	023-262	30V, 60 AH Battery complete set without stand	No	**33664**
iii	023-343	30V, 200 AH Tubular Lead acid stationery Battery in SAN container with stand and accessories	No	**102400**
c		**48V BATTERIES**		
i	023-877	48V, 400 AH Battery with stand	No	**196728**
ii	023-423	48V, 250 AH Battery with stand	No	**167462**
iii	023-422	48V, 120 AH Battery with stand	No	**122831**
d		**110V BATTERIES**		
i	023-214	110V, 120 AH Battery set Tubular Lead acid stationery Battery in SAN container with stand	No	**292800**
ii		110V, 120 AH Battery set without stand	No	**285120**
iii		110V, 300 AH Battery set with stand	No	**448448**
iv		110V, 300 AH Battery set without stand	No	**452480**

Sl No.	Item Code No.	Description	Unit	Recommended rate for 2021-22 (in Rs.)
12		**BATTERY CHARGERS**		
a		**12 V**		
i	023-322	12 V/10 Amps charger	No	**3117**
b		**30V**		
i	023-300	30V/12 Amps battery charger (Manual)	No	**35400**
ii		30V / 40 A (Thyristor based)	No	**53218**
c		**48V**		
i		48V/120 Amps charger	No	**284890**
ii		48V/80 Amps charger	No	**105020**
iii	023-312	48V/40Amps charger	No	**56640**
iv	023-310	48V/20Amps charger	No	**42480**
d		**110V**		
i	023-305	110V/60Amps battery charger (Manual)	No	**124785**
ii		110V/60Amps battery charger (Automatic)	No	**274281**
iii	023-302	110V/24Amps battery charger (Manual)	No	**42244**
13		**RELAYS**		
i		Numerical version differential Relay	No	**50445**
ii		Numerical type non directional IDMT relay	No	**7080**
iii		Numerical non directional over current & Earth Fault Protection Relay	No	**7323**
iv		Numerical Non-Directional 3 Over Current and 1 Earth Fault (3 O/L + 1 E/L) Protection Relays with instantaneous high set 24-242 V DC Relay	No	**31210**
14		**SHUNT CAPACITOR**		
i		1 KVAR	No	**470**
ii		2 KVAR	No	**539**
iii		3 KVAR	No	**614**
iv		4 KVAR	No	**662**

Sl No.	Item Code No.	Description	Unit	Recommended rate for 2021-22 (in Rs.)
v		5 KVAR	No	**1260**
vi		6 KVAR	No	**1243**
15		**VARIOUS CAPACITIES OF CAPACITOR BANK CELLS**		
i	021-458	264.5 KVAR / 7.3 KV	No	**15924**
ii		290 KVAR / 6.98 KV	No	**18172**
iii	021-649	386.13 KVAR/7.3 KV	No	**22774**
iv		184.5 KVAR/7.3 KV	No	**11786**
16		**VACUUM INTERRUPTER**		
i		11 KV	No	**41227**
ii		33 KV	No	**47289**

TAMILNADU GENERATION & DISTRIBUTION CORPORATION LIMITED

From
Er.N.BALAJI, M.E.,
Chief Engineer/Planning &RC,
144, Anna Salai,
Chennai.2

To
All the Chief Engineers/Distribution Regions &
All the Superintending Engineers/EDCS

Lr.No.CE/PLG&RC/SE/RE&I(D)/EE/PC-I/A2/F.cd 20-21/D. 93/2020, Dt. 30.04.2021

Sir,

Sub: TANGEDCO – Cost Data 2021-22 – Rates for Sub Station Materials, Personnel Protective Equipments , Labour, Transport and Sample Estimates – Communicated – Regarding

Ref : Lr.No.CE/PLG&RC/SE/RE&I(D)/EE/PC-I/A2/F.CD 21-22/D.74/2021, Dt. 31.03.2021

****

The Cost data 2021-22 rates has been prepared for materials and the same was communicated to field vide this office letter dt.31.03.2021 (ref-1). Further the same was sent through email on 31.03.2021 @ 17.45 Hrs from sereid mail.

In addition to the above, rates of Sub Station Materials, Personnel Protective Equipments, Labour and Transport charges and sample estimates have been prepared and the soft copies of the same are sent herewith .

The above rates may be circulated to all the officers under your control.

The receipt of this letter may be acknowledged.

Encl: Soft copies of (i) Sub Station Materials,
(ii) Personnel Protective Equipments,
(iii). Labour Charges (iv).Transport Charges
and (vi) Sample estimates for the
year 2021-22

30/4/21

for CHIEF ENGINEER/PLANNING&RC

Copy submitted to Director (Distribution)/TANGEDCO: For kind information please.

Copy submitted to Director(Finance)/TANGEDCO
Copy to CE/IT/TANGEDCO
Copy to CFC/General/TANGEDCO
Copy to CE/MM/TANGEDCO
Copy to CE/Civil/Design/TANGEDCO
Copy to CE/Transmission/TANTRANSCO

COST OF LABOUR

COST OF LABOUR

STATEMENT-A

Sl.No.	Name of Work	Quantity	Rate Per each	Labour charge
I	**FOR ERECTION OF 1 KM OF HT LINE**			
1	Surveying	LS		352
2	Tree cutting	LS		416
3	Transport of poles from stores to site (per pole)	15	1784	26760
4	Transport of line materials from stores to site for 1 km.	15	650	9750
5	Excavation of pole pit	15	719	10785
6	Erection of base plate	15	100	1500
7	Erection of poles	15	760	11400
8	Concreting of poles	15	1853	27795
9	Earthing per pole	5	227	1135
10	Fixing of insulators and cross arms	11	378	4158
11	Fixing of Strain disc insulator	4	115	460
12	Paving and stringing of conductors for 1 KM	3	3848	11544
13	Fixing of special cross arms and cut point jumpers	4	322	1288
14	Excavation of Stay pit and erection of Stay set complete	6	1300	7800
15	Stay Concreting per pole	6	970	5820
16	Colour washing/Painting and numbering	15	447	6705
17	Erection of cross bracing	Per DP		396
18	Erection of DP Cross Arm	Per DP		362
19	Provision of guarding	LS		1650
	Cost of unskilled labour			130076
	ADD 40% towards cost of skilled labour			52030
	Total			182106
	Or say	**Rs.**	**182110**	
II	**FOR ERECTION OF 1 KM OF LT LINE**			
1	Surveying	LS		346
2	Tree cutting	LS		450
3	Transport of poles from stores to site (per pole)	17	2261	38437
4	Transport of line materials from stores to site	17	650	11050
5	Excavation of pole pit	17	674	11458
6	Erection of base plate	17	50	850
7	Erection of poles	17	937	15929
8	Concreting of poles	6	1512	9072
9	Earthing per pole	6	155	930
10	Fixing of insulators and cross arms per pole	11	417	4587
11	Fixing of LT shackle with Metal Parts	6	58	348
12	Fixing of Aluminium Knob	17	30	510
13	Paving and stringing of conductors for 1 km. route length	4	3967	15868
14	Excavation, Erection of Stay pit and Stay concreting	6	2345	14070
15	Fixing of LT line spacer	32	80	2560
16	Fixing of "Pa" Jumpers	10	35	350
17	Colour washing/Painting and numbering per pole	17	457	7769
	Provision of guarding	LS	1650	1650
	Cost of unskilled labour			136234
	ADD 40% towards cost of skilled labour			54494
	Total			190728
	Or say	**Rs.**	**190730**	

III	**For distribution transformer structure with 10' centre including erection of distribution transformer**	
	Cost of unskilled labour	16639
	ADD 40% towards cost of skilled labour	6656
	Total	23295
	Or say **Rs.**	**23290**
IV	**For erection of transformer structure only (excluding erection of transformer)**	
		Labour charg
	Cost of unskilled labour	13937
	ADD 40% towards cost of skilled labour	5575
	Total	19512
	Or say **Rs.**	**19510**
V	**For erection of transformer only**	
		Labour charg
	Cost of unskilled labour	**1318**
	ADD 40% towards cost of skilled labour	527
	Total	**1845**
	Or say **Rs.**	**1850**
VI	**For erection of switch gear and LAs**	
		Labour charg
	Unskilled labour for erection of AB switches	1078
	Unskilled labour for erection of H.G Fuse Set	450
	Unskilled labour for erection of HT & LT LAs	381
	Unskilled labour for jumpering etc.,	550
	Unskilled labour for erection of LT open type fuse unit	925
	Cost of unskilled labour	**3384**
	ADD 40% towards cost of skilled labour	1354
	Total	**4738**
	Or say **Rs.**	**4740**
VII	**For enhancement of 11 KV or 22 KV distn.transformers**	
	Unskilled labour for erection of distn.transformers	1318
	Unskilled labour for jumpering etc.	550
	Sub-total unskilled labour for erection	**1868**
	ADD 50% towards dismantling works	934
	Total unskilled labour dismantling and erection	**2802**
	ADD 40% towards skilled labour	1121
		3923
	ADD Transport of distribution transformer (To and Fro)	715
	Total for labour, dismantling and transport	4638
	Or say **Rs.**	**4640**

VIII	For conversion of 11 KV & 22 KV lines for a distance of 1 KM			
		Qty	Rate	abour charg
(a)	For conversion **without** insertion of pole			
	Unskilled labour for paving and stringing of conductors	3	3848	11544
	ADD 50% towards dismantling charges			5772
	Total			**17316**
	ADD 40% towards skilled labour			6926
	Total labour charges			24242
	ADD transport charges from stores			3651
	Total			27893
	Or say		**Rs.**	**27890**
(b)	For conversion **with** insertion of poles			
	Unskilled labour for erection/insertion of poles with stay (Including earthing,concreting)	6	7736	46416
	Charges for restringing of conductor	3	3848	11544
	ADD 50%conductor dismantling charges			5772
				63732
	ADD 40% for skilled labour			25493
	ADD transport charges from stores			3651
	Total			92876
	Or say		**Rs.**	**92880**
IX	**For conversion of LT 3 phase/4 wire line for a distance of 1 Km**			
		Qty	Rate	abour charg
(a)	For conversion **without** pole insertion			
	Unskilled labour for paving and stringing	4	3967	15868
	ADD 50% for dismantling			7934
	Total labour for erection and dismantling			23802
	ADD 40% towards skilled labour			9521
				33323
	ADD transport charges from stores			4868
	Total labour for erection and dismantling & transport of mateirals			38191
	Or say		**Rs.**	**38190**
(b)	For conversion **with** pole insertion			
	Unskilled labour for erection/insertion of poles	8	7027	56216
	Unskilled labour conductor restringing	4	3967	15868
	ADD 50% for dismantling			7934
				80018
	ADD 40% for skilled labour			32007
				112025
	ADD transport charges for stores			4868
	Total labour charges			116893
	Or say		**Rs.**	**116890**

X	For conversion of LT Single phase line to Three phase line for distance of 1 KM			
		Qty	Rate	Labour charge
	Labour for fixing LT insulators and cross arms	17	417	7089
	Labour for paving and stringing of conductor	4	3967	15868
				22957
	ADD 50% for dismantling			11479
	Total unskilled labour			34436
	ADD 40% for skilled labour			13774
				48210
	ADD transport charges from stores			4868
	Total charges			53078
	Or say		Rs.	53080

XI	For street light fixing	
		Labour charge
	Cost of unskilled labour	218
	ADD 40% towards cost of skilled labour	87
	Total	305
	Or say	Rs. 310

XII	For Industrial service connection	
		Labour charge
	Cost of unskilled labour	517
	ADD 40% towards cost of skilled labour	207
	Total	724
	Or say	Rs. 720

XIII	For Agricultural service connection	
		Labour charge
	Cost of unskilled labour	275
	ADD 40% towards cost of skilled labour	110
	Total	385
	Or say	Rs. 390

XIV	For Hut/Domestic/Commercial services	
		Labour charge
	Cost of unskilled labour	249
	ADD 40% towards cost of skilled labour	100
	Total	349
	Or say	Rs. 350

XV	For erection of Railway crossing structure	
		Labour charge
	Cost of unskilled labour	5990
	ADD 40% towards cost of skilled labour	2396
	Total	8386
	Or say	Rs. 8390

XVI	For erection of Cross Bracing structure	
		Labour charge
	Cost of unskilled labour	5956
	ADD 40% towards cost of skilled labour	2382
	Total	8338
	Or say	Rs. 8340

XVI	For erection of tapping structure with AB switch	
		Labour charge
	Cost of unskilled labour	6271
	ADD 40% towards cost of skilled labour	2508
	Total	8779
	Or say **Rs.** **8780**	

XVII FOR LAYING OF 11 KV UG CABLE UPTO 1 KM.

Sl.No	Name of Work	Quantity	Unit	Rate Per each	Labour charge
1	Excavation of cable trench 0.6 mtrs width and 1.2 mtrs depth including cost of providing sign boards, danger lights, indication arrangements wherever necessary all lead, lift, labour and tools and plants etc., Complete.				
	Concrete Road - 10%	100	RM	320.00	32000.00
	Thar Road - 20%	200	RM	200.00	40000.00
	Normal Road, Earth - 70%	700	RM	120.00	84000.00
2	Laying of 300 Sq.mm XLPE cable	1000	RM	30.00	30000.00
3	Covering HT cable by cement "V" trough after covering the cable with good loose earth including loading, unloading and transport from stores to site and letter painting of feeding details & Cable size on the trough	1680	Each	21.00	35280.00
4	Laying of PVC/Spun pipe	180	mtr	20.00	3600.00
5	Erection of Joint Kit	6	Each	1100.00	6600.00
6	Erection of Indoor termination kits	1	Each	1100.00	1100.00
7	Outdoor termination kits	1	Each	1100.00	1100.00
8	Refilling with excavated earth layers well consolidated as per std specification including all materials, lead, lift etc., complete.	1000	RM	20.00	20000.00
	Cost of unskilled labour				253680.00
	ADD 40% towards cost of skilled labour				101472.00
	Sub-total 1				**355152.00**
9	Transporting of 11 KV HT cable from departmental stores to work spot by engaging private vehicle including recoiling, coiling and loading and unloading at both sides				
	3x300 Sq.mm XLPE / 3x120 Sq.mm XLPE (1 drum:200m)	6	each drum	2400.00	14400.00
10	Transporting of V trough and other materials viz., joint kits and termination kits	2	trip	2400.00	4800.00
11	Transport back any balance cable, empty drums and other materials if any by engaging private vehicle including recoiling, coiling and loading and unloading at both sides from workspot to departmental stores (minimum 2 empty drums)	3	trip	1650.00	4950.00
	Sub-total 2				24150.00
	Grand total (Sub-total 1+2)				**379302.00**
	Or say	**Rs.**	**379300**		

XIX	FOR LAYING OF LT UG CABLE UPTO 1KM.				
Sl.No	Name of Work	Quantity	Unit	Rate Per each	Labour charge Rate in Rs.
1	Excavation of cable trench 45 cm width and 75 cm depth including cost of providing sign boards, danger lights, indication arrangements wherever necessary all lead, lift, labour and tools and plants etc., Complete.				
	Concrete Road - 10%	100	RM	240.00	24000.00
	Thar Road - 20%	200	RM	150.00	30000.00
	Normal Road, Earth - 70%	700	RM	90.00	63000.00
2	Laying of 240 Sq.mm XLPE cable	1000	RM	18.00	18000.00
3	Covering HT cable by cement "V" trough after covering the cable with good loose earth including loading, unloading and transport from stores to site and letter painting of feeding details & Cable size on the trough	1340	Each	15.00	20100.00
5	Erection of Joint Kit	2	Each	500.00	1000.00
6	Erection of HRC 4 way/6way/8way Pillar box	2	Each	4500.00	9000.00
8	Refilling with excavated earth layers well consolidated as per std specification including all materials, lead, lift etc., complete.	1000	RM	10.00	10000.00
	Cost of unskilled labour				175100.00
	ADD 40% towards cost of skilled labour				70040.00
	Sub-total 1				**245140.00**
9	Transporting of LT cable from departmental stores to work spot by engaging private vehicle including recoiling, coiling and loading and unloading at both sides				
	4x240 Sq.mm XLPE / 4x120 Sq.mm XLPE	3	each drum	1650.00	4950.00
10	Transporting of V trough, Pillar box etc	1	trip	1650.00	1650.00
11	Transport back any balance cable, empty drums and other materials if any by engaging private vehicle including recoiling, coiling and loading and unloading at both sides from workspot to departmental stores (minimum 2 empty drums)	1	trip	1650.00	1650.00
	Sub-total 2				8250.00
	Grand total (Sub-total 1+2)				**253390.00**
	Or say	**Rs.**	**253390**		

XX	ERECTION OF SINGLE POLE MOUNTED HVDS STRUCTURE				
Sl. No.	Name of Work	Quantity	Unit	Rate Per each	Labour charge Rate in Rs.
1	Erection of single pole structure (square section) including transporation,Excavation in pole pit 3'x3'x6' using JCB or manual				
2	Ground Leveling and Bush cleaning	1	loc	500	500.00
3	Excavation of pole pit size 3'x3'x6'	1	loc	500	500.00
4	Loading of 9m RCC Pole (Square section)	1	loc	150	150.00
5	Unloading of 9m RCC Pole (Square section)	1	loc	150	150.00
6	Loading & unloading of line materials	1	Tonn	250	250.00
7	Erection of 9mm RCC pole including base plate	1	Each	600	600.00
8	Excavation of stay pit size 2'x 2'x 6' & Erection of stay set including stay plate & Stay concreting	1	loc	2270	2270.00
	Erection of Single pole TC set suitable for 25 KA DT.	1	Loc	1500	1500.00
	Erection of SPM GOS switch polymer type	1	Loc	1500	1500.00
	Erection of HG Fuse unit solid core type	1	Loc	450	450.00
	Erection of Anti Climbing device	1	Loc	100	100.00
	HT jumpering	1	Loc	650	650.00
	Mass concreting of pole with 1:4:8 mix half broken metal jelly, cement and river sand including coping (Size / Height of pole) (As per Civil Rate) (Only Erection)	1	Loc	1022	1022.00
	Erection of HT LAS (1 set consists of 3 Nos.)	1	Set	210	210.00
	Erection of LT LAS (1 set consists of 3 Nos.)	1	Set	120	120.00
	Earthing of Structure complete set with 2 Nos. earth pit excavation , pit size 2'x2'x2' filled with mixture of sand, charcoal and common salt in equal proportion to a depth of 1.25' and 1' jelly to a depth of 9", earth ocnnection to be provided with GI wire, plates and bolts and Nuts	2	Nos.	2250	4500.00
	Painting of Transformer Structure including cost of paint, brush etc. (1. One coat of red oxide paint in all iron materials, 2. Colour washing of 2 Nos. Strucure poles, 3. Painting of Transformers and all iron items with aluminium paint)	1	Loc	2500	2500.00
	Erection of Transformer	1	No.	1318	1318.00
	Loading & Unloading of Transformer	1	Loc	350	350.00
	Erection of LT open type arrangement/protection kit including running LT bus and jumpering complete	1	Structure	500	500.00
	Erection of HT TI Fittings, 4.5 V Cross arm, Tapping Channel Cross arm etc	1	Loc	1500	1500.00
	Cost of Unskilled Labours				20640.00
	ADD 40% towards cost of skilled labour				8256.00
	Sub total for Labours				**28896.00**
	Transporting of 9m RCC pole upto 5 kms.	1	loc	400	400.00
	Transporting of line materials from Stores to work spot	1	Tonn	250	250.00
	Transporting of Distribution Transformers upto 30 Km.	1	Tonn	1430	1430.00
	Sub total for Transport				**2080.00**
	Grand Total (Labour and Transport)				30976.00
				or Say Rs.	**30651.00**

COST OF TRANSPORT

STATEMENT-B

RUNNING COST OF VEHICLE	: Rs. 64.51 /KM
AVERAGE CAPACITY OF LORRY	5.00 MT
RATE / MT / KM	: Rs. 12.90
DISTANCE FROM STORE TO WORKSPOT & BACK (ASSUMED)	**: 50 KMS**
COST OF TRANSPORTATION PER 50 KM/MT	: Rs. 645.00

(A) TRANSPORTATION OF POLES (In Rupees)

HT Lines

Sl No.	SIZE OF POLES IN METERS	TYPE OF POLE	WEIGHT per pole IN M.T.	SPAN LENGTH IN METRES						
				120Mt	105Mt	90Mt	85Mt	75Mt	67Mt	60Mt
				NO OF POLES						
				10 Nos.	11 Nos.	12 Nos.	13 Nos.	15 Nos.	16 Nos.	18 Nos.
1	7.50	RCC	0.450	2903	3193	3483	3773	4354	4644	5225
2	8.00	RCC	0.407	2625	2888	3150	3413	3938	4200	4725
3	9.14 Spl	RCC	0.618	3986	4385	4783	5182	5979	6378	7175
4a	9.00	300 kg PSC	0.607	3915	4307	4698	5090	5873	6264	7047
4b	9.00	400 kg PSC	0.670	4322	4754	5186	5618	6482	6914	7779
5	8.00	140 Kg PSC	0.329	2122	2334	2546	2759	3183	3395	3820
6	8.00	200 Kg PSC	0.380	2451	2696	2941	3186	3677	3922	4412

LT Lines

Sl No.	SIZE OF POLES IN METERS	TYPE OF POLE	WEIGHT per pole IN MT	SPAN LENGTH IN METERS					
				85 Mt	75 Mt	67 Mt	60 Mt	50 Mt	45 Mt
				NO OF POLES					
				13 Nos	15 Nos	16 Nos	18 Nos	21 Nos	23 Nos
1	7.50	RCC	0.450	3773	4354	4644	5225	6095	6676
2	8.00	RCC	0.407	3413	3938	4200	4725	5513	6038
3	9.14 Spl	RCC	0.618	5182	5979	6378	7175	8371	9168
4	9.00	300 kg PSC	0.607	5090	5873	6264	7047	8222	9005
5	9.00	400 kg PSC	0.670	5618	6482	6914	7779	9075	9939
6	8.00	140 Kg PSC	0.329	2759	3183	3395	3820	4456	4881
7	8.00	200 Kg PSC	0.380	3186	3677	3922	4412	5147	5637
8	7.50	200 kg PSC	0.322	2077	2285	2492	2700	3115	3323

(B) TRANSPORTATION OF LINE MATERIALS (In Rupees) **HT Lines**

Sl No.	SIZE OF CONDUCTOR ACSR/AAAC	WEIGHT per pole in Kg.	SPAN LENGTH IN METRES						
			120 Mt	105 Mt	90 Mt	85 Mt	75 Mt	67 Mt	60 Mt
			NO OF POLES						
			10 Nos	11 Nos	12 Nos	13 Nos	15 Nos	16 Nos	18 Nos
1	AAAC 7/2.5 mm	94.000	606	667	728	788	909	970	1091
2	AAAC 7/3.15 mm	149.200	962	1059	1155	1251	1444	1540	1732
3	ACSR 7/2.11 mm	84.700	546	601	656	710	819	874	983
4	ACSR 7/2.59 mm	127.700	824	906	988	1071	1235	1318	1483
5	ACSR 7/3.35 mm	213.600	1378	1515	1653	1791	2067	2204	2480
6	ACSR 7/4.09 mm	318.400	2054	2259	2464	2670	3081	3286	3697
7	ACSR 6/4.72+7/1.57 (DOG)	394.000	2541	2795	3050	3304	3812	4066	4574

Sl No.	Size of Conductor	WEIGHT per pole in Kg.	SPAN LENGTH IN METRES						
			3 PHASE 5 WIRE		3 PHASE 4 WIRE				
			45 M	50 M		85 M	75 M	67 M	60 M
			NO OF POLES						
			23	21		13	15	16	18
1	AAAC 7/2.5 mm	94.000	1394	1273	0	788	909	970	1091
2	AAAC 7/3.15 mm	149.200	2213	2021	0	1251	1444	1540	1732
3	ACSR 7/2.11 mm	84.700	1257	1147		710	819	874	983
4	ACSR 7/2.59 mm	127.700	1894	1730		1071	1235	1318	1483
5	ACSR 7/3.35 mm	213.600	3169	2893		1791	2067	2204	2480

Sl No.	SIZE OF CONDUCTOR ACSR	WEIGHT PER POLE IN Kg	SPAN IN METRES		
			SINGLE PHASE		
			3 WIRE		2 WIRE
			67 M		45 M
		No. of poles			No. of poles
			16		23
1	7/2.11 mm	41.070	424		609
2	7/2.59 mm	63.85	659		947

MODEL ESTIMATES

EXTENSION PER KM OF 33 KV/22 KV / 11 KV & LT LINES

A.1. EXTENSION OF 1 KM. OF 33 KV LINE WITH ACSR 6/4.72 MM AND 7/1.57 MM DOG CONDUCTOR AT 45 M SPAN ON 9.0 M PSC POLES 400 KG WORKING LOAD

Quantity	Description	Rate	Per	Amount
23	9.0 M PSC pole 400 kg WL	4,075	E	93725
23	Base Plates	261	E	6003
23	Back Clamps	104	E	2392
19	1525 mm (5'-0") V cross arms	1378	E	26182
19	HT Top insulator fittings	189	E	3591
57	33 KV pin insulators with pin (468+240)	708	E	40356
4	Tapping channel cross arm for 33 KV	3214	E	12856
12	33 KV Polymer composite strain disc insulator (including metal parts)	192	Set	2304
1	D.P.channel cross arm 10' centre	6,937	E	6937
1	Cross bracing set 10' centre	8,816	Set	8816
8	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	10448
8	33 KV Guy insulators	27	E	216
3.06	Dog conductor ACSR 6/4.72 mm & 7/1.57 mm	116,251	Km	355728
23	Concreting	1022	Loc	23506
23	Earthing (Coil)	1290	Loc	29670
23	Bolts, Nuts and Binding wire etc.	888	loc	20424
	Cost of materials			**643154**
	Contingencies 1%			6432
	Sub total 1			**649586**
	Labour Rate as per (I)			182110
	Transport Rate (9939+5845)			15784
	Sub total 2			**847480**
	Estt. & Supervision charges 15% for SUB TOTAL 2			127122
	ESI @ 3.25% (Labour)			5919
	EPF 13% (Labour)			23674
	GST on labour & transport, ESI & EPF @ 18%			40948
	Total			**1045142**
	Or Say Rs.			1045140

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

B.1. EXTENSION OF 1 KM. OF 22 KV LINE WITH RACCOON 7/4.09 MM ACSR AT 60 M SPAN ON 9.0 M PSC POLES 400 KG WORKING LOAD

Quantity	Description	Rate	Per	Amount
18	9.0 M PSC pole 400 kg WL	4,075	E	73350
18	Base Plates	261	E	4698
18	Back Clamps	104	E	1872
16	1373 MM (4'-6") V Cross Arm	1241	E	19856
16	HT Top insulator fittings	189	E	3024
48	22 KV pin insulators with pin (129+160)	289	E	13872
2	Tapping channel cross arm	913	E	1826
6	22 KV Polymer composite strain disc insulator (including metal parts)	325	Set	1950
1	D.P. cross arm 10' centre	6,937	E	6937
1	Cross bracing set 10' centre	8,816	Set	8816
8	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	10448
8	Guy insulators	27	E	216
3.06	Raccoon ACSR Conductor 7/4.09 mm	71,830	Km	219800
18	Concreting	1022	Loc	18396
18	Earthing (Coil)	1290	Loc	23220
18	Bolts, Nuts and Binding wire etc.	888	loc	15984
	Cost of materials			424265
	Contingencies 1%			4243
	Sub total 1			**428507**
	Labour Rate as per (I)			182110
	Transport Rate (7779+3697)			11476
	Sub total 2			**622093**
	Estt. & Supervision charges 15% for sub total 2			93314
	ESI @ 3.25% (Labour)			5919
	EPF 13% (Labour)			23674
	GST on labour & transport, ESI & EPF @ 18%			40172
	Total			785173
	Or Say Rs.			**785170**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

B.2. EXTENSION OF 1 KM. OF 22 KV LINE WITH 7/4.09 MM ACSR AT 60 M SPAN ON 10.9 M RSJ POLES				
Quantity	**Description**	**Rate**	**Per**	**Amount**
18	**10.9 M (36') RSJ pole**	14,401	**E**	**259218**
18	Base Plates	261	E	4698
18	Back Clamps	104	E	1872
16	1373 MM (4'-6") Cross Arm	1241	E	19856
16	HT Top insulator fittings	189	E	3024
48	22 KV pin insulators with pin (129+160)	289	E	13872
2	Tapping channel cross arm	913	E	1826
6	22 KV Polymer composite strain disc insulator (including metal parts)	325	Set	1950
1	D.P. cross arm 10' centre	6,937	E	6937
1	Cross bracing set 10' centre	8,816	Set	8816
8	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	10448
8	Guy insulators	27	E	216
3.06	Raccoon ACSR Conductor 7/4.09 mm	71,830	Km	219800
18	Concreting	1022	Loc	18396
18	Earthing (Coil)	1290	Loc	23220
18	Bolts, Nuts and Binding wire etc.	888	loc	15984
	Cost of materials			**610133**
	Contingencies 1%			6101
	Sub total 1			**616234**
	Labour Rate as per (I)			182110
	Transport Rate (9315+3697)			13012
	Sub total 2			**811356**
	Estt. & Supervision charges 15%			121703
	ESI @ 3.25% (Labour)			5919
	EPF 13% (Labour)			23674
	GST on labour & transport, ESI & EPF @ 18%			40449
	Total			**1003101**
	Or Say Rs.			**1003100**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

C.1. EXTENSION OF 1 KM. OF 11 KV LINE WITH 7/4.09 MM ACSR AT 60 M SPAN ON 9. 0 M PSC POLES, 300 KG. WORKING LOAD

Quantity	Description	Rate	Per	Amount
18	9.0 M PSC pole 300 kg WL	3,451	E	62118
18	Base Plates	261	E	4698
18	Back Clamps	104	E	1872
16	1068 MM (3'-6") Cross Arm	702	E	11232
16	HT Top insulator fittings	189	E	3024
48	11 KV pin insulators with pin (58+76)	134	E	6432
2	Tapping channel cross arm	913	E	1826
6	11 KV strain sets (316+203)	519	Set	3114
1	D.P. cross arm 10' centre	6,937	E	6937
1	Cross bracing set 10' centre	8,816	Set	8816
6	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	7836
6	Guy insulators	26	E	156
3.06	7/4.09 mm ACSR (Raccoon)	71,830	Km	219800
18	Concreting	1022	Loc	18396
18	Earthing (Coil)	1290	Loc	23220
18	Bolts, Nuts and Binding wire etc.	888	loc	15984
	Cost of materials			**395461**
	Contingencies 1%			3955
	Sub total 1			**399415**
	Labour Rate as per (1)			182110
	Transport Rate (7047+3697)			10744
	Sub total 2			**592269**
	Estt. & Supervision charges 15%			88840
	ESI @ 3.25% (Labour)			5919
	EPF 13% (Labour)			23674
	GST on labour & transport, ESI & EPF @ 18%			40040
	Total			750743
	Or Say Rs.			**750740**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

C.2. EXTENSION OF 1 KM. OF 11 KV LINE WITH 7/4.09 MM ACSR AT 60 M SPAN ON 9.00 M (30') RSJ POLES				
Quantity	**Description**	**Rate**	**Per**	**Amount**
18	**9.0 M (30') RSJ pole**	12,001	E	216018
18	Base Plates	261	E	4698
18	Back Clamps	104	E	1872
16	1068 MM (3'-6")V Cross Arm	702	E	11232
16	HT Top insulator fittings	189	E	3024
48	11 KV pin insulators with pin (58+76)	134	E	6432
2	Tapping channel cross arm	913	E	1826
6	11 KV strain sets (316+203)	519	Set	3114
1	D.P. cross arm 10' centre	6,937	E	6937
1	Cross bracing set 10' centre	8,816	Set	8816
6	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	7836
6	Guy insulators	26	E	156
3.06	Raccoon ACSR Conductor 7/4.09 mm	71,830	Km	219800
18	Concreting	1022	Loc	18396
18	Earthing (Coil)	1290	Loc	23220
18	Bolts, Nuts and Binding wire etc.	888	loc	15984
	Cost of materials			549361
	Contingencies 1%			5494
	Sub total 1			**554854**
	Labour Rate as per I			182110
	Transport Rate (9315+3697)			13012
	Sub total 2			**749976**
	Estt. & Supervision charges 15%			112496
	ESI @ 3.25% (Labour)			5919
	EPF 13% (Labour)			23674
	GST on labour & transport, ESI & EPF @ 18%			40449
	Total			**862473**
	Or Say Rs.			**862470**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

D.1. EXTENSION OF 1 KM. OF LT 3 PHASE 4 WIRE LINE AT 45 M SPAN ON 8.0 M PSC (200 kg) POLES WITH 7/3.35 MM ACSR FOR PHASE AND NEUTRAL

Quantity	Description	Rate	Per	Amount
23	8.0 M (200 Kg) PSC pole	2,330	E	53590
23	Base Plates	261	E	6003
25	Back Clamps	104	E	2600
23	LT 3 phase cross arms (Channel)	471	E	10833
69	LT pin insulator with pin (20+37)	57	E	3933
8	Earthing device	670	Set	5360
25	Aluminium knobs	21	E	525
6	LT shackle with hardware (19+55)	74	Set	444
8	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	10448
8	Guy insulators	26	E	208
4.08	7/3.35 mm ACSR	38,681	Km	157818
8	Concreting	1022	Loc	8176
6	Earthing (Coil)	1290	Loc	7740
50	3 phase Line spacer/ line seperator	280	Loc	14000
	Cost of materials			**281678**
	Contingencies 1%			2817
	Sub total 1			**284495**
	Labour Rate as per II			190730
	Transport Rate (5637+3169)			8806
	Sub total 2			**484031**
	Estt. & Supervision charges 15%			72605
	ESI @ 3.25% (Labour)			6199
	EPF 13% (Labour)			24795
	GST on labour & transport, ESI & EPF @ 18%			41495
	Total			556636
	Or Say Rs.			**556640**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

D.2. EXTENSION OF 1 KM. OF LT 3 PHASE 4 WIRE LINE AT 45 M SPAN ON 8.0 M (200 kg) PSC POLES, WITH 7/2.59 MM ACSR FOR PHASEAND NEUTRAL				
Quantity	**Description**	**Rate**	**Per**	**Amount**
23	8.0 M (200 Kg) PSC pole	2,330	E	53590
23	Base Plates	261	E	6003
25	Back Clamps	104	E	2600
23	LT 3 phase cross arms (Channel)	471	E	10833
69	LT pin insulator with pin (20+37)	57	E	3933
8	Earthing device	670	E	5360
25	Aluminium knobs	21	Set	525
6	LT shackle with hardware (19+55)	74	E	444
8	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	10448
8	Guy insulators	26	Set	208
4.08	7/2.59 mm ACSR	26,423	E	107806
8	Concreting	1022	Loc	8176
6	Earthing (Coil)	1290	Loc	7740
50	3phase Line spacer/ line seperator	280	Loc	14000
	Cost of materials			**231666**
	Contingencies 1%			2317
	Sub total 1			**233982**
	Labour Rate as per (II)			190730
	Transport Rate (5637+1894)			8806
	Sub total 2			**433518**
	Estt. & Supervision charges 15%			65028
	ESI @ 3.25% (Labour)			6199
	EPF 13% (Labour)			24795
	GST on labour & transport, ESI & EPF @ 18%			41495
	Total			498546
	Or Say Rs.			**498550**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

D.3. EXTENSION OF 1 KM. OF LT 1 PHASE 2 WIRE LINE AT 45 M SPAN ON 8.0M (200 kg) PSC POLES, WITH 7/2.59 MM ACSR FOR PHASE AND NEUTRAL				
Quantity	**Description**	**Rate**	**Per**	**Amount**
23	8.0 M (200 Kg) PSC pole	2,330	E	53590
23	Base Plates	261	E	6003
25	Back Clamps	104	E	2600
23	LT sinlge phase cross arms (angle)	204	E	4692
25	LT pin insulator with pin (20+37)	57	E	1425
8	Earthing device	670	E	5360
25	Aluminium knobs	21	Set	525
6	LT shackle with hardware (19+55)	74	E	444
8	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	10448
8	Guy insulators	26	Set	208
2.04	7/2.59 mm ACSR	26,423	E	53903
8	Concreting	1022	Loc	8176
6	Earthing (Coil)	1290	Loc	7740
50	1 phase Line spacer/ line seperator	245	Loc	12250
	Cost of materials			**167364**
	Contingencies 1%			1674
	Sub total 1			**169038**
	Labour Rate as per (II)			190730
	Transport Rate (6676+947)			7623
	Sub total 2			**367391**
	Estt. & Supervision charges 15%			55109
	ESI @ 3.25% (Labour)			6199
	EPF 13% (Labour)			24795
	GST on labour & transport, ESI & EPF @ 18%			41282
	Total			422499
	Or Say Rs.			**422500**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

ABSTRACT RATES FOR DISTRIBUTION TRANSFORMER STRUCTURES WITH 10′ CENTRE WITH TRANSFORMERS

ABSTRACT OF COST OF ERECTION OF DISTRIBUTION TRANSFORMERS

SL.No.	Details of Distribution Transformers	Total cost of materials			Labour Charges	Transport Charges	Estt. & Supr. Charges 15%	Total	Total Rounded off in Rs.
		Cost of materials	Contingencies	Total Cost					
1	2	3	4	5	6	7	8	9	10
E1	11 KV 433V/100 KVA (3 Star Rated)	230615	2306	232921	19820	2306	38257	293304	306370
E1(A)	11 KV 433V/100 KVA (Copper Winding) Energy Efficient Level 2	341802	3418	345220	19820	3418	55269	423727	436990
E2	11 KV 433V/250 KVA	557166	5572	562738	19820	5572	88219	676349	690000
E2(A)	11 KV 433V/250 KVA (Copper Winding) Energy Efficient Level 2	546584	5466	552050	19820	5466	86600	663936	677570
E3	11 KV 433V/500 KVA	766937	7669	774607	19820	7593	120303	922323	927520
E3(A)	11 KV 433V/500 KVA (Copper Winding) Energy Efficient Level 2	870619	8706	879325	19820	8706	136178	1044029	1058240
F1(A)	22 KV 433V/100 KVA (Copper Winding) Energy Efficient Level 2	382729	3827	386556	19820	3827	61531	471734	485070
F2(A)	22 KV 433V/200 KVA (Copper Winding) Energy Efficient Level 2	516859	5169	522028	19820	5169	82052	629069	642650
F3(A)	22 KV 433V/500 KVA (Copper Winding) Energy Efficient Level 2	776513	7765	784278	19820	7688	121768	933555	938660
F3	22 KV 433V/500 KVA	1015344	10153	1025497	19820	10153	158321	1213792	1228270

COST OF ERECTION OF DISTRIBUTION TRANSFORMERS WITH STRUCTURES

E.1. COST OF ERECTION OF ONE NUMBER 100 KVA, 11KV/433V (3 STAR RATED) DISTRIBUTION TRANSFORMER ON STRUCTURE WITH 9.0 M PSC POLE 400 KG WL				
Quantity	**Description**	**Rate**	**Per**	**Amount**
2	9.0 M PSC pole 400 kg WL	4,075	E	8150
2	Base Plates	261	E	522
1	Transformer structure materials including of structure clamps (13588+3718)	17306	Set	17306
1	11 KV AB switch with PT insulator	16038	Set	16038
1	11 KV HG fuse set (with 6 Nos. pin & pin insulator) 2038+804((76+58)*6=804)	2842	Set	2842
3	11 KV LAs	399	Set	1197
1	Distn.Transformer 100 KVA, 11 KV/433V (3 Star Rated)	149749	E	149749
1	Structure Earthing	6141	E	6141
4	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	5224
4	Guy insulators	26	E	104
1	Jumpering materials (25 sq mm single core PVC cable 25 mts, 240 sqmm lug 30 nos). (22*25)+(22*30)	1210	Set	1210
1	Concreting per structure	2044	Loc	2044
3	L.T. LAs	286	E	858
2	L.T. open type fuse units with 6 Nos. LT pin & insulators (1052+342 [6(20+37)]=1394)	1394	Set	2788
1	LT fixed capacitor 2x9 KVAR unit	14666	Set	14666
2	Bolts, Nuts and Binding wire etc.	888	LS	1776
	Cost of materials			**230615**
	Contingencies 1%			2306
	Sub total 1			**232921**
	Labour Rate as per (III)			23290
	Transport 1%			2306
	Sub total 2			**258517**
	Estt. & Supervision charges 15%			38778
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			5289
	Total			**306368**
	Or Say Rs.			**306370**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

E.1.(A) Cost of Erection of 1 No. 100 KVA, 11KV/433V (Copper Winding) Energy Efficient Level 2 Distribution Transformer on Structure with 9.0 M PSC Pole 400 kg working load				
Quantity	**Description**	**Rate**	**Per**	**Amount**
2	9.0 M PSC pole 400 kg WL	4,075	E	8150
2	Base Plates	261	E	522
1	Transformer structure materials including of structure clamps (13588+3718)	17306	Set	17306
1	11 KV AB switch with PT insulator	16038	Set	16038
1	11 KV HG fuse set (with 6 Nos. pin & pin insulator) 2038+804((76+58)*6=804)	2842	Set	2842
3	11 KV LAs	399	E	1197
1	Distn.Transformer 100 KVA, 11 KV/433V (Copper Winding) Energy Efficient Level 2	260936	E	260936
1	Structure Earthing	6141	E	6141
4	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	5224
4	Guy insulators	26	E	104
1	Jumpering materials (25 sq mm single core PVC cable 25 mts, 240 sqmm lug 30 nos). (22*25)+(22*30)	1210	Set	1210
1	Concreting per structure	2044	Loc	2044
3	L.T. LAs	286	E	858
2	L.T. open type fuse units with 6 Nos. LT pin & insulators (1052+342 [6(20+37)]=1394)	1394	Set	2788
1	LT fixed capacitor 2x9 KVAR unit	14666	Set	14666
2	Bolts, Nuts and Binding wire etc.	888	LS	1776
	Cost of materials			**341802**
	Contingencies 1%			3418
	Sub total 1			**345220**
	Labour Rate as per (III)			23290
	Transport 1%			3418
	Sub total 2			**371928**
	Estt. & Supervision charges 15%			55789
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			5489
	Total			**436991**
	Or Say Rs.			**436990**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

E.2. COST OF ERECTION OF ONE NUMBER 250 KVA, 11KV / 433 V DISTRIBUTION TRANSFORMER ON STRUCTURE WITH 9.0 M PSC POLE 400 KG WL				
Quantity	**Description**	**Rate**	**Per**	**Amount**
	Cost of materials as per Item E.1			230615
1	Less cost of 1 No. 100KVA/11 KV/433V (3 Star Rated) D.T.	149749	E	149749
				80866
1	ADD cost of 1 No.250 KVA/11 KV/433V	476300	E	476300
	Cost of materials			**557166**
	Contingencies 1%			5572
	Sub total 1			**562738**
	Labour Rate as per (III)			23290
	Transport 1%			5572
	Sub total 2			**591599**
	Estt. & Supervision charges 15%			88740
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			5876
	Total			690000
	Or Say Rs.			**690000**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

E.2. (A)COST OF ERECTION OF ONE NUMBER 250 KVA, 11KV / 433 V (Copper Winding) Energy Efficient Level 2 DISTRIBUTION TRANSFORMER ON STRUCTURE WITH 9.0 M PSC POLE 400 KG WL				
Quantity	**Description**	**Rate**	**Per**	**Amount**
	Cost of materials as per Item E.1(A)			341802
1	Less cost of 1 No. 100KVA/11 KV/433V DT (Copper Winding) Energy Efficient Level 2	260,936	E	260936
				80866
1	ADD cost of 1 No.250 KVA/11 KV/433V (Copper winding) Energey Efficient Level 2	465718	E	465718
	Cost of Materials			**546,584**
	Contingencies 1%			5466
	Sub total 1			**552,050**
	Labour Rate as per (III)			23290
	Transport 1%			5466
	Sub total 2			**580806**
	Estt. & Supervision charges 15%			87121
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			5857
	Total			677568
	Or Say Rs.			**677570**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

E.3. COST OF ERECTION OF ONE NUMBER 500 KVA, 11KV / 433 V DISTRIBUTION TRANSFORMER ON STRUCTURE WITH 9.0 M PSC POLE 400 KG WL

	Cost of materials as per Item E.1			230615
1	Less cost of 1 No. 100KVA/11 KV/433V (3 Star Rated) D.T.	149749	E	149749
				80866
1	ADD cost of 1 No.500 KVA/11 KV/433V	678478	E	678478
	Cost of materials			**759344**
	Contingencies 1%			7593
	Sub total 1			**766,937**
	Labour as per (III)			23290
	Transport 1%			7593
	Sub total 2			**797821**
	Estt. & Supervision charges 15%			119673
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			6240
	Total			927519
	Or Say Rs.			**927520**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

E.3. (A)COST OF ERECTION OF ONE NUMBER 500 KVA, 11KV / 433 V (Copper Winding) Energy Efficient Level 2 DISTRIBUTION TRANSFORMER ON STRUCTURE WITH 9.14M G.201 SPECIAL RCC POLE				
	Cost of materials as per Item E.1(A)			341802
1	Less cost of 1 No. 100KVA/11 KV/433V DT (Copper Winding) Energy Efficient Level 2	260,936	E	260936
				80866
1	ADD cost of 1 No.500 KVA/11 KV/433V (Copper winding) Energey Efficient Level 2	789753	E	789753
	Cost of Materials			**870,619**
	Contingencies 1%			8706
	Sub total 1			**879,325**
	Labour as per Statement A (III)			23290
	Transport 1%			8706
	Sub total 2			**911321**
	Estt. & Supervision charges 15%			136698
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			6441
	Total			1058245
	Or Say Rs.			**1058240**
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

F.1.(A) COST OF ERECTION OF ONE NUMBER 100 KVA, 22 KV/433V (Copper Winding) Energy Efficient Level 2 DISTRIBUTION TRANSFORMER ON STRUCTURE WITH 9.0 M PSC POLE 400 KG WL.				
Quantity	**Description**	**Rate**	**Per**	**Amount**
2	9.0 M PSC pole 400 kg WL	4,075	E	8150
2	Base Plates	261	E	522
1	Transformer structure materials including of structure clamps (13588+3718)	17306	Set	17306
1	22 KV AB switch with PT insulator	17386	Set	17386
1	22 KV HG fuse set with 6 Nos.pin & pin insulators (2086+1734 ((160+129)*6)	3820	Set	3820
3	22 KV LAs	589	E	1767
1	Distn.Transformer 100 KVA, 22 KV/433V (Copper Winding) Energy Efficient Level 2	298963	E	298963
1	Structure Earthing	6141	E	6141
4	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306	Set	5224
4	Guy insulators	27	E	108
1	Jumpering materials (25 sq mm single core PVC cable 25 mts, 240 sqmm lug 30 nos). (22*25)+(22*30)	1210	Set	1210
1	Concreting per structure	2044	Loc	2044
3	L.T. LAs	286	E	858
2	L.T. open type fuse units with 6 Nos. LT pin & insulators (1052+342 [6(20+37)]=1394)	1394	Set	2788
1	LT fixed capacitor 2x9 KVAR unit	14666	Set	14666
2	Bolts, Nuts and Binding wire etc.	888	LS	1776
	Cost of materials			**382729**
	Contingencies 1%			3827
	Sub total 1			**386556**
	Labour Rate as per (III)			23290
	Transport 1%			3827
	Sub total 2			**413674**
	Estt. & Supervision charges 15%			62051
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			5562
	Total			485072
	Or Say Rs.			**485070**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

F.2.(A) COST OF ERECTION OF ONE NUMBER 200 KVA, 22 KV/433V (Copper Winding) Energy Efficient Level 2 DISTRIBUTION TRANSFORMER ON STRUCTURE WITH 9.0 M PSC POLE 400 KG WL.				
	Cost of materials as per Item F.1(A)			382729
1	Less cost of 1 No. 100KVA/22 KV/433V (Copper Winding) Energy Efficient Level 2 D.T.	298,963	E	298963
				83766
1	ADD cost of 1 No.200 KVA/22 KV/433V (Copper Winding) Energy Efficient Level 2 D.T.	433,093	E	433093
	Cost of Materials			**516,859**
	Contingencies 1%			5169
	Sub total 1			**522,028**
	Labour as per Statement A (III)			23290
	Transport 1%			5169
	Sub total 2			**550486**
	Estt. & Supervision charges 15%			82573
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			5804
	Total			642648
	Or Say Rs.			**642650**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

F.3.(A) COST OF ERECTION OF ONE NUMBER 500 KVA, 22 KV/433V (Copper Winding) Energy Efficient Level 2 DISTRIBUTION TRANSFORMER ON STRUCTURE WITH 9.0 M PSC POLE 400 KG WL.				
	Cost of materials as per Item F.1(A)			382729
1	Less cost of 1 No. 100KVA/22 KV/433V (Copper Winding) Energy Efficient Level 2 D.T	298963	E	298963
				83766
1	ADD cost of 1 No.500 KVA/22 KV/433V (Copper Winding) Energy Efficient Level 2 D.T	685059	E	685059
	Cost of Materials			**768,825**
	Contingencies 1%			7688
	Sub total 1			**776,513**
	Labour as per Statement A (III)			23290
	Transport 1%			7688
	Sub total 2			**807492**
	Estt. & Supervision charges 15%			121124
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			6257
	Total			938657
	Or Say Rs.			**938660**
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

F.3. DO WITH 500 KVA TRANSFORMER 22 KV/433 V DISTRIBUTION TRANSFORMER ON STRUCTURE WITH 9.0 M PSC POLE 400 KG WL.				
	Cost of materials as per Item F.1(A)			382729
1	Less cost of 1 No. 100KVA/22 KV/433V (Copper Winding) Energy Efficient Level 2 D.T.	298963	E	298963
				83766
1	ADD cost of 1 No.500 KVA/22 KV/433V DT	931578	E	931578
	Cost of Materials			**1,015,344**
	Contingencies 1%			10153
	Sub total 1			**1,025,497**
	Labour as per Statement A (III)			23290
	Transport 1%			10153
	Sub total 2			**1058941**
	Estt. & Supervision charges 15%			158841
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			6701
	Total			1228268
	Or Say Rs.			**1228270**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

ERECTION OF SINGLE POLE MOUNTED HVDS STRUCTURE

DETAILED ESTIMATE for Erection of 25KVA/11KV HVDS with Single Pole Mounted Structure (BOARD SIDE) with switch

Sl.No.	DESCRIPTION	RATE	QTY	PER	AMOUNT
1	9 mtr long RCC pole (Square Section)	5842.00	1	E	5842.00
2	Base plate	261.00	1	E	261.00
3	Single Pole Transformer centre set suitable for 25 KVA Transformer (including transformer clamp)	5724.00	1	Set	5724.00
4	11 KV HVDS Single pole vertical type AB switch (GOS) with composite polymer insulator	16972.00	1	Set	16972.00
5	11 KV HG fuse Set with solid core insulator for (GOS) single pole structure - Vertical type	5892.00	1	Set	5892.00
6	11 KV Composite Pin insulators (including pin)	148.00	3	Nos	444.00
7	11 KV Polymer Composite disc Insulators (including metal parts)	140.00	3	Nos	420.00
8	HT TI Fiiting	189.00	1	No	189.00
9	4.5 V X arm	1241.00	1	No	1241.00
10	Tapping Channel X arm	913.00	1	No	913.00
11	Back clamp	109.00	3	Nos	327.00
12	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306.00	1	Set	1306.00
13	HT Guy insulator	27.00	1	No	27.00
14	25 KVA,11 KV /433Volts Energy Efficient Level 2 Distribution Transformer	112665.00	1	No	112665.00
15	Earthing materials pipe type earthing	4000.00	2	Loc	8000.00
16	Concreting material for 9 mtr long RCC pole (Square Section)			Loc	0.00
a)	a) Base plate Concreting 1:4:8,500x650x150MM	109.00	0	Each	0.00
b)	b) Pole Concreting 1:2:4,500x500x1700MM	1022.00	1	Each	1022.00

Sl.No.	DESCRIPTION	RATE	QTY	PER	AMOUNT
c)	c) Coping Concreting 1:2:4, (as per actuals)	500.00	1	Each	500.00
18	11 KV Lightning Arrester, Metal oxide	399.00	3	Set	1197.00
19	LT LAS	286.00	3	Set	858.00
20	a) LT Protection Kit	4002.00	0	Kit	0.00
21	b)LT Wiring kit (double circuit)	6900.00	0	Kit	0.00
22	L.T. open type fuse units	1052.00	1	set	1052.00
23	Writing of name board and Caution/Danger Board	460.00	1	No	460.00
24	Anti-Climbing Device (12mtrs/1Kg GI Barbed Wire Lumpsum	85.00	15	Kg	1275.00
25	M.S Bolt , Nut and Binding wire	888.00	1	LS	888.00
26	**COST OF MATERIALS**				**167475.00**
27	Contigencies 1 %				1674.75
28	**Sub total-1**				**169149.75**
29	Labour (STATEMENT-XX)				28896.00
29a	Transport (STATEMENT-XX)				2080.00
30	**Sub total-2**				**200125.75**
31	Estt& Supervision 15 %				30018.86
	Sub total-3				**230144.61**
32	ESI @ 3.25% (Actual labour)				131.48
33	**EPF 13%**				525.91
34	GST on labour & transport, ESI & EPF @ 18%				5694.01
35	**Total**				236496.01
	TOTAL				**236496.01**
	Or Say				**236500.00**

DETAILED ESTIMATE for Erection of 25KVA/22KV HVDS with Single Pole Mounted Structure (BOARD SIDE) with switch

Sl.No.	DESCRIPTION	RATE	QTY	PER	AMOUNT
1	9 mtr long RCC pole (Square Section)	5842.00	1	E	5842.00
2	Base plate	261.00	1	E	261.00
3	Single Pole Transformer centre set suitable for 25 KVA Transformer (including transformer clamp)	7621.00	1	Set	7621.00
4	22KV HVDS Vertically mounted AB Switch with composite polymer insulator and 22 KV HG Fuse set with solid core type compoiste polymer insulator with all switch accessories	35400.00	1	Set	35400.00
6	22 KV Composite Pin insulators (including pin)	432.00	3	Nos	1296.00
7	22 KV Polymer Composite disc Insulators (including metal parts)	325.00	3	Nos	975.00
8	HT TI Fiiting	189.00	1	No	189.00
9	4.5 V X arm	1241.00	1	No	1241.00
10	Tapping Channel X arm	913.00	1	No	913.00
11	Back clamp	109.00	3	Nos	327.00
12	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)	1306.00	1	Set	1306.00
13	HT Guy insulator	27.00	1	No	27.00
14	25 KVA,22 KV /433Volts Distribution Transformer	217037.00	1	No	217037.00
15	Earthing materials pipe type earthing	4000.00	2	Loc	8000.00
16	Concreting material for 9 mtr long RCC pole (Square Section)			Loc	0.00
a)	a) Base plate Concreting 1:4:8,500x650x150MM	109.00	0	Each	0.00
b)	b) Pole Concreting 1:2:4,500x500x1700MM	1022.00	1	Each	1022.00
c)	c) Coping Concreting 1:2:4, (as per actuals)	500.00	1	Each	500.00
18	22 KV Lightning Arrester, Metal oxide	589.00	3	Set	1767.00
19	LT LAS	286.00	3	Set	858.00
20	a) LT Protection Kit	4002.00	0	Kit	0.00

Sl.No.	DESCRIPTION	RATE	QTY	PER	AMOUNT
21	b)LT Wiring kit (double circuit)	6900.00	0	Kit	0.00
22	L.T. open type fuse units	1052.00	1	set	1052.00
23	Writing of name board and Caution/Danger Board	460.00	1	No	460.00
24	Anti-Climbing Device (12mtrs/1Kg GI Barbed Wire Lumpsum	85.00	15	Kg	1275.00
25	M.S Bolt , Nut and Binding wire	888.00	1	LS	888.00
26	**COST OF MATERIALS**				**288257.00**
27	Contigencies 1 %				2882.57
28	**Sub total-1**				**291139.57**
29	Labour (STATEMENT-XX)				28896.00
	Transport (STATEMENT-XX)				2080.00
30	**Sub total-2**				**320035.57**
31	Estt& Supervision 15 %				48005.34
	Sub total-3				**368040.91**
32	ESI @ 3.25% (Actual labour)				131.48
33	**EPF 13%**				525.91
34	GST on labour & transport, ESI & EPF @ 18%				5694.01
35	**Total**				374392.30
	TOTAL				**374392.30**
	Or Say				**374390.00**

COST OF CONVERSION OF 22 KV / 11 KV & LT LINE PER KM.

G.1. COST OF CONVERSION FOR 22 KV LINE PER KM.

Sl.No.	Description of materials	Rate in Rs.	Per	ACSR 7/3.35 mm to 7/4.09 mm with insertion of poles		ACSR 7/2.59 mm to 7/3.35 mm on the same supports	
				Quantity	Amount	Quantity	Amount
1	9.0 M PSC pole 400 kg WL	4,075	E	6	24450		
2	Base Plate	261	E	6	1566		
3	Back clamp	104	E	6	624		
4	1373 mm (4'-6") cross arm	1241	E	6	7446		
5	HT Top insulator fittings	189	E	6	1134		
6	22 KV pin insulators with pin (129+160)	289	E	18	5202		
7	Coil Earthing etc.	1290	Loc	6	7740		
8	Bolt, Nuts, Binding wires etc.	888	Loc	6	5328		
9	7/4.09 mm ACSR	71,830	Km	3.06	219800		
10	7/2.59 mm ACSR	26,423	Km			3.06	118364
11	7/3.35 mm ACSR	38,681	Km				
	Cost of materials				273290		118364
	Contingencies 1%				2733		1184
	Total cost of materials				276023		119547
	Labour (STATEMENT- A- VIIIb & VIIIa)				89225		24242
	Transport Charges (STATEMENT- A- VIIIb & VIIIa)				3651		3651
	Sub total 2				**368899**		**147440**
	Estt.& Supervision charges 15%				55335		22116
	ESI @ 3.25% (Labour)				2900		788
	EPF 13% (Labour)				11599		3151
	GST on labour & transport, ESI & EPF @ 18%				19328		5730
	Total				458060		179226
	Less Credit (50% value)						
	(b) ACSR 7/2.59 mm	13,212	Km			3	39635
	© ACSR 7/3.35 mm	19,341	Km	3	58022		
	Total				58022		39635
	Nett.				400039		139591
	Say				**400040**		**139590**

G.2. COST OF CONVERSION FOR 11 KV LINE PER KM.

Sl.No.	Description of materials	Rate in Rs.	Per	ACSR 7/3.35 mm to 7/4.09 mm with insertion of poles		ACSR 7/2.59 mm to 7/4.09 mm with insertion of poles		ACSR 7/3.35 mm to 7/4.09 mm on the same supports	
				Quantity	Amount	Quantity	Amount	Quantity	Amount
1	9.0 M PSC pole 300 kg WL	3,451	E	6	20706	7	24157		
2	Base Plate	261	E	6	1566	7	1827		
3	Back clamp	104	E	6	624	7	728		
4	1068 mm (3'-6") cross arm	702	E	6	4212	7	4914		
5	HT top insulator fittings	189	E	6	1134	7	1323		
6	11 KV pin insulator with pin (76+58)	134	E	18	2412	21	2814		
7	Earthing coil, etc.	1290	Loc	6	7740	7	9030		
8	Bolt, Nuts, Binding wires etc.	888	Loc	6	5328	7	6216		
9	7/4.09 mm ACSR	71,830	Km	3.06	219800	3.06	219800	3.06	219800
10	7/3.35 mm ACSR	38,681	Km		0		0		0
11	7/2.59 mm ACSR	26,423	Km				270809		219800
	Cost of materials				263522		2708		2198
	Contingencies 1%				2635				
	Total cost of materials				**266157**		**273517**		**221998**
	Labour (VIIIb & VIIIa)				89225		89225		24242
	Transport Charges (VIIIb & VIIIa)				3651		3651		3651
	Sub total 2				**359033**		**366393**		**249891**
	Estt.& Supervision charges 15%				53855		54959		37484
	ESI @ 3.25% (Labour)				2900		2900		788
	EPF 13% (Labour)				11599		11599		3151
	GST on labour & transport, ESI & EPF @ 18%				19328		19328		5730
	Total				**446715**		**455178**		**297044**
	Less Credit (50% value)								0
	(a) ACSR 7/2.59 mm	13,000	Km			3	39000		
	(b) ACSR 7/3.35 mm	13,212	Km	3	39635			3	39635
	Total				39635		39000		39635
	Nett.				407080		416178		257409
	Say				**407080**		**416180**		**257410**

G.3. COST OF CONVERSION OF LT SINGLE PHASE LINE TO LT 3 PHASE 4 WIRE/5 WIRE FOR 1KM ON THE SAME SUPPORT

Sl.No.	Description of materials	Rate in Rs.	Per	2 wire to 4 wire required P.7/3.35 mm N.7/2.59 mm		3 wire to 5 wire required P.7/2.59 mm & N 7/2.59 mm		P.7/3.35 mm N.7/2.59 mm	
				Quantity	Amount	Quantity	Amount	Quantity	Amount
1	LT 3 phase cross arm(Angle)	469	E	23	10787	23	10787	23	10787
2	LT shackle with hardware (19+55)	74	E	6	444	6	444	6	444
3	LT pin insulator with pin(20+37)	57	E	46	2622	46	2622	46	2622
4	Bolts, Nuts, Binding wire etc.	888	Loc	23	20424	23	20424	23	20424
5	7/3.35 mm ACSR	38,681	Km	2.04	78909	4.08	157818	2.04	78909
	Cost of materials				113186		192095		113186
	Contingencies 1%				1132		1921		1132
	Total cost of materials				**114318**		**194016**		**114318**
	Labour charges(STATEMENT- A- X				48210		61482		61482
	Transport charges(STATEMENT- A- X				4868		4868		4868
	Sub total 2				**167396**		**260366**		**180668**
	Estt.& Supervision charges 15%				25109		39055		27100
	ESI @ 3.25% (Labour)				1567		1998		1998
	EPF 13% (Labour)				6267		7993		7993
	GST on labour & transport, ESI & EPF @				10964		13741		13741
	Total				**211304**		**323154**		**231500**
	Less Credit (50% value)								
	(a) 1 phase cross arm (Angle)	114	Km	23	2611	23	2611	23	2611
	(b) 7/2.59 mm ACSR	13212				2.04	26951		
	Total				2611		2611		2611
	Nett.				208693		320543		228890
					208690		**320540**		**228890**

note. Three phase four wire for Rs.53080 ie. For single wire 53080/4 = 13270 for 5 wire 53080+13270 = 66350

G.4. COST OF CONVERSION OF CONDUCTOR FOR 1 KM OF LT 3 PHASE 4 WIRE LINE

			Per	ACSR 7/2.59 mm to 7/3.35 mm with insertion of poles		ACSR 7/2.59 mm to 7/3.35 mm on the same supports (without insertion of poles)	
Sl.No.	Description of materials	Rate in Rs.		Quantity	Amount	Quantity	Amount
1	7.5 M PSC Pole	2006	E	8	16048		
2	Base Plate	261	E	8	2088		
3	Back clamp	92	E	8	736		
4	LT 3 phase cross arm (Angle)	469	E	8	3752		
5	LT pin insulator with pin(20+37)	57	E	24	1368		
6	Aluminium knobs	21	E	8	168		
7	Coil Earthing , Bolts & Nuts & Binding wire etc. (1290+888)	2178	Loc	8	17424		
8	7/3.35 mm ACSR	38,681	Km	4.08	157818	4.08	157818
	Cost of materials				199402		157818
	Contingencies 1%				1994		1578
	Total cost of materials				**201397**		**159397**
	Labour charges (STATEMENT- A- IXa & IXb)				112025		33323
	Transport charges (STATEMENT- A- IXa & IXb)				4868		4868
	Sub total 2				**318290**		**197588**
	Estt.& Supervision charges 15%				47743		29638
	ESI @ 3.25% (Labour)				3641		1083
	EPF 13% (Labour)				14563		4332
	GST on labour & transport, ESI & EPF @ 18%				24317		7849
	Total				**408554**		**240490**
	Less Credit (50% value)						
	(b) ACSR 7/2.59 mm	13212	Km	4	52846	4	52846
	Total				52846		52846
	Nett.				355708		187644
	Say				**355710**		**187640**

G.4. COST OF CONVERSION OF CONDUCTOR FOR 1 KM OF LT 3 PHASE 4 WIRE LINE

Sl.No.	Description of materials	Rate in Rs.	Per	ACSR 7/2.59 mm to 7/3.35 mm with insertion of poles		ACSR 7/2.59 mm to 7/3.35 mm on the same supports (without insertion of poles)	
				Quantity	Amount	Quantity	Amount
1	7.5 M PSC Pole	2006	E	8	16048		
2	Base Plate	261	E	8	2088		
3	Back clamp	92	E	8	736		
4	LT 3 phase cross arm (Angle)	469	E	8	3752		
5	LT pin insulator with pin(20+37)	57	E	24	1368		
6	Aluminium knobs	21	E	8	168		
7	Coil Earthing , Bolts & Nuts & Binding wire etc. (1290+888)	2178	Loc	8	17424		
8	7/3.35 mm ACSR	38,681	Km	4.08	157818	4.08	157818
	Cost of materials				199402		157818
	Contingencies 1%				1994		1578
	Total cost of materials				**201397**		**159397**
	Labour charges (STATEMENT- A-IXa & IXb)				112025		33323
	Transport charges (STATEMENT- A-IXa & IXb)				4868		4868
	Sub total 2				**318290**		**197588**
	Estt.& Supervision charges 15%				47743		29638
	ESI @ 3.25% (Labour)				3641		1083
	EPF 13% (Labour)				14563		4332
	GST on labour & transport, ESI & EPF @ 18%				24317		7849
	Total				**408554**		**240490**
	Less Credit (50% value)						
	(b) ACSR 7/2.59 mm	13212	Km	4	52846	4	52846
	Total				52846		52846
	Nett.				355708		187644
	Say				**355710**		**187640**

COST OF SERVICE CONNECTION

H.1. COST OF ONE NO. INDUSTRIAL SERVICE CONNECTION UPTO 15 HP USING G.I.PIPE				
Quantity	**Description**	**Rate**	**Per**	**Amount**
1.5	G.I. Wire 7/20 SWG	75.9	Kg	114
5	G.I. Pipe 40 MM	586	M	2930
90	PVC SC cable 6 Sq.mm	8.8	M	792
30	PVC SC cable 2.65 Sq.mm	7.55	M	227
3	Aerial fuse Unit 32 A	132	E	396
1	Aerial Board (200 x 200 x 12 mm)	75	E	75
1	Meter Board (457x610 x 12 mm)	734	E	734
3	SPIC cutout with fuse unit 32 Amps	45	E	135
1	Three Phase LTCT Operated Smart meter for consumer	9,123	E	9123
1	Coil earthing, Bolts, Nuts, Binding wire etc. (1290+888)	2178	LS	2178
	Cost of materials			**16703**
	Contingencies 1%			167
	Total cost of materials			**16870**
	Labour (STATEMENT-A -XII)			720
	Transport 1%			169
	Sub total 2			**17759**
	Estt. & Supervision charges 15%			2664
	Sub total 3			**20423**
	ESI @ 3.25% (Labour)			23
	EPF 13% (Labour)			94
	GST on labour & transport, ESI & EPF @ 18%			181
	Total			20721
	Or Say Rs.			**20720**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

H.2. COST OF ONE NO. INDUSTRIAL SERVICE CONNECTION UPTO 15 HP USING PVC PIPE				
Quantity	Description	Rate	Per	Amount
	Cost of materials as per Item H.1.			16703
5	Less cost of 40 MM GI pipe	586	M	2930
				13773
5	ADD cost of 40 MM PVC pipe	67	M	335
	Cost of Materials			**14108**
	Contingencies 1%			141
	Sub total 1			**14249**
	Labour (STATEMENT-A -XII)			720
	Transport 1%			142
	Sub total 2			**15112**
	Estt. & Supervision charges 15%			2267
	Sub total 3			**17379**
	ESI @ 3.25% (Labour)			23
	EPF 13% (Labour)			94
	GST on labour & transport, ESI & EPF @ 18%			176
	Total			17672
	Or Say Rs.			**17670**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

INDUSTRIAL / AGRICULTURAL / COMMERCIAL / DOMESTIC

H.3. COST OF ONE NO. INDUSTRIAL SERVICE CONNECTION ABOVE 15 HP AND UPTO 50 HP USING G.I.PIPE

Quantity	Description	Rate	Per	Amount
1.5	G.I. Wire 7/20 SWG	75.90	Kg	114
5	G.I. Pipe 50 MM	597	M	2985
90	PVC SC cable 50 Sq.mm	40.70	M	3663
30	PVC SC cable 25 Sq.mm	22.00	M	660
3	Aerial fuse Unit 100 A	642	E	1926
1	Aerial Board (200 x 200 x 12 mm)	75	E	75
1	Meter Board 24"x18" (457x610 x 12 mm)	734	E	734
3	SPIC cutout with fuse unit 100 Amps	389	E	1167
1	Three Phase LTCT Operated Smart meter for consumer	9,123	E	9123
1	Coil earthing, Bolts, Nuts, Binding wire etc.(1290+888)	2178	LS	2178
	Cost of materials			**22625**
	Contingencies 1%			226
	Total cost of materials			**22851**
	Labour (STATEMENT-A -XII)			720
	Transport 1%			229
	Sub total 2			**23800**
	Estt. & Supervision charges 15%			3570
	ESI @ 3.25% (Labour)			23
	EPF 13% (Labour)			94
	GST on labour & transport, ESI & EPF @ 18%			192
	Total			27678
	Or Say Rs.			**27680**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

H.4. COST OF ONE NO. INDUSTRIAL SERVICE CONNECTION ABOVE 15 HP UPTO 50 HP USING PVC PIPE

Quantity	Description	Rate	Per	Amount
	Cost of materials as per Item H.3.			22625
5	Less cost of 50 MM GI pipe	597	M	2985
				19640
5	ADD cost of 50 MM PVC pipe	108	M	540
	Cost of Materials			**20180**
	Contingencies 1%			202
	Sub total 1			**20382**
	Labour (STATEMENT-A -XII)			720
	Transport 1%			204
	Sub total 2			**21305**
	Estt. & Supervision charges 15%			3196
	ESI @ 3.25% (Labour)			23
	EPF 13% (Labour)			94
	GST on labour & transport, ESI & EPF @ 18%			187
	Total			24806
	Or Say Rs.			**24810**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

H.5. COST OF ONE NO. AGRICULTURAL SERVICE CONNECTION WITH G.I. PIPE

Quantity	Description	Rate	Per	Amount
5	G.I.Pipe 40 MM	586	M	2930
21	PVC SC cable 6 Sq.mm	8.8	M	184.8
7	PVC SC cable 2.65 Sq.mm	7.55	M	52.85
3	Aerial fuse Unit 32 A	195	E	585
1	Aerial board (200 x 200 x 12 mm)	75	E	75
1	`B' Type Box	1274	E	1274
1	Meter Board (457x610 x 12 mm)	734	E	734
3	SPIC cutout with fuse unit 32 Amps	45	E	135
1	Three Phase LTCT Operated Smart meter for consumer	9,123	E	9123
1	Coil earthing, Bolts, Nuts, Binding wire etc.(1290+888)	1980	LS	1980
	Cost of materials			**17074**
	Contingencies 1%			171
	Total cost of materials			**17244**
	Labour (STATEMENT-A -XIII			390
	Transport 1%			172
	Sub total 2			**17807**
	Estt. & Supervision charges 15%			2671
	ESI @ 3.25% (Labour)			13
	EPF 13% (Labour)			51
	GST on labour & transport, ESI & EPF @ 18%			113
	Total			20654
	Or Say Rs.			**20650**

H.6. COST OF ONE NO. AGRICULTURAL SERVICE CONNECTION WITH PVC PIPE

	Cost of materials as per Item H.5.			17074
5	Less cost of 40 MM GI pipe	586	E	2930
				14144
5	ADD cost of 40 MM PVC pipe	67	E	335
	Sub total - 1			**14479**
	Contingencies 1%			145
	Sub total - 2			**14623**
	Labour (STATEMENT-A -XIII)			390
	Transport 1%			146
	Sub total - 3			**15160**
	Estt. & Supervision charges 15%			2274
	ESI @ 3.25% (Labour)			13
	EPF 13% (Labour)			51
	GST on labour & transport, ESI & EPF @ 18%			108
	Total			17605
	Or Say Rs.			**17600**

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

H.7. COST OF ONE NO. DOMESTIC AND COMMERCIAL SERVICE CONNECTION WITH SINGLE PHASE STATIC METER

Quantity	Description	Rate	Per	Amount
1	Single phase whole current smart meter 5-20/30 A	3509	E	3509
1	SPIC Cutout 32 Amps	45	E	45
	Cost of materials			3554
	Contingencies 1%			36
	Sub-total-1			**3590**
	Labour (STATEMENT-A -XIV)			350
	Transport 1%			36
	Sub-total-2			**3975**
	Estt. & Supervision charges 15%			596
	Sub-total-3			**4572**
	ESI @ 3.25% (Labour)			11
	EPF 13% (Labour)			46
	GST on labour & transport, ESI & EPF @ 18%			80
	Total			4708
	Or Say Rs.			**4710**

COST OF 1 NO. STREET LIGHT FIXTURE COMPLETE SET

H.8. COST OF ONE NO. STREET LIGHT FIXTURE COMPLETE SET

Quantity	Description	Rate	Per	Amount
1	Single phase 1.22 M 40W Flourescent Tube light fitting without bulb	903	E	903
1	Street light fixture pipe	352	E	352
2	Street light fixture clamps	316	Pair	632
1	1.22M 40W Fluorescent tube light	40	E	40
	Sub-total-1			**1927**
	Contingencies 1%			19
	Sub-total-2			**1946**
	Labour (STATEMENT-A -XI)			310
	Transport 1%			19
	Sub-total-3			**2276**
	Estt. & Supervision charges 15%			341
	ESI @ 3.25% (Labour)			10
	EPF 13% (Labour)			40
	GST on labour & transport, ESI & EPF @ 18%			68
	Total			2736
	Or Say Rs.			**2740**

NB CONTINGENCIES & STORAGE
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

COST OF 1 NO. STREET LIGHT CONTROL WITH SINGLE PHASE METER

H.9. COST OF ONE NO. STREET LIGHT CONTROL WITH SINGLE PHASE whole current smart meter 5-20/30 A

Quantity	Description	Rate	Per	Amount
5	G.I.Pipe 20 MM	83	M	415
14	PVC SC cable 2.65 Sq.mm	7.55	M	106
1	Aerial fuse unit 16 A 415 V	51	E	51
1	`C' Type Box with clamp	674	E	674
1	Meter Board (457x305x12 mm)	599	E	599
1	Single phase whole current smart meter 5-20/3	3509	E	3509
1	Coil earthing, etc.	1290	LS	1290
1	Bolts, Nuts, Binding wire etc.	888	loc	888
	Sub-total-1			**7532**
	Contingencies 1%			75
	Sub-total-2			**7607**
	Labour (STATEMENT-A -XI)			310
	Transport 1%			76
	Sub-total-3			**7993**
	Estt. & Supervision charges 15%			1199
	ESI @ 3.25% (Labour)			10
	EPF 13% (Labour)			40
	GST on labour & transport, ESI & EPF @ 18%			79
	Total			9321
	Or Say Rs.			**9320**

CONSUMER CONTRIBUTION (Cost of 1 No. Domestic Service Connection)

CONSUMER CONTRIBUTION

H-10 COST OF ONE NO. DOMESTIC SERVICE CONNECTION (SINGLE PHASE USING GI PIPE)

SL NO.	DESCRIPTION	RATE Rs.	PER	NON-VARIABLE QUANTITY	NON-VARIABLE AMOUNT Rs.	VARIABLE QUANTITY	VARIABLE AMOUNT Rs.
1	G.I Pipe 20mm	83	M	5	415		
2	PVC SC Cable 2.65 Sq.mm	7.55	M	14	106	10	76
3	G.I.Wire 7/20 SWG	75.9	Kg	0.5	38	0.3	23
4	Earthing Terminal	61	E	1	61		
5	Clips, U-Clamp etc.,	67	LS	1	67	1	67
	Cost of materials				687		165
	Contingencies 1%				7		2
	Total cost of materials				694		167
	Labour as per Statement XIV				62		15
	Transport 1%				7		2
	Sub-total				763		184
	Estt. & Supervision charges 15%				114		28
	ESI @ 3.25% (Labour)				2		0
	EPF 13% (Labour)				8		2
	GST on labour & transport, ESI & EPF @ 18%				14		3
	Total				**902**		**217**

otal cost of consumer contribution (902+217)=111 or say Rs.1119

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

EXTENSION OF 2 WIRE LINE FOR A SPAN OF 60 METERS AND ERECTION OF 1 NO ADDITIONAL STREET LIGHT WHERE THE STREET LIGHT AND SWITCHING ARRANGEMENTS ARE AVAILABLE.		
SL NO	DESCRIPTION OF WORK	Rs.
1	Cost of erection of one number street light per pole span when fittings (Tube light) are supplied by Local Body	13200
2	Cost of erection of one number street light per pole span when fittings (Tube light) are supplied by TANGEDCO	14850
3	Cost of erection of one number street light per pole span when fittings (Sodium Vapour Lamp) are supplied by TANGEDCO	19800

As per (Per) CMD TANGEDCO Pro.No.299 Dated.25th July 2013.

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

COST OF DT STRUCTURE (STRUCTURE ONLY WITHOUT TRANSFORMER)

I.1. COST OF ONE NO.11 KV DISTRIBUTION TRANSFORMER STRUCTURE (STRUCTURE ONLY WITHOUT DT)

Quantity	Item	Rate	Per	Amount
2	9.0 M PSC pole 400 kg WL	4,075	Nos.	8150
2	Base Plate	261	Nos.	522
1	Transformer structure materials including of structure clamps (13588+3718)	17306	**Set**	17306
1	11 KV AB Switch with PT insulators	16,038	Set	16038
1	11 KV HG Fuse set (with 6 Nos.pin & pin insulator) (2038+804((76+58)*6)=804)	2842	Set	2842
3	11 KV LAs	399	Set	1197
4	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)=1306	1306	Sets	5224
1	Guy Insulator	27	No	27
1	Jumpering materials (25 sq mm single core PVC cable 25 mts, 240 sqmm lug 30 nos). (22*25)+(22*30)	1210	Set	1210
1	Structure earthing arrangement	6141	Set	6141
1	Structures concreting	2044	set	2044
2	Bolts ,Nuts and Binding wire etc	888	each	1776
	Cost of materials			**62477**
	Contingencies 1%			**625**
	Total cost of materials			**63102**
	Labour (STATEMENT-A-III)			23290
	Transport 1%			631
	Sub total - 1			**87023**
	Estt. & Supervision charges 15%			13053
	Sub total - 2			**100076**
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			4987
	Total			**108848**
	Or Say Rs.			108850

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

I.1.A COST OF ONE NO.22 KV DISTRIBUTION TRANSFORMER STRUCTURE (STRUCTURE ONLY WITHOUT DT)

Quantity	Item	Rate	Per	Amount
2	9.0 M PSC pole 400 kg WL	4,075	Nos.	8150
2	Base Plate	261	Nos.	522
1	Transformer structure materials including of structure clamps (13588+3718)	17306	Set	17306
1	22 KV AB switch with PT insulator	17386	Set	17386
1	22 KV HG fuse set with 6 Nos.pin & pin insulators (2086+1734 ((160+129)*6)	3820	Set	3820
3	22 KV LAs	589	Set	1767
4	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)=1306	1306	Sets	5224
1	Guy Insulator	27	No	27
1	Jumpering materials (25 sq mm single core PVC cable 25 mts, 240 sqmm lug 30 nos). (22*25)+(22*30)	1210	Set	1210
1	Structure earthing arrangement	6141	Set	6141
1	Structures concreting	2,044	Set	2044
2	Bolts ,Nuts and Binding wire etc	888	each	1776
	Cost of materials			**65373**
	Contingencies 1%			654
	Total cost of materials			**66027**
	Labour (STATEMENT-A-III)			**23290**
	Transport 1%			660
	Sub total - 1			**89977**
	Estt. & Supervision charges 15%			13497
	Sub total - 2			**103474**
	ESI @ 3.25% (Labour)			757
	EPF 13% (Labour)			3028
	GST on labour & transport, ESI & EPF @ 18%			4992
	Total			**112250**
				112250

NB CONTINGENCIES & STORAGE

For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included

COST OF TAPPING STRUCTURE

I.2. TAPPING STRUCTRUE WITH AB SWITCH				
Quantity	**Item**	**Rate**	**Per**	**Amount**
2	9.0 M PSC pole 400 kg WL	4,075	Nos.	8150
2	Base Plate	261	Nos.	522
1	11 KV AB Swich with PT Insulator	16,038	Nos.	16038
1	Double channel cross arm	6,937	No.	6937
1	Cross bracing set	8,816	No.	8816
2	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)=1306	1306	Sets	2612
1	Guy Insulator	27	No	27
1	Structure concreting	2,044	Set	2044
1	Structure earthing arrangement	6,141	Loc	6141
2	Bolts ,Nuts and Binding wire etc	888	each	1776
	Cost of materials			**53063**
	Contingencies 1%			531
	Total cost of materials			**53594**
	Labour (STATEMENT-A XVII)			8780
	Transport 1%			536
	Sub total 1			**62910**
	Estt. & Supervision charges 15%			9436
	Sub total 2			**72346**
	ESI @ 3.25% (Labour)			285
	EPF 13% (Labour)			1141
	GST on labour & transport, ESI & EPF @ 18%			1934
	Total			**75706**
	Or Say Rs.			75710
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

COST OF CROSS BRACING STRUCTURE

	I.3. CROSS BRACING STRUCTURE			
Quantity	**Item**	**Rate**	**Per**	**Amount**
2	9.0 M PSC pole 400 kg WL	4,075	Nos.	8150
2	Base Plate	261	Nos.	522
1	Cross bracing set	8,816	No.	8816
2	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)=1306	1306	Sets	2612
1	Guy Insulator	27	No	27
1	Structure concreting	2,044	Set	2044
1	Structure earthing arrangement	6,141	Loc	6141
2	Bolts ,Nuts and Binding wire etc.	888	each	1776
	Cost of materials			**30088**
	Contingencies 1%			301
	Total cost of materials			**30389**
	Labour (STATEMENT-A. XVI			8340
	Transport 1%			304
	Sub total 1			**39033**
	Estt. & Supervision charges 15%			5855
	Sub total 2			**44888**
	ESI @ 3.25% (Labour)			271
	EPF 13% (Labour)			1084
	GST on labour & transport, ESI & EPF @ 18%			1800
	Total			**48043**
	Or Say Rs.			48040
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

COST OF RAILWAY CROSSING STRUCTURE

	I.4. RAILWAY CROSSING STRUCTURE			
Quantity	**Item**	**Rate**	**Per**	**Amount**
2	42' RSJ pole (12.8m) (250mm X 125 mm)	21085	Nos.	42170
2	Special X arms (10m) (125x65 channel) Weight/m = 10.7 kg 10 m x 10.7 Kgs x 2 Nos. RSJ Poles = 214 Kgs.	61.36	Kg	13131
12	11 KV Strain Disc +Metal parts (316+203)	519	Nos.	6228
2	Guarding Cross arm	857	No.	1714
2	Stay set complete incl. GI wire (5kg), stay plate & stay clamp (pair) (413+5*78+261+242)=1306	1306	Sets	2612
2	Guy Insulators	27	Nos.	54
30	GI Solid Wire 8 SWG for lacing (300 m)	69.33	kg.	2080
27	GI No.6 SWG (for bearer wire 180 m)	70.11	kg	1893
1	Structure Concreting	2,044	Loc	2044
1	Structure earthing	6,141	Loc	6141
2	Bolts ,Nuts and Binding wire etc.	888	each	1776
	Cost of materials			79843
	Contingencies 1%			798
	Total cost of materials			80641
	Labour (Statement-A XV)			7820
	Transport 1%			806
	ESI @ 3.25% (Labour)			254
	EPF 13% (Labour)			1017
	GST on labour & transport, ESI & EPF @ 18%			1781
	Sub total 2			**92320**
	Estt. & Supervision charges 15%			13848
	Total			**106168**
	Or Say Rs.			106170
NB CONTINGENCIES & STORAGE				
For Deposit Contributary Works (DCW), Contingencies may be worked out @ 5% & Storage worked out 3% may be included				

MODEL ESTIMATE FOR LAYING OF 33 KV / 11 KV & LT UG CABLES

Estimate for laying 33KV,3x400 sqmm XLPE (SC) cable for a route length of 1 Kms by open cut method.

S.No	DESCRIPTION	QTY		RATE (in lakhs)	PER	AMOUNT (Rs. in lakhs)
1	33KV,3x400 sq mm XLPE UG cable	1	Kms	23.182	Km	23.18
2	33KV, 3X400 sqmm HS straight joints	5	Nos	0.23895	Each	1.19
3	PVC pipe 200 mm	180	mtr	0.01666	mtr.	3.00
4	33KV RCC Cover slab	1680	Nos	0.00307	Nos.	5.16
5	33KV, 3X400 sqmm HS OD termination kits	1	No	0.07847	Each	0.08
6	33KV, 3X400 sqmm HS ID termination kits	1	No	0.06500	Each	0.07
	Cost of Materials					**32.68**
	Contingencies 1%					0.33
	Total Cost of Materials					33.00
	Labour & Transport	1	Kms	10	Km	10.00
	Sub total-1					**43.003**
	Estt. & Supervision charges 15%					6.45
	Sub total-2					**49.45**
	ESI @ 3.25% (Labour)					0.293
	EPF 13% (Labour)					1.170
	GST on labour & transport, ESI & EPF @ 18%					2.063
	Road - cut charges **	1	Km	70	Km	70.00
	TOTAL (Rate for 1 Km.)					**172.43**

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

Estimate for laying 33KV,3x630 sqmm XLPE (SC) cable for a route length of 1 Km by open cut method.

S.No	DESCRIPTION	QTY		RATE (in lakhs)	PER	AMOUNT (Rs. in lakhs)
1	33KV,3x630 sq mm XLPE UG cable	1	Kms	44.840	Km	44.84
2	33KV,3X630 sqmm straight joints	5	Nos	0.6744	Nos.	3.37
3	PVC pipe 200mm	180	mtr	0.0167	mtr.	3.00
4	33KV RCC Cover slab	1680	Nos	0.00307	Nos.	5.16
5	33KV, 3x630 sqmm OD termination kits	1	No	0.21177	Each	0.21
6	33KV, 3x630 sqmm ID termination kits	1	No	0.18383	Each	0.18
	Cost of Materials					**56.76**
	Contingencies 1%					0.57
	Total Cost of Materials					**57.33**
	Labour & Transport	1	Km	15	Km	15.00
	Sub total-1					**72.332**
	Estt. & Supervision charges 15%					10.85
	Sub total-2					**83.181**
	ESI @ 3.25% (Labour)					0.439
	EPF 13% (Labour)					1.755
	GST on labour & transport, ESI & EPF @ 18%					3.095
	Road - cut charges **	1	Km	70	Km	70.00
	TOTAL (RATE FOR 1Km)					**158.47**

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

Estimate for laying of 3 runs of 33 KV, 1x630 sq.mm XLPE (SC) cable for a Route Length of 1 Kmtr using open cut method						
SL.NO	**DESCRIPTION**	**QTY**		**RATE Rs. IN LAKHS**	**PER**	**AMOUNT Rs. IN LAKHS**
1	33 KV, 1X630 Sq.mm XLPE UG Cable	3	Kms	12.9600	km	38.88
2	33 KV, 1X630 sqmm Straight Joints	9	Nos.	0.09366	Each	0.84
3	PVC pipe 160mm	540	mtr	0.01054	Each	5.69
4	33 KV RCC Cover Slab	1680	Nos.	0.00307	Each	5.16
5	33 KV, 1X630 Sq.mm HS OD termination kits	3	Nos.	0.06714	Each	0.20
6	33 KV, 1X630 Sq.mm HS ID termination kits	3	Nos.	0.03046	Each	0.09
	Cost of Materials					**50.86**
	Contingencies 1%					0.51
	Total cost of Materials					**51.37**
	Labour and Transport	1	Km	10	Km	10.00
	Sub total-1					**61.37**
	Estt & supervision charges @ 15 %					9.21
	Sub total-2					**70.58**
	ESI @ 3.25% (Labour)					0.029
	EPF 13% (Labour)					0.117
	GST on labour & transport, ESI & EPF @ 18%					1.826
	Road - cut charges **	1	Km	70	Km	70.00
	Total (RATE FOR 1 Km)					**142.55**

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

Estimate for laying of 3 runs of 33KV,1x1000 sqmm XLPE (SC) cable for a route length of 1 Km. using open cut method

S.No	DESCRIPTION	QTY		RATE (in lakhs)	PER	AMOUNT (Rs. in lakhs)
1	33KV,1x1000 sq mm XLPE UG cable	3	Kms	16.709	Km	50.13
2	33KV, 1X1000 sqmm straight joints	9	Nos	0.24883	Each	2.24
3	PVC pipe 200mm	540	mtr	0.01666	Each	9.00
4	33 KV RCC Cover Slab	1680	Nos	0.00307	Each	5.16
5	33KV, 1000 sqmm OD termination kits	3	Nos	0.13000	Each	0.39
6	33KV, 1000 sqmm ID termination kits	3	Nos	0.06708	Each	0.20
	Cost of Materials					**67.11**
	Contingencies 1%					0.67
	Total cost of Materials					**67.78**
	Labour & Transport	1	Km	15	Km	15.00
	Sub total 1					**82.782**
	Estt. & Supervision charges 15%					12.42
	Sub total-2					**95.20**
	ESI @ 3.25% (Labour)					0.439
	EPF 13% (Labour)					1.755
	GST on labour & transport, ESI & EPF @ 18%					3.095
	Road - cut charges **	1	Km	70	Km	70.00
	TOTAL (RATE FOR 1 Km)					**170.49**

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

Estimate for laying 33KV,3x400 sqmm XLPE (SC) cable for a route length of 1 Km by Trenchless method.

S.No	DESCRIPTION	QTY		RATE (in lakhs)	PER	AMOUNT (Rs. in lakhs)
1	33KV,3x400 sq mm XLPE UG cable	1	Kms	23.182	Km	23.18
2	33KV, 3X400 sqmm HS straight joints	5	Nos	0.23895	Each	1.19
3	PVC pipe 200 mm	180	mtr	0.01666	Each	3.00
4	33KV RCC Cover slab	1680	Nos	0.00307	Each	5.16
5	33KV, 3X400 sqmm HS OD termination kits	1	No	0.07847	Each	0.08
6	33KV, 3X400 sqmm HS ID termination kits	1	No	0.06500	Each	0.07
	Cost of Materials					**32.68**
	Contingencies 1%					0.33
	Total cost of Materials					**33.00**
	Labour & Transport	1	Kms	60	Km	60.00
	Sub Total 1					**93.003**
	Estt. & Supervision charges 15%					13.95
	Sub total-2					**106.95**
	ESI @ 3.25% (Labour)					1.755
	EPF 13% (Labour)					7.020
	GST on labour & transport, ESI & EPF @ 18%					12.380
	Road - cut charges **	1	Km	4	Km	4.00
	TOTAL (RATE FOR 1Km)					**132.11**

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road**

Estimate for laying 33KV,3x630 sqmm XLPE (SC) cable for a route length of 1 Kms by Trenchless method.

S.No	DESCRIPTION	QTY		RATE (in lakhs)	PER	AMOUNT (Rs. in lakhs)
1	33KV,3x630 sq mm XLPE UG cable	1	Kms	44.840	Km	44.84
2	33KV,3X630 sqmm straight joints	5	Nos	0.6744	Each	3.37
3	PVC pipe 200mm	180	Nos	0.0167	Each	3.00
4	33KV RCC Cover slab	1680	Nos	0.00307	Each	5.16
5	33KV, 3x630 sqmm OD termination kits	1	No	0.21177	Each	0.212
6	33KV, 3x630 sqmm ID termination kits	1	No	0.18383	Each	0.184
	Cost of Materials					**56.76**
	Contingencies 1%					0.57
	Total cost of Materials					**57.33**
	Labour & Transport	1	Kms	65	Km	65.00
	Sub total-1					**122.33**
	Estt. & Supervision charges 15%					18.35
	Sub total-2					**140.68**
	ESI @ 3.25% (Labour)					1.90
	EPF 13% (Labour)					7.61
	GST on labour & transport, ESI & EPF @ 18%					13.41
	Road - cut charges **	1	Km	4	Km	4.00
	TOTAL (RATE FOR 1Km)					**167.60**

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

Estimate for laying of 3 runs of 33 KV, 1x630 sq.mm XLPE (SC) cable for a Route Length of per Km using trenchless method

SL.NO	DESCRIPTION	QTY		RATE Rs. IN LAKHS	PER	AMOUNT Rs. IN LAKHS
1	33 KV, 1X630 Sq.mm XLPE UG Cable	3	Kms	12.9600	km	38.88
2	33 KV, 1X630 sqmm Straight Joints	9	Nos.	0.09366	Each	0.84
3	PVC pipe 160mm	540	Nos.	0.01054	Each	5.69
4	33 KV RCC Cover Slab	1680	Nos.	0.00307	Each	5.16
5	33 KV, 1X630 Sq.mm HS OD termination kits	3	Nos.	0.06714	Each	0.20
6	33 KV, 1X630 Sq.mm HS ID termination kits	3	Nos.	0.03046	Each	0.09
	Cost of Materials					**50.86**
	Contingencies 1%					0.51
	Total cost of Materials					**51.37**
	Labour and Transport	1	Kms	65.00	Km	65.00
	Sub total-1					**116.37**
	Estt & supervision charges @ 15 %					17.46
	Sub total-2					**133.83**
	ESI @ 3.25% (Labour)					1.90
	EPF 13% (Labour)					7.61
	GST on labour & transport, ESI & EPF @ 18%					13.41
	Road - cut charges **	1	Km	4	Km	4.00
	Total RATE FOR 1 Km					**160.75**

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

Estimate for laying of 1 km. route length of 11 KV ,3 X 300 sq mm cable by open cut method.

Sl. No.	Description	Quantity	Units	Rate in Lakhs	PER	Total in Lakhs
1	11 KV 3 X 300 sq mm UG cable	1	km	17.1100	Km	17.110
	11KV, 3X300 sqmm HS straight joints	5	Nos.	0.0574	No	0.287
2	11 KV V trough	1680	Nos.	0.00245	Each	4.116
3	PVC pipe 160 mm	180	mtr	0.01054	mtr.	1.897
4	11KV, 3X300 sqmm HS OD termination kits	1	No	0.0242	Each	0.024
5	11KV, 3X300 sqmm HS ID termination kits	1	No	0.02087	Each	0.021
	Cost of Material					**23.455**
	Contingencies 1 %					0.235
	Sub Total					**23.690**
	Labour as per statement XIX					3.550
	Transport as per statement XIX					0.242
	Sub Total					**27.240**
	Estt and supervision charges at 15 %					4.086
	Sub Total					**31.326**
	ESI @ 3.25% (Labour)					0.1154
	EPF 13% (Labour)					0.4615
	GST on labour & transport, ESI & EPF @ 18%					0.7863
	Sub Total					**32.689**
	Road - cut charges **	1	Km	10	Km	10.00
	TOTAL (Rate for 1 Km.)					**42.69**
		Or say Rs.42.16 lakhs				

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

Estimate for laying of 1 km. route length of 11 KV ,3 X 120 sq mm cable by open cut method.

Sl. No.	Description	Quantity	Units	Rate in rupees	PER	Amount in Rs. Lakhs
1	11 KV 3 X 120 sq mm UG cable	1	km	8.8146	Km	8.815
2	11KV, 3X120 sqmm HS straight joints	5	Nos.	0.05066	No	0.253
3	11 KV V trough	1680	Nos.	0.00245	Each	4.116
4	PVC pipe 160 mm	180	mtr	0.01054	mtr.	1.897
5	11KV, 3X120 sqmm HS OD termination kits	1	No	0.02117	Each	0.021
	11KV, 3X120 sqmm HS ID termination kits	1	No	0.01652	Each	0.017
	Total for Materials					**15.119**
	contingencies 1 %					0.151
	Sub Total-1					**15.270**
	Labour as per statement XIX					3.550
	Transport as per statement XIX					0.242
	Sub Total					**18.820**
	Estt and supervision charges at 15 %					2.823
	Sub Total					**21.643**
	ESI @ 3.25% (Labour)					0.1154
	EPF 13% (Labour)					0.4615
	GST on labour & transport, ESI & EPF @ 18%					0.7863
	Sub Total					**23.006**
	Road - cut charges **	1	Km	10	Km	10.00
	TOTAL (Rate for 1 Km.)					**33.01**
		Or say Rs.33.01 lakhs				

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

Estimate for laying of 1 km. route length of 4 * 240 sq mm cable by open cut method.

Sl. No.	Description	Quantity	Units	Rate in rupees	PER	Amount in Rs. Lakhs
1	4 * 240 sq mm UG cable	1	km	8.7817	Km.	8.78
2	LT trough	1340	nos	0.00066	Nos.	0.88
3	LT straight joint box (HS type)	2	nos	0.01495	Nos.	0.03
	PILLAR BOX MS 4 way with HRC fuse	2	nos	0.50193	Nos.	1.00
	Sub Total					**10.700**
	contingencies 1 %					0.107
	Sub Total					**10.807**
	Labour as per statement XX					2.451
	Transport as per statement XX					0.083
	Sub Total					**13.258**
	Estt and supervision charges at 15 %					1.989
	Sub Total					**15.247**
	ESI @ 3.25% (Labour)					0.0797
	EPF 13% (Labour)					0.3187
	GST on labour & transport, ESI & EPF @ 18%					0.5278
	Sub Total					**16.173**
	Road - cut charges **	1	Km	4	Km	4.00
	Rate for 1 km					**20.17**
		Or say Rs.20.17 lakhs				

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

Estimate for laying of 1 km. route length of 4 * 120 sq mm cable by open cut method.

Sl. No.	Description	Quantity	Units	Rate in Lakhs	Per	Amount in Rs. Lakhs
1	4 * 120 sq mm UG cable	1	km	4.57979	Km	4.58
2	LT trough	1340	nos	0.00066	Nos	0.88
3	LT straight joint box (HS type)	2	nos	0.0077	Nos	0.02
4	PILLAR BOX MS 4 way with HRC fuse	2	nos	0.50193	Nos.	1.00
	Sub Total					**6.48**
	contingencies 1 %					0.06
	Sub Total					**6.55**
	Labour as per statement XX					2.451
	Transport as per statement XX					0.083
	Sub Total					**9.00**
	Estt and supervision charges at 15 %					1.35
	Sub Total					**10.350**
	ESI @ 3.25% (Labour)					0.0797
	EPF 13% (Labour)					0.3187
	GST on labour & transport, ESI & EPF @ 18%					0.5278
	Sub Total					**11.276**
	Road - cut charges **	1	Km	4	Km	4.00
	Rate for 1 km					**15.28**
		Or say Rs.15.28 lakhs				

Note *: 1) The road cut charges adopted in the above sample estimate is based on the Chennai EDC rates for estimate purpose only. 2) Hence the rates may be adopted as prevailing in the concerned area and considering the type of the road.**

MODEL ESTIMATE FOR 11 KV & 33 KV BAY EXTENSION FOR INDOOR SS

DETAILED ESTIMATE FOR 11KV BAY EXTENSION FOR INDOOR SS
(For erection of one no feeder panel)

Rs. In lakhs

Sl.No	DESCRIPTION	UNIT	QTY	RATE	TOTAL
1	11KV VCB Indoor Breaker 1250A,25KA	Nos.	1	3.812	3.812
2	Bus - Adapter (Fabrication of Box with powder coating and copper busbar for linking the exisitng breaker bus with new type breaker bus)	Nos	1	1.659	1.659
3	Materials and Labour charges for provision of maitenance free earthing (As per CMD proceedings 30 dt.06.04.2015) without MS Flat	Nos	3	0.090	0.270
4	MS Flat for Earthing		LS		3.000
5	Control cables		LS	0.500	0.500
6	**Sub total-1**				**9.241**
7	Contingencies 1 %				0.092
8	**Cost of materials and equipments**				**9.333**
9	Labour and transport 15%				1.400
10	**Sub Total - 2**				**10.733**
11	Establishment and Supervision Charges @15%				1.610
	Sub Total - 3				**12.343**
	ESI @ 3.25% (Labour) (3.25% of (14% of Sl.No.9))				0.006
	EPF 13% (Labour) (13% of (14% of Sl.No.9))				0.025
	GST on labour & transport, ESI & EPF @ 18%				0.258
	Total				**12.633**

Say Rs. 12.63 Lakhs

Note: The rate may be substituted for erection of Transformer/Bus Coupler Panel

1 Rate of 11 KV Transformer LV VCB Panel = 4.425 Lakhs

2 Rate of 11 KV Bus Coupler VCB Panel ** = 3.962 Lakhs

3 Rate of 11 KV Feeder Panel = 3.812 Lakhs

** In the case of erection of bus coupler panel, 2 Nos. of bus adaptor panel & cost may be included.

DETAILED ESTIMATE FOR 33 KV BAY EXTENSION FOR INDOOR SS

(For erection of one no feeder panel)

Rs. In lakhs

Sl.No	DESCRIPTION	UNIT	QTY	RATE	TOTAL
1	33 KV VCB Indoor Breaker 1250A, 25KA	Nos.	1	10.661	10.661
2	Bus - Adapter(Fabrication of Box with powder coating and copper busbar for linking the exisitng breaker bus with new type breaker bus)	Nos	1	1.954	1.954
3	Materials and Labour cahrges for provision of maitenance free earthing(As per CMD proceedings 30 dt 06.04.2015) without MS Flat	Nos	3	0.090	0.270
4	MS Flat for Earthing		LS		3.000
5	Control cables		0	0.500	0.500
6	**Sub total-1**				**16.385**
7	Contingencies 1 %				0.164
8	**Cost of materials and equipments**				**16.549**
9	Labour and transport 15%				2.482
	Sub total-2				**19.031**
	Establishment and Supervision Charges @15%				2.855
	Sub total-3				**21.886**
	ESI @ 3.25% (Labour) (3.25% of (14% of Sl.No.9))				0.011
	EPF 13% (Labour) (13% of (14% of Sl.No.9))				0.045
	GST on labour & transport, ESI & EPF @ 18%				0.457
	Total				**22.400**

Say Rs. 22.40 Lakhs

Note: The rate may be substituted for erection of Transformer/Bus Coupler Panel

1 Rate of 33 KV Transformer HV VCB Panel = 11.959 Lakhs

1 Rate of 33 KV Transformer LV VCB Panel = 12.903 Lakhs

2 Rate of 33 KV Bus Coupler VCB Panel ** = 14.656 Lakhs

3 Rate of 33 KV Feeder Panel = 10.661 Lakhs

** **In the case of erection of bus coupler panel, 2 Nos. of bus adaptor panel & cost may be included.**

MODEL ESTIMATE FOR ESTABLISHMENT OF 33/11 KV INDOOR SS

Estimate for the establishment of 33/11 KV Indoor SS with 2x16 MVA Power Transformer

SL. NO	DESCRIPTION	QTY		` RUPEES IN LAKHS		
				RATE	PER	AMOUNT
I	**CIVIL WORKS (**)**					
1	Land cost (actuals)					
2	Control Room including electrification			198.00	LS	198.00
3	Station yard with foundation & cable duct (as applicable)			20.00	LS	5.00
4	Water system inclusive of Bore well, Motor, Pipeline etc and sewerage system			3.00	LS	3.00
5	Compound wall/Fencing and gate			10.00	LS	10.00
6	Land Levelling of site and revetment (Retaining wall) if applicable			10.00	LS	10.00
7	Lead Road			5.00	LS	5.00
8	RCC culvert (if applicable)			5.00	LS	5.00
9	Construction of Fire Protection wall			3.00	LS	3.00
10	Aluminium Partition & cash collection centre			20.00	LS	20.00
11	Yard levelling			4.00	LS	4.00
12	Substation Earthing			4.00	LS	4.00
13	Dismantling of old building (if applicable)			5.00	LS	5.00
	Total for civil works					**272.00**
II	**ELECTRICAL WORKS**					
1	33 KV VCB Indoor (Transformer HV)	2	Nos	11.950	E	23.90
2	33 KV VCB Indoor (Feeder)	2	Nos	10.660	E	21.32
3	33 KV VCB Indoor (Bus coupler)	1	No	14.650	E	14.65
4	33KV Bus Adapter	1	No	1.950	E	1.95
5	11 KV VCB Indoor (Transformer LV)	2	Nos	4.425	E	8.85
6	11 KV VCB Indoor (Feeder)	8	Nos	3.812	E	30.50
7	11 KV VCB Indoor (Bus coupler)	1	No	3.962	E	3.96
8	11 KV Bus Adapter	1	No	1.660	E	1.66
9	Control cable in various sizes	LS		LS		5.00
10	100 KVA, 11 KV/433V Distribution Transformer with structure	1	set	4.356	E	2.82
11	110 V, 300 AH Battery Set	1	Set	4.484	Set	4.48
12	110 V, 60 A Battery charger	2	Nos	2.743	E	5.49
13	110 V AC Panel	1	No	0.817	E	0.82

SL. NO	DESCRIPTION	QTY		` RUPEES IN LAKHS		
				RATE	PER	AMOUNT
14	110 V DC Panel	1	No	0.970	E	0.97
15	Annunciator panel	1		0.857		0.86
16	Earthing, Painting and yard lighting	LS		LS		8.00
17	Firefighting equipment and sundries	1 set		LS		3.00
18	VHF communication	1 set		LS		2.40
19	P&T phone	1	No	0.100	E	0.10
20	SCADA	LS		LS		20.00
21	Scientific Instruments	LS		LS		5.00
22	T & P materials and Furniture	LS		LS		4.00
23	33 KV XLPE cable with accessories with termination kit	LS		LS		10.00
24	11 KV XLPE cable with accessories with termination kit	LS		LS		10.00
25	Electrification (Ground floor & 1st floor)	LS		LS		10.00
26	**Sub-Total 1 for Electrial materials**					**199.72**
27	Contingencies @ 1%					1.997
28	**Total for materials (26+27)**					**201.715**
29	Labour & Transport @ 15% (15% of 28)					30.257
30	16 MVA, 33/11 KV power transformer with OLTC (Indoor)	2	Nos.	95.36	E	190.723
31	Plinth, Labour & Transport for trs including GST, EPF &ESI	2	Nos.	13.000	Per Tr	26.000
32	Earthing	2	Nos.	0.500	Per Tr	1.000
33	11 kV capacitor bank 2.4 MVAR	1	Set	22.744	Set	22.744
34	**Sub total 2 (S.No. 28 to 33)**					**472.440**
35	Estt & supervision charges @ 15 % (15% of 34)					70.866
36	**Sub total 3 (34+35)**					**543.31**
37	ESI on labour portion @3.25% (3.25% of 29 (labour 14%)					0.138
38	EPF on labour portion @13% (13% of 29 (labour 14%)					0.551
39	GST on labour & transport,ESI &EPF @ 18% (18% of S.No.29+37+38)					5.57
	Total for Electrical works					**549.56**
	Total for Civil works					**272.00**
	Total Gross & Nett					**821.56**

Note : 1) **I- Rates as per actuals

MODEL ESTIMATE FOR ESTABLISHMENT OF FULLY AUTOMATED 33/11 KV UNMANNED GIS SS

unmanned GIS SS with 2x16 MVA Power Transformers

SL.NO	DESCRIPTION	QTY		RUPEES IN LAKHS		
				RATE	PER	AMOUNT
I	**CIVIL WORKS (**)**					
1	Land cost (as per actuals)					–
2	Control Room including electrification with first floor			420.00	LS	397.00
3	Yard levelling & cable duct			17.00	LS	17.00
4	Water system inclusive of Bore well, Motor, Pipeline etc and sewerage system			3.00	LS	3.00
5	Compound wall/Fencing and gate			15.00	LS	15.00
6	Earthing			4.00	LS	4.00
	Dismantling of old building (if applicable)			5.00	LS	5.00
	Total for civil works					**441.00**
II	**ELECTRICAL WORKS**					
1	33 KV GIS Indoor (Transformer HV) bay	2	Nos.	31.178	E	62.356
2	33 KV GIS Indoor (for incoming feeder) bay	2	Nos.	37.920	E	75.840
3	33 KV GIS Indoor (Bus coupler with Adopter) bay	1	No.	41.885	E	41.885
4	11 KV GIS Indoor (Transformer LV) bay	2	Nos.	29.806	E	59.612
5	11 KV GIS Indoor (for 7 nos. Feeder + 2 nos. spare) bay	9	Nos.	31.693	E	285.233
6	11 KV GIS Indoor (Bus coupler with Adopter) bay	1	No.	37.928	E	37.928
7	Control cable				LS	5.000
8	Remote operatable Relay & RTU				LS	25.000
9	Fire fighting equipment & Fire alarm system	1	Set		LS	45.000
10	Surveillance camera & security arrangement				LS	9.800
11	Air conditioning				LS	18.850
12	Fibre optic/SIM communication				LS	6.240
13	100 KVA, 11 KV/433 V Distribution Transformer with structure	1	Set	4.356	Set	4.356
14	110 V Battery set (1 no.) with 2 Chargers (4.484+(2X2.743)				Set	9.970
15	110 V AC Panel	1	No	0.817	E	0.82
16	110 V DC Panel	1	No	0.970	E	0.97
17	Annunciator panel	1		0.857		0.86
18	Earthing, Painting & Yard lighting	1	Set	8.000	Set	8.000
19	VHF Communication	1	Set		LS	2.400
20	P & T phone	1	No.		E	0.100

SL.NO	DESCRIPTION	QTY		RUPEES IN LAKHS		
				RATE	PER	AMOUNT
21	SCADA				LS	20.000
22	Scientific instruments				LS	5.000
23	T & P materials and Furniture				LS	4.000
24	33 kV, 1x630 sqmm XLPE cable with accessories with termination kit				LS	10.000
25	11 kV, 1x630 sqmm XLPE cable with accessories with termination kit				LS	10.000
26	**Sub total - 1 - Cost of materials**					**749.213**
27	Contingencies @ 1%					7.492
28	**Total for Materials (26+27)**					**756.706**
29	Labour & Transport @ 15% (15% of 28)					113.506
30	16 MVA, 33/11 KV power transformer with OLTC (Indoor)	2	Nos.	95.36	E	190.723
31	Plinth, Labour & Transport for trs including GST and ESI	2	Nos.	13.000	Per Tr	26.000
32	Earthing	2	Nos.	0.500	Per Tr	1.000
33	11 kV capacitor bank 2.4 MVAR	1	Set	22.744	Set	22.744
34	Construction of fire protection wall				LS	3.000
35	**Sub total 2 (S.No. 28 to 34)**					**1113.679**
36	Estt & supervision charges @ 15 % (15% of 35)					167.052
37	**Sub total 3 (35+36)**					**1280.731**
38	ESI on labour portion @3.25% (3.25% of 29 (labour 14%)					3.443
39	EPF on labour portion @13% (13% of 29 (labour 14%)					13.772
40	GST on labour & transport,ESI &EPF @ 18% (18% of S.No.29+38+39)					23.53
	Total for Electrical works					**1321.48**
	Total for Civil works					**441.00**
	Total Gross & Nett					**1762.48**

Note : 1) **I- Rates as per actuals

MODEL ESTIMATE FOR ESTABLISHMENT OF 33/11 KV OUTDOOR SS

DETAILED ESTIMATE FOR ESTABLISHMENT OF 33/11 KV OUTDOOR SS WITH 2x8 MVA POWER TRANSFORMERS WITH 4 NOS. 11 KV FEEDERS

Part I: Cost of new asset **Rs. In Lakhs**

SL.NO	DESCRIPTION	QTY	Unit	RATE	PER	AMOUNT	TOTAL
I	**CIVIL WORKS**						
1	Land Cost (actuals)						
2	Control Room including electrification			50.00	LS	50.00	
3	Station yard with foundation & cable duct (as			10.00	LS	10.00	
4	Water system inclusive of Bore well, Motor, Pipeline			3.00	LS	3.00	
5	Compound wall/Fencing and gate			10.00	LS	10.00	
6	Yard filling			10.00	LS	10.00	
7	Lead road			5.00	LS	5.00	
8	RCC Culvert (if applicable)				LS	5.00	
9	Construction of Fire Protection wall			3.00	LS	3.00	
6	Substation Earthing			2.00	LS	2.00	
	Dismantling of old building (if applicable)			5.00	LS	5.00	
	Total for civil works					**103.000**	**103.00**
II	**Electrical Works**						
1	33 KV Double break Centre rotating AB switch with PT insulators	4	Nos	0.383	E	1.534	
2	33 kV SF6/VCB Breaker	1	No	2.529	E	2.529	
3	33 kV CTs	3	Nos	0.231	E	0.694	
4	33 kV PTs	3	Nos	0.238	E	0.714	
5	33 kV LAS stn. Type	6	Nos	0.041	E	0.248	
6	11 kV Breaker (2 LV+ 4 fdrs)	1	Set	15.172	E	15.172	
7	11 kV CTS	3	Nos	0.211	E	0.634	
8	11 KV double break centre rotating AB Switch with PT insulator	11	Nos	0.355	E	3.907	
9	11 kV Bus PT	3	Nos	0.283	S	0.850	
10	11 kV LAS stn. Type	6	Nos	0.019	E	0.112	
11	11 kV LAS distn. Type	12	Nos	0.003	E	0.034	
10	Plinth for breaker	6	Nos.	2.0	E	14.000	
12	Earthing, painting and Yard lighting			8.000	LS	7.500	
13	Control cable			7.000	LS	5.000	
14	110 V Battery with 2 charger	1	set	10.881	set	10.881	

SL.NO	DESCRIPTION	QTY	Unit	RATE	PER	AMOUNT	TOTAL
15	100 kVA, 11 kV/433 V Stn. Tr.	1	No	2.609	set	2.609	
16	Fire fighting equipments	1		3.000	LS	3.000	
17	P&T Phone	1		0.100	LS	0.100	
18	Scientific instruments	1		5.000	LS	5.000	
19	T&P Furniture materials	1		4.00	LS	4.000	
20	C&R panel			20.00		15.000	
21	110 V AC Panel	1	No	0.817	E	0.817	
22	110 V DC Panel	1	No	0.970	E	0.970	
23	**Sub total - 1**					**95.304**	
24	Contingencies @ 1%					0.953	
25	**Total for materials**					**96.257**	
26	Labour & transport @ 15%					14.439	
27	8 MVA 33/11 kV Pr.Tr. with OLTC	2	Nos.	45.997	E	91.994	
28	Plinth, Labour & Transport for trs including GST, EPF &ESI	2	Nos.	13.000	Per Tr	26.000	
29	Earthing	2	Loc	0.500		1.000	
30	33 kV Structure (including material, labour &transport)	1	set	12.671	set	12.671	
31	11 kV Structure (including material, labour &transport)	1	set	10.890	set	10.890	
32	11 kV Link line with 7/4.09 ACSR (including material, labour &transport)	1.7	kms.	7.507	km	12.762	
33	11 kV capacitor bank 2.4 MVAR (including material, labour &transport)	1	Set	21.710	set	21.710	
34	33 kV line with Dog conductor (including material, labour &transport)	1.2	kms.	10.450	Loc	12.540	
35	**Sub total - 2 (Sl.No.25 to 34)**					**300.263**	
36	Estt & Sup. Charges 15% (15% of Sl.No.35)					45.039	
37	**Sub total 3 (35+36)**					**345.30**	
38	ESI on labour portion @3.25% (3.25% of 26 (labour 14%)					0.066	
39	EPF on labour portion @13% (13% of 26 (labour 14%)					0.263	
40	GST on labour & transport,ESI &EPF @ 18% (18% of S.No.26+38+39)					2.66	
	Total for Electrical works					**348.29**	**348.29**
	Total for Civil works						**103.00**
	Total Gross & Nett						**451.29**

MODEL ESTIMATE FOR ENHANCEMENT OF POWER TRANSFORMER FOR INDOOR SS

DETAILED ESTIMATE FOR ENHANCEMENT OF EXISTING POWER TRANSFORMER CAPACITY FROM 1x8 MVA to 1x16 MVA AT 33/11 kV INDOOR SS

RS. in Lakhs

S.NO	DESCRIPTION	QTY	Unit	RATE	PER	TOTAL
1	16 MVA, 33/11 KV power transformer with OLTC (Indoor)	1	Nos.	95.36	E	95.362
2	33 KV and 11 KV, 1X630 sqmm XLPE cable from Power Transformer to LV breaker (2X3X50 mts), outdoor/Indoor termination kits, cable accessories and V trough etc			15.000	LS	15.000
3	Plinth modification			2.000	LS	2.000
4	Earthing, painting				LS	1.000
5	Fire Protection wall	1	Loc	3.00	E	3.000
6	**Subtotal 1**					**116.362**
7	Contingencies 1%					1.164
7	**Cost of Material**					**117.525**
8	Labour & Transport (15% of Sl.No.6)					17.454
9	**Sub total 2**					**134.980**
10	Estt and Supervision charges 15%					20.247
11	Sub Total - 3					**155.23**
12	ESI on labour portion @3.25% (3.25% of 8 (labour 14%)					**0.079**
13	EPF on labour portion @13% (13% of 8 (labour 14%)					**0.318**
14	GST on labour & transport,ESI &EPF @ 18% (18% of S.No.8+12+13)					**3.213**
15	**Total for works (Gross) & (Nett)**					**158.837**

MODEL ESTIMATE FOR ENHANCEMENT OF POWER TRANSFORMER FOR OUTDOOR SS

DETAILED ESTIMATE FOR ENHANCEMENT OF EXISTING POWER TRANSFORMER CAPACITY FROM 1x8 MVA to 2x8 MVA AT 33/11 kV OUTDOOR SS WITH 2 NOS. 11 KV FEEDERS

RS. in Lakhs

S.NO	DESCRIPTION	QTY	Unit	RATE	PER	TOTAL
1	33 kV AB switch	1	No	0.383	E	0.383
2	11 kV VCB (1 LV + 2 fdrs)	1	Set	4.121	E	4.121
3	11 kV AB switch	6	Nos	0.355	E	2.130
4	11 kV CTs	9	Nos	0.211	E	1.901
5	33 kV LAs (Station type)	3	Nos.	0.041	E	0.124
6	11 kV LAS (Station type)	3	Nos	0.019	E	0.056
7	11 kV LAS (Distn. type)	6	Nos	0.004	E	0.024
8	Plinth for breaker	2	Nos.	2.0	E	4.000
9	Control cable				LS	5.000
10	C&R Panel			8.00		8.000
11	33 kV & 11 kV structure modifications			10.00	LS	10.000
12	**Subtotal 1**					**35.739**
13	Contingencies 1%					0.357
14	**Cost of Material**					**36.096**
15	Labour & transport @ 15%					5.414
16	**Sub total 2**					**41.511**
17	8 MVA, 33/11 kV Power Transformer with OLTC	1	No	60.827	E	60.827
18	Plinth, Labour & Transport for trs including GST, EPF &ESI	1	Nos.	13.000	Per Tr	13.000
19	Earthing	1	Loc	0.500	Per Tr	0.500
20	Fire Protection wall	1	Loc	3.00	E	3.000
21	**Sub total 3**					**118.837**
22	Estt and Supervision charges 15%(15% of 21)					17.826
23	**Sub total 4**					**136.663**
24	ESI on labour portion @ 3.25%(14% of Sl.No.15)					0.025
25	EPF on labour portion @ 13%(14% of Sl.No.15)					0.099
26	GST on labour & transport, EPF & ESI @ 18%					1.00
27	**Total for works (Gross) & (Nett)**					**137.78**

MODEL ESTIMATE FOR 22 KV & 33 KV BAY EXTENSION FOR OUTDOOR SS

DETAILED ESTIMATE FOR 11KV BAY EXTENSION FOR OUTDOOR SS

(For erection of one no feeder panel)

Rs. In lakhs

Sl.No	DESCRIPTION	UNIT	QTY	RATE	TOTAL
1	11 KV double break centre rotating AB Switch with PT insulator	Nos.	2	0.355	0.710
2	11 KV OD VCB Breaker	Nos	1	1.374	1.374
3	11 KV (1200-600-300/1-1A) outdoor CT	Nos	3	0.211	0.634
4	11 KV LAS	Nos	3	0.019	0.056
5	Relay & Control panel for LV breaker	Nos	1	3.083	3.083
6	Structure, Earthing		LS	2.365	2.365
7	Control Cables		LS	0.500	0.500
8	Bus bar arrangement		LS	0.500	0.500
9	Foundation materials		LS	0.400	0.400
10	**Sub total-1**				**9.621**
11	Contingencies 1 %				0.096
12	**Cost of materials and equipments**				**9.718**
13	Labour and transport 15%				1.458
	Sub total 2				**11.175**
18	Establishment and Supervision Charges @15%				1.676
17	**Sub total-3**				**12.852**
14	ESI @ 3.25% (Labour)				0.01
15	EPF 13% (Labour)				0.03
16	GST on labour & transport, ESI & EPF @ 18%				0.268
	Total				**13.153**

Say Rs. 13.15 Lakhs

DETAILED ESTIMATE FOR 22KV BAY EXTENSION FOR OUTDOOR SS
(For erection of one no feeder)

Rs. In lakhs

Sl.No	DESCRIPTION	UNIT	QTY	RATE	TOTAL
1	22 KV AB switch	Nos.	2	0.177	0.355
2	22 KV OD VCB Breaker	Nos	1	2.529	2.529
3	22 KV outdoor CT	Nos	3	0.231	0.694
4	22 KV LAS	Nos	3	0.034	0.102
5	Relay & Control panel for LV breaker	Nos	1	3.083	3.083
6	Structure, Earthing		LS	4.730	4.730
7	Control Cables		LS	0.500	0.500
8	Bus bar arrangement		LS	0.500	0.500
9	Foundation materials		LS	0.400	0.400
10	Sub total				**12.893**
11	Contingencies 1 %				0.129
12	**Cost of materials and equipments**				**13.021**
13	Labour and transport 15%				1.953
	Sub total 2				**14.975**
18	Establishment and Supervision Charges @15%				2.246
	Sub total 3				**17.221**
14	ESI @ 3.25% (Labour)				0.01
15	EPF 13% (Labour)				0.04
16	GST on labour & transport, ESI & EPF @ 18%				0.360
	Total				**17.625**

Say Rs. 17.62 Lakhs

DETAILED ESTIMATE FOR 33KV BAY EXTENSION FOR OUTDOOR SS
(For erection of one no feeder)

Rs. In lakhs

Sl.No	DESCRIPTION	UNIT	QTY	RATE	TOTAL
1	33 KV Double break Centre rotating AB switch with PT insulators	Nos.	2	0.383	0.767
2	33 KV OD VCB Breaker	Nos	1	2.529	2.529
3	33 KV (1200-600-300/1-1A) outdoor CT	Nos	3	0.231	0.694
4	33 KV LAS	Nos	3	0.041	0.124
5	Relay & Control panel for LV breaker	Nos	1	3.083	3.083
6	Structure , Earthing		LS	8.000	8.000
7	Control Cables		LS	0.500	0.500
8	Bus bar arrangement		LS	0.500	0.500
9	Foundation materials		LS	0.400	0.400
10	**Sub total-1**				**16.597**
11	Contingencies 1 %				0.166
12	**Cost of materials and equipments**				**16.763**
13	Labour and transport 15%				2.514
14	**Sub total-2**				**19.277**
15	Establishment and Supervision Charges @15%				**2.892**
16	**Sub total-3**				22.169
17	ESI @ 3.25% (Labour)				0.01
18	EPF 13% (Labour)				0.05
19	GST on labour & transport, ESI & EPF @ 18%				0.463
	Total				**22.689**

Say Rs. 22.69 Lakhs

REGULATION CONSTANT FOR OVERHEAD LINES

Regulation Constants for LT OH lines using ACSR conductors of various sizes at 50 Cycles per Second per 100 KVA per KM

I. All Aluminium Conductor(AAC), Alluminium Conductor Steel Reinforced (ACSR)and copper conductors for LT voltage

Sl.No.	Size of conductor and materials		Phase to Phase voltage	Equivalent copper area Sq.mm	Equivalent spacing in Metre	Resistance at 40 C Ohms/KM	Reactance Ohms/Km	Regulation constant in percentage for power factor of		
	MM	Inch						0.8 lag	0.9 lag	1.0
	AAC									
1	7/2.96	7/0.077	415V	13.0	0.483	1.472	0.3396	80.50	85.50	85.50
2	7/2.44	7/0.096	415V	20.0	0.483	0.950	0.3230	55.40	57.90	55.00
3	7/2.59	7/0.110	415V	25.0	0.483	0.726	0.3140	44.60	46.00	42.30
4	7/3.40	7/0.134	415V	40.0	0.483	0.489	0.3020	33.20	33.10	28.40
	ACSR									
1	7/2.11	7/0.083	415V	12.9	0.483	1.486	0.3530	74.51	79.34	79.05
2	**7/2.59**	**7/0.802**	**415V**	**19.4**	**0.483**	**0.985**	**0.3400**	**52.77**	**55.05**	**52.40**
3	7/3.00	7/0.118	415V	25.8	0.483	0.734	0.3350	41.93	42.92	39.05
4	**7/3.35**	**7/0.132**	**415V**	**32.3**	**0.483**	**0.587**	**0.3320**	**35.58**	**35.80**	**31.33**
5	7/3.66	7/0.144	415V	38.7	0.483	0.493	0.3300	31.52	31.26	26.22
	COPPER									
		No.8 SWG	415V		0.483	1.438	0.3560	85.50	90.50	89.70
		No.6 SWG	415V		0.483	0.995	0.3440	62.50	65.40	62.30
		No.4 SWG	415V		0.483	0.684	0.3330	46.60	47.60	42.70
		No.2 SWG	415V		0.483	0.483	0.3210	36.20	35.80	30.20

Note: Reactance of ACSR conductors at 1,000 A/Sq. inch has been taken from alignment chart given in "Electrical Characteristics of OH lines" by S.Butterworth One H.P. may be taken as one KVA at 0.8 Power Factor

Regulation constants for HT OH Lines using various conductors at 50 C/S per 100 KVA per KM

1. 11 KV Lines

Sl.No.	Size of Condcutors	Commercial Name	Resistance at 40 C Ohms/Km	Reactance Ohms/Km	POWER FACTOR 0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
1	7/2.11 mm ACSR 13 mm2	Squirrel	1.4860	0.3900	0.0893	0.0945	0.0995	0.1044	0.1090	0.1135	0.1176	0.1214	0.1246	0.1267	0.1228
2	7/2.36 mm ACSR 16 mm2	Gopher	1.1850	0.3865	0.0766	0.0806	0.0806	0.0880	0.0914	0.0947	0.0975	0.1101	0.1021	0.1030	0.0979
3	**7/2.59 mm ACSR 20 mm2**	**Weasel**	**0.9850**	**0.3820**	**0.0680**	**0.0712**	**0.0712**	**0.0769**	**0.0796**	**0.0820**	**0.0841**	**0.0858**	**0.0871**	**0.0872**	**0.0814**
4	7/3.00 mm ACSR 25 mm2	Ferret	0.7340	0.3760	0.0572	0.0594	0.0594	0.0631	0.0647	0.0661	0.0672	0.0679	0.0682	0.0673	0.0607
5	**7/3.35 mm ACSR 30 mm2**	**Rabbit**	**0.5870**	**0.3700**	**0.0507**	**0.0523**	**0.0523**	**0.0548**	**0.0558**	**0.0565**	**0.0572**	**0.0574**	**0.0570**	**0.0556**	**0.0485**
6	7/3.66 mm ACSR 40 mm2	Mink	0.4930	0.3650	0.0465	0.0476	0.0476	0.0494	0.0499	0.0504	0.0507	0.0505	0.0499	0.0481	0.0407
7	7/4.09 mm ACSR										0.04471				
8	3/0.104 Inch Copper		1.1740	0.3870	0.0762	0.0793	0.0793	0.0874	0.0908	0.0940	0.0968	0.0993	0.1013	0.1022	0.0970
9	7/0.074 Inch Copper		1.0000	0.3830	0.0687	0.0719	0.0719	0.0778	0.0805	0.0830	0.0851	0.0869	0.0882	0.0884	0.0826
10	7/0.080 Inch Copper		0.8580	0.3780	0.0625	0.0651	0.0651	0.0699	0.0720	0.0739	0.0755	0.0767	0.0775	0.0771	0.0709
11	19/0.052 Inch Copper		0.7430	0.3710	0.0573	0.0594	0.0594	0.0632	0.0649	0.0664	0.0675	0.0684	0.0684	0.0687	0.0614
12	19/0.064 Inch Copper		0.4960	0.3580	0.0461	0.0473	0.0473	0.0492	0.0498	0.0504	0.0506	0.0504	0.0498	0.0482	0.0410

Regulation constants for LT OH Lines using various conductors at 50 C/S per 100 KVA per KM

1. 22 KV Lines

Sl.No.	Size of Condcutors	Commercial Name	Resistance at 40 C Ohms/Km	Reactance Ohms/Km	POWER FACTOR 0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00
1	7/2.11 mm ACSR 13 mm2	Squirrel	1.486	0.400	0.0225	0.0238	0.0250	0.0260	0.0274	0.0285	0.0295	0.0304	0.0312	0.0317	0.0307
2	7/2.36 mm ACSR 16 mm2	Gopher	1.185	0.396	0.0193	0.0203	0.0212	0.0219	0.0230	0.0238	0.0245	0.0251	0.0256	0.0258	0.0245
3	**7/2.59 mm ACSR 20 mm2**	**Weasel**	**0.985**	**0.392**	**0.0172**	**0.0180**	**0.0187**	**0.0194**	**0.0200**	**0.0206**	**0.0211**	**0.0216**	**0.0219**	**0.0219**	**0.0203**
4	7/3.00 mm ACSR 25 mm2	Ferret	0.734	0.386	0.0145	0.0150	0.0155	0.0159	0.0163	0.0167	0.0169	0.0171	0.0171	0.0169	0.0152
5	**7/3.35 mm ACSR 30 mm2**	**Rabbit**	**0.587**	**0.383**	**0.0129**	**0.0133**	**0.0136**	**0.0139**	**0.0141**	**0.0143**	**0.0145**	**0.0145**	**0.0144**	**0.0140**	**0.0121**
6	7/3.66 mm ACSR 40 mm2	Mink	0.493	0.380	0.0119	0.0122	0.0124	0.0126	0.0127	0.0128	0.0129	0.0128	0.0126	0.0121	0.0102
7	3/0.104 Inch Copper		1.174	0.396	0.0192	0.0202	0.0211	0.0220	0.0228	0.0236	0.0243	0.0249	0.0254	0.0256	0.0243
8	7/0.074 Inch Copper		1.000	0.392	0.0173	0.0181	0.0189	0.0196	0.0202	0.0207	0.0214	0.0218	0.0221	0.0222	0.0207
9	7/0.080 Inch Copper		0.853	0.387	0.0158	0.0164	0.0170	0.0176	0.0181	0.0186	0.0190	0.0193	0.0194	0.0193	0.0177
10	19/0.052 Inch Copper		0.743	0.380	0.0145	0.0150	0.0155	0.0159	0.0164	0.0167	0.0170	0.0172	0.0173	0.0170	0.0154
11	19/0.064 Inch Copper		0.496	0.367	0.0117	0.0120	0.0122	0.0124	0.0126	0.0127	0.0127	0.0127	0.0125	0.0121	0.0102

3. 33 KV LINES

Sl.No.	Size of conductor and materials		Phase to Phase voltage	Equivalent copper area Sq.mm	Equivalent spacing in Metre	Resistance at 40 C Ohms/KM	Reactance Ohms/Km	Regulation constant in percentage for power factor of		
	MM	Inch						0.8 lag	0.9 lag	1.0
1	7/2.36	7/0.093	33 KV	16	1.371	1.185	0.4130	0.0110	0.0114	0.0109
2	7/2.59	7/0.102	33 KV	20	1.371	0.985	0.4085	0.0095	0.0098	0.0091
3	7/3.00	7/0.118	33 KV	25	1.371	0.734	0.4030	0.0076	0.0077	0.0067
4	7/3.35							0.0067		
5	7/3.66	7/0.144	33 KV	40	1.371	0.493	0.3980	0.0058	0.0057	0.0045
6	7/4.09							0.0051		
7	**6/4.72+ 7/1.57**							0.00421		

Note: Reactance of ACSR conductors at 1,000 A/Sq. inch has been taken from alignment chart given in "Electrical Characteristies of OH lines" by S.Butterworth

4. 66 KV LINES

Sl. No.	Size of ACSR conductors in mm (inch)	Equivalent copper area in Sq.mm	Resistance at 40 C in Sq.mm	Reactance in Ohms/Km Equivalent spacing of conductors in meters(ft)			Percentage Regulation at lagging Power Factor Equivalent spacing of conductors in Metres (ft)								
							2.439 (8)			2.743 (9)			3.048 (10)		
				2.44 (8)	2.74 (9)	3.048 (10)	Power Factor 0.8	0.9	1.0	Power Factor 0.8	0.9	1.0	Power Factor 0.8	0.9	1.0
1	7/3.66 (7/.144)	40	0.493	0.43	0.45	0.00150	0.00145	0.00113	0.00151	0.00146	0.00113	0.00152	0.00147	0.00147	0.00113
2	7/4.09 (7/.161)	48	0.395	0.43	0.44	0.00132	0.00125	0.00091	0.00133	0.00125	0.00091	0.00134	0.00126	0.00126	0.00091
3	6/4.72 + 7/1.57(6/.186+7/.062)	65	0.296	0.42	0.43	0.00112	0.00103	0.00068	0.00113	0.00104	0.00068	0.00114	0.00104	0.00104	0.00068
4	6/5.28+7/1.76 (6/.208+7/.0693)	80	0.236	0.41	0.42	0.00100	0.00090	0.00054	0.00101	0.00090	0.00054	0.00101	0.00091	0.00091	0.00054
5	37/2.36 (37/.0693)	80	0.24	0.37	0.39	0.00096	0.00087	0.00055	0.00097	0.00088	0.00055	0.00097	0.00088	0.00088	0.00055
6	37/2.59 (37/.102)	95	0.199	0.37	0.380	0.00087	0.00079	0.00046	0.00088	0.00079	0.00046	0.00089	0.00079	0.00079	0.00046
7	37/2.79 (37/.110)	110	0.172	0.36	0.38	0.00082	0.00072	0.00040	0.00082	0.00072	0.00040	0.00083	0.00073	0.00083	0.00040
8	37/3.00 (37/.118)	113	0.149	0.36	0.37	0.00077	0.00067	0.00034	0.00078	0.00087	0.00034	0.00079	0.00068	0.00079	0.00034

Not Reactance of ACSR conductors at 155 amps per sq.mm (1,000 amps.per sq.inch) has been taken from Alignment chart given in "Electrical Characteristics of OH lines" by S.Butterworth.

5. 110 KV LINES

Sl. No.	Size of ACSR conductors in mm (inch)	Equivalent copper area in Sq.mm	Resistance at 40 C in Sq.mm	Reactance in Ohms/Km Equivalent spacing of conductors in meters(ft)			Percentage Regulation at lagging Power Factor Equivalent spacing of conductors in Metres (ft)								
							3.963 (13)			4.572 (15)			4.877 (16)		
				3.96 (13)	4.57 (15)	4.877 (16)	Power Factor 0.8	0.9	1.0	Power Factor 0.8	0.9	1.0	Power Factor 0.8	0.9	1.0
1	6/4.72+7/1.57 (6/.186+7/.062)	65	0.296	0.44	0.45	0.457	0.00042	0.00038	0.00025	0.00042	0.00038	0.00025	0.00042	0.00038	0.00025
2	6/5.28+7/.062 (6/.208+7/.0693)	80	0.236	0.44	0.45	0.449	0.00037	0.00033	0.00020	0.00038	0.00034	0.00020	0.00038	0.00034	0.00020
3	37/2.36 (37/.093) (37/2.59)	80	0.240	0.4	0.41	0.417	0.00036	0.00032	0.00020	0.00036	0.00033	0.00020	0.00037	0.00033	0.00020
4	37/2.59 (37/.102) (37/.102)	95	0.199	0.4	0.41	0.411	0.00033	0.00029	0.00017	0.00034	0.00030	0.00017	0.00034	0.00030	0.00017
5	37/2.79 (37/.110) (37/.110)	110	0.172	0.39	0.4	0.405	0.00031	0.00027	0.00014	0.00031	0.00027	0.00014	0.00031	0.00027	0.00014
6	37/3.00 (37/.118) (37/.118)	130	0.149	0.39	0.4	0.399	0.00029	0.00025	0.00012	0.00030	0.00025	0.00012	0.00030	0.00026	0.00012

Current Carrying Capacity of Conductors

1. 11 KV LINES

Sl.No.	Size of the conductor ACSR		Equivalent copper	Commercial Name	Constant per 100 KVA at 0.8 P.F. LAG			Current Carrying Capacity	
	MM	Inch			Per Km	Other equivalent	Per Mile	AT30	AT50
1	**7/2.11**	**7/0.083**	**13 Sq.mm**	**Squirrel**	**0.1169**		**0.0731**	**70**	**97**
2	7/2.36	7/0.093	16 Sq.mm	Gopher	0.0975		0.149	88	109
3	**7/2.59**	**7/0.102**	**20 Sq.mm**	**Weasel**	**0.084**		**0.117**	**100**	**123**
4	7/3.00	7/0.118	25 Sq.mm	Ferret	0.0671	19/0.052	0.105	125	155
5	**7/3.35**	**7/0.132**	**30 Sq.mm**	**Rabbit**	**0.0596**		**0.03725**	**148**	**183**
6	7/3.66	7/0.144	40 Sq.mm	Mink	0.0507	19/0.064	0.0776	167	208
7	**7/4.09**			**Racoon**				**229**	
8		7/0.074			0.085		0.131		
9		7/0.080			0.0755		0.116		
10	**6/4.72+7/1.57**	**7/0.186**		**Dog**	**0.039+1.6**		**0.039**	**254**	**311**
					0.024375				
10	6/4.72+ 7/1.57	6/0.186			0.039+		0.039	254	311
					0.024375				
11	7/3.99	7/0.157						189	235
12	7/4.00	7/0.161			0.0507			197	245
13	7/4.22	7/0166						207	257
14	7/4.50	7/0.177						229	285

2. 33 KV LINES

Sl.No.	Commercial Name	Size MM/Inch	Conductor Inch	Equivalent Sq.mm	Constant for 0.8 PF LAG		Current Carrying Capacity in Amps	
					Per 100KV/KM	Per 100KVA/MLTS	AT 30	At 50
		O.H.CONDUCTOR						
1	Gopher	7/2.36mm	7/0.093	16		(0.0176)	88	109
2	**Weasel**	**7/2.59mm**	**7/0.102**	**25**	**0.011**	**(0.0152)**	**100**	**123**
3	Ferret	7/3.00mm	7/0.118	25	0.0095	(0.01216)	125	155
4	**Rabbit**	**7/3.35mm**					**148**	**183**
5	Mink	7/3.66mm	7/0.144	40	0.0076	(0.00928)	167	208
6	**Raccoon**	**7/4.09mm**					**229**	
7	**Dog**	**6/4.72+7/1.57**		**0.1**			**254**	
6		3/0.104 inch			0.0058	(0.0070)		
7		7/0.080 inch			(0.004375)	0.131		
8		7/0.074 inch			(0.0081875)	0.0148		
9		19/0.052 inch			(0.00925)	0.0119	125	155
10		19/0.064 inch			(0.0074375)	0.0086	167	208
11		19/0.072 inch			(0.00475)	0.0076		
12	Leopard	6/0.208+7/0.0693"		0.125				

3. 11 KV UG CABLE

Sl.No.	Copper	Equivalent Alu.cable	Constant for 0.8 PF LAG		Resistance (Ω / Km.)	Current Carrying Capacity (in Ground) (Amps)
			Per 100KVA/1000 Yds.	Per 100 KVA/Km		
1	0.0225 Sq.inch	3x25 Sq.mm	0.0960	0.096x1.1 = 0.1056		104
2	0.04 Sq.inch	3x50 Sq.mm	0.0550	0.055x1.1 = 0.0605		145
3	0.06 Sq.inch	3x70 Sq.mm	0.0373	0.0373x1.1 = 0.04103		182
4	**0.10 Sq.inch**	**3x120 Sq.mm**	**0.0235**	**0.0235x1.1 = 0.02585**	**0.253**	**241**
5	**0.25 Sq.inch**	**3x300 Sq.mm**	**0.0110**	**0.011x1.1 = 0.0121**	**0.149**	**381**

4. 33 KV UG CABLE

Sl.No.	Aluminium Cable	Constant for 0.8 PF LAG Per 100 KVA/Km	Resistance (Ω / Km.)	Current Carrying Capacity (in Ground) (Amps)
1	**3 x 400 sq.mm**	**0.000018**	**0.105**	**385**
2	**1 x 630 sq.mm**	**0.0000105**	**0.065**	**540**

5. LT CABLE

Sl.No.	LT Cable	Current Carrying Capacity (in Ground) (Amps)
1	4 X 240 Sq.mm	326
2	4 x 120 sq.mm	223
3	4 x 25 sq.mm	112
4	2 x 16 sq.mm	88

TANGEDCO

TAMILNADU GENERATION AND DISTRIBUTION CORPORATION LIMITED

(A B S T R A C T)

TANGEDCO – Total Turnkey Schemes – Preparation of Detailed Project Report (DPR) Cost Estimate and Tender Cost Estimate for execution of schemes on total turnkey basis – Methodology – Approved – Orders Issued.

(Technical Branch)

(Per.) CMD TANGEDCO Proceedings No. 88 **Dated. 01.03.2013**
Nandhana, Maasi-17,
Thiruvalluvar Aandu, 2044.

Read:-

i) (Per.) F.B. TANGEDCO Proceedings No. 117 (Technical Branch) dt. 25.9.2012
ii) CE(R-APDRP)'s note approved by the CMD on 27.02.2013.

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PROCEEDINGS:

R-APDRP Part-B schemes, sanctioned for a total value of Rs. 3279.56 Crores in 87 project towns, are largely implemented on total turnkey basis. However, there were no benchmark rates available for total turnkey mode at the time of preparation of Part-B Detailed Project Reports (DPRs). As such, Part-B DPRs were prepared based on Board Cost Data 2009-10 for departmental execution. However, total turnkey contracts for execution of distribution strengthening works under Part-B were awarded as per the directions issued in the 27th TANGEDCO Board meeting held on 20.7.12, vide the reference cited(i) above.

2. Hence, it is appropriate that the total turnkey cost is to be arrived at by adding associated overheads/costs with departmental material cost estimates at the stage of preparation of DPRs for large scale works to be executed on total turnkey basis in future such that the cost difference arising out of total turnkey execution of works may get included in the sanction cost of DPRs itself and funded accordingly.

3. In view of the aforesaid and after careful consideration, approval is hereby accorded for the following:

(i) To adopt the methodology for (a) preparation of Cost estimates for DPRs as illustrated in Annexure-I and (b) preparation of Tender Cost estimate as illustrated in Annexure-II in respect of total turnkey projects to be executed in (i) Rural Area, (ii) Urban Area & (iii) Hilly Area so as to include the cost difference arising out of total turnkey execution in lieu of departmental execution, in respect of DPRs for towns now eligible for Part-B projects after TPIEA-EA certification and in DPRs to be prepared in future, so that sanction and funding can be obtained from MoP,GoI/ Funding agency for the total turnkey cost.

(ii) To adopt cost loading for Energy Efficient (EE)/3-Star rated DTs @ 30% over the cost of respective conventional DTs wherever the cost data for such Energy Efficient (EE)/3-Star DTs are not available with TANGEDCO.

(iii) Provision towards price escalation @ 5% on Material cost shall be included while preparation of tender cost estimate only in respect of total turnkey tenders awarded on "Firm price contract" basis without price adjustment clause and where the contractual execution period exceeds eighteen (18) months.

(iv) Inclusion of the methodology illustrated for preparation of DPR cost estimates on total turnkey mode in the table under Annexure-I into the Board's Cost-Data in the ensuing years.

(v) Above methodology is applicable to all total turnkey schemes/projects in future including R-APDRP, since the above mentioned overheads/costs are common to all total turnkey tenders.

(vi) Prevailing rates of Service Tax @ 12.36% is adopted in the methodologies illustrated. However, the applicable rates of Service Tax prevailing at the time of DPR preparation/Tender cost estimation shall be adopted since the same is subject to statutory variation.

(By order of the Chairman-cum-Managing Director)

Encl. : Annexure-I & II (2 sheets)

S. Phebe Beryl
Chief Engineer(R-APDRP)

To
1) The Chief Engineer (R-APDRP)
2) The Chief Engineer (Planning & RC)

Copy to:
1) CMD's table
2) SE/Chairman's office
3) Managing Director/TANTRANSCO
4) All Directors of TANGEDCO
5) All Directors of TANTRANSCO
6) All Chief Engineers
7) All the Chief Financial Controllers
8) All Superintending Engineers
9) All Financial Controllers in Headquarters
10) The Senior Resident Audit Officer/AG's Audit/TANGEDCO
11) The Assistant Personnel Officer (Tamil Development) for publication in Bulletin

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(N.Balaji)
Executive Engineer-III/R-APDRP

Annexure-I – Methodology for arriving at the DPR Cost Estimate for Total Turnkey Projects/Schemes in future

Sl. No.	Description	% (Rural)	DPR Amount for Rural Area	% (Urban)	DPR Amount for Urban Area	% (Hilly area)	DPR Amount for Hilly Area
	Cost of material		100.00		100.00		100.00
1	Erection on material	15.00%	15.00	17.00%	17.00	20.00%	20.00
2	Transportation on material	5.00%	5.00	5.00%	5.00	5.00%	5.00
3	Insurance on material	1.00%	1.00	1.00%	1.00	1.00%	1.00
4	**(*)** Service Tax @ (12.36% On 1+2+3)	2.59%	2.59	2.84%	2.84	3.21%	3.21
5	Contingencies and Storage on material	3.00%	3.00	3.00%	3.00	3.00%	3.00
6	Tools & Plants on material	1.50%	1.50	1.50%	1.50	1.50%	1.50
7	Contractor's supervision charges on material	15.00%	15.00	17.00%	17.00	20.00%	20.00
	Sub-Total –I		143.09		147.34		153.71
8	Contractor's profit on Sub-Total-I **(-) (4)**	5.00%	7.02	5.00%	7.22	5.00%	7.52
	Sub-Total -II		150.11		154.56		161.23
9	Price Escalation on Material Cost	5.00%	5.00	5.00%	5.00	5.00%	5.00
	Sub-Total -III		155.11		159.56		166.23
10	H.O.supervision charges @ 1.5% (i.e. 10% of 15% on erection of material)	1.50%	1.50	1.50%	1.50	1.50%	1.50
	Sub-Total -IV		156.61		161.06		167.73
11	Interest during Construction Period (on total project cost) i.e. on Sub-Total-IV	2.50%	3.92	2.50%	4.03	2.50%	4.19
	Total DPR Cost		160.53		165.09		171.92
	Percentage rise(%) from Material Cost		60.53		65.09		71.92

(*) - Prevailing rates of Service Tax @ 12.36% is adopted in the methodology illustrated. However, the applicable rates of Service Tax prevailing at the time of DPR preparation/Tender cost estimation shall be adopted since the same is subject to statutory variation.

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Annexure-II – Methodology for arriving at the Tender Cost Estimate for Total Turnkey Tenders in future

Sl. No.	Description	% (Rural)	Tender Estimate Amount for Rural Area	% (Urban)	Tender Estimate Amount for Urban Area	% (Hilly area)	Tender Estimate Amount for Hilly Area
	Cost of material		100.00		100.00		100.00
1	Erection on material	15.00%	15.00	17.00%	17.00	20.00%	20.00
2	Transportation on material	5.00%	5.00	5.00%	5.00	5.00%	5.00
3	Insurance on material	1.00%	1.00	1.00%	1.00	1.00%	1.00
4	(*) Service Tax @ (12.36% on 1+2+?`	2.59%	2.59	2.84%	2.84	3.21%	3.21
5	Contingencies and Storage on material	3.00%	3.00	3.00%	3.00	3.00%	3.00
6	T & Ps on material	1.50%	1.50	1.50%	1.50	1.50%	1.50
7	Contractor's supervision charges on material	15.00%	15.00	17.00%	17.00	20.00%	20.00
	Sub-Total –I		143.09		147.34		153.71
8	Contractor's profit on Sub-Total-I **(-) (4)**	5.00%	7.02	5.00%	7.22	5.00%	7.52
	Sub-Total –II		150.11		154.56		161.23
9	(**) Price Escalation on Material Cost	0.00%	0.00	0.00%	0.00	0.00%	0.00
	Sub-Total -III		150.11		154.56		161.23
10	H.O.supervision charges @ 1.5% (i.e. 15% of 10% on erection of material)	0.00%	--	0.00%	--	0.00%	--
	Sub-Total -IV		150.11		154.56		161.23
11	Interest during Construction Period (on total project cost) i.e. on Sub-Total-IV	0.00%	--	0.00%	--	0.00%	--
	Total Tender Cost		150.11		154.56		161.23
	Percentage rise(%) from Material Cost		50.11		54.56		61.23

(*) - Prevailing rates of Service Tax @ 12.36% is adopted in the methodology illustrated. However, the applicable rates of Service Tax prevailing at the time of DPR preparation/Tender cost estimation shall be adopted since the same is subject to statutory variation.

(**) - Provision towards price escalation @ 5% on Material cost shall be included while preparation of tender cost estimate only in respect of total turnkey tenders awarded on "Firm price contract" basis without price adjustment clause and where the contractual execution period exceeds eighteen (18) months.

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