

**TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED****VIDYUT SOUDHA :: VIJAYAWADA**

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

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**T.O.O. No. Chief Engineer (Transmission) Ms.No. 3678**

**Dt. 10.07.2025**

Read the following: -

- Ref :- 1. T.O.O .(CE-Transmission) M.S. No.2921, Dt.17.08.2023.  
2. T.O.O.CE (Transmission) MS.No.3208, Dt.19.03.2024.

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APTRANSCO is Communicates the Standard Schedule of rates for Labour items for construction and O&M works pertaining to 400kV, 220kV & 132kV Transmission lines and substations for adoption in preparation of estimates. Accordingly, the SSR communicated earlier in the above reference (1) & (2) is revised for Labour item rates and communicated herewith.

**ORDER**

Standard Schedule of Rates for Labour items for construction, RMI and O&M works pertaining to 400kV, 200kV & 132kV Transmission lines and substations for the year 2025-26 approved by Transmission Corporation of Andhra Pradesh is communicated herewith for adoption in preparation of estimates.

The standard scheduled of Rates for the year 2025-26 will come into force from the date of issue of this T.O.O and shall be valid till further orders. The SSR 2025-26 (Labour) is available in the APTRANSCO website.

This order is issued in concurrence with the Chairman and the Managing Director/APTRANSCO vide **Computer No: 2805539 File No: ENE51-TRM0MISC/25/2025-EE1**

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

A.K.V Bhaskar  
Director (Grid, Transmission & Management)

**TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED**



**STANDARD SCHEDULE OF RATES OF LABOUR ITEM RATES FOR 400kV, 220kV &  
132kV TRANSMISSION LINES AND SUBSTATIONS**

**FOR THE YEAR 2025-26**

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**PREAMBLE****1. Special conditions:**

The rates for the item of works (Line & Substations) involved under special conditions in the SSR-2023-24 are also continued in SSR-2025-26 and is as follows

<b>ANNEXURE-A</b>		
<b>TRANSMISSION LINE WORKS</b>		
<b>Sl. No.</b>	<b>Description of work</b>	<b>% Over the basic labour rates</b>
1.	River Crossing with JC type towers	100% extra
2.	2 <sup>nd</sup> Circuit Stringing with 1 Circuit live.	75% extra
3.	<u>Works under shutdown:</u> This is applicable under the following conditions only. i. Pre-programmed for interruption of line. ii. Pre-arranged replacement / rectification of line materials.	50% extra
4.	Dismantling works	75% of Normal Rate.
5.	Emergency Works such as break down works. This will not be applicable for pre- arranged shutdown works.	100% extra
6.	Stringing of railway crossings (for the railway lines in operation only)	100% extra
7.	National and State High way crossings	25% extra
8.	Tree cutting & Jungle Clearance in Tr. Line works as the works are in scattered areas.	100% extra
9.	DC Works under shutdown	100% extra
<b>SUBSTATIONS AND OTHER WORKS:</b>		
<b>Sl. No.</b>	<b>Description of work</b>	<b>% Over the Basic labour rates</b>
1.	<u>Works under shutdown (including DC works)</u> This is applicable under the following conditions only. i. Pre-programmed for interruption of equipment. ii. Pre-Programmed replacement of bus in Substation. iii. Pre-arranged replacement / rectification of equipment.	50% extra
2.	Dismantling works	75% of Normal Rate.

3.	<u>Emergency Works such as break down works.</u> <u>This will not be applicable for pre- arranged shutdown works.</u>	100% extra
4.	Idle trip (No load) rate of the low- bedded trailer for movement of Power Transformers.	50% of basic labour rate of loaded trip. Shortest distance from / to the place of availability of low bedded Trailer shall be considered.

## 2. **Uniform Area allowance:**

For EHT (400kV, 220kV & 132kV) Transmission line works Uniform Area Allowance including Scattered area Mobilization efforts is provided as follows:

- a. 20% extra provision on labour component of the basic rates of APTRANSCO towards Uniform Area Allowance including scattered area Mobilization efforts in general areas.
- b. 35% extra provision on labour component of the basic rates of APTRANSCO towards Uniform Area Allowance including scattered area Mobilization efforts in difficult area/Scheduled terrain. The concerned SE/Projects/Field has to certify that entire line passes through difficult area / Scheduled terrain duly furnishing the justification.

Note:- If 35% extra towards Uniform Area Allowance including Scattered area Mobilization efforts in difficult area/ Scheduled Terrain is applicable for a work, then the 20% extra towards Uniform Area Allowance including Scattered area Mobilization efforts in general areas is not applicable.

- c. The Uniform Area Allowance including scattered area Mobilization efforts shall be applicable for O&M & RMI works of lines also on par with construction works.
- d. 10% extra to the material of earth flat (material) is allowed towards wastage, cleats and overlap etc., while preparing the estimate as the billing for this item is on Running Meters basis after laying of earth mat.
- e. For stringing of conductor for small modification works, if the length of the line is less than 0.5 KM, 0.5KM is considered and if the length of the line is greater than 0.5 KM and less than 1 KM, 1KM is considered, in the preparation of estimate.
- f. For survey of small length of lines, if the length of line is less than 1KM, then 1KM is considered for survey of small length of lines in the preparation of estimate.
- g. The rates for tree cutting and jungle clearance may be followed as per prevailing Common SoR of Government of Andhra Pradesh.

## 3. **Area Allowance:**

- a. (i). 40% extra over the basic rates on labour component of works is allowed in Greater Visakhapatnam Municipal Corporation and Vijayawada Municipal Corporation (Up to a belt of 12kms from Municipal Corporation Limits).
- (ii). 40% extra over the rates on labour component of works for Amaravati capital region

city area (217sq.km) as declared by the Govt. Vide G.O.Ms.No:141, MA&UD(M2) Dept.,dt:09.06.2015 (This is introduced as per the Govt instructions issued in Govt.Memo.No.668755/ Reforms/2017Dt:14.07.2017) and Vide APTRANSCO T.O.O. Ms.No.3438, DT.08.11.2024.

(iii). For works at Tirumala Hills in Chittoor District, 40% extra over the basic rates of labour component is allowed.

- b. 25% extra over the basic rates on labour component of works is allowed in other Municipal Corporations.
- c. 20% extra over the basic rates on Labour component of works is allowed in district headquarters and other municipalities.

Note: Works within a belt of 12Km from the Municipal limits shall be taken into account for the purpose of allowing the extra percentages.

- d. Agency Areas:
  - 1. 25% extra is allowed for the works located inside the Agency area.
  - 2. 25% extra is allowed for the works located in the border of Agency area i.e., works located within a belt of 16Km from the boundary of Agency area.

e. Industrial Area

20% over basic rates on labour component of works allowed for works situated within 10Kms belt of industrial area of Ibrahimpatnam, Vuyyuru, Jaggaiahpetta in Krishna District, Macherla, Gurajala, Challapalli in Guntur District, Garividi in Vijayanagaram District, Renigunta in Chittoor District, Yerraguntla, Mangampet in Kadapa district, Hindupur, Tadipatri, Anantapur, Guntakal, Rayalcheruvu, Yadiki of Anantapur District, Adoni,Dhone,Cement Nagar, Nandyal, Kurnool, Yemmiganur, Bethamcherla of Kurnool District and Anakapally of Visakhapatnam District.

Note: If more than one area allowances (such as those) for Municipal Corporations, Municipalities, Agency area, Industrial areas are applicable for a particular situation, only the maximum out of the allowable percentage is to be allowed.

- f. The Area allowance/Uniform Area Allowance including scattered area Mobilization efforts charges are not applicable on Fabrication charges and Galvanization Charges.
- g. The area allowance shall be applicable for O&M and RMI works in substations also on par with construction works.

The area allowances are applicable for Civil, Electrical & Telecom works (labour), Capital, O&M and RMI works irrespective to their value of works.

4. **Contractor Overhead Profit(COP):**

13.615% on basic labour rates towards COP (Contractors Overheads and Profit) including labour importation is applicable for turnkey projects, O&M and RMI works without any conditions. The following components of COP relevant/pertaining to APTRANSCO are considered.

- a. Site accommodation.
- b. Setting up of plants and machinery.

- c. Formation of access road.
- d. Water supply for construction.
- e. Electricity for construction.
- f. General Site arrangement
- g. Office furniture equipment and communication
- h. Technical agents for site supervisions.
- i. Documentation and as built drawings.
- j. Mobilization/de-mobilization of resources.
- k. Labour camps with minimum amenities and transportation to work sites.
- l. Light vehicle for site supervision including field and laboratory testing.
- m. Laboratory equipment and quality control including field and laboratory testing.
- n. Watch & Ward.
- o. Expenditure on safeguarding environment
- p. Financing Expenditure
- q. Work Insurance/Compensation

#### **5. Tree Cutting and Clearing of Jungle**

Please refer to the prevailing Common SoR of Board of Chief Engineers for engineering departments of GOAP.

#### **6. The (lead) Conveyance Charges for Transportation of Equipment/Materials.**

Please refer to the prevailing SoR of Board of Chief Engineers for engineering departments of GOAP.

#### **7. Erection of Power Transformers and Oil filtration Works**

The rates communicated by CE/Transmission vide reference given below

- i) Lr.No.CE (Tr) / SE (Tr) / EE (Tr) / DEE-3 / F.CTO-06/2023 –ERC / D.No.14/24, Dt.20.06.2024 on rate contract basis for Erection and oil filtration works of 220kV and 132kV class Power Transformers through private agency are valid from 24.06.2024 to 23.06.2026 and same to be followed. Further the rates to be taken from the prevailing latest available rates issued by the Chief Engineer/ Transmission.
- ii) Fixing up for repair and overhauling works of 220 KV and 132 KV Class power Transformer to be taken from prevailing latest available rates issued by Chief Engineer/Transmission.
- iii) Rate contract for erection, dismantling, transportation and oil filtration of 400kV class Power Transformers through private agency are to be taken from prevailing latest available rates issued by Chief Engineer/Transmission.

**Area Allowances, Special provisions and any other allowances are not applicable on the rates of rate contract. The rates mentioned under the rate contract include all taxes & duties, allowances and all extra provisions including Transport etc.**

The erection, testing & commissioning of 220kV and 132kV Voltage Level Power Transformers where erection, testing and commissioning is not in the scope of supplier same shall be arrived as per above rate contract for preparation of estimates.

In the case of the works of Handling, Erection and Filtration of power Transformers will be carried out by the department, in such cases, area allowances, special provisions other than shutdown charges, taxes and duties are not applicable.

Note:

- (i) Shutdown charges are applicable only for the works carried out during shutdown period. The same has to be certified by the concerned Superintending Engineer.
- (ii) Whenever double boom crane is utilized for PTR works of 80 MVA & above capacity, 50% extra over the existing crane charges are applicable. However, the same has to be certified by concerned Superintending Engineer.

#### 8. **Civil Engineering Works in APTRANSCO:**

For Civil work items of APTRANSCO, the prevailing common SoR of Board of Chief Engineers for Engineering Departments of GOAP shall be followed in toto.

The area allowances & Contractors Profit and overheads (COP) shall be followed as per APTRANSCO SSR 2025-26.

The Area allowances indicated at **Para 3** is also applicable for Civil Works and a provision is made for 13.615% towards Contractors Profit and overheads. The provisions made in T.O.O.CE (Civil) Ms No.148, dated.21.10.2009 are also applicable for civil works except the Uniform area allowance & Scattered area allowance. The Uniform Area Allowance including scattered area Mobilization efforts charges indicated at **Para 2** is also applicable for Civil Works (Transmission Line).

With regard to Civil works pertaining to River Crossing Transmission Line Towers the following special allowances may be adopted with reference to **TOO (CE-Construction) Rt. No. 731, Dt.14.08.2018**.

- A) The Cost data for **BORED PILES & SUPERSTRUCTURE CONCRETE (PILE CAPS, COLUMNS & TIE BEAMS)** of River Crossing Transmission Line Towers worked-out as per “chapter 11 and 12 of” Revised Standard Data part-II (Roads & Bridges) of Govt. of Andhra Pradesh for 750mm, 1000mm and 1200mm dia and that of Central Public works Department (CPWD) of Government of India for Bored Piles of 600mm and 1500mm dia with Uniform Area Allowance including Scattered Area Mobilization efforts of **20%** on Labour component of basic rates **PLUS Special Scattered Area Allowance of 50%** (towards formation of approaches, roads, bunds, transportation of men and material to work spot and other special works as may be necessary for finished item of work as directed by Engineer-in-charge) on basic rates for works on **DOWNSTREAM SIDE** of the Barrages etc. where there is no water or reasonably low water.
- B) The Cost data for **BORED PILES & SUPERSTRUCTURE CONCRETE (PILE CAPS, COLUMNS & TIE BEAMS)** of River Crossing Transmission Line Towers worked-out as per “Chapter 11 and 12 of” Revised Standard Data part-II (Roads & Bridges) of Govt. of Andhra Pradesh for 750mm, 1000mm and 1200mm dia and that of Central Public works Department (CPWD) of Government of India for Bored Piles of 600mm and 1500mm dia with Uniform Area Allowance including Scattered Area Mobilization efforts of **20%** on Labour component of basic rates **PLUS Special Scattered Area Allowance of 75%** (towards formation of approaches, roads, bunds, transportation of men and material to work spot and other special works as may be necessary for finished item of work as directed by Engineer-in-charge) on basic rates for works on **UPSTREAM SIDE** of the Barrages and in large ponds, lakes etc. where there is impounded water.

- C) The Cost Data for **ALL OTHER ITEMS OF WORK (other than those mentioned in A & B above)** RELATED to River Crossing Transmission Line Tower Foundations Viz. Fabrication & Fixing of Reinforcement Steel, MS Liners, Earth work Excavation, Cement Concrete for levelling course, Fabrication & Erection of MS/ GI structural steel for Hand Railing, Foundation Bolts, Base Plates etc worked-out as per “ Chapter 11 and 12 of ” Revised Standard Data part-II (Roads & Bridges) of Government of Andhra Pradesh with Uniform Area allowance including Scattered Area Mobilization Efforts of be 35% on Labour component of basic rate treating as DIFFICULT AREA without any Special Scattered Area Allowance.
9. **Telecom Works in APTRANSCO:**  
For Telecom work items of APTRANSCO, the Area allowances indicated at **Para 3** is also applicable for Telecom Works and a provision is made for 13.615% towards Contractors Profit and overheads. The Uniform Area Allowance including scattered area Mobilization efforts charges indicated at **Para 2** is also applicable for Telecom Works (Transmission Line).  
Para 2(e) is applicable for OPGW Stringing works and all the works included in Annexure-A are applicable for Telecom Works.
10. **SAS Integration Works in APTRANSCO:**  
The items (i) Sub-Station Automation System as per 400KV Specification including Software for complete Sub-Station Automation System along with Visual monitoring system.  
(ii)Integration and Installation, Testing & Commissioning of ICT/feeder Bay to the existing Substation Automation System (including Hardware and Software) is included and shall be in Material 400 KV Material SSR 2025-26.
11. In respect of Cement and Steel rods the procedure indicated in Common SSR for all Engineering Departments shall be adopted for updating of estimates at the time of finalization of tenders.
12. The SSR rates for the year 2025-26 were arrived with reference to the variation of consumer price index(CPI), issued by Ministry of Labor and employment of Government of India from the previous SSR 2023-24.

**The consumer price index variation for SSR 2025-26 w.r.t. SSR 2023-24 is evaluated as +7.1268%.i.e from March 2023 to February 2025**

A file is circulated through FA & CCA for scrutiny and arithmetical verification of CPI for arriving SSR 2025-26 rates and same is to be confirmed by FA & CCA

13. All statutory levies such as GST are based on the prevailing notified rate, shall have to be added in the estimate. As per Memo No: Dir(G,T&M)/APT/CE/Const/SE-400kV /D1AI/D.No.683/20, dt:30.09.2020  
labour cess shall be in contractor scope. Hence labour cess shall not be included in the ECV and it is the liability of the Bidder/Contractor only.

**Note:** - However if more than one special condition such as emergency, shutdown, 2<sup>nd</sup> circuit stringing with 1<sup>st</sup> circuit live and breakdown etc., are applicable for a particular work item / situation, only one condition with maximum extra rate out of applicable special conditions can be allowed. Applying more than one special condition for any item is not allowed.

<b>400, 220 &amp; 132 KV SSR 2025-26 RATES FOR LABOUR ITEMS</b>				
<b>Sl. No.</b>	<b>Item No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>SSR Rate for 2025-26 (in Rs)</b>
		<b>ANNEXURE – I</b>		
		<b>ERECTION OF 400KV TRANSMISSION LINES</b>		
C4L1	1(a)	Preliminary Survey with GPS survey, theodilite & total station, marking route on topo sheets represents actual field conditions.	kM	5,431
C4L 2	1(b)	Detailed Survey with GPS, total stations, Digital theodolite etc.,along the approved alignments preparation of profiles,tower spotting, tower schedules and soil resistivity.	kM	28,214
C4L 3	1(C)	Conucting survey with the help of revenue authorities for identification of land owners along the transmission line corridor (46 Mtrs width) for arranging 10% of corridor compensation amount to the land owners falling under transmission line	Acre	2,686
C4L 4	2(a)	Excavation of trail pit (1mt x 1 mt x 3.5mt).	No.	2,804
	2(b)	Excavation of Trial Pit by Auguring & Boring of holes of 300mm Dia x 3.5 RM.	No.	3,125
C4L 5	3	Check Survey, peg marking the tower positions on ground,conforming to the approved Profile and tower schedules using GPS, Total stations, Digital theodolites etc.	kM	6,427
C4L 6	4	Setting with stub for all types of towers withstub setting template which includes erection of stubs, fixing of jacks for supporting template, alignment and leveling excluding cost of excavation and concrete (excluding transportationcharges).	Set	22,894
C4L 7	5(a)	Super structure erection of all type of towers including extensions except RC towers including fitting of step bolts, danger plates, number plates, phase plates,circuit plates, bird guards, anti-climbing devices etc., and tack welding of all bolts & nuts (upto bottom cross arm level) (excluding transportation charges).	MT	12,287
C4L 8	5(b)	Erection of all types of Anchor Towers and their extensions (complete), including fitting of step bolts, danger plates, number and phase plates, circuit plates, bird guards, and anti climbing devices etc and tack welding of all bolts & nuts (upto bottom cross arm level).	MT	18,431

C4L9	5(c)	Super structures erection of 400kV Multi circuit towers including Auxiliary cross arms (complete), including fitting of step bolts, danger plates numbers and phase plates, circuit plates, birds guards, and anti climbing devices etc and tack welding of all bolts & nuts (upto bottom cross arm level) etc.	MT	21,871
C4L10	5(d)	Super structure erection of River crossing towers and their extensions(complete), including all the associated works such as, earthing of all the four legs as per the approved drawing(including the cost of material),fitting of step bolts, danger plates, number and phase plates, circuit plates, bird guards, and anti climbing devices etc and tack welding of all bolts & nuts (upto bottom cross arm level).	MT	30,697
C4L 11	6	Mounting of Insulators and stringing of double circuit with twin bundled ACSR Moose Power Conductor including laying, jointing, tensioning, sagging clamping and fixing spacers (excluding transportation charges).		
	6(a)	Single circuit Stringing	KM	3,26,039
	6(b)	Double Circuit Stringing	KM	4,89,060
	6(c)	Multi Circuit Stringing (4 circuits)	KM	7,33,589
C4L 12	7	Mounting of Insulators and stringing of double circuit with Quadruple ACSR Moose Power Conductor including laying, jointing, tensioning, sagging clamping and fixing spacers (excluding transportation charges).		
	7(a)	Single circuit Stringing	KM	4,89,060
	7(b)	Double Circuit Stringing	KM	7,33,591
	7(c)	Multi Circuit Stringing (4 circuits)	KM	11,00,387
C4L 13	8	Mounting of Insulators and stringing of double circuit with twin bundled ACSR Moose Power Conductor including laying, jointing, tensioning, sagging clamping and fixing spacers (excluding transportation charges) for River crossing tower.		
C4L 14	8(a)	Double Circuit Stringing	KM	12,21,697
	8(b)	Multi Circuit Stringing(4 circuits)	KM	18,32,545
C4L 15	9(a)	Stringing of two (2) nos. 7/3.66 mm galvanized steel earth wire, including laying jointing, tensioning etc., with necessary accessories upto the pinnacle (excluding transportation charges).	KM	22,979
C4L 16	9(b)	Stringing of one (1) no. 7/3.66 mm galvanized steel earth wire, including laying jointing, tensioning etc., with necessary accessories (excluding transportation charges).	KM	15,319
C4L 17	9(c)	Stringing of two(2) nos. 7/3.66 mm galvanized steel earth wire, including laying jointing, tensioning etc., with necessary accessories upto the pinnacle (excluding transportation charges) for River crossing towers.	KM	57,404

	10	Earthing of transmission towers:		
C4L 18	10(a)	Providing of Pipe type earthing including of cost of BH coke & salt but excluding cost of earthing set	Each	6,296
C4L 19	10(b)	Counter poise earthing sets excluding cost of all materials (4sides of tower)	Each location	5,278
C4L 20	10(c)	Counter poise earthing sets using Bentonite and salt (4 sides of tower)	Each location	7,918
C4L21	11	Cutting and removing of all kind of trees of all girths and all sizes and also clearing of scrub jungle including transportation and disposal at a distance as per APTransco site Engineers instructions along the route of the line for a total corridor of 46mtrs.	Km	As per Common SoR of GoAP in force
<b>ANNEXURE - II</b>				
<b>ERECTION OF 220kV &amp; 132 kV TRANSMISSION LINES</b>				
CL1	1	Check Survey, peg marking the tower positions on ground, conforming to the approved Profile and tower schedules using GPS, Total stations, Digital theodolites etc. "the rate is also applicable for re-check survey if any done due to ROW problems"	kM	6,427
CL2	2	Conducting reconnoitery and preliminary survey along bee line with three alternative routes and furnishing report for selecting the best proposal for approval, including cost & conveyance of all materials, hire charges of equipment, tools and plant, preparation of drawings and reports, labour charges, complete for finished item of work as per the directions of Engineer-in-charge at site. <u>(With Theodolite / With GPS equipment ( As per Clause 4.9 of survey) /With total station equipment).</u>	RKM	5,836
	3	Conducting detailed survey by taking the levels along the route to a corridor of 15 mtrs. width on either side of alignment, at every 20 mtrs. interval and wherever there is a steep increase/decrease in ground profile duly indicating the chainage between angle points, river crossings, railway crossing and major highway crossings and plotting the profiles and preparation of vicinity maps to the standard scales. The survey includes clearing of bushes, branches of tree, crops and shrubs wherever encountered for detailed survey for viewing, for fixing anchor towers and also taking levels etc. required for conducting detailed surveys.		
		<u><i>This work can be done with Theodolite or with GPS equipment (As per clause no.4.9 of survey) or with total station equipment.</i></u> <u><i>This work involves the following items.</i></u>		

CL3	3 (i)	Tower schedules as per tower spotting requirements plotted on reproducible tracing of profile original with one extra copy shall be given . <i>Towers Schedules should be submitted with GPS Co-ordinates. Identification of wind zones, collection of Hydraulic data of rivers / drains from competent authority.</i>	RKM	20,038
CL4	3 (ii)	Taking earth resistivity at an interval of 1 Km by electrical resistivity method (4 point method) or by ERM method.	Loc	1,459
CL5	3(iii)	Preparing of PTCC questionnaire, topo sheets extracts with marking of the proposed line. Soil resistivity report, tower sketch, station single line diagram etc. (30 copies/sets)	Job	14,264
CL6	3 (iv)	Enumeration and numbering of trees, & marking on tree with white letters on yellow paint measuring girth and height of the trees and plotting in the profile. The trees enumerated shall be shown in profile on either side of centre line clearly, <u>up to required corridor for 132kV Line -27 Metres &amp; 220kV Line -35 Meters</u> ) indicating name of tree, girth & height. Separate tree schedule should be submitted along with the profile for arriving tree compensation amount.	Each	28
CL7	3 (v)	Preparation of ground profiles for Railway crossing, River crossing and EHV power line crossing separately wherever required.	Each crossing	4,343
		The above rates shall include cost and conveyance of all materials hire charges of equipment tools & plant, preparation of profile drawing, painting of trees, labour charges, preparation of report etc., complete for finished item of work as per instructions of Engineer-in-charge.		
CL8	4	Excavation of trial pits of standard dimensions of 1 mtr X 1 mtr. width upto 3 mtrs. depth at 1 KM interval or wherever there is abnormal change in topography and taking observation of soil strata for classification of foundation and position of existing ground water table/depth of water in the existing open wells if any and back filling the trial pits after vetting by Departmental officials.	Each	2,404
	5	<u>Setting of stubs with stub-setting template</u> : Erection of stubs, stub template, fixing of jacks for supporting template, allignment and levelling for exact location of stubs of stubsetting template, dismantling of template after completion of initial curing of C.C., movement of template from one location to other location (A minimum lead of 1 KM is adopted).		
CL9	(a)	132 KV P, R & S-Type Towers	Loc.	11,469

CL10	(b)	220 KV A, B, C & D-Type Towers	Loc.	16,713
CL11	(c)	132 KV Multi circuit Towers	Loc.	14,337
CL12	(d)	220 KV Multi circuit Towers	Loc.	20,889
CL13	(e)	132kV Narrow based Multi Circuit Towers.	Single pit	13,182
CL14	(f)	220kV Narrow based Multi Circuit Towers.	Single pit	19,232
CL15	(g)	Pole/structure for termination of 220/132kV cables	Loc.	12,902
CL16	(h)	220 /132 kV Narrow based tower	Loc.	18,801
CL17	6(a)	Erection of tower structures, including all types of extensions except JC type towers (stub template erection and dismantling are not to be included) (including 3 mtr., 6 mtr. , 9 mtr., & 12 mtr. extensions)	MT	7,592
CL18	6(b)	Erection of all types of narrow based towers / multi circuit tower structures / <u>narrow based multi circuit towers structures</u> , including all types of extensions except JC type towers (stub template erection and dismantling are not to be included) (including 3 mtr., 6 mtr. , 9 mtr., & 12 mtr. extensions)	MT	10,637
CL19	6(c)	Erection of all types of 'JC' Type tower structures, including all types of extensions (stub template erection and dismantling are not to be included) (including '0' based, Extended and Truncated)	MT	13,674
CL20	6(d)	Erection of pole/structure for 220/132 kV cable termination	MT	9,114
	7	STRINGING OF POWER CONDUCTOR: Hoisting of tension insulators and Suspension insulators, paving out the conductor, rough sagging, Jointing, tensioning, clipping and fixing of preformed Armour rods and vibration dampers. measuring ground clearances wherever necessary. <u>Which excludes the works involved in the crossing of LT, 11kV &amp; 33kV power lines viz dismantling and restringing of conductor</u>		
CL21	(i)	3 Nos. Zebra conductors	RKM	64,750
CL22	(ii)	6 Nos. Zebra conductors	RKM	97,121
CL23	(iii)	2 Nos. Panther conductors	RKM	34,525
CL24	(iv)	3 Nos. Panther conductors	RKM	51,794
CL25	(v)	6 Nos. Panther conductors	RKM	82,013
CL26	(vi)	12 Nos. Panther conductors for Multi circuit	RKM	1,64,025
CL27	(vii)	2 Nos. Moose conductors	RKM	54,674
CL28	(viii)	3 Nos. Moose conductors	RKM	82,013
CL29	(ix)	6 Nos. Moose conductors	RKM	1,29,486
CL30	(x)	Twin bundled Moose for DC	RKM	2,58,974
CL31	(xi)	12 Nos. Moose conductors for Multi circuit	RKM	2,58,974
CL32	(xii)	3 Nos. Bear conductors	RKM	64,750
CL33	(xiii)	6 Nos. Bear conductors	RKM	97,121

CL34	(xiv)	3 Nos. Dog conductors	RKM	38,844
CL35	(xv)	6 Nos. Dog conductors	RKM	61,507
	8	STRINGING OF HTLS POWER CONDUCTOR ( <b>Non Metallic</b> ) using tension- puller machine: Hoisting of tension insulators and Suspension insulators, paving out the conductor, rough sagging, Jointing, tensioning, clipping and fixing of preformed Armour rods and vibration dampers. measuring ground clearances wherever necessary. Which excludes the works involved in the crossing of LT, 11kV & 33kV power lines viz dismantling and restringing of conductor. (Ex: ACCC, CFCC, ACCR, ACFR, HVCRC etc.,)		
CL36	(i)	3 Nos Moose Conductors	RKM	1,64,026
CL37	(ii)	6 Nos Moose Conductors	RKM	2,58,973
CL38	(iii)	3 Nos Zebra Conductors	RKM	1,29,499
CL39	(iv)	6 Nos Zebra Conductors	RKM	1,94,242
CL40	(v)	3 Nos Panther Conductors	RKM	1,03,587
CL41	(vi)	6 Nos Panther Conductors	RKM	1,64,026
	9	STRINGING OF HTLS POWER CONDUCTOR ( <b>Metallic</b> ) using tension - puller machine: Hoisting of tension insulators and Suspension insulators, paving out the conductor, rough sagging, Jointing, tensioning, clipping and fixing of preformed Armour rods and vibration dampers. measuring ground clearances wherever necessary. Which excludes the works involved in the crossing of LT, 11kV & 33kV power lines viz dismantling and restringing of conductor. (ACSS, INVAR (ZTACIR/STACIR), GAP-type (GTACSR) etc.,).		
CL43	(i)	3 Nos Moose Conductors	RKM	1,02,516
CL44	(ii)	6 Nos Moose Conductors	RKM	1,61,858
CL45	(iii)	3 Nos Zebra Conductors	RKM	80,937
CL46	(iv)	6 Nos Zebra Conductors	RKM	1,21,401
CL47	(v)	3 Nos Panther Conductors	RKM	64,742
CL48	(vi)	6 Nos Panther Conductors	RKM	1,02,516
CL49	10	Stringing of Earthwire: Fixing hardware, paving out earth wire, jointing, tensioning, stringing and clamping of 7/3.15 mm high tensile galvanised steel wire.	RKM	10,363
CL50	11	Earthing of towers including cost of Excavation, Back-filling, including cost of 25 mm dia 2.5 mm thick, class 'C' G.I. pipe of 3.00 Mtrs length with 50X6 mm G.I. Flat 4.05 Mtrs long, <i>BH Coke</i> , Salt etc., and measuring tower footing resistance.	Nos.	6,589

CL51	12	Slant Earthing of towers including cost of Excavation, Back-filling, including cost of 25 mm dia 2.5 mm thick, class 'C' G.I. pipe of 3.00 Mtrs length, with 50x6mm G.I. Flat of 4.05 Meters, BH Coke, Salt etc., and measuring tower footing resistance.	Nos.	6,589
CL52	13	Earthing of towers including cost of Excavation, Back-filling, including cost of 25 mm dia 2.5 mm thick, class 'C' G.I. pipe of 3.00 Mtrs length, <u>BH Coke</u> , Salt etc., and measuring tower footing resistance. (Without GI Flat ) for counter poise earthing.	Nos.	5,364
CL53	14	Counterpoise earthing including clamping devices and terminal lugs, but excluding cost of steel wire.	Rmts	59
CL54	15	Half round welding of G.I.bolts and nuts of towers in the section between ground level & upto bottom X-arm level including all bolts connecting the bracings at the bottom X-arm level and painting the welded portion with one coat of zinc rich paint.	Each	27
CL55	16	Half round welding of G.I.bolts and nuts of towers in the section between ground level & upto bottom X-arm level including all bolts connecting the bracings at the bottom X-arm level and painting the welded portion with one coat of zinc rich paint-For JC type towers	Each	41
CL56	17	Laying of 33 kV 400 sq.mm XLPE cable	Rmts	441
CL57	18	Termination of 400 sq.mm XLPE cable	Each	8,010
CL58	19	Dismantling & re stringing of 33kV conductor (all types of conductors) for crossing of 33 kV line during stringing of EHT lines.	Per conductor	4,185
CL59	20	Dismantling & re stringing of 11kV conductor (all types of conductors) for crossing of 11kV line during stringing of EHT lines	Per conductor	2,290
CL60	21	Dismantling & re stringing of LT conductor/cables for crossing of LT line (all types) during stringing of EHT lines	Per conductor	1,442
<b>ANNEXURE – III</b>				
<b>ERECTION OF 400kV SUBSTATIONS</b>				
C4S1	1	Total cost of receipt from site/stores, storage, handling, erection, testing & commissioning of 400/220kV, 315MVA Transformers 50/ 63/80/125 MVAR Shunt reactor with all accessories and fittings including storage cum erection insurance as per specification. The charges include AC power for oil filter machines and all other supplier supervision charges including oil testing charges in a third party lab for complete erection, testing and commissioning.	Nos	32,03,813

C4S2	2(a)	Hoisting of insulators & hardware, paving conductor and stringing of 400kV main bus for three phases with quadruple moose conductor to a tension of 1000kgs for single moose conductor, bus section length is 54mtrs.	Bus Section	54,701
C4S 3	2(b)	Hoisting of insulators & hardware, paving conductor and stringing of 400kV Jack bus for three phases with twin moose conductor to a tension of 1000kgs for single moose conductor, bus section length is 60mtrs.	Bus Section	27,744
C4S 4	3	Erection of 7/3.66 GSS Earth wire from top of peak tower and LMs to ground and connecting to untreated earth pits including cutting, clamping and fixing of all hardware like Pad type compression clamp, cleat type clamp and T clamp etc.	RM	81
C4S 5	4(a)	Connecting equipment to equipment through 4"/4.5" IPS Al tube including cutting, bending, welding testing, clamping etc., for each meter including both side connections.	Meter	352
	4(b)	Connection of equipment to bus and other equipments with Quad Moose conductor where ever necessary.	Each	1,294
	5	Laying of earth mat including excavation & backfilling, welding, connecting to all equipment, structures, Junction boxes, and connecting lightning shield to earth mat, Periperal earth electrode and earthing of fence posts, drilling and connecting earth rods including connecting to cast iron pipes as per approved drawings with the following sizes:		
C4S 6	5.1	M.S. Rod 40 mm dia.	RM	211
	6	Fabrication and connecting to risers from earth mat to structures, equipment, marshalling boxes, electrical panels, PLCC panels, fencing posts etc.,.		
C4S 7	6.1	M.S./ G.S. Flat 75 x 12 mm	RM	186
C4S 8	6.2	M.S./ G.S. Flat 50 x 8 mm ( Above ground)	RM	78
C4S 9	6.3	Un-Treated Earth pits including installation of 40 mm dia rod electrode, disconnecting links, and all required materials and RCC collar/ chambers with bricks, cement mortar 1:4 and completion of related civil works as specified for LMs, LAs, Carrier couplings and CVTs. (Cost of RCC Collar included)	Each	2,959
	7.0	Laying including termination and providing suitable ferrules & lugs etc of armoured control cables of size 2core, 2.5sq.mm to 27 core, 2.5 sq.mm including cost of cable glands, lugs, ferrules.		
C4S 10	7.1	2 to 12 core	RM	72
C4S 11	7.2	14 to 19 core	RM	81
C4S 12	7.3	27 core	RM	95

	7.4	Laying including termination and providing suitable ferrules & lugs, jointing kits etc of armoured power cables of the following size including cost of cable glands, lugs, ferrules etc complete.		
C4S 13	7.4(a)	Upto 50 sq.mm	RM	123
C4S 14	7.4(b)	Above 50 sq.mm to 300 sq.mm	RM	157
C4S 15	7.4(c)	Above 300 sq.mm to 700 sq.mm	RM	199
	8	Buried cable trench – Excavation for cable trench providing 100mm thick sand layer before and after laying the cable & providing 4” thick brick cover over sand, refilling, consolidation and leveling of surplus earth including the cost and conveyance of all materials, route markers, labour charges etc.,complete for finished item of work.		
C4S 16	8.1	Size: 300 X 300 mm	RM	342
C4S 17	8.2	Size: 300 X 600 mm	RM	342
C4S 18	8.3	Size: 1500 X 800 mm	RM	915
C4S 19	9(a)	Erection of Galvanised cable trays with 2 mm thick perforated CRCA sheet. Size: 200 and 600mm	RM	81
C4S 20	9(b)	Excavation, Laying and Back filling of different sizes of rigid pvc pipe upto a depth of 350 mm (sizes 200mm, 150 mm & 100mm) with suitable rigid pvc bends of ISI make including supply of all materials etc complete for laying of cables.	RM	356
		Erection of following equipment with Crane/Derrick at site including handling the material/equipment carefully at site including labour charges for all incidental and operational items of work.(excluding cost of transport charges from Dept. stores to the site). Note:- In 400 kV substations only, 25% extra charges for Testing and Commissioning of switchgear equipment where ever applicable).		
C4S 21	10	420KV SF6 Circuit breaker with support structure & marshalling boxes	Set	33,234
C4S 22	11	420 KV Single phase current transformers with secondary terminal box	Each	9,472
C4S 23	12	390 KV Lightning Arrestors	Each	9,137
C4S 24	13	420kV Single phase Capacitive Voltage transformers with secondary terminal box (with/without carrier coupling device)	Each	9,472
C4S 25	14.1	400 KV Isolators, 3 pole Horizontal centre break/ Pantograph with Single earth switch including solid core insulators, interpole cable laying and connections for electrical ganging, fixing of MOMs etc.,	Set	19,243
C4S 26	14.2	400 KV Isolators, 3 pole Horizontal centre break With Double earth switches including solid core insulators, interpole cable laying and connections for electrical ganging, fixing of MOMs etc.,	Set	23,091

C4S 27	14.3	220KV Isolators, 3 pole Horizontal Double break/staggered with Double earth switches including solid core insulators, MOMs/BOMs etc.,	Set	12,874
C4S 28	15	400 KV Bus post insulators	Set	9,137
C4S 29	16(a)	Erection of Marshalling kiosk	Each	1,290
C4S 30	(b)	Erection of Marshalling boxes	Each	627
C4S 31	17.1	Fabrication of Main and Auxiliary structures, stub setting templates, foundation bolts, 'U' bolts etc.,using raw steel such as M.S.Angles, Plates, Channels, R.S.Joists, M.S.rounds, excluding cost of Mild Steel and transport charges to substation site.	MT	14,126
C4S 32	17.2	Galvanization of Main and Auxiliary structures, stub setting templates, foundation bolts, 'U' bolts etc.,using raw steel such as M.S.Angles, Plates, Channels, R.S.Joists, M.S.rounds, excluding cost of zinc and transport charges to substation site.(Cost of zinc should be followed as per IEEMA rates.).The average quantity of Zinc required for all angles of tower parts is 60 Kgs.	MT	8,270
C4S 33	12	Peripheral earth electrode including installation of 40mm dia rod electrode and all required raw materials and providing bentonite powder around electrode as specified for peripheral electrode earthing as per specification.	Nos	324
<b>ANNEXURE - IV</b>				
<b>ERECTION OF 220kV, 132 kV &amp; 33kV SUBSTATIONS</b>				
CS1	1	Hoisting of Insulators and hardware, stretching the conductor and stringing of <b><u>220 kV bus</u></b> comprising of three phases with <b><u>Quadruple Moose</u></b> conductor to a tension of <b>900kgs for single moose conductor.</b> ( <b><i>The maximum length or up to a length of bus section of 40m</i></b> )	Bus Section	34,521
CS2	2	Hoisting of Insulators and hardware, stretching the conductor and stringing of <b><u>220 kV bus</u></b> comprising of three phases with <b><u>single Zebra/Moose</u></b> conductor to a tension of <b>900kgs.</b> ( The maximum length or up to a length of bus section of <b>40m</b> )	Bus Section	8,631
CS3	3	Hoisting of Insulators and hardware, stretching the conductor and stringing of <b><u>220 kV bus</u></b> comprising of three phases with <b><u>Twin Zebra/Moose</u></b> conductor to a tension of <b>1800kgs</b> including fixing of spacer clamps( The maximum length or up to a length of bus section of <b>40m</b> ).	Bus Section	17,267
CS4	4	Hoisting of Insulators and hardware, stretching the conductor and stringing of <b><u>132 kV bus</u></b> comprising of three phases with <b><u>Single Zebra/Moose</u></b> conductor to a tension of <b>900kgs.</b> ( The maximum length or up to a length of bus section of <b>45m</b> ).	Bus Section	8,631

CS5	5	Hoisting of Insulators and hardware, stretching the conductor and stringing of <b><u>132 kV bus</u></b> comprising of three phases with <b><u>Twin Zebra/Moose</u></b> conductor to a tension of <b>1800kgs</b> including fixing of spacer clamps.( The maximum length or up to a length of bus section of <b>45m</b> ).	Bus Section	17,267
CS6	6	Hoisting of Insulators and hardware, stretching the conductor and stringing of <b>33 kV bus</b> comprising of three phases with <b><u>Single Zebra/Moose</u></b> conductor to a tension of <b>450kgs</b> .( The maximum length or up to a length of bus section of <b>20m</b> ).	Bus Section	6,476
CS7	7	Hoisting of Insulators and hardware, stretching the conductor and stringing of <b><u>33 kV bus</u></b> comprising of three phases with <b><u>Twin Zebra/Moose</u></b> conductor to a tension of <b>900kgs</b> including fixing of spacer clamps.( The maximum length or up to a length of bus section of <b>20m</b> ).	Bus Section	10,795
CS8	8	Hoisting of Insulators and hardware, stretching the conductor and stringing of <b><u>132 kV bus</u></b> comprising of <b>two phases</b> with <b><u>Single Zebra/Moose</u></b> conductor to a tension of <b>900kgs</b> .( The maximum length or up to a length of bus section of <b>45m</b> ).	Bus Section	5,752
CS9	9	Fixing of spacers for Twin Moose conductor	Each	170
CS10	10	Fixing of spacers for Quadruple Moose Conductor	Each	236
CS11	11	Fixing of Hardware,stretching the ground wire and stringing of earth wire to a tension of 450kgs from pinnacle to pinnacle.	Each	1,290
CS12	12	Fixing of Hardware,stretching the ground wire and stringing of earth wire to a tension of 450kgs from pinnacle to ground.	RM	87
CS13	13	Connection of equipment to bus and or another equipment with <b><u>singlezebra/Moose/Panther</u></b> conductor including measuring, utting,clamping and hoisting of suspension insulator assembly to support the conductor wherever necessary.	Each	452
CS14	14	Connection of equipment to bus and or another equipment with <b><u>Twin zebra/Moose/Panther</u></b> conductor including measuring, cutting,clamping and hoisting of suspension insulator assembly to support the conductor wherever necessary.	Each	701
CS15	15	Connection of equipment to bus and or another equipment with <b><u>Quad zebra/Moose/Panther</u></b> conductor including measuring, cutting,clamping and hoisting of suspension insulator assembly to support the conductor wherever necessary.	Each	1,403

	16	Laying of earth mat including excavation of trenches, welding, connecting to equipment and connecting lightning shield to earth mat and earthing of fence posts, drilling and connecting earth rods including connecting cast iron pipes as per Drg. No. SET(P)/149/82 with the following sizes of MS Flats/GI Flats.(for 220kV & 132kV) including fabrication.		
CS16	16 a	100x16mm MS Flat / GI Flat.	RM	134
CS17	16 b	50x 8mm MS Flat / GI Flat.	RM	104
CS18	16 c	75x 8mm MS Flat / GI Flat.	RM	120
CS19	16 d	For laying of earth flat in hard rock in substation / bays extension, an additional amount to the basic labour rate of SSR will be allowed as there is no provision in the rate of laying of earth flat for removal of hard rocks.	RM	91
CS20	17	Excavation of earth pit, putting cast iron pipe with flange on one end (as per ISS7181/86) of nominal dia 125mm and 2.75 meters long inside the pit including supply and fixing RCC collars 0.75 meter dia (OD), 50mm thick and 0.60meters long inside the pit, backfill the pit in the 25mm size granules of BHcoke for full depth of the pit with alternate layers of BH coke and salt of 300mm thick around the earth pipe of 150mm on all the sides of the pipe including cost and conveyance of BH coke, salt, clamps, C.I.Pipes and RCC collars, labour charges for all operational and incidental items of work etc., complete.	Each	19,245
CS21	18	Laying of control cables of all sizes (from 2 core, 2.5 / 4.0sqmm to 12 core, 2.5/4.0sqmm , both copper and aluminium in cable trenches including cost of suitable metallic cable glands with rubber lining. <b>Note:</b> This includes running of cables in control room where cables are run on cable racks in cable duct.	RM	15
	19	Laying of power cables.		
CS22	19 a	upto 50 sqmm	RM	20
CS23	19 b	above 50 sqmm	RM	27
	20	Cable terminations to the switchgear, Marshalling boxes / Panel terminal blocks/control & relay panels, LTAC panel including providing suitable ferrules and lugs as per specification (including cost of ferrules and lugs) (for 220kV & 132kV).		
CS24	20 i	2.5 sqmm Copper with copper lugs each core at both ends.	Nos.	45
CS25	20 ii	4.0 sqmm Aluminium with Aluminium lugs each core at both ends.	Nos.	48
CS26	20 iii	Up to 50 sqmm Power Cable with lugs each core at both ends.	Nos.	106

CS27	20 iv	Above 50 sqmm Power Cable with lugs each core at both ends.	Nos.	194
CS28	21	Instalation of lighting fixtures on switch yard structures including cabling and connections, labour charges etc., including 40mm dia G.I bent pipe of 0.75m length with suitable clamps for fixing to structures in complete shape (excluding cost of lighting fixtures)	Each	1,728
	22	Erection of the following equipment with Crane / Derrick at site including handling the material /equipment carefully at site including labour charges for all incidental and operational items of work. (excluding cost of transport charges from Dept. stores to the site).		
CS29	22.1	220 kV Circuit breakers with support structure & marshalling boxes including grouting of foundation bolts and wiring of cables from Ploe to Pole including terminations.	Each	30,216
CS30	22.2	132 kV Circuit breakers with support structure & marshalling boxes including Ploe to Pole cable wiring and terminations.	Each	21,588
CS31	22.3	33 kV Circuit breakers including Ploe to Pole cable wiring and terminations.	Each	8,700
CS32	22.4	2-pole 220 kV Circuit Breaker with support structure & marshalling boxes incl. grouting of foundation bolts & wiring of cables & terminations.	Each	25,683
CS33	22.5	2-pole 132 kV Circuit Breaker with support structure & marshalling boxes incl. grouting of foundation bolts & wiring of cables & terminations.	Each	18,349
CS34	22.6	220 kV Current Tranformers.	Each	7,341
CS35	22.7	132 kV Current Tranformers.	Each	4,748
CS36	22.8	33 kV Current Tranformers.	Each	1,467
CS37	22.9	220 kV Potential Tranformers.	Each	7,341
CS38	22.10	132 kV Potential transformers.	Each	4,748
CS39	22.11	33 kV Potential transformers.	Each	1,467
CS40	22.12	220 kV Lightning Arrestors.	Each	4,748
CS41	22.13	132 kV Lightning Arrestors.	Each	2,242
CS42	22.14	33 kV Lightning Arrestors.	Each	876
CS43	22.15	220 kV Capacitve Voltage Transformers.	Each	6,909
CS44	22.16	132 kV Capacitve Voltage Transformers.	Each	4,748
CS45	22.17	220 kV Isolators with earth swtich including solid core insulators erection, alignment in full shape for smooth operation by Electrical and manually.	Each	11,656
CS46	22.18	132 kV Isolators with earth swtich including solid core insulators erection, alignment in full shape for smooth operation by Electrically and manually.	Each	8,631

CS47	22.19	220kV Isolators without earth switch including solid core insulators erection, alignment in full shape for smooth operation by Electrical and manually.	Each	10,795
CS48	22.20	132 kV Isolators without earth switch including solid core insulators erection, alignment in full shape for smooth operation by Electrically and manually.	Each	7,766
CS49	22.21	2-pole, 220kV Isolators without earth switch including solid core insulators erection, alignment in full shape for smooth operation by Electrical and manually.	Each	9,175
CS50	22.22	2-pole, 132kV Isolators without earth switch including solid core insulators erection, alignment in full shape for smooth operation by Electrical and manually.	Each	6,601
CS51	22.23	33 kV Isolators including solid core insulators erection, alignment in full shape for smooth operation.	Each	2,805
CS52	22.24	220 kV Bus Post Type Insulators.	Each	611
CS53	22.25	132 kV Bus Post Type Insulators.	Each	462
CS54	22.26	33 kV Solid Core Insulators	Each	310
CS55	23	33 kV /415 V Station Transformer including all necessary connections on HV & LV side including cost of lugs (But excluding cost of transformer and HG fuse set)	Each	9,751
CS56	24	Erection of Control / Relay panels, LTAC panels, annunciation, <b>PTDB</b> panels etc.,in the control room duly mounting them on channels and grouting them with foundation bolts excluding cost of channels & foundation bolts <b>(for 220kV &amp; 132kV), including</b> man power support to MRT wing for commissioning.	Each	3,835
CS57	25	Erection of 220 V, 200 Ah/ 100 Ah/80 Ah Lead Acid battery in complete shape fit for charging.	Set	15,029
CS58	26	Erection of 220V, 200Ah/ 100Ah/ 80Ah maintenance free battery in complete shape fit for charging.	Set	4,857
CS59	27	Erection of 220V, 200Ah /100Ah/ 80Ah battery charger.	Set	4,994
CS60	28	Erection of Capacitor Bank including series reactor of 7.5 MVAR Capacity	Each	7,741
CS61	29	Erection of Marshalling kiosk	Each	1,290
CS62	30	Erection of Marshalling boxes	Each	627
CS63	31	Erection of Lighting pillar box in switchyard on foundation laid (Excluding pillar box). <b>(for 220kV &amp; 132kV )</b>	Each	1,727
CS64	32	Fabrication of Main and Auxiliary structures, stub setting templates, foundation bolts, 'U' bolts etc.,using raw steel such as M.S.Angles, Plates, Channels, R.S.Joists, M.S.rounds, excluding cost of Mild Steel and transport charges to site.	MT	14,126

CS65	33	Galvanization of Main and Auxiliary structures, stub setting templates, foundation bolts, 'U' bolts etc., using raw steel such as M.S. Angles, Plates, Channels, R.S. Joists, M.S. rounds, excluding cost of zinc and transport charges to substation site. (Cost of zinc should be followed as per IEEMA rates.). The average quantity of Zinc required for all angles of tower parts is 60 Kgs.	MT	8,270
	34	Setting of stubs with stub setting template for sub-station structure: Erection of stub template, fixing of jacks for supporting the template, alignment and leveling of exact location of stubs of stub setting template, dismantling of template after completion of initial curing of CC		
CS66	34.1	220kV Towers	Set	5,574
CS67	34.2	132kV Towers	Set	4,002
CS68	34.3	33kV Towers & CPL's	Set	999
CS69	34.4	220kV Isolator	Set	4,181
CS70	34.5	132kV Isolator	Set	3,001
CS71	34.6	220 kV Breaker	Set	3,616
CS72	34.7	132 kV Breaker	Set	2,711
CS73	34.8	33 kV Breaker	Set	1,807
CS74	35	Erection of the main and auxiliary structures etc., using bolts and nuts.	MT	4,318
CS75	36	Fixing of 90lb rail poles over the transformer plinths.	RM	859
CS76	37	Fixing of 105lb /120lb rail poles over the transformer plinths.	RM	1,004
CS77	38	Erection of 33kV HG Fuse set	Each	1,042
CS78	39	Erection of 33kV PT Distribution Box	Each	628
CS79	40	Laying and Terminations of 11kV, XLPE 1000 Sqmm Cable	RM	220
CS80	41	Erection of 11kV VCB outdoor type Kisok (within built Breaker, CTs, PTs, Surge Arrestors & Relays).	Each	4,460
		Marking as per approved layout with the help of surveyor		
CS81	42	220 kV sub-station	Each	54,221
CS82	43	132 kV sub-station	Each	36,147
CS83	44	Bay / Bays in one sub-station	Each	18,073
	45	Auto-CADD drawing with 12 copies indicate complete land with dimensions, plan of SS with equipments, location of control room, equipments, roads, duct routes, earth mat of 100X16mm & 50X8mm flat earth pits, yard lighting fixtures etc.,		
CS84	i	132kV SS layout drawing	Job	9,182
CS85	ii	220kV SS layout drawing	Job	11,267
CS86	46	Writing of letters in control room panels of lettering on panels marshalling boxes.	Line	131

CS87	47	Supply and installation of Key - Board of size 1.5'x2' of Eco Wood Board with Glass covering with lock and key arrangements for providing all the keys of equipment and SS.	Each	7,224
		Note: i. Bore earthing in estimations as per field conditions will be considered on case to case basis as supplemental items. ii. 25% excess over CS64 is allowed for JC tower fabrication charges.		
CS88		NABL Lab Testing Charges for 400 KV,220/132kV CTs & PTs	Each	49,096
CS89		NABL Lab testing charges for Energy Meter	Each	41,421
<b><u>ANNEXURE -V</u></b>				
<b>ERECTION OF ILLUMINATION, LIGHTING, FIRE FIGHTING,AIRCONDITIONING, D.G SET &amp; 33kV STATION SUPPLY SYSTEMS IN 400kV SUBSTATIONS.</b>				
C4F1		Erection of indoor and outdoor illumination for 400/220 KV Substation, Control House, Auxiliary Buildings, 33KV Switch yard, street lighting, erection and commissioning of following items as per the approved design and drawings, including indoor/outdoor Junction Boxes, Conduits, Lighting wires, lugs, ferules etc for complete finished item of work.		
	<b>1</b>	Fixing Buzzer anchor make or equivalent approved make with ISI mark with necessary bell and switches etc.	Each	389
C4F 2	<b>2</b>	Providing and fixing concealed in roof and walls with PVC Conduit piping of ISI standards with necessary GI wire of suitable gauge to draw wires at later date including cost of junction Box etc. cost of conveyance of all materials etc complete for finished item of work for Guest House, store building, pump house building & security room as approved and directed by the Engineer- in-charge at site.		
	<b>(i)</b>	32 mm dia - 2mm thick	RM	155
	<b>(ii)</b>	25 mm dia - 2 mm thick	RM	136
	<b>(iii)</b>	12 mm dia - 1.5mm thick	RM	92
C4F 3	<b>3</b>	Modular for Main distribution board with 1 No. 63A,TPMCB for I/C and 2 Nos. 32A SPMCB & 6 Nos. SPMCB with neutral link for O/G complete make Havells or MDS or equivalent.	Each	2,836
	<b>3(i)</b>	Fixtures for 36W lamps BJLM-236 type, Fixtures for 36W lamps BJSM- 236 type, Fixtures for 36W lamps BJIV-236 type, Fixtures for energy saving tube light 2x36W or equivalent LED lamps.	Each	776
	<b>3(ii)</b>	Fixtures for 9W CFL Lamp, Fixtures for GLS DBD-10type, Fixtures for 2x18W CFL Lamp, Fixtures for 1x36W CFL Lamp or equivalent LED lamps.	Each	389

C4F 4	4	Erection, testing and commissioning of outdoor and street Lighting Fixtures including fixing of conduit, Junction boxes, wiring and terminations complete etc.(excluding cost of concrete)		
	1	Lighting Masts / Poles as per drawing enclosed including concreting in full shape.		
	(i)	Type A1	Each	7,969
	(ii)	Type E1	Each	4,258
	(iii)	All types of Lighting Panels	Each	2,736
	(iv)	Junction Box with MCB and Terminal Blocks (Bolt Type)	Each	542
	(v)	415V 63A Power Recepticle outdoor	Each	1,083
	(vi)	5/15 A, 240 V sockets with swtich board	Each	72
	(vii)	Decorative type switch Boards	Each	155
	(viii)	Telephone Junction Boxes	Each	136
	(ix)	Telephone Jacks for Telephones	Each	50
	(x)	Celling Fans with Electronic regulators	Each	275
	(xi)	Flood lighting fixtures for 400W sodium Vapour lamp or Equivalent LED Lamp	Each	508
	(xii)	Street lighting fixtures for 150 W sodium Vapour lamp or Equivalent LED Lamp	Each	508
	(xiii)	Street lighting fixtures for 250 W sodium Vapour lamp or Equivalent LED Lamp	Each	612
	(xiv)	Industrial high bay lightining fixtures for 250 W HVSP lamp or Equivalent LED Lamp	Each	612
	(xv)	Lighting fixtures for 125 HP MV lamp post lanterns or Equivalent LED Lamp	Each	380
	(Xvi)	Single scoket outlet comprising RJ-45 sockets	Each	40
	(xvii)	Dual scoket outlet comprising RJ-45 sockets	Each	40
C4F 5	5	<b>Erection, testing and commissioning of Fire Fighting, Detection and Alarm System :</b>		
	1	Erection of Horizontal centrifugal Electric Driven Hydrant/HVW Spray pump of capacity 410 Cum/hr, total dynamic head of 88MWC with all accessories & fittings and Electric Induction Motor Squirrel cage type for the above with all accessories & fittings.	Each	98,220
	2	Erection of Horizontal centrifugal Diesel Engine Driven Hydrant/HVW spray pump of capacity 410 Cum/hr and total dynamic head of 88MWC with all accessories and fittings. Diesel Engine, multi cylinder type, four stroke cycle with mechanical airless injection cold starting type for the above with all accessories and fittings and a set of Batteries and battery chargers and fuel tank having capacity to hold fuel oil for six hours of full load run.	Each	1,04,339

	<b>3</b>	Erection of Horizontal centrifugal Electric Driven jockey pump of capacity 10.8 Cum/hr and Total dynamic head of 88MWC with all accessories and fittings along with Electric Motor for the above with all accessories and fittings.	Each	9,315
	<b>4</b>	Air vessels with vent valves etc. as per system requirement.	Each	8,082
	<b>5</b>	Sump pumps 10Cum/ Hr. MWC with motor starter and all accessories	Each	7,146
	<b>6 (a)</b>	Basket strainer 300 NB	Each	3,105
<b>C4F6</b>	<b>6(b)</b>	Control panel equipped with all accessories for motor drives of Fire water pumps and 2 Nos. jockey pumps for two sources of supply.	Each	6,210
	<b>6(c)</b>	Panel for 2 nos. Battery chargers & Diesel Engine driven fire water pumps.	Each	6,210
	<b>6(d)</b>	Annunciation panel at fire water pump house.	Each	2,368
	<b>6(e)</b>	Annunciation panel in Control Room.	Each	2,368
<b>C4F 7</b>	<b>7</b>	Hydrant and HVWS system Accessories.		
	<b>(a)</b>	Single headed Hydrants	Each	1,083
	<b>(b)</b>	Landing valves	Each	1,083
	<b>(c)</b>	Hose cabinets.	Each	1,183
	<b>(d)</b>	Hoses of 15.0m length with coupling	Each	108
	<b>(e)</b>	Hoses of 7.5m length with coupling	Each	108
	<b>(f)</b>	Branch pipe with Nozzles.	Each	108
<b>C4F8</b>	<b>8</b>	Mild steel black pipes and Galvanized Mild steel pipes with wrapping & coating for below ground and painting for above ground including cost of wrapping & coating material and paint required & excavation, back filling & all civil works etc., & testing complete.		
	<b>a(i)</b>	300 NB (below ground)	RM	3,105
	<b>a(ii)</b>	300 NB (above ground)	RM	2,071
	<b>b(i)</b>	250 NB (below ground)	RM	2,539
	<b>b(ii)</b>	250 NB (above ground)	RM	1,602
	<b>c(i)</b>	200 NB (below ground)	RM	1,971
	<b>c(ii)</b>	200 NB (above ground)	RM	1,504
	<b>d(i)</b>	150 NB (below ground)	RM	1,553
	<b>d(ii)</b>	150 NB (above ground)	RM	1,269
	<b>e(i)</b>	100 NB (below ground)	RM	986
	<b>e(ii)</b>	100 NB (above ground)	RM	801
	<b>f(i)</b>	80 NB (below ground)	RM	751
	<b>f(ii)</b>	80 NB (above ground)	RM	517
	<b>g)</b>	50 NB	RM	502
<b>h)</b>	25 NB	RM	300	
<b>i)</b>	15 NB	RM	213	

<b>C4F 9</b>	<b>9(a)</b>	Set of GI Piping beyond deluge valves for transformer including detection piping and pipe supports including all accessories.	per Set	3,53,714
	<b>9(b)</b>	Erection of Hume pipe as per specification.	RM	986
<b>C4F10</b>	<b>10</b>	<b>VALVES</b>		
	<b>(a)</b>	300 NB Gate	Each	3,105
	<b>(b)</b>	250 NB Gate	Each	2,636
	<b>(c)</b>	250 NB Check	Each	2,636
	<b>(d)</b>	200 NB Gate	Each	2,071
	<b>(e)</b>	150 NB Gate	Each	1,971
	<b>(f)</b>	100 NB Gate	Each	1,403
	<b>(g)</b>	80 NB Gate	Each	936
	<b>(h)</b>	80 NB Check	Each	936
	<b>(i)</b>	25 NB Gate	Each	342
	<b>(j)</b>	50 NB Gate	Each	751
	<b>(k)</b>	50 NB Check	Each	751
	<b>(l)</b>	15 NB	Each	208
	<b>(m)</b>	Float operated valve 100 NB	Each	1,971
<b>C4F11</b>	<b>11</b>	<b>INSTRUMENTS</b>		
	<b>(a)</b>	Float operated level gauge	Each	1,701
	<b>(b)</b>	Level Switch	Each	1,701
	<b>(c)</b>	Pressure Gauge	Each	986
	<b>(d)</b>	Pressure Switch	Each	2,071
	<b>(e)</b>	Differential Pressure Gauge	Each	1,504
<b>C4F12</b>	<b>12(a)</b>	Deluge valve with motor gounge, pr.switch, pr.guage, solenoid valve to drain - size 150 NB	set	9,315
	<b>(b)</b>	Local control panel for Deluge valve	Each	2,636
	<b>(c)</b>	Strainer Y type, 150 NB	Each	2,071
	<b>(d)</b>	Quartzoid bulb detectors	Each	168
	<b>(e)</b>	HVW spray nozzles	Each	168
<b>C4F13</b>	<b>13</b>	<b>Detection &amp; Alarm System</b>		
	<b>(a)</b>	Ionization smoke detector	Each	751
	<b>(b)</b>	Photoelectric smoke detector	Each	751
	<b>(c)</b>	Heat detector	Each	751
	<b>(d)</b>	Response indicator	Each	751
	<b>(e)</b>	Manual call point	Each	751
	<b>(f)</b>	Fire detection & Alarm panel with siren and top of control room and hooters at every floor	Each	751
<b>C4F14</b>	<b>14</b>	<b>Portable Fire Extinguishers</b>		
	<b>(a)</b>	Dry chemical powdertype Fire extinguishers with all accessories.		
	<b>(i)</b>	10 kgs. Capacity	Each	76
	<b>(ii)</b>	25 kgs. Capacity (trolley mounted)	Each	150
	<b>(iii)</b>	50 kgs. Capacity (trolley mounted)	Each	201
	<b>(iv)</b>	150 kgs. Capacity (trolley mounted)	Each	431

	<b>(b)</b>	CO2 type portable Fire extinguishers		
	<b>(i)</b>	45 kgs. Capacity (trolley mounted)	Each	155
	<b>(ii)</b>	22.5 kgs. Capacity (trolley mounted)	Each	155
	<b>(iii)</b>	9 kgs. Capacity (trolley mounted)	Each	74
	<b>(iv)</b>	2 kgs. Capacity (Portable )	Each	58
	<b>(c)</b>	9 Litres capacity Mechanical foam type fire	Each	78
	<b>(d)</b>	Sand / water Buckets 9 litres capacity	Each	102
<b>C4F15</b>	<b>15</b>	<b>Air Conditioning System</b>		
	<b>1</b>	Erection, testing and commissioning of Split AC 2 Ton with all suitable accessories	Each	7,374
	<b>2</b>	Erection, testing and commissioning of 4HP Industrial VRF type AC Units with all suitable accessories	Each	36,243
	<b>3</b>	Erection of Air Conditioning AC distribution panel	Each	6,210
	<b>4</b>	Providing Under Deck Insulation for the Roof exposed to sunlight with 50 mm thick TF quality expanded poly styrene including Insulation, GI washers and wire for fixing.(GOAP Common SOR 2024-25)	Sqft	81
	<b>5</b>	Erection of Ventilation fans		
	<b>i)</b>	600 mm Sweep	Each	1,651
	<b>ii)</b>	450 mm Sweep	Each	1,651
	<b>iii)</b>	300 mm Sweep	Each	1,651
	<b>iv)</b>	Ventilation unit without cabinet-49300 CMH @ 60 mmwg	Each	60,891
	<b>v)</b>	Ventilation unit without cabinet-49300 CMH @ 60 mmwg	Each	60,891
<b>C4F16</b>	<b>16</b>	Erection, testing and commissioning of 250 KVA DG Set complete including AMF Panel, auxiliaries etc.	Set	1,10,010
<b>C4F17</b>	<b>17</b>	Erection, testing and commissioning of 33kV Station Supply System		
	<b>1</b>	33kV/440 V Substation :		
	<b>(a)</b>	33kV/433 V, 630KVA Station supply transformer	Each	9,423
	<b>(b)</b>	33 kV Isolator with terminal connectors and support insulators	Set	2,805
	<b>(c)</b>	33 kV HG Fuse set	Each	1,042
	<b>(d)</b>	33 kV Lightning Arrestor	Each	876
	<b>(e)</b>	150 x 75 mm M.S Channels &Struc.	MT	3,974
	<b>(f)</b>	HT Trivector Meter Box	Each	1,183
	<b>(g)</b>	Hoisting of Insulators & Hardware, stringing/formation of the 33 kV Bus comprising of 3 phases with DOG Conductor and all equipment to equipment, equipment to bus interconnections, jumpering, fixing of clamps & connectors etc. required for the entire 33kV/440 V station supply switchyard of 400/220 KV Substation complete as directed by site engineer.	LS	21,692

	<b>2</b>	33 kV Line :		
	<b>(a)</b>	Erection of pole in position, aligning and setting to work, fixing of cross arms and top clamps, earthing of supports, fixing of danger boards, back filling with earth and stones properly ramming including transport of materials from road side to location excluding concreting and including excavation.	Set	2,512
	<b>(b)</b>	Assembly and erection of D.P.Structure as per specification which includes fixing of top channels and cross bracings, transport of all materials from road side to the location, earthing, back filling with earth ramming etc excluding concreting and including excavation.	Set	4,025
	<b>(c)</b>	Mass concreting of supports erected with CC (1:4:6) using 40 mm, HBG metal including the cost of metal, sand, cement and curing etc.	Cum	7,577
	<b>(d)</b>	Assembly and erection of stay set including fixing of guy insulators, clamps etc., on the pole and fixing stay wire and binding securely on either side as per standards, transport of material from road side to location and back filling with earth ramming etc excluding concreting and including excavation.	Set	505
	<b>(e)</b>	Paving out conductor, providing temporary stays, tensioning, sagging correctly, fixing strain points, transferring to pin points binding, fixing of Insulators, guys and jumpering etc.,including transport of material from road side to location. ( 3phases)	km	18,435
	<b>18</b>	<b>Erection of Control and Relay Panels</b>		
<b>C4F18</b>		Receipt from site stores, Transport to control room, handling, Erection, Testing and commissioning of all Control, Relay, Protection and other Panels/ Equipment, with complete accessories, equipment etc., as specified.		
	<b>(i)</b>	400 KV Feeders/ Tie/ 315 MVA Transformer Control/ Relay/ Protection Panels.	Each	51,877
	<b>(ii)</b>	220 KV Feeders/ Bus coupler/ Transfer Bus / 315 MVA Transformer / 50/63/80MVAR/125 MVAR Shunt Reactors Control/Relay/ Protection Panels.	Each	49,408
	<b>(iii)</b>	Common equipment panels for 400/220kV	Each	42,636
	<b>(iv)</b>	400kV Bus bar Protection	Set	66,963
	<b>(v)</b>	220KV Bus bar Protection	Set	86,453
<b>C4F19</b>	<b>19(i)</b>	Common equipment Panels for 400/220kV.	Each	42,636
	<b>19(ii)</b>	All other equipment of SMS and Time synchronizing equipment.	Each	1,98,417
	<b>19(iii)</b>	400KV AC Bay Kiosk	Each	50,231
	<b>19(iv)</b>	220KV AC Bay Kiosk	Each	37,674

<b>C4F20</b>	<b>20</b>	Complete Substation Automation system for 400/220KV Substation including hard ware and software for remote control station along with associated equipments and kiosks in full shape as per specification.		
	<b>(a)</b>	Installation, Testing and commissioning of Networking Panel, OWS1, OWS2, EWS Remote work station. BCUs, LIUs, Ethernet Switches, Splicing of OFC etc.,	Set	3,24,162
	<b>(b)</b>	Installation, Testing and commissioning of all necessary software's compatible to IEC: 61850 for making the SAS operation in full shape including remote SCADA complete as directed by site engineer.	Set	1,08,056
	<b>(c)</b>	Extension works of Installation, Testing and commissioning of BCU, LIU, Ethernet Switch, Splicing of OFC to the existing SAS System.		
	<b>(i)</b>	FIRST BAY	Per bay (if it is First Bay)	43,222
	<b>(ii)</b>	SECOND BAY onwards	Per Bay	21,612
	<b>(d)</b>	Extension works of Installation, Testing and commissioning of all necessary software's compatible to IEC: 61850, adding new SLD for the new bay in the existing substation and configuring all necessary signals and data base for making the SAS operation in full shape including Remote SCADA as directed by site engineer.		
	<b>(i)</b>	FIRST BAY	Per bay (if it is First)	1,08,056
	<b>(ii)</b>	SECOND BAY onwards	Per Bay	54,026
		220 V DC Battery & Battery Chargers and AC, DC Distribution Boards		
	<b>1</b>	Receipt from site stores, Transport to control room, handling Erection, Testing and commissioning of Battery & Battery chargers with complete accessories, equipment etc., as specified.		
	<b>(a)</b>	220V, 400AH/800AH Capacity Sealed Maintenance free VRLA Type 1 No Battery Banks along with all other required accessories.	Set	18,233
	<b>(b)</b>	60/100A Float - Cum- Boost Charger (1 No.)	Set	10,848
	<b>2</b>	Receipt from site stores, Transport to control room, handling, Erection, Testing and commissioning of A.C.& D.C. Distribution Boards with complete accessories, equipment etc., as specified.		
	<b>(a)</b>	415V AC Main Board (Sub-Boards- I & II) as per the Specification & Drawing.	Each	1,47,477
	<b>(b)</b>	415V AC Distribution Board (Sub- Boards- I & II) as per the Specification & Drawing.	Each	2,45,801

	(c)	415V AC Lighting Board (Sub- Boards- I & II ) & Emergency Lighting Board as per the Specification & Drawing.	Each	61,748
	(d)	220V DC Distribution Board (Sub-Boards- I & II) as per the Specification & Drawing.	Each	37,246
	(e)	Outdoor AC Distribution Board with 2 Nos Incomings, 3 Phase, 440 V, 300 Amps, with Cu Bar and 300 Amps Fuse units & Neutral link complete and outgoing 2 Nos , 3P, 125 A, MCBs including all accessories.	Each	3,002
	(f)	Distribution board with 1No., 63A TP MCB for I/C and 15Nos 16A SP MCB with terminal block arrangement complete make Havells or Schiender MDS or equivalent.	Each	3,002
	(g)	AC Distribution Boards Mains for usage in AC Kiosks for supply (indoor wall inserted/mounted) with SP 16A MCBs - 3 Nos., 6A SP MCBs-2Nos., 2A SP MCBs 3 Nos.	Each	574

**ANNEXURE – VI**

**TRANSPORTATION, HANDLING CHARGES INVOLVED DURING ERECTION OF 400KV TRANSMISSION LINES**

C4H1	1	Total cost for transportation and handling Charges for Setting of Stub with Stub setting template.	Each Set	1,179
C4H2	2	Erection of Tower: Total cost for transportation and handling Charges.	Per MT	931
C4H3	3	Double Circuit Stringing with Twin Moose: Transportation and handling charges for line materials.	Per KM	25,495
C4H4	4	Single Circuit Stringing with Twin Moose: Transportation and handling charges for line materials.	Per KM	13,608
C4H5	5	Double Circuit Stringing with Quadruple Moose: Transportation and handling charges for line materials	Per KM	50,990
C4H6	6	Single Circuit Stringing with Quadruple Moose: Transportation and handling charges for line materials.	Per KM	27,218
C4H7	7	OPG wire & earth wire: Transportation and handling charges for OPGW/earthing materials for 1 km for D/C stringing.	Per KM	776
C4H8	8	OPG wire & earth wire: Transportation and handling charges for OPGW/earthing materials for 1 km for S/C stringing.	Per KM	794

ANNEXURE -VII						
I	Sl. No.	Item No.	Description of Item	Unit	SSR Rate for 2023-24 (in Rs) (Rounded to nearest Rupee)	
					Loading	Un Loading
	ST1	I	Cement	MT	155	181
		2	All other materials			
	ST2	(i)	Steel	MT	352	352
	ST3	(ii)	Tower parts	MT	352	352
	ST4	(iii)	RS Joists and rail poles and MS Sheets pf various sizes.	MT	352	352
		3	Cable / Conductor drums (for loading / un loading )			
	ST5	a	Panther ACSR	Each Drum	388	388
	ST6	b	Zebra ACSR	Each Drum	542	542
	ST7	c	Moose ACSR	Each Drum	542	542
	ST8	d	Moose ACSR (Huge Drums of 1.75KM and above)	Each Drum	797	797
	ST9	e	Earth wire	Each Drum	232	232
	ST10	f	Control cables up to 6 Core	Each Drum	232	232
	ST11	g	Control cables above 6 Core	Each Drum	310	310
	ST12	h	3 1/2 Core LTAC cable drum (up to 500 meters).	Each Drum	310	310
	ST13	i	3 1/2 Core LTAC cable drum (above 500 meters).	Each Drum	388	388
		4	Other materials received in cases.			
	ST14	(i)	Case weighing not more than	Each case	204	204
	ST15	(ii)	Case weighing from 101kgs to 500kgs.	Each case	386	386
	ST16	(iii)	Case containg fragile items and weighing more than 501kgs and up to 1MT	Each case	770	615
	ST17	(iv)	for LTAC panel	Each	513	513
	ST18	v(a)	70KN Normal disc insulator	Each	2	2
	ST19	v(b)	120KN Normal disc insulator	Each	2	2
	ST20	v(c)	160KN Normal disc insulator	Each	3	3
	ST21	vi(a)	70KN Anti-fog disc insulator	Each	2	2

ST22	vi(b)	120KN Anti-fog disc insulator	Each	3	3
ST23	vi(c)	160KN Anti-fog disc insulator	Each	4	4
	(vii)	Loading / Un loading and stacking charges for 70KN /120KN SRC insulators.			
ST24	(a)	132kV	Each string	4	4
ST25	(b)	220kV	Each string	4	4
ST26	(viii)	Loading / Un loading and stacking charges for 120KN /160KN SRC insulators for 400kV .	Each string	5	5
	5	Cases containing Control & Relay Panels			
ST27	(a)	33kV	Each	513	513
ST28	(b)	132kV and 220kV	Each	641	641
	6	Cases containing CTs, PTs, CVTs			
ST29	(i)	11kV to 33kV Rating	Each case	116	116
ST30	(ii)	Above 33kV and up to 132kV	Each case	775	775
ST31	(iii)	220kV Rating	Each case	1155	1155
	7	Cases containing LAs			
ST32	(i)	33kV	Each case	20	20
ST33	(ii)	132kV	Each case	386	386
ST34	(iii)	220kV	Each case	513	513
	8	Loading / Un-Loading of			
ST35	1	33kV Breaker	Each set	947	947
ST36	2	132kV CB	Each set	3078	3078
ST37	3	220kV SF6 CB	Each set	3846	3846
ST38	4	Station Transformer (100KVA)	Each set	590	590
ST39	5	Station Transformer (250KVA)	Each set	707	707
ST40	6	220V 80AH Battery ( <b>Conventional</b> ) (Lead Acid)	Set	1282	1282
ST41	7	220V 80AH Battery (VRLA) (Maintenance Free)	Set	899	899
ST42	8	220V 200AH Battery ( <b>Conventional</b> ) (Lead Acid)	Set	1409	1409
ST43	9	220V 400AH Battery	Set	2051	2051
ST44	10	220V Battery Charger with DC distribution Board	Set	770	770
ST45	11	DCDB for battery Charger.	Each	256	256
ST46	12	132kV Hardware single	Set	18	18
ST47	13	132 KV Hardware double	Set	19	19
ST48	14	220 kV Hardware single	Set	25	25
ST49	15	220 KV Hardware double	Set	27	27
ST50	16	220 KV Isolators, without insulators including machanism box	Set	770	770
ST51	17	220kV Solid core insulators	Each	103	103
ST52	18	132 KV Isolators (without soild core insulators)	Each	576	576

ST53	19	132kV Solid core insulators	Each	63	63
ST54	20	33 KV Isolators (without soild core insulators)	Each	256	256
ST55	21	33kV Solid core insulators	Each	6	6
ST56	22	Vibration dampers, mid span compression joints, repair sleeves, clamps & connectors etc	100 Nos	256	256
	23	Capacitor Banks			
ST57	a	5 MVAR	Set	2051	2051
ST58	b	Neutral C.T.	Each	140	140
ST59	24	Scrap items like MS Scrap, GI Scrap, Ferrous Scrap etc.,	Per MT	386	386
ST60	25	Scrap items like Conductor scrap, Earth wire Scrap, etc.,	Per MT	513	513
ST61	26	Bolts & Nuts weighing 50 Kgs bags <u>including springs washers, flat washers.</u>	Each bag	12	12
ST62	27	3 1/2 Core LTAC Cable bits (loose) by measuring and load / unload (up to 500 Meters, limited to Rs.142 per Bit (Maximum)	Mts	1.07	1.07
ST63	28	Cable bits (loose) up to 6 Core by measuring and load / un load.( up to 500 Meters, limited to Rs.106 per Bit (Maximum)	Mts	1.07	1.07
ST64	29	Cable bits (loose) above 6 Core by measuring and load / un load.(up to 500 Meters, limited to Rs.142 per Bit (Maximum)	Mts	1.07	1.07
ST65	30	Copper Scrap	Per MT	307	307
ST66	31	Battery Scrap	Per MT	321	321
ST67	32	Capacitor units Scrap	Each	14	14
ST68	33	33kV Breaker Limb	Each	259	259
ST69	34	132kV Breaker Limb	Each	641	641
ST70	35	220kV Breaker Limb	Each	922	922
ST71	36	Tyres scrap of all sizes	Each	31	16
ST72	37	Empty oi drums	Barrel	5	5
ST73	38	Full oil drums	Barrel	65	65
ST74	39	220V, 200AH Battery (VRLA) (Maintenance free)	Set	986	986
ST75	40	220kV Bushing	Each	399	399
ST76	41	132kV Bushing	Each	199	199
ST77	42	33kV Bushing	Each	50	40
Note:	If loading / Un loading is done with Crane, 1/3 rd Charges are to be paid towards labour charges and remaining amount is towards crane hire charges. Example: Loading charges of 100 kVA Station Transformer is Rs. 590 and in case is loaded by using a crane then labour charges would be Rs.197				

<b>II.</b>		<b>LOADING AND UN LOADING AND COUNTING AT STORES FOR CHECK MEASURING AND STOCK VERIFICAITON PURPOSE</b>		
<b>Sl. No.</b>	<b>Item No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>SSR Rate for 2023-24 (in Rs)</b>
ST78	43	Tower parts counting on part wise and restocking at stores yard ( for stock verification purpose)	Per MT	130
ST79	44	Labour charges for weighing and restocking of GI Tower Parts or Bolts & Nuts, Washers (for stock verification purpose)	Per MT	513
ST80	45	Labour charges for loading and unloading of ACSR, AAA Conductor & Earth wire bits for weighment (for stock verification purpose).	Per MT	513
ST81	46	Counting and Restocking of Hardware (Iron parts, Al jumper cones, Al Tension cones, PA rods, Arcing horns, Al grippers etc) (for stock verification purpose).	Each set	7.50
ST82	47	Counting and Restocking of 220kV & 132kV Line accessories like Dampers, MSC Joints, Repair sleeves, PA rods, D- Shackles Links, Earthing sets, Hangers, Counter Poise Earthing Clamps etc (for stock verification purpose)	Each set	2.14
ST83	48	Counting and restocking of insulators of various capacities (for stock verification purpose).	Each	2.14
ST84	49	Loading of Assorted tower parts from different places by observing part wise and loading in to lorry at stores.	Per MT	386
ST85	50	For Opening and Repacking of Packing of Panels for check measuring purpose	Each	77
	51	For Opening and Repacking of Packing of Breakers for check measuring purpose		
ST86	(a)	220 kV	Each	256
ST87	(b)	132 kV	Each	181
ST88	(c)	33 kV	Each	77
ST89	52	For Opening and Repacking of Packing of Fragile Materials, and Small Packages like wooden, Cartoon Boxes etc., for check measuring purposes.	Each	39
<b>III</b>		<b>Crane Hire charges:(for departmental works at the premises)</b>		
	53	For 2 to 8 Tonne Capacity crane		
ST90		i.For Ist hour	Hour	3811
ST91		ii.For every hour or part thereof after Ist hour	Hour	1730
	54	For 8 to 20 Tonne Capacity crane		
ST92		i.For Ist hour	Hour	5942
ST93		ii.For every hour or part thereof after Ist hour	Hour	1981
	55	For above 20 Tonne Capacity crane		
ST94		i.For Ist hour	Hour	9163
ST95		ii.For every hour or part thereof after Ist hour	Hour	3221

IV		Sparing of Departmental vehicle to the contractor:		
ST96	56	Sparing of Departmental vehicle(Lorry) to the contractor is under emergency only. When departmental lorry is engaged to the Contractor on a particular day an amount per day or part there of should be recovered for a total KM run up to 100KM on that day plus for every additional KM rate, which ever is higher. The run to be worked out taking initial reading at starting point and closing reading after returing the same starting point duly completing the transport	Per day	4993
			Plus additional 1Km	42
ST97	57	Providing Transportation to Officers		9.07

**Note:**

1 When the departmental lorry is used for transport of fragile and costly equipment, they have to be insured by the contractor in first place before transport and the same will be claimed in the respective work bill.

2 If the crane is given on hire to other than APTRANSCO works, the rate is a minimum of Rs. 29283.12 (Rs.1220.13-per hr X 24Hrs) + (Fuel cost & lubricants) per day or part thereof and the time is to be reckoned from the time of leaving department premises till reaching back.

**ANNEXURE -VIII****TRANSPORT OF EQUIPMENTS / MATERIALS**

Sl.No.	Item No.	Description of Item	Per Load SSR 2025-26
		The following are the minimum materials / equipment, for each load. One Load = 9.0 MT	
	<b>1</b>	<b>CTs, PTs, &amp; CVTs:</b>	
T.1	1.a	<b>400kV</b>	2 Nos.
T.2	1.b	220 kV	2 Nos.
T.3	1.c	132 kV	3 Nos.
T.4	1.d	33 kV	12 Nos.
		NOTE: For transport of 220kV CTs, PTs & CVTs extra provision may be added for each load towards labour for clearing the obstructions like electrically and telephone lines as the equipment are very tall. (In Rupees)	304
	<b>2</b>	<b>SF6 Circuit Breakers:</b>	
T.4	2.a	<b>400kV</b>	1/3 Sets
T.5	2.b	220 kV	1/2 sets
T.6	2.c	132 kV	2/3 sets
T.7	2.d	33 kV	3 Nos.
	<b>3</b>	<b>Isolators with or without Earth switch including post type insulators:</b>	
T.8	3.a	400kV	1 set
T.9	3.b	220 kV	2 set.

T.10	3.c	132 kV		3 Sets
T.11	3.d	33 kV		8 Nos.
	<b>4</b>	<b>Lighting Arrestors:</b>		
T.12	4.a	<b>400kV</b>		3 Nos.
T.13	4.b	220 kV		6 Nos.
T.14	4.c	132 kV		6 Nos.
T.15	4.d	33 kV		24 Nos.
	<b>5</b>	<b>Control &amp; Relay panels:</b>		6 Nos.
	<b>6</b>	<b>ACSR Conductor and Earth wire drums:</b>		
T.16	6.a	ACSR moose		3Nos.
T.17	6.b	ACSR Zebra		4Nos.
T.18	6.c	ACSR Panther		6Nos.
T.19	6.d	Earth wire of 2 km per each drum		8Nos.
T.20	6.e	Earth wire of 3 km per each drum		7 Nos.
T.21	6.f	CABLE DRUMS		10Nos.
	<b>7</b>	<b>Disc Insulators</b>		
T.22	7.a	70 KN		1000 Nos.
T.23	7.b	120KN		800 Nos.
	<b>8</b>	<b>Silicon Rubber Insulators</b>		
T.24	8.a	70 KN		275 Nos.
T.25	8.b	120KN		228 Nos.
	<b>9</b>	<b>Wave Traps</b>		
T.26	9.a	220kV		6 Nos.
T.27	9.b	132kV		16 Nos.

**ANNEXURE – IX**

**33KV SUBSTATION POWER SUPPLY FACILITIES FROM 315 MVA ICT TERTIARY WINDING**

Sl. No.	Item. No.	Description of Item	Unit	SSR Rate for 2025-26(in Rs)
		Erection of following equipment with Crane/Derrick at site including handling the material/equipment carefully at site including labour charges for all incidental and operational items of work.		
C4T1	1	52KV /415V, 630KVA Station supply Transformers with all accessories and fitting as per specification.	Nos	11,232
C4T2	2	72.5KV, 800Amps Isolators with terminal connectors including support insulators complete	Nos	3,344
C4T3	3	Erection of CTs, PTs, LAs Structures.	Nos	1,191
C4T4	4	33 KV CTs with Junction box and terminal connectors and all accessories as per the specification.25-15/1-1-1 A ,0.2 Class accuracy for metering core	Nos	1,748

C4T5	5	33KV PTs with Junction box and terminal connectors and all accessories as per the specification. 33KV/110V with 0.2 class & 10 VA accuracy for metering core as per specification.	Nos	1,748
C4T6	6	72.5KV VCB with all accessories complete integrated to the substation automation system.	Nos	10,370
C4T7	7	33kV Control & Relay panel with BCU suitable to SAS Control and Relay with Terminal Connectors and all accessories including Ammeter, Voltmeter, MW Meter, 0.2 Class accuracy Energy Meter / Multi Function meter, TNC Switch, Indication Bulbs, 3 Nos Over Current, 1 No Earth Fault Relay ( IDMT Non Directional ), Neutral Displacement Relay.	Nos	4,572
C4T8	8	72.5kV Bus Post Insulators (solid core insulators)	Nos	369
<b>Energy Meter Installation and Testing</b>				
C4T9	9	NABL Lab testing charges for 220kV CTs & 220kV PTs	Nos	49,096
C4T10	10	NABL Lab testing charges for Energy Meters	Nos	41,421
C4T11	11	Supply and fixing of GI HT metering box and construction of brick masonry plinth of suitable size plastering plinth 12mm thick with CM 1:4 and white washing 2 coats with suryacem, fixing of foundation bolts and drilling of 2mm dia holes to terminal cover bolts for sealing of 220kV CTs & PTs etc., complete as per APSPDCL specification.	Nos	51,496
C4T12	12	Supply and fixing of 1'1.5' GI pipe for metering from CT & PTs to metering box including cost of GI pipe, T joints, L joints, cutting, threading, drilling of holes, welding charges etc., as directed by Engineer in charge.	Nos	185
C4T13	13	Multi stand Flexible Copper Cable (Size 2.5sq.mm with Red, Yellow, Blue & Black Colour Cables) of reputed make.	Nos	56
C4T14	14	Multi stand Flexible Copper Cable (Size 4 sq.mm with Red, Yellow, Blue & Black Colour Cables) of reputed make.	Nos	71

**ANNEXURE - X****RATES FOR HANDLING & ERECTION OF POWER TRANSFORMERS**

Sl. No.	Item No.	Description of Item	Unit	SSR Rate for 2025-26 (in Rs)
<b>A) HANDLING AS JOB WORK BY DEPARTMENT</b>				
	1	<b>Loading/Unloading of T&amp;P such as wooden sleepers, winch jacks, packing pieces etc., required for handling the power transformers.</b>		
PT1	a	Up to 31.5 MVA transformers, one load of wooden sleepers and another load of T&P such as chain pulley block and rail poles etc (Maximum two loads)	Load	1694

PT2	b	For above 31.5 MVA and up to 100 MVA transformers, two loads of wooden sleepers and another load of T&P such as chain pulley block, winch and rail poles etc (Maximum three loads)	Load	1694
PT3	c	For the above 100 MVA and up to 160 MVA transformers, three loads of wooden sleepers and another load of T&P such as winch machine and rail poles etc (Maximum Four loads)	Load	1694
	<b>2</b>	<b>Loading/Unloading of fragile material such as</b>		
	a)	LV bushing / Neutral bushing for 132 kV transformer		
PT4	(i)	Loading	Each	51
PT5	(ii)	Unloading	Each	41
	b)	132kV Bushings		
PT6	(i)	Loading	Each	199
PT7	(ii)	Unloading	Each	199
	c)	220kV Bushings		
PT8	(i)	Loading	Each	397
PT9	(ii)	Unloading	Each	397
		<b>NOTE</b> :If loading / Un loading is done with Crane, 1/3rd Charges are to be paid towards labour charges and remaining amount is towards crance hire charges.		
PT10	3	Loading/Unloading of accessories of transformer including raidator, pipe line, FCC & RTCC panels, conservator tank, turrets LA set frames and oil barrels 'A' frame and header etc., (For 50MVA and above 50 MVA PTRs without oil barrels)	Load	2801
	<b>4</b>	<b>Dragging of power transformer main tank duly arranging wooden sleeper platform providing packing pieces, jacking up the transformer, insertion of wooden sleeper, rail poles arrangement of pullies, steel ropes positioning of winch and anchoring of winch.</b>		
	a	Transformers upto 16 MVA capacity		
PT11		Up to 10 Mtrs.	LS	4460
PT12		Over and above 10 Mtrs.	RM	445
	b	Transformers above 16MVA and upto 31.5 MVA capacity		
PT13		Up to 10 Mtrs.	LS	8144
PT14		Over and above 10 Mtrs.	RM	815
	c	Transformers above 31.5MVA and upto 50 MVA capacity		
PT15		Up to 10 Mtrs.	LS	9504
PT16		Over and above 10 Mtrs.	RM	950
	d	Transformers above 50MVA and upto 100 MVA capacity		
PT17		Up to 10 Mtrs.	LS	11745
PT18		Over and above 10 Mtrs.	RM	1173

	e	Transformers above 100MVA and upto 160 MVA capacity		
PT19		Up to 10 Mtrs.	LS	15110
PT20		Over and above 10 Mtrs.	RM	1512
	<b>5</b>	<b>Turning the transformer through 90 degrees including making arrangements as above.</b>		
PT21	a	Transformers upto 16 MVA capacity	Each	3992
PT22	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	5006
PT23	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	6226
PT24	d	Transformers above 50MVA and upto 100 MVA capacity	Each	7124
PT25	e	Transformers above 100MVA and upto 160 MVA capacity	Each	8904
	<b>6</b>	<b>Turning the transformer through 180 degrees including making arrangements as above.</b>		
PT26	a	Transformers upto 16 MVA capacity	Each	6920
PT27	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	8321
PT28	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	9804
PT29	d	Transformers above 50MVA and upto 100 MVA capacity	Each	10895
PT30	e	Transformers above 100MVA and upto 160 MVA capacity	Each	13072
PT31	7(a)	Anchoring of transformer including excavation of trench of 4 x 1x0. 5 mtrs for anchoring and burying 2 Nos. sleepers in it and removing the same after work is completed.	1 Job	1694
PT32	7(b)	Movement of 10 MT winch for anchoring.	1 Job	1532
	<b>8</b>	<b>Lifting/Lowering the transformer main tank to the required height of one sleeper using jacks and wooden sleepers packing pieces for loading onto /from the truck.</b>		
PT33	a	Transformers upto 16 MVA capacity	Each	4844
PT34	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	7466
PT35	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	9294
PT36	d	Transformers above 50MVA and upto 100 MVA capacity	Each	12390
PT37	e	Transformers above 100MVA and upto 160 MVA capacity	Each	15854
	<b>9</b>	<b>Pulling the transformer from platform to the truck for loading/ from truck to the platform for unloading</b>		
PT38	a	Transformers upto 16 MVA capacity	Each	4074

PT39	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	7124
PT40	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	7918
PT41	d	Transformers above 50MVA and upto 100 MVA capacity	Each	9901
PT42	e	Transformers above 100MVA and upto 160 MVA capacity	Each	13381
	<b>10</b>	<b>Fixing of transformer wheels to main tank including alignment of transformer etc.,</b>		
PT43	a	Transformers upto 16 MVA capacity	Job	1883
PT44	b	Transformers above 16MVA and upto 31.5 MVA capacity	Job	2223
PT45	c	Transformers above 31.5MVA and upto 50 MVA capacity	Job	3236
PT46	d	Transformers above 50MVA and upto 100 MVA capacity	Job	4194
PT47	e	Transformers above 100MVA and upto 160 MVA capacity	Job	6215
PT48	11	Arranging gas cutter equipment at site including operator and helper to remove anchoring of transformer main tank on truck for loading and unloading (including cost of gas)	Job	3087
	<b>12</b>	<b>Removal of steel rope and turn buckles of transformer main tank on truck.</b>		
PT49	(a)	Up to 100MVA Capacity	Job	848
PT50	(b)	above 100MVA and up to 160MVA Capacity	Job	1271
	13	Tying the transformer main tank on to the truck with steel rope and turn buckles		
PT51	(a)	Up to 100MVA Capacity	Job	1093
PT52	(b)	above 100MVA and up to 160MVA Capacity	Job	1635
	14	Assisting for lifting of overhead live lines, while transporting of transformers by truck.		
PT53	(a)	Up to 100MVA Capacity	Job	2391
PT54	(b)	above 100MVA and up to 160MVA Capacity	Job	4780
<b>**Note:</b>				
i) Lr.No.CE (Tr) / SE (Tr) / EE (Tr) / DEE-3 / F.CTO-06/2023 –ERC / D.No.14/24, Dt.20.06.2024 on rate contract basis for Erection and oil filtration works of 220kV and 132kV class Power Transformers through private agency are valid from 24.06.2024 to 23.06.2026 and same is followed in continuation circular issued.				
ii) Fixing up for repair and overhauling works of 220 KV and 132 KV Class power Transformer to be taken from prevailing latest available rates issued by Chief Engineer/Transmission.				
iii) Rate contract for erection, dismantling, transportation and oil filtration of 400kV class Power Transformers through private agency are to be taken from prevailing latest available rates issued by Chief Engineer/Transmission.				
	<b>B)</b>	<b>ERECTION OF POWER TRANSFORMERS AS JOB WORK BY DEPARTMENT</b>		
	1	Opening of crates and keep ready for erection of accessories of transformers		

PT55	a	Transformers upto 16 MVA capacity	Job	2,662
PT56	b	Transformers above 16MVA and upto 31.5 MVA capacity	Job	3,326
PT57	c	Transformers above 31.5MVA and upto 50 MVA capacity	Job	4,453
PT58	d	Transformers above 50MVA and upto 100 MVA capacity	Job	5,343
PT59	e	Transformers above 100MVA and upto 160 MVA capacity	Job	7,124
	2	Shifting, loading dragging of accessories of transformers like radiator, conservator tank, pipe line, fans, headers, DM box, FCC, oil barrels etc., from place of storage to work spot and vice versa of transformers.(For 50MVA and above 50 MVA PTRs without oil barrels)		
PT60	a	Transformers upto 31.5 MVA capacity	Job	3,992
PT61	b	Transformers above 31.5MVA and upto 100 MVA capacity	Job	5,326
PT62	c	Transformers above 100MVA and upto 160 MVA capacity	Job	7,317
PT63	d	Transportation of oil barrels from unloading place to the filter machine in the substation.	Job	3,982
	3	Erection of Radiators to the transformers including headers		
PT64	a	Transformers upto 16 MVA capacity	Job	2,962
PT65	b	Transformers above 16MVA and upto 31.5 MVA capacity	Job	4,747
PT66	c	Transformers above 31.5MVA and upto 50 MVA capacity	Job	5,899
PT67	d	Transformers above 50MVA and upto 100 MVA capacity	Job	7,231
PT68	e	Transformers above 100MVA and upto 160 MVA capacity	Job	9,857
	4	Erection of main conservator tank.		
PT69	a	Transformers upto 16 MVA capacity	Each	2,673
PT70	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	2,971
PT71	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	4,358
PT72	d	Transformers above 50MVA and upto 100 MVA capacity	Each	6,786
PT73	e	Transformers above 100MVA and upto 160 MVA capacity	Each	8,736
PT74	f	Pronal bag testing and commissioning	Each	2,938
PT75	g	Hiring of compressor	Each	2,059
PT76	h	Dry Nitrogen Cylinder (In case, Dry Nitrogen Cylinder is used for commissioning of Air cell instead of Air compressor), excluding transportation cost.	Each	3,226
	5	Erection of transformer bushing		

PT77	a	33 kV Neutral and tertiary bushings	Each	583
PT78	b(I)	132 kV bushings up to 100MVA.	Each	1,083
PT79	b(ii)	132 kV bushings for above 100MVA and up to 160MVA	Each	1,356
PT80	c(I)	220 kV bushings up to 100MVA	Each	1,628
PT81	c(ii)	220 kV bushings for above 100MVA and up to 160MVA	Each	2,018
PT82	d(I)	220kV 3 Nos. erection of turrets up to 100MVA	Job	2,331
PT83	d(ii)	220kV 3 Nos. erection of turrets for above 100MVA and up to 160MVA	Job	3,058
PT84	e(I)	132kV 3 Nos. erection of turrets up to 100MVA	Job	1,094
PT85	e(ii)	132kV 3 Nos. erection of turrets for above 100MVA and up to 160MVA	Job	1,604
PT86	6	Erection of air blowers (cooling fans) including frames and control cubical etc., (for each transformer)	Job	4,405
PT87	7	Erection of LA frames (HV & LV side)	Each	1,383
PT88	8(a)	i).Erection of driving mechanism box, bevel gear of OLTC for below 100MVA..	Each	1,383
PT89		ii).Erection of driving mechanism box, bevel gear of OLTC 100MVA and above 100MVA.	Each	2,764
PT90	8(b)	ii).Erection of OLTC conservator tank with stand for up to 100MVA.	Each	1,786
PT91		ii).Erection of OLTC conservator tank with stand for above 100MVA and upto 160MVA.	Each	2,673
	9	Erection of pipe line.		
PT92	a	Transformers upto 31.5 MVA capacity	Each	935
PT93	b	Transformers above 31.5MVA and upto 50 MVA capacity	Each	1,397
PT94	c	Transformers above 50MVA and upto 100 MVA capacity	Each	2,368
PT95	d	Transformers above 100MVA and upto 160 MVA capacity	Each	2,960
PT96	10	i).Erection of Thermometer, pressure Relief valve and vent pipe etc.,	Each	935
PT97		ii).Erection of Thermometer, pressure Relief valve and vent pipe etc.,100MVA and above PTRs.	Each	1,397
	11	Erection of detachable OLTC including connecting internal jumper with OLTC tank.		
PT98	a	Transformers upto 31.5 MVA capacity	Each	4,593
PT99	b	Transformers above 31.5MVA and upto 100 MVA capacity	Each	6,920
PT100	c	Transformers above 100MVA and upto 160 MVA capacity	Each	7,714
PT101	12	i).Erection of separate, cooler bay including 'A' frame header pipes and bends of transformers up to 100 PTRs MVA capacity.	Bay	9,901

PT102		ii).Erection of separate, cooler bay including 'A' frame header pipes and bends of transformers above 100 MVA and up to 160MVA PTRs capacity.	Bay	10,895
	13(I)	Removal of old worn out gaskets and replacement with new gaskets including cutting, pasting of gasket with all accessories including cost of adhesives. Excl. top cover		
PT103	a	Transformers upto 16 MVA capacity	Job	3,830
PT104	b	Transformers 31.5MVA and 50 MVA capacity	Job	5,951
PT105	c	Transformers 100 MVA and upto 160 MVA capacity	Job	7,657
	13(II)	Removal of old worn out gaskets and replacement with new gaskets including cutting, pasting of gasket with all accessories including cost of adhesives. for top cover. The following rates are exclusive of crane hire charges which are payable at actuals.		
PT106	a	Transformers upto 16 MVA capacity	Job	1,918
PT107	b	Transformers 31.5MVA and 50 MVA capacity	Job	2,342
PT108	c	Transformers 100 MVA and upto 160 MVA capacity	Job	2,763
PT109	14	Erection of supporting insulators and earth flat for HV & LV Neutrals / Tertiary.	Job	935
	<b>C</b>	<b>OIL FILTRATION OF TRANSFORMERS AS JOB WORK BY DEPARTMENT</b>		
PT110	1	Loading / Unloading of 2KL Oil filter.	Job	3,270
PT111	2	Laying of L.T.Cable from AC Supply point to filter connecting Pipes etc, from filter to transformer and back to filter and Vice-versa.	Job	1,580
PT112	3	Loading / unloading of full transformer oil barrels.	Barrel	64
PT113	4	Loading / unloading of oil drums.	Barrel	11
	5	Oil topping for transformer through oil filter:		
	5.1	Transformer already filled with oil		
PT114	a	Transformers upto 31.5 MVA capacity	Each	1,256
PT115	b	Transformers above 31.5MVA and upto 50 MVA capacity when the transformer is received with transformer oil	Each	2,764
PT116	5.2	Transformers above 50MVA upto 160 MVA capacity When the transformer is received empty with Nitrogen	Barrel	41
	6	Assisting labour for filtering of oil for a period of 5 days during filtration of oil		
PT117	a	For a period of 5 days for Transformers upto 31.5 MVA capacity	Each	5,970
PT118	b	For a period of 5 days for Transformers above 31.5 MVA and upto 100 MVA capacity	Each	8,358
PT119	c	For a period of 5 days for Transformers above 100 MVA and upto 160 MVA capacity	Each	11,944
PT120	a	Over and above 5 days for Transformers upto 31.5 MVA capacity	per day	1,193

PT121	b	Over and above 5 days for Transformers above 31.5 MVA and upto 100 MVA capacity	per day	1,670
PT122	c	Over and above 5 days for Transformers above 100 MVA and upto 160 MVA capacity	per day	2,388
PT123	7(I)	Dismantling of control cables of power transformer for arranging, pulling of transformer maintank out of plinth for failed transformer or improvement of transformer capacity.	Job	1,103
PT124	(ii)	Laying of control cables for the transformers which are received with non completion of wiring on the transformer and complete wiring of the transformer on the tank.F.C.C,D.M box etc., (for old repaired transformers).	Job	2,938
PT125	8	Shifting of filter machine in switch yard from existing place to near transformer or to the convenient place manually (where movement of tractor trailer is not possible).	RM	137
	9	Labour charges for arrangement for vaccum filling for the power transformer for prescribed time duration for 50MVA and above PTRs which are received at site with nitrogen gas filled.		
PT126	(a)	Below 100MVA PTRs	Job	4,405
PT127	(b)	Above 100MVA PTRs.	Job	8,814
PT128	10	Loading / Unloading of 5 KL Storage tanker.	Job	1,459
	11	Hire charges for a private tractor for transport of 6 KL of oil filter.		
PT129		Up to 50 KM	LS	6,917
PT130		Beyond 50 KM	per KM	134
	12	Providing of oil tanker on daily hire charges		
PT131	a	10 KL capacity	Per day	2,169
PT132	b	20 KL capacity	Per day	3,977
	13	Transportation of 10 KL & 20 KL oil tanker (including return trip charges), (a) or (b) only applicable		
PT133		Minimum amount upto 50 KM	LS	10,844
PT134		More than 50 KM	KM	55
	14	Unloading of oil tanker at site and loading the same after completion of the job		
PT135		10 KL capacity	Job	8,584
	15(i)	Complete wiring up of the transformer indicating systems cooler control fans and motor driving mechanism of OLTC panel providing suitable ferrules and lugs.		
PT136	a)	16/31.5 MVA Transformer	LS	25,894
PT137	b)	50 MVA Transformer	LS	33,666
PT138	c)	100 MVA Transformer	LS	37,339
PT139	d)	160 MVA Transformer	LS	37,339

	15(ii)	Complete wiring up of the transformer indicating systems cooler control fans and motor driving mechanism of OLTC panel providing suitable ferrules and lugs excluding OLTC panel		
PT140	a)	16/31.5 MVA Transformer	LS	12,947
PT141	b)	50 MVA Transformer	LS	16,831
PT142	c)	100 MVA Transformer	LS	18,667
PT143	d)	160 MVA Transformer	LS	18,667
PT144	16	Draining of oil from main tank of the transformer into empty oil drums and stacking them neatly as directed by the APTRANSCO Engineer at site.	KL	631
PT145	17	Unloading of 20 KL oil storage taken at site and loading the same after completion of the job	Job	9,377
	D)	Insurance for fragile material during transportation, erection, dismantling may be paid as per actuals from department side for department works.		
<b>ANNEXURE - XI</b>				
<b>RATES FOR O&amp;M WORKS OF EHT LINES</b>				
Sl. No.	Item No.	Description of work	Unit	SSR Rate for 2025-26 (in Rs)
OM1	1	(a).Providing of Vibration dampers (for 220 KV & 132KV lines) (Excluding Material & Transportation cost)	Each	193
OM2		(b). Providing of spacer damper for 400 KV twin Moose lines (Excluding Material & Transportation cost)	Each	262
	2	Painting of towers with two coats of aluminum paint using Aluminum paint 1st grade containing 3.6 Kg of Aluminum paste for 18 liters of thinner 1st coat is to be applied before erection of towers and 2nd coat after stringing and half round welding including cost of paint, cost of brushes, labour charges etc., complete.		
OM3	a)	First coat of 1st Grade Aluminum Paint duly scratching and cleaning of towers including labour charges, cost of paint, brushes etc.	MT	6,147
OM4	b)	Labour charges for painting including scratching and cleaning of towers of 1st coat of Alluminum with out cost of paint & brushes.	MT	1,722
OM5	c)	(*) Second coat of 1st Grade Aluminium Paint duly cleaning of towers including labour charges, cost of paint, brushes, etc.	MT	3,597
OM6	d)	(*) Labour charges for painting including cleaning of towers of 2nd coat of Aluminum with out cost of paint & brushes.	MT	976

		<b>(*): The requirement of 2nd coat is to be justified by the concerned Divisional Engineer/ Executive Engineer before execution of the work.</b>		
	3	Painting of towers with single coat of red oxide paint of 1st Grade, including scratching and cleaning of towers.		
OM7	a)	One coat of 1st Grade Red Oxide Paint including labour charges for scratching and cleaning of towers including cost of paint, brushes etc.	MT	3,850
OM8	b)	Labour charges for painting of towers including scratching and cleaning of towers without cost of paint & brushes.	MT	2,135
OM9	c)	Labour charges for Zinga zinc rich coating or Film Galvanising System containing 96% zinc (dust) in its dry fil and Zinga solvent	Sqmt	198
OM10	4	Providing of Arcing Horns for 132 KV line on both tower side and line side i.e. two per string (Excluding Material & Transportation cost)(with lefty & Pullies)	per string	1,542
OM11	5	Providing of Arcing Horns for 132 KV line (Excluding Material & Transportation cost)(without lefty & Pullies)	Each	193
OM12	6	Providing of Arcing Horns for 220 KV line on both tower side and line side i.e. two per string (Excluding Material & Transportation cost)(with lefty & Pullies)	per string	2,263
OM13	7	Providing of Arcing Horns for 220 KV line (Excluding Material & Transportation cost)(without lefty & Pullies)	Each	193
OM14	8	Providing of Missing angles/ Replacement of rusted angles on the existing towers departmentally (including transporaton charges & Excluding cost of tower parts, bolts & nuts)	Per each	172
OM15	9	Replacement of insulators at Suspension tower of 132 KV line (Excluding Material & Transportation cost)	Per string	1,941
OM16	10	Replacement of insulators at Tension tower of 132 KV line (Excluding Material & Transportation cost)	Per string	3,285
OM17	11	Replacement of insulators at Suspension tower of 220 KV line (Excluding Material & Transportation cost)	Per string	2,135
OM18	12	Replacement of insulators at Tension tower of 220 KV line (Excluding Material & Transportation cost)	Per string	3,776
OM19	13	Replacement of 132 KV line single suspension insulator string with double suspension insulator strings (Excluding Material & Transportation cost)	Per string	2,911
OM20	14	Replacement of 132KV line single tension insulator string with double tension insulator strings (Excluding Material & Transportation cost)	Per string	4,926

OM21	15	Replacement of 220 KV line single suspension insulator string with double suspension insulator strings (Excluding Material & Transportation cost)	Per string	3,091
OM22	16	Replacement of 220 KV line single tension insulator string with double tension insulator strings (Excluding Material & Transportation cost)	Per string	5,664
OM23	17	Replacement of insulators at Suspension tower of 400kV line (Excluding material & Transportation cost )	Per string	2,895
OM24	18	Replacement of insulators at Tension tower of 400kV line (Excluding material & Transportation cost )	Per string	4,827
OM25	19	Painting the welded portion of GI bolts and nuts of towers In the section ground level and up to X-arm level including all bolts connecting the bracings at the bottom x-arm level with one coat of zinc rich paint including cost of paing.	Each	6
OM26	18	Fixing of earth bonds for existing transmission line towers	Each	193
	19	Re-Stringing of power conductor on the existing lines (for correction		
OM27	a	3. Nos. Zebra conductors	RKM	48,561
OM28	b	6. Nos. Zebra conductors	RKM	72,840
OM29	c	2. Nos. Panther conductors	RKM	25,894
OM30	d	3. Nos. Panther conductors	RKM	38,846
OM31	e	6. Nos. Panther conductors	RKM	61,510
OM32	f	2. Nos. Moose conductors	RKM	41,004
OM33	g	3. Nos. Moose conductors	RKM	61,510
OM34	h	6. Nos. Moose conductors	RKM	97,116
OM35	i	3. Nos. Bear conductors	RKM	48,561
OM36	j	6. Nos. Bear conductors	RKM	72,840
OM37	k	3. Nos. Dog conductors	RKM	29,132
OM38	l	6. Nos. Dog conductors	RKM	46,130
	21	<b>Loading / Unloading charges :</b>		
	a)	For above half drum and up to one drum full drum rate		Basic rate of Full Drum
	b)	For below half drum and for a Piece		Basic rate of Half Drum
<b>ANNEXURE XII</b>				
<b>ERECTION OF GIS EQUIPMENT</b>				
		Receipt from site stores ,Transport, handling, Erection, Testing and commissioning of all Equipment with complete accessories, as specified.		
		<b>420KV GIS Equipment</b>		
C4G1	1	420kV, SF6 GIS Bus Bars Module	Sets	1,72,375
C4G2	2	420kV, SF6 GIS Line feeder bay Module	Sets	3,37,543
C4G3	3	420kV, SF6 GIS ICT bay Module	Sets	3,37,543

C4G4	4	420kV, SF6 GIS Bus Reactor bay Module	Sets	3,37,543
C4G5	5	420kV, SF6 GIS Tie bay Module	Sets	3,37,543
C4G6	6	420kV, 3150A,50kA SF6/Air Bushing for Connecting GIS to AIS alongwith support structure (Single Phase)	sets	2,202
C4G7	7	420kV, 3150A, 1phase SF6 GIS Bus duct alongwith support structure	Meters	1,101
		<b>245KV GIS Equipment</b>		
C4G8	8	245kV, SF6 GIS Bus Bars Module	Sets	2,24,548
C4G9	9	245kV, SF6 GIS ICT bay Module	Sets	2,24,548
C4G10	10	245kV, SF6 GIS Line bay Module	Sets	2,24,548
C4G11	11	245kV, SF6 GIS Bus Coupler bay Module	Sets	2,24,548
C4G12	12	245kV, SF6 GIS Bus Section bay Module	Sets	2,24,548
C4G13	13	245kV, 1600A, 40kA SF6/Air/Cable Bushing for Connecting GIS to AIS/Cable alongwith support structure (Single Phase)	sets	2,202
C4G14	14	245kV, 1600A, 1phase SF6 GIS Bus duct alongwith support structure	Meters	1,101
		<b>Testing &amp; Maintenance Equipment for GIS</b>		
C4G15	15	SF6 Gas filling & evacuating plant	Set	221
C4G16	16	For 420kV & 245kV GIS		
C4G17	17	Online Partial Discharge Monitoring System for 420kV GIS System as per Technical Specification, GIS	Set	221
C4G18	18	Partial Discharge Monitoring System for 245kV GIS System as per Technical Specification, GIS	Set	221
C4G19	19	132kV Transformer Bay module	Set	41,777
C4G20	20	36kv GIS Feeder Bay Module	Set	28,461
<b>ANNEXURE-XIII (a)</b>				
<b>LAYING OF 132KV UG CABLE (SINGLE CIRCUIT)</b>				
Item No.	Sl.No.	Description of Material/Work	UNIT	SSR Rate for 2025-26 (in Rs) (Rounded to nearest Rupee)
	<b>1</b>	<b>CABLE ROUTE SURVEY</b>		
UIS 1	a)	Conducting reconnoitery and preliminary survey along shortest route with best proposed route and furnishing report for selecting the best proposal for approval including cost and conveyance of all materials, hire charges of equipment, tools and plant, preparation of drawings and reports, labour charges, complete for finished item of work as per the directions of Engineer- in-charge at site (a) With GPS equipment (As per clause 4.9 of survey) (b) With total station equipment.	Mts.	422

U1S 2	b)	Conducting Detailed Survey of cable route including evaluation of thermal resistivity of the soil along the cable route, excavation of trial pits as per field requirements, preparation of cable route profile, drawings for cable laying, final route alignment, marking lines & grades, and preparing bill of materials/ lengths of the cable for the project incl. preparation of PTCC questionnaire and marking of proposed cable route in topo sheet, tower/SS sketch, Single line diagram etc.(30 copies/sets) . <b>(NOTE:</b> For survey of small lengths of UG Cable, if the length of UG cable is less than 0.5KM, then 0.5KM is considered for survey of small length of UG cable in the preparation of	Mts.	1,266
	<b>2</b>	<b>LAYING OF CABLE</b>		
	<b>2.1</b>	Laying of 132 kv 630 sq. mm. XLPE U/G copper cable (3 Nos. for single Circuit) including road cutting, pulling and laying of cable including excavation in the following soils and back filling, sand filling dewatering, including cost of RCC protective tiles, cost of route markers, warning tapes etc. Across and along CC, BT & earth road, Nala crossings, bridge crossings, providing HDPE (thickness 10 mm)pipes, Bell mouths, end caps after laying cable, labour charges and all incidental items of work for finished item of work. This includes loading, unloading and transportation of all materials to work spot. (flat formation)		
U1S 3	a)	Hard gravel soils, BC soils, red earth, stone and earth mixed with fair size boulders etc	Rmt	11,198
U1S 4	b)	Hard Rock with soils	Rmt	15,384
U1S 5	c)	CC or BT road surface etc.	Rmt	9,981
U1S 6	d)	Hard Rock	Rmt	11,510
U1S 7	e)	CC or BT road with Hard rock	Rmt	21,381
U1S 8	f)	Across the road In HDPE pipes (thickness 10mm) to cross CC or BT road and other service lines including cost of concrete cost of HDPE pipes of 250 mm dia etc. complete	Rmt	14,034
U1S 9	g)	Across the road In HDPE pipes (thickness 10mm) to cross CC or BT road with hard rock and other service lines including cost of concrete cost of HDPE pipes of 250 mm dia etc. complete	Rmt	33,041
U1S 10	h)	Cable laying in built up trenches, cable trays and supports etc. complete including cost of trays and support etc, complete.	Rmt	14,034
U1S 11	i)	Cable laying across the culverts and over bridges etc., Complete in PVC pipes of 250 mm dia in complete	Rmt	14,034

U1S 12	j)	Cable laying by clamping on special type tower including earthing cable from termination to Link box including cost of Aluminum clamps	Rmt	13,502
U1S 13	k)	Cable laying while clamping bare on the walls , ceiling and structures including cost of clamps in complete	Rmt	5,064
U1S 14	l)	Cable laying across the railway tracks	Rmt	33,758
U1S 15	m)	Cable laying by clamping on Sub-station structures like CPL etc., including earthing cable from termination to Link box including cost of Aluminum clamps.	Rmt	2,531
	<b>2.2</b>	<b>Including excavation and excluding backfilling without cable laying</b>		
U1S 16	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	14,346
U1S 17	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	5,064
	<b>2.3</b>	<b>Excluding excavation and including backfilling</b>		
U1S 18	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	2,110
U1S 19	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	6,751
U1S 20	<b>2.4</b>	Only excavation and back filling of soil without laying of cable	Rmt	2,531
U1S 21	<b>2.5</b>	Excavation and backfilling of suitable thermal backfill for maintainings soil thermal resistance value of 120	Cum	6,751
U1S 22	<b>2.6</b>	Laying of cable excluding excavation and backfilling	Rmt	676
	<b>2.7</b>	<b>Laying of cable by Horizontal Directional Drilling (HDD) incl. cost of 250 mm HDPE Pipe</b>		
U1S 23	a)	Soil/Morrem,soft rock (upto 5000 PSI) per each pipe	Rmt	16,541
U1S 24	b)	Soil/Hard rock (5000 PSI upto 9000 PSI) per each pipe	Rmt	27,006
	<b>3</b>	<b>LAYING OF CO-AXIAL CABLE</b>		
U1S 25	a)	300sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	25
U1S 26	b)	300sq.mm.single core copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	25
U1S 27	c)	300sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade on pole mounted termination tower including cost of cleats	Rmt	25
U1S 28	d)	300sq.mm.single core copper cable conductor PVC insulated 6.6KV grade on pole mounted termination tower including cost of cleats.	Rmt	25
	<b>4</b>	For pulling optical fiber cable the following items shall be done while excavation of trenches as per		

U1S 29	a)	Supply of HDPE duct pipe of OD/ID 40/33 mm dia and associated material of standard make as per the specification of the contract/tender and laying jointing, bedding of above HDPE duct pipe in the already excavated XLPE cable trench including sealing the section ends as per the specification of the	RM	169
U1S 30	b)	Supply of RCC joint chambers (1200/760/50 mm) W/L/T with base and top plates as per the specification of the contract/tender and erection of RCC joint chambers for every 1KM in HDPE duct enroot as per the specification of the contract/tender.	Each	11,815
	<b>5</b>	<b>CABLE JOINTING</b>		
		Jointing of cable excluding cost of pre-moulded straight through joints, Protection box, 3-phase solid bond link box without SVL/ 3-phase cross bond link box with SVL, including excavation of pit for single circuit cable, providing cement concrete base and walls etc. including cost of cement, steel etc., labour charges and all incidental items of work for finished item of work including design of pit providing joint bay identification mark including providing necessary T&P for jointing viz., tarpaulin tent, DG Set, Air Conditioner etc., complete wherever necessary for complete item of work. This includes loading, un- loading and transportation of all materials to work spot		
U1S 31	a)	With excavation of joint bay size (9mX4m) and laying of CC(1:2:4) bed and sand bed and back filling	Nos.	5,06,354
U1S 32	b)	Jointing charges for cross bonding joints/normal joints	Nos.	2,53,178
	<b>6</b>	<b>TERMINATION CHARGES</b>		
		Termination of cable excluding cost of out door type cable terminations and single phase link boxes without SVL complete and all incidental item of work finished item of work including providing necessary T&P viz., tarpaulin tent, DG set, air conditioner, scaffolding etc complete wherever necessary for complete item of work.		
U1S 33	a)	132KV tower mounted type cable end terminations including erection on tower in all respects	Each	5,90,746
U1S 34	b)	132 kV Outdoor type cable end terminations with silicon materials complete in all respect.	Each	5,06,354
U1S 35	c)	132 kV SF6 type cable end terminations complete in all respect.	Each	5,06,354

U1S 36	7a	Providing earthing of joint bays with copper flat of cross section equivalent to the earthing cable and run all around the joint bay, providing earth electrodes of steel rods coated with copper as per standards and treated with suitable earth enhancing compound to get an effective diameter and welding the copper flat to the electrodes by exothermic weldng. The earthing scheme drawing shall be got approved with all earth resistance calculations considering the fault currents earth leads from link box to earth pit and connecing lug fixtures, fasteners shall be supplied. Length of the earth lead will be as per site condition/ connivance.	Each	42,196
U1S 37	7b	Excavation of earth pit at CTT Tower, putting cast iron pipe with flange on one end (as per ISS7181/86) of nominal dia 125 mm and 2.75 metres long inside the pit including supply and fixing of RCC Collars 0.75 mtr. dia (OD) 50mm thick and 0.60 mtrs. long inside the pit, backfill the pit in the 25mm size granules of BH coke for full depth of the pit with alternate layers of BH Coke and salt of 300mm thick around the earth pipe of 150mm on all the sides of the pipe including cost and conveyance of BH Coke,salt, clamps, CI pipes and RCC collars, labour charges for all operational and incidental items of work etc., complete.(as per SSR	Each	17,976
U1S 38	8a	Provision for RCC (1:2:4) for any unforeseen requirement whenever necessary at culverts, drains, nalas, bridges.(rate to be taken as per CSSR)	Cum	(rate to be taken as per CSSR)
U1S 39	8b	Supplying, fitting and placing of HYSD, TMT bar reinforcement (TISCO/SAIL/VSP) in foundtions, colums, beams slabs wherever necessiated.for the work as per the drawings furnished by the field engineer including cutting, bending, cranking, tying grill in position including cost of binding wire scaffolding etc.(rate to be taken as per CSSR)	MT	(rate to be taken as per CSSR)
	9	<b>CONNECTION OF LINK BOXES</b>		
U1S 40	a)	Erection of single phase link boxes, providing suitable supporting arrangements, sheath bonding cable, connecting earth leads, with all lugs, fixtures, clamps, bolts and nuts etc., complete including excavation, providing concrete box with walls of 75mm thick RCC for inserting link boxes, and refilling, etc. including earthing as per the directions of site engineer.	Each	50,636
U1S 41	b)	Erection of 3 phase link boxes making connections with earth leads with lugs, fixtures, fasteners sheath bonding cable etc., including excavation, providing RCC concrete wall box of 75mm thick	Each	67,513

		for inserting link boxes , and refilling, etc. including earthing as per the directions of site engineer.		
U1S 42	10	Erection of Lightning Arrestors on special type tower including cost of hardware, jumpering with suitable conductor between line conductor and the pole mounted terminations including labour charges and insurance for all incidental and operational items of	Each	8,438
U1S 43	11	Road cutting charges and charges for way leaves to be paid for various Government and other agencies	Mts.	10,128
U1S 44	12	Site testing and commissioning (including phase sequence test, megger test, continuity test, HV test etc.)	KM	3,37,570
<b>ANNEXURE-XIII (b)</b>				
<b>LAYING OF 132KV UG CABLE (DOUBLE CIRCUIT)</b>				
Item No.	Sl. No.	Description of Material/Work	UNIT	SSR Rate for 2025-26 (in Rs)
	<b>1</b>	<b>CABLE ROUTE SURVEY</b>		
U1D 1	a)	Conducting reconnoitery and preliminary survey along shortest route with best proposed route and furnishing report for selecting the best proposal for approval including cost and conveyance of all materials, hire charges of equipment, tools and plant, preparation of drawings and reports, labour charges, complete for finished item of work as per the directions of Engineer-in-charge at site (a) With GPS equipment (As per clause 4.9 of survey) (b) With total station equipment.	Mts.	422
U1D 2	b)	Conducting Detailed Survey of cable route including evaluation of thermal resistivity of the soil along the cable route, excavation of trial pits as per field requirements, preparation of cable route profile, drawings for cable laying, final route alignment, marking lines & grades, and preparing bill of materials/ lengths of the cable for the project incl. preparation of PTCC questionnaire and marking of proposed cable route in topo sheet, tower/SS sketch, Single line diagram etc.(30 copies/sets). ( <b>NOTE:</b> For survey of small lengths of UG Cable, if the length is less than 0.5KM, then 0.5KM is considered in preparation of estimate).	Mts.	1,687
	<b>2</b>	<b>LAYING OF CABLE</b>		
	<b>2.1</b>	Laying of 132 kv 630 sq. mm. XLPE U/G copper cable (6 Nos. for double Circuit) including road cutting, pulling and laying of cable including excavation in the following soils and back filling, sand filling dewatering, including cost of RCC protective tiles, cost of route markers, warning tapes etc. Across and along CC, BT & earth road, Nala crossings, bridge crossings, providing HDPE (thickness 10 mm)pipes, Bell mouths, end caps		

		after laying cable, labour charges and all incidental items of work for finished item of work. This includes loading, unloading and transportation of all materials to work spot. (flat formation)		
U1D 3	a)	Hard gravel soils, BC soils, red earth, stone and earth mixed with fair size boulders etc	Rmt	20,253
U1D 4	b)	Hard Rock with soils	Rmt	27,006
U1D 5	c)	CC or BT road surface etc.	Rmt	16,879
U1D 6	d)	Hard Rock	Rmt	21,099
U1D 7	e)	CC or BT road with Hard rock	Rmt	40,509
U1D 8	f)	Across the road In HDPE pipes (thickness 10mm) to cross CC or BT road and other service lines including cost of concrete cost of HDPE pipes of 250 mm dia etc. complete	Rmt	25,317
U1D 9	g)	Across the road In HDPE pipes (thickness 10mm) to cross CC or BT road with hard rock and other service lines including cost of concrete cost of HDPE pipes of 250 mm dia etc. complete	Rmt	33,041
U1D 10	h)	Cable laying in built up trenches, cable trays and supports etc. complete including cost of trays and support etc, complete.	Rmt	25,317
U1D 11	i)	Cable laying across the culverts and over bridges etc., complete in PVC pipes of 250 mm dia in complete	Rmt	25,317
U1D 12	j)	Cable laying by clamping on special type tower including earthing cable from termination to Link box including cost of Aluminum clamps	Rmt	27,006
U1D 13	k)	Cable laying while clamping bare on the walls , ceiling and structures including cost of clamps in complete shape	Rmt	10,128
U1D 14	l)	Cable laying across the railway tracks	Rmt	59,075
U1D 15	m)	Cable laying by clamping on Sub-station structures like CPL etc., including earthing cable from termination to Link box including cost of Aluminum clamps.	Rmt	5,064
	<b>2.2</b>	<b>Including excavation and excluding backfilling without cable laying</b>		
U1D 16	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	28,694
U1D 17	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	10,128
	<b>2.3</b>	<b>Excluding excavation and including backfilling</b>		
U1D 18	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	4,220
U1D 19	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	10,128
U1D 20	<b>2.4</b>	Only excavation and back filling of soil without laying of cable	Rmt	5,064
U1D 21	<b>2.5</b>	Excavation and backfilling of suitable thermal backfill for maintainings soil thermal resistance value of 120 degrees	Cum	13,502

U1D 22	<b>2.6</b>	Laying of cable excluding excavation and backfilling	Rmt	1,350
	<b>2.7</b>	<b>Laying of cable by Horizontal Directional Drilling (HDD) incl. cost of 250 mm HDPE Pipe</b>		
U1D 23	a)	Soil/Morrem,soft rock (upto 5000 PSI) per each pipe	Rmt	16,541
U1D 24	b)	Soil/Hard rock (5000 PSI upto 9000 PSI) per each pipe	Rmt	27,006
	<b>3</b>	<b>LAYING OF CO-AXIAL CABLE</b>		
U1D 25	a)	300sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	42
U1D 26	b)	300sq.mm.single core copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	42
U1D 27	c)	300sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade on pole mounted termination tower including cost of cleats	Rmt	42
U1D 28	d)	300sq.mm.single core copper cable conductor PVC insulated 6.6KV grade on pole mounted termination tower including cost of cleats.	Rmt	42
	<b>4</b>	For pulling optical fiber cable the following items shall be done while excavation of trenches as per specifications		
U1D 29	a)	Supply of HDPE duct pipe of OD/ID 40/33 mm dia and associated material of standard make as per the specification of the contract/tender and laying jointing, bedding of above HDPE duct pipe in the already excavated XLPE cable trench including sealing the section ends as per the specification of the contract/tender.	RM	169
U1D 30	b)	Supply of RCC joint chambers (1200/760/50 mm) W/L/T with base and top plates as per the specification of the contract/tender and erection of RCC joint chambers for every 1KM in HDPE duct enroot as per the specification of the contract/ tender.	Each	11,815
	<b>5</b>	<b>CABLE JOINTING</b>		
		Jointing of cable excluding cost of pre-moulded straight through joints, Protection box, 3-phase solid bond link box without SVL/ 3-phase cross bond link box with SVL, including excavation of pit for double circuit cable, providing cement concrete base and walls etc. including cost of cement, steel etc., labour charges and all incidental items of work for finished item of work including design of pit providing joint bay identification mark including providing necessary T&P for jointing viz., tarpaulin tent, DG Set, Air Conditioner etc., complete wherever necessary for complete item of work. This includes loading, un-loading and transportation of all materialsto work spot as per drawing and preparation of joint bay.		
U1D 31	a)	With excavation of joint bay size (9mX4m) and laying of CC(1:2:4) bed and sand bed and back filling	Nos.	7,59,532

UID 32	b)	Jointing charges for cross bonding joints/normal joints	Nos.	2,53,178
	6	<b>TERMINATION CHARGES</b>		
		Termination of cable excluding cost of out door type cable terminations and single phase link boxes without SVL complete and all incidental item of work finished item of work including providing necessary T&P viz., tarpaulin tent, DG set, air conditioner, scaffolding etc complete wherever necessary for complete item of work.		
UID 33	a)	132 KV tower mounted type cable end terminations including erection on tower in all respects	Each	5,90,746
UID 34	b)	132 kV Outdoor type cable end terminations with silicon materials complete in all respect.	Each	5,06,354
UID 35	c)	132 kV SF6 type cable end terminations complete in all respect.	Each	5,06,354
UID 36	7a	Providing earthing of joint bays with copper flat of cross section equivalent to the earthing cable and run all around the joint bay, providing earth electrodes of steel rods coated with copper as per standards and treated with suitable earth enhancing compound to get an effective diameter and welding the copper flat to the electrodes by exothermic weldng. The earthing scheme drawing shall be got approved with all eath resistance calculations considering the fault currents earth leads from link box to earth pit and connecing lug fixtures, fasteners shall be supplied. Length of the earth lead will be as per site condition/ connivance.	Each	67,513
UID 37	7b	Excavation of earth pit at CTT Tower, putting cast iron pipe with flange on one end (as per ISS7181/86) of nominal dia 125 mm and 2.75 metres long inside the pit including supply and fixing of RCC Collars 0.75 mtr. dia (OD) 50mm thick and 0.60 mtrs. long inside the pit, backfill the pit in the 25mm size granules of BH coke for full depth of the pit with alternate layers of BH Coke and salt of 300mm thick around the earth pipe of 150mm on all the sides of the pipe including cost and conveyance of BH Coke,salt, clamps, CI pipes and RCC collars, labour charges for all operational and incidental items of work etc., complete.(as per SSR 2013-14)	Each	17,976
UID 38	8a	Provision for RCC (1:2:4) for any unforeseen requirement whenever necessary at culverts, drains, nalas, bridges.(rate to be taken as per CSSR)	Cum	(rate to be taken as per CSSR)

U1D 39	8b	Supplying, fitting and placing of HYSD, TMT bar reinforcement (TISCO/SAIL/VSP) in foundtions, colums, beams slabs wherever necessiated. for the work as per the drawings furnished by the field engineer including cutting , bending, cranking, tying grill in position including cost of binding wire scaffolding etc.(rate to be taken as per CSSR)	MT	(rate to be taken as per CSSR)
	9	<b>CONNECTION OF LINK BOXES</b>		
U1D 40	a)	Erection of single phase link boxes, providing suitable supporting arrangements, sheath bonding cable, connecting earth leads, with all lugs, fixtures, clamps, bolts and nuts etc., complete including excavation, providing concrete box with walls of 75mm thick RCC for inserting link boxes, and refilling, etc. including earthing as per the directions of siteengineer.	Each	50,636
U1D 41	b)	Erection of 3 phase link boxes making connections with earth leads with lugs, fixtures, fasteners sheath bonding cable etc., including excavation, providing RCC concrete wall box of 75mm thick for inserting link boxes, and refilling, etc. including earthing as per the directions of site engineer.	Each	67,513
U1D 42	10	Erection of Lightning Arrestors on special type tower including cost of hardware, jumpering with suitable conductor between line conductor and the pole mounted terminations including labour charges and insurance for all incidental and operational items of work.	Each	8,438
U1D 43	11	Road cutting charges and charges for way leaves to be paidfor various Government and other agencies	Mts.	16,879
U1D 44	12	Site testing and commissioning (including phase sequence test, megger test, continuity test, HV test etc.)	KM	5,06,354
<b>ANNEXURE-XIII ( C )</b>				
<b>LAYING OF 220 KV UG CABLE (SINGLE CIRCUIT)</b>				
Item No.	Sl. No.	Description of Material/Work	UNIT	SSR Rate for 2025-26 (in Rs)
	1	<b>CABLE ROUTE SURVEY</b>		
U2S 1	a)	Conducting reconnoitery and preliminary survey along shortest route with best proposed route and furnishing report for selecting the best proposal for approval including cost and conveyance of all materials, hire charges of equipment, tools and plant, preparation of drawings and reports, labour charges, complete for finished item of work as per the directions of Engineer-in-charge at site . (a) With GPS equipment (As per clause 4.9 of survey) (b) With total station equipment.	Mts.	422

U2S 2	b)	Conducting Detailed Survey of cable route including evaluation of thermal resistivity of the soil along the cable route, excavation of trial pits as per field requirements, preparation of cable route profile, drawings for cable laying, final route alignment, marking lines & grades, and preparing bill of materials/ lengths of the cable for the project incl. preparation of PTCC questionnaire and marking of proposed cable route in topo sheet, tower/SS sketch, Single line diagram etc.(30 copies/sets) . <b>(NOTE:</b> For survey of small lengths of UG Cable, if the length of UG cable is less than 0.5KM, then 0.5KM is considered for survey of small length of UG cable in the preparation of estimate)	Mts.	1,266
	<b>2</b>	<b>LAYING OF CABLE</b>		
	<b>2.1</b>	Laying of 220 kv 1000 sq. mm. XLPE U/G copper cable (3 Nos. for Single Circuit) including road cutting, pulling and laying of cable including excavation in the following soils and back filling, sand filling dewatering, including cost of RCC protective tiles, cost of route markers, warning tapes etc. Across and along CC, BT & earth road, Nala crossings, bridge crossings, providing HDPE (thickness 10 mm)pipes, Bell mouths, end caps after laying cable, labour charges and all incidental items of work for finished item of work. This includes loading, unloading and transportation of all materials to work spot. (flat formation)		
U2S 3	a)	Hard gravel soils, BC soils, red earth, stone and earth mixed with fair size boulders etc	Rmt	13,439
U2S 4	b)	Hard Rock with soils	Rmt	18,462
U2S 5	c)	CC or BT road surface etc.	Rmt	11,977
U2S 6	d)	Hard Rock	Rmt	13,812
U2S 7	e)	CC or BT road with Hard rock	Rmt	25,658
U2S 8	f)	Across the road In HDPE pipes (thickness 10mm) to cross CC or BT road and other service lines including cost of concrete cost of HDPE pipes of 250 mm dia etc. complete	Rmt	16,841
U2S 9	g)	Cable laying in built up trenches, cable trays and supports etc. complete including cost of trays and support etc, complete.	Rmt	16,841
U2S 10	h)	Cable laying across the culverts and over bridges etc., complete in PVC pipes of 250 mm dia in complete	Rmt	16,841
U2S 11	i)	Cable laying by clamping on special type tower including earthing cable from termination to Link box including cost of aluminum clamps	Rmt	15,191
U2S 12	j)	Cable laying by clamping on Sub-station structures like CPL etc., including earthing cable from termination to Link box including cost of aluminum clamps.	Rmt	3,377

U2S 13	k)	Cable laying while clamping bare on the walls , ceiling and structures including cost of clamps in complete shape	Rmt	6,751
U2S 14	l)	Cable laying across the railway tracks	Rmt	42,196
	<b>2.2</b>	<b>Including excavation and excluding backfilling without cable laying</b>		
U2S 15	a)	Hard rock with CC or BT Road surfaces etc.	Rmt	14,346
U2S 16	b)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	5,064
	<b>2.3</b>	<b>Excluding excavation and including backfilling</b>		
U2S 17	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	2,110
U2S 18	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	8,438
U2S 19	<b>2.4</b>	Only excavation and back filling of soil without laying of cable	Rmt	2,531
U2S 20	<b>2.5</b>	Excavation and backfilling of suitable thermal backfill for maintainings soil thermal resistance value of 120 degrees	Cum	6,751
U2S 21	<b>2.6</b>	Laying of cable excluding excavation and backfilling	Rmt	844
	<b>2.7</b>	<b>Laying of cable by Horizontal Directional Drilling (HDD) incl.cost of 250 mm HDPE Pipe</b>		
U2S 22	a)	Soil/Morrem,soft rock (upto 5000 PSI) per pipe	Rmt	16,541
U2S 23	b)	Soil/Hard rock (5000 PSI upto 9000 PSI) per pipe	Rmt	27,006
	<b>3</b>	<b>LAYING OF CO-AXIAL CABLE</b>		
U2S 24	a)	240sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	25
U2S 25	b)	240sq.mm.single core copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	25
U2S 26	c)	240sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade on pole mounted termination tower including cost of cleats	Rmt	25
U2S 27	d)	240sq.mm.single core copper cable conductor PVC insulated 6.6KV grade on pole mounted termination tower including cost of cleats.	Rmt	25
	<b>4</b>	For pulling optical fiber cable the following items shall be done while excavation of trenches as per specifications		
U2S 28	a)	Supply of HDPE duct pipe of OD/ID 40/33 mm dia and associated material of standard make as per the specification of the contract/tender and laying jointing, bedding of above HDPE duct pipe in the already excavated XLPE cable trench including sealing the section ends as per the specification of the contract/tender (Per Pipe).	RM	169
U2S 29	b)	Supply of RCC joint chambers (1200/760/50 mm) W/L/T with base and top plates as per the specification of the contract/tender and erection of RCC joint chambers for every 1KM in HDPE duct enroot as per the specification of the contract/tender.	Each	11,815

	<b>5</b>	<b>CABLE JOINTING</b>		
		Jointing of cable excluding cost of pre-moulded straight through joints, Protection box, 3-phase solid bond link box without SVL / 3-phase cross bond link box with SVL, including excavation of pit for single circuit cable, providing cement concrete base and walls etc. including cost of cement, steel etc., labour charges and all incidental items of work for finished item of work including design of pit providing joint bay identification mark including providing necessary T&P for jointing viz., tarpaulin tent, DG Set, Air Conditioner etc., complete wherever necessary for complete item of work. This includes loading, unloading and transportation of all materials to work spot as per drawing and preparation of joint bay.		
U2S 30	a)	With excavation of joint bay size (13mX4m) and laying of CC(1:2:4) bed and sand bed and back filling	Each	5,90,746
U2S 31	b)	Jointing charges for cross bonding joints for each phase	Each	4,21,962
	<b>6</b>	<b>TERMINATION CHARGES</b>		
		Termination of cable excluding cost of out door type cable terminations and single phase link boxes without SVL complete and all incidental item of work finished item of work including providing necessary T&P viz., tarpaulin tent, DG set, air conditioner, scaffolding etc complete wherever necessary for complete item of work.		
U2S 32	a)	220 KV tower mounted type cable end terminations including erection on tower in all respects per phase including scaffolding charges.	Each	7,08,897
U2S 33	b)	220 kV Outdoor type cable end terminations with silicon materials complete in all respect.	Each	5,90,746
U2S 34	c)	220 kV SF6 type cable end terminations complete in all respect.	Each	5,90,746
U2S 35	7a	Providing earthing of joint bays with copper flat of cross section equivalent to the earthing cable and run all around the joint bay, providing earth electrodes of steel rods coated with copper as per standards and treated with suitable earth enhancing compound to get an effective diameter and welding the copper flat to the electrodes by exothermic weldng. The earthing scheme drawing shall be got approved with all eath resistance calculations considering the fault currents earth leads from link box to earth pit and connecing lug fixtures, fasteners shall be supplied. Length of the earth lead will be as per site condition/ connivance.	Each	42,196

U2S 36	7b	Excavation of earth pit at CTT Tower, putting cast iron pipe with flange on one end (as per ISS7181/86) of nominal dia 125 mm and 2.75 metres long inside the pit including supply and fixing of RCC Collars 0.75 mtr. dia (OD) 50mm thick and 0.60 mtrs. long inside the pit, backfill the pit in the 25mm size granules of BH coke for full depth of the pit with alternate layers of BH Coke and salt of 300mm thick around the earth pipe of 150mm on all the sides of the pipe including cost and conveyance of BH Coke,salt,clamps,CI pipes and RCC collars, labour charges for all operational and incidental items of work etc., complete.(as per SSR 2013-14)	Each	17,976
U2S 37	8a	Provision for RCC (1:2:4) for any unforeseen requirement whenever necessary at culverts, drains, nalas, bridges.(rate to be taken as per CSSR)	Cum	(rate to be taken as per CSSR)
U2S 38	8b	Supplying, fitting and placing of HYSD, TMT bar reinforcement(TISCO/SAIL/VSP) in foundtions, columns, beams slabs wherever necessiated.for the work as per the drawings furnished by the field engineer including cutting, bending, cranking, tying grill in position including cost of binding wire scaffolding etc.(rate to be taken as per CSSR)	MT	(rate to be taken as per CSSR)
	9	<b>CONNECTION OF LINK BOXES</b>		
U2S 39	a)	Erection of single phase link boxes, providing suitable supporting arrangements, sheath bonding cable, connecting earth leads, with all lugs, fixtures, clamps, bolts and nuts etc., complete including excavation, providing concrete box with walls of 75mm thick RCC for inserting link boxes, and refilling, etc. including earthing as per the directions of site engineer including connecting to the earthing cable from link box to earthpit	Each	50,636
U2S 40	b)	Erection of 3 phase link boxes making connections with earth leads with lugs, fixtures, fasteners sheath bonding cable etc., including excavation, providing RCC concrete wall box of 75mm thick for inserting link boxes , and refilling, etc. including earthing as per the directions of site engineer including connecting to the earthing cable from link box to earthpit.	Each	67,513
U2S 41	10	Erection of Lightning Arrestors on special type tower including cost of hardware, jumpering with suitable conductor between line conductor and the pole mounted terminations including labour charges and insurance for all incidental and operational items of work.	Each	8,438
U2S 42	11	Road cutting charges and charges for way leaves to be paid for various Government and other agencies. The cost is for estimate purpose however, the amount will be reimbursed as per actuals against documentary evidence.	Mts.	10,128

U2S 43	12	Site testing and commissioning (including phase sequence test, megger test, continuity test, HV test etc.)	KM	3,37,570
<b>ANNEXURE-XIII (d)</b>				
<b>LAYING OF 220 KV UG CABLE (DOUBLE CIRCUIT)</b>				
Item No.	Sl.No.	Description of Material/Work	Unit	SSR Rate for 2025-26 (in Rs) (Rounded to nearest Rupee)
	<b>1</b>	<b>CABLE ROUTE SURVEY</b>		
U2D 1	a)	Conducting reconnoitery and preliminary survey along shortest route with best proposed route and furnishing report for selecting the best proposal for approval including cost and conveyance of all materials, hire charges of equipment, tools and plant, preparation of drawings and reports, labour charges, complete for finished item of work as per the directions of Engineer-in-charge at site. (a) With GPS equipment (As per clause 4.9 of survey) (b) With total station equipment.	Mts.	422
U2D 2	b)	Conducting Detailed Survey of cable route including evaluation of thermal resistivity of the soil along the cable route, excavation of trial pits as per field requirements, preparation of cable route profile, drawings for cable laying, final route alignment, marking lines & grades, and preparing bill of materials/ lengths of the cable for the project incl. preparation of PTCC questionnaire and marking of proposed cable route in topo sheet, tower/SS sketch, Single line diagram etc.(30 copies/sets) . <b>(NOTE:</b> For survey of small lengths of UG Cable, if the length of UG cable is less than 0.5KM, then 0.5KM is considered for survey of small length of UG cable in the preparation of estimate).	Mts.	1,687
	<b>2</b>	<b>LAYING OF CABLE</b>		
	<b>2.1</b>	Laying of 220 kv 1000 sq. mm. XLPE U/G copper cable (6 Nos. for double Circuit) including road cutting, pulling and laying of cable including excavation in the following soils and back filling, sand filling dewatering, including cost of RCC protective tiles, cost of route markers, warning tapes etc. Across and along CC, BT & earth road, Nala crossings, bridge crossings, providing HDPE (thickness 10 mm) pipes, Bell mouths, end caps after laying cable, labour charges and all incidental items of work for finished item of work. This includes loading, unloading and transportation of all materials to work spot. (flat formation).		

U2D 3	a)	Hard gravel soils, BC soils, red earth, stone and earth mixed with fair size boulders etc	Rmt	22,398
	b)	Hard Rock with soils	Rmt	30,770
U2D 5	c)	CC or BT road surface etc.	Rmt	19,963
U2D 6	d)	Hard Rock	Rmt	23,020
U2D 7	e)	CC or BT road with Hard rock	Rmt	42,763
U2D 8	f)	Across the road In HDPE pipes (thickness 10mm) to cross CC or BT road and other service lines including cost of concrete cost of HDPE pipes of 250 mm dia etc. Complete.	Rmt	28,069
U2D 9	g)	Cable laying in built up trenches, cable trays and supports etc. complete including cost of trays and support etc, complete.	Rmt	28,069
U2D 10	h)	Cable laying across the culverts and over bridges etc., complete in PVC pipes of 250 mm dia in complete	Rmt	28,069
U2D 11	i)	Cable laying by clamping on special type tower including earthing cable from termination to Link box including cost of aluminum clamps	Rmt	30,381
U2D 12	j)	Cable laying by clamping on Sub-station structures like CPL etc., including earthing cable from termination to Link box including cost of aluminum clamps.	Rmt	6,751
U2D 13	k)	Cable laying while clamping bare on the walls , ceiling and structures including cost of clamps in complete shape.	Rmt	13,502
U2D 14	l)	Cable laying across the railway tracks.	Rmt	67,513
	<b>2.2</b>	<b>Including excavation and excluding backfilling without cable laying</b>		
U2D 15	a)	Hard rock with CC or BT Road surfaces etc.	Rmt	28,694
U2D 16	b)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	10,128
	<b>2.3</b>	<b>Excluding excavation and including backfilling</b>		
U2D 17	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	4,220
U2D 18	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	11,815
U2D 19	<b>2.4</b>	Only excavation and back filling of soil without laying of cable.	Rmt	5,064
U2D 20	<b>2.5</b>	Excavation and backfilling of suitable thermal backfill for maintainings soil thermal resistance value of 120 degrees.	Cum	13,502
U2D 21	<b>2.6</b>	Laying of cable excluding excavation and backfilling.	Rmt	1,687
	<b>2.7</b>	<b>Laying of cable by Horizontal Directional Drilling (HDD) incl. cost of 250 mm HDPE Pipe</b>		
U2D 22	a)	Soil/Morrem,soft rock (upto 5000 PSI) per pipe	Rmt	16,541
U2D 23	b)	Soil/Hard rock (5000 PSI upto 9000 PSI) per pipe	Rmt	27,006
	<b>3</b>	<b>LAYING OF CO-AXIAL CABLE</b>		
U2D 24	a)	240sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	42

U2D 25	b)	240sq.mm. single core copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	42
U2D 26	c)	240sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade on pole mounted termination tower including cost of cleats.	Rmt	42
U2D 27	d)	240sq.mm.single core copper cable conductor PVC insulated 6.6KV grade on pole mounted termination tower including cost of cleats.	Rmt	42
	<b>4</b>	<b>For pulling optical fiber cable the following items shall be done while excavation of trenches as per specifications.</b>		
U2D 28	a)	Supply of HDPE duct pipe of OD/ID 40/33 mm dia and associated material of standard make as per the specification of the contract/tender and laying jointing, bedding of above HDPE duct pipe in the already excavated XLPE cable trench including sealing the section ends as per the specification of the contract/tender (Per Pipe).	RM	169
U2D 29	b)	Supply of RCC joint chambers (1200/760/50 mm) W/L/T with base and top plates as per the specification of the contract/tender and erection of RCC joint chambers for every 1KM in HDPE duct enroot as per the specification of the contract/tender.	Each	11,815
	<b>5</b>	<b>CABLE JOINTING</b>		
		Jointing of cable excluding cost of pre-moulded straight through joints, Protection box, 3-phase solid bond link box without SVL/ 3-phase cross bond link box with SVL, including excavation of pit for double circuit cable, providing cement concrete base and walls etc. including cost of cement, steel etc., labour charges and all incidental items of work for finished item of work including design of pit providing joint bay identification mark including providing necessary T&P for jointing viz., tarpaulin tent, DG Set, Air Conditioner etc., complete wherever necessary for complete item of work. This includes loading, un-loading and transportation of all materials to work spot as per drawing and preparation of joint bay.		
U2D 30	a)	With excavation of joint bay size (13mX4m) and laying of CC(1:2:4) bed and sand bed and back filling	Nos.	8,60,803
U2D 31	b)	Jointing charges for cross bonding joints for each phase.	Nos.	4,21,962

	<b>6</b>	<b>TERMINATION CHARGES</b>		
		Termination of cable excluding cost of out door type cable terminations and single phase link boxes without SVL complete and all incidental item of work finished item of work including providing necessary T&P viz., tarpaulin tent, DG set, air conditioner, scaffolding etc complete wherever necessary for complete item of work.		
U2D 32	a)	220 KV tower mounted type cable end terminations including erection on tower in all respects per phase including scaffolding charges.	Each	7,08,897
U2D 33	b)	220 kV Outdoor type cable end terminations with silicon materials complete in all respect.	Each	5,90,746
U2D 34	c)	220 kV SF6 type cable end terminations complete in all respect.	Each	5,90,746
U2D 35	7a	Providing earthing of joint bays with copper flat of cross section equivalent to the earthing cable and run all around the joint bay, providing earth electrodes of steel rods coated with copper as per standards and treated with suitable earth enhancing compound to get an effective diameter and welding the copper flat to the electrodes by exothermic weldng. The earthing scheme drawing shall be got approved with all earth resistance calculations considering the fault currents earth leads from link box to earth pit and connecing lug fixtures, fasteners shall be supplied. Length of the earth lead will be as per site condition/ connivance.	Nos.	67,513
U2D 36	7b	Excavation of earth pit at CTT Tower, putting cast iron pipe with flange on one end (as per ISS7181/86) of nominal dia 125 mm and 2.75 metres long inside the pit including supply and fixing of RCC Collars 0.75 mtr. dia (OD) 50mm thick and 0.60 mtrs. long inside the pit, backfill the pit in the 25mm size granules of BH coke for full depth of the pit with alternate layers of BH Coke and salt of 300mm thick around the earth pipe of 150mm on all the sides of the pipe including cost and conveyance of BH Coke,salt,clamps,CI pipes and RCC collars, labour charges for all operational and incidental items of work etc., complete.(as per SSR 2013-14)	Nos.	17,976
U2D 37	8a	Provision for RCC (1:2:4) for any unforeseen requirement whenever necessary at culverts, drains, nalas, bridges.(rate to be taken as per CSSR)	Cum	(rate to be taken as per CSSR)

U2D 38	8b	Supplying, fitting and placing of HYSD, TMT bar reinforcement (TISCO/SAIL/VSP) in foundtions, colums, beams slabs wherever necessiated. for the work as per the drawings furnished by the field engineer including cutting , bending, cranking, tying grill in position including cost of binding wire scaffolding etc.(rate to be taken as per CSSR)	MT	(rate to be taken as per CSSR)
	9	<b>CONNECTION OF LINK BOXES</b>		
U2D 39	a)	Erection of single phase link boxes, providing suitable supporting arrangements, sheath bonding cable, connecting earth leads, with all lugs, fixtures, clamps, bolts and nuts etc., complete including excavation, providing concrete box with walls of 75mm thick RCC for inserting link boxes, and refilling, etc. including earthing as per the directions of site engineer including connecting to the earthing cable from link box to earthpit.	Each	50,636
U2D 40	b)	Erection of 3 phase link boxes making connections with earth leads with lugs, fixtures, fasteners sheath bonding cable etc., including excavation, providing RCC concrete wall box of 75mm thick for inserting link boxes, and refilling, etc. including earthing as per the directions of site engineer including connecting to the earthing cable from link box to earthpit.	Each	67,513
U2D 41	10	Erection of Lightning Arrestors on special type tower including cost of hardware, jumpering with suitable conductor between line conductor and the pole mounted terminations including labour charges and insurance for all incidental andoperational items of work.	Nos.	8,438
U2D 42	11	Road cutting charges and charges for way leaves to be paid for various Government and other agencies. The cost is for estimate purpose however, the amount will be reimbursed as per actuals against documentary evidence.	Mts.	16,879
U2D 43	12	Site testing and commissioning (including phase sequence test, megger test, continuity test, HV test etc.)	KM	5,06,354
<b><u>ANNEXURE-XIV</u></b>				
<b>Telecom Labour rates for Proposed SSR 2025 - 2026</b>				
	<b>Sl.No.</b>	<b>Description</b>	<b>UoM</b>	<b>Proposed SSR 25-26 Rate</b>
	1	Erection of Single/Twin channel PLCC panel	Each	9,568
	2	Erection of LMU/LMDU	Each	1,598
	3	Erection of Wave Trap		
	i	Erection of wavetrapp on pedastal mounting insulator stack in 400KVSS	Each	8,941

	ii	Erection of the wave trap on pedestal mounting insulator stack in 200KVSS	Each	7,246
	iii	Erection of the wave trap on Suspension mounting including jumpering in 220/132KVSS	Each	4,320
	4	Erection of 48V DC Battery Charger	Each	3,157
	5	Erection and commissioning of 48V DC Battery Charger	Each	10,374
	6	Erection and commissioning of 48V/200AH & 250AH battery sets	Each	6,208
	7	Erection and commissioning of 48V/300AH battery sets	Each	6,829
	8	Erection and commissioning of 48V/400AH battery sets	Each	7,450
	9	Erection of SDH/MUX/DACS/DTPC cabinet	Each	4,000
	10	Erection and commissioning of SDH/MUX/DACS eqpt including cabinet	Each	19,000
	11	Erection & Commissioning of NMS equipment	No.	70,000
	12	Main Distribution frame (100 pairs)	No.	2,953
	13	Erection and commissioning of 96F FODP(Fibre Optic Distribution Panel)	Each	25,708
	14	Erection and commissioning of 24F FODP(Fibre Optic Distribution Panel)	Each	9,736
	15	Erection and commissioning of 48F FODP(Fibre Optic Distribution Panel)	Each	18,400
	16	Erection and commissioning of Analog/Digital protection coupler equipment	Each	10,800
	17	Installation of Split type AC Units including Stabilizer	No.	8,087
	18	Erection of earth pit as per standards in 132KV, 220KV & 400KV SS for communication purpose	Each	19,245
	19	Laying of optical fibre approach cable in switch yards of 400KV, 220KV & 132KV (Including hardware) along with HDPE Pipe	KM	25,505
	20	Laying of HDPE Pipe in trenches in 400KV, 220KV, 132KVSS .	KM	12,054
	21	Installation, testing & commissioning of One(1) No. 24F/48F/96F OPGW cable on 132kV, 220kV and 400kV lines including laying, tensioning and splicing etc. with associated hardware accessories on Off Line/Live line condition.	KM	98,772
	22	Installation, testing & commissioning of Two(2) No. 24F/48F/96F OPGW cable on 132kV, 220kV and 400kV lines in 2(Two) peaks including laying, tensioning and splicing etc. with associated hardware accessories on Off Line/Live line condition.	KM	1,48,157

23	Stringing of 24F/48F/96F OPGW cable on 132kV, 220kV and 400kV lines including laying, tensioning with associated hardware accessories without splicing on Off Line/Live line condition for O&M rectification works up to Five (5) KMs only.	KM	98,772
24	Stringing of ADSS type optical fibre cable on 132KV, 220KV & 400KV line sections inclusive of splicing and fixing of hardware accessories	KM	38,817
25	Fixing of tension clamp set of OPGW/ADSS on 132KV & 220KV towers	set	3,186
26	Fixing of suspension clamp set of OPGW/ADSS on 132KV, 220KV towers	set	2,624
27	Fixing of tension clamp set of OPGW/ADSS on 400KV lines	set	3,855
28	Fixing suspension clamp set of OPGW/ADSS on 400KV lines	set	3,293
29	Fixing of OPGW/ADSS OFC splice box on 132KV & 220KV towers along with fixing of Downlead clamps etc.	Each	4,795
30	Fixing of OPGW/ADSS OFC splice box on 400KV towers along with fixing of Downlead clamps etc.	Each	5,993
31	Fixing of OPGW/ADSS vibration dampers on 132KV & 220KV towers	set	1,491
32	Fixing of OPGW/ADSS vibration dampers on 400KV towers	set	1,900
33	Splicing charges for OPGW/ADSS/UG OFC/OFAC laid on 132KV, 220KV, 400KV lines, substations & Offices.	Each	361
34	Laying of aerial type OFC on 33KV/11KV HT/LT poles	KM	15,402
35	Laying of Cat 5E/6 Cables in Sub stations & Offices.	KM	5,977
36	Laying of Cat 5E/6 Cables with Conduit pipes along with accessories in Sub stations & Offices.	KM	17932
37	Laying of 25sq mm battery cable in control room in 132kv, 220KV & 400KV Substations & Offices	KM	25,404
38	Laying of Co-axial cable from switch yard gantry tower to communication room in the existing trench in 132KV, 220KV, 400KV Substations	KM	24,388
39	Fixing of 6U × 19 inch Rack in Offices for ERP/SAP works	Each	498
40	Loading/unloading charges for Single/Twin channel PLCC pannel	Each	929
41	Loading/unloading charges for 48V/35A, 50A, chargers	Each	929
42	Loading/unloading charges for 48V/100A, 150A, 200A chargers	Each	1,393

	43	Loading/unloading charges for OLTE/MUX/DACs equipment	Each	1,393
	44	Loading/unloading charges for 150 AH/200 AH/250AH/ 300AH	Each	929
	45	Loading/unloading charges for 400AH	Each	1,393
	46	Loading/unloading charges for LMUs	Each	464
	47	Loading/unloading charges for 132KV wave trap	Each	464
	48	Loading/unloading charges for 220KV/400KV Wave Trap	Each	929
	49	Dismantling of existing 48V/35A, 50A Battery chargers	Each	2,209
	50	Dismantling of existing 48V/100A, 150A, 200A Battery chargers	Each	6,426
	51	Dismantling of existing 48V/200AH, 250AH, 300AH battery	Each	5,012
	52	Dismantling of existing 48V/400 AH battery	Each	6,658
	53	Dismantling of existing OLTE/MUX/DACs equipment	Each	4,784
	54	Dismantling of wave traps on 132 KV/220KV/400 KV SS		
	i	50% of Erection of 2000A/1 m H Wave Trap(400 kv)	Each	4,470
	ii	50 % of Erection of 1250A/0.5 mH Wave Trap(220 kv)	Each	3,623
	iii	50% of Erection of 630A/0.2mH Wave Trap (132 KV)	Each	2,160
	55	Dismantling of ADSS cable from 132KV, 220KV, 400KV lines	Km	23,245
	56	Dismantling of 12F/24F/48F/96F OPGW cable from 132KV, 220KV, 400KV lines on Off Line/Live line condition (50% of stringing charges)	Km	49,386
	57	Dismantling of splice boxes on 132KV, 220KV towers	Each	2,397
	58	Dismantling of splice boxes on 400KV towers	Each	2,997
	59	Hiring charges of 5 KVA Diesel Generator per day for attending OFC break down works	Each	1,415
	60	Hiring charges of 230V AC inverter (2KVA) with battery backup for attending OFC break down works	Each	1,415
	61	Hiring charges of 8X8X10(C.u.ft) closed tent shutter for attending splicing works for attending OFC break down works	Each	996
		<b>UG OF cabling works rates</b>		
	62	Survey of route, providing as built drawing, documentation for underground optical fibre cable	Km	5,918
	63	Excavation & Backfilling of all types of soil, road, footpath, including PCC, sand, warning brick/stone, semi-circular RCC split cover etc. for underground fibre optic cable.	Km	2,36,069

	64	Warning Tape (including supply and installation).	Km	35,420
	65	Laying of PLB HDPE pipe O.D. 40mm	Km	16,772
	66	Installation of HDPE pipe by <b>Trenchless digging</b>		
	i	0-10 mtrs	mtr	943
	ii	> 10 and up to 30 mtrs	mtr	1,063
	iii	More than 30 mtrs	mtr	1,180
	67	Laying of GI pipe 100mm (Nominal bore), Including accessories.	mtr	300
	68	Laying of RCC hume pipe (NP3), 100mm Diameter (Inside), Including accessories.	mtr	450
	69	laying of UG OFC 24F/48F/96F (DWSM) with HDPE duct in case of underground works	Km	35,422
	70	Installation of Joint box in underground (Including splicing & testing) - 24 Fibers	No.	7,385
	71	Installation of Joint box in underground (Including splicing & testing) - 48 Fibers	No.	13,788
	72	Installation of Joint box in underground (Including splicing & testing) - 96 Fibers	No.	27,576
	73	Erection of RCC Joint Chambers	No.	6290
	74	Installation of PLB HDPE pipe on wall in building premises including routing of OFC through it	mtr	596
	75	Reinstatement of excavated area/damages (in road, pavement, footpath etc.)	Sq.mtrs	298

A.K.V Bhaskar  
Director (Grid, Transmission & Management)