TRANSMISSION CORPORATION OF TELANGANA LIMITED

STANDARD SCHEDULE OF RATES

FOR LABOUR ITEMS OF 220 KV & 132 KV TRANSMISSION LINES AND SUBSTATIONS WORKS AND FOR O&M WORKS OF TRANSMISSION SYSTEM

FOR THE YEAR 2014-15

(With effect from the date of issue of T.O.O. Ms. No. 31, dated. 23.09.2014.)

TRANSMISSION CORPORATION OF TELANGANA LIMITED

VIDYUT SOUDHA :: HYDERABAD

TSTRANSCO – Standard Schedule of Rates for labour items of 220 KV & 132 KV Transmission lines and substations works and rates for O&M works of Transmission system for the year 2014-15 – Communicated – Reg.

T.O.O. No. CE (Construction) / Ms. No.31 dt. 23.09.2014

Read the following:-

Ref:-1) APTRANSCO T.O.O.Ms. (CE-Construction) MS. No.24, dated27.08.2014

APTRANSCO has communicated Standard Schedule of rates for labour items of 220 KV & 132 KV Transmission lines and substations capital works including O&M works for the year 2014-15 vide reference cited. The SSR 2013-14 rates are updated duly enhancing to the extent of Inflation in labour charges as declared by Government of India for the year 2014-15. Further as per the field conditions / requirement, new item rates such as laying of 132KV/220 KV UG Cables in various soil conditions, Layout drawing with Auto-CADD, etc., were included.

The Board of TSTRANSCO accorded approval for implementing the above SSR 2014-15 in TSTRANSCO.

ORDER

Standard Schedule of Rates for labour items of 220 KV & 132 KV Transmission lines and substations works and rates for O&M works of Transmission system for the year 2014-15 approved by Transmission Corporation of Telangana Limited is communicated herewith for adoption in preparation of estimates.

For all Civil items of EHV Transmission lines & substations works, the rates that are approved by Government of Telangana in the Prevailing common SSR and the provisions made in the T.O.O.CE (Civil). Ms.No.148, dt.21.10.2009 shall be adopted.

The standard scheduled of Rates for 2014-15 will come into force from the date of issue of this T.O.O.

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

Sd/- MOHD.ANWARUDDIN

DIRECTOR (GRID, TRANSMISSION AND MANAGEMENT)

To

The Chief Engineer/Construction/TSTRANSCO/VS/Hyderabad.

The Executive Director (Trg. & Civil) /TSTRANSCO/VS /Hyderabad.

The Chief Engineer/Transmission & LI/ TSTRANSCO VS/Hyderabad.

The Chief General Manager (HRD)/VS/Hyderabad.

Superintending Engineer/PM1/Construction/VS/Hyderabad
Superintending Engineer/PM2/Construction/VS/Hyderabad

Divisional Engineer-1//PM1/Construction/VS/Hyderabad.
Divisional Engineer-2//PM1/Construction/VS/Hyderabad.

Divisional Engineer-1//PM2/Construction/VS/Hyderabad.
Divisional Engineer-2//PM2/Construction/VS/Hyderabad.
Divisional Engineer-3/PM2/Construction/VS/Hyderabad.
Superintending Engineer/Transmission)/VS/Hyderabad
Divisional Engineer/Substations/Transmission/VS/Hyderabad.
Divisional Engineer/Lines/Transmission/VS/Hyderabad.

Divisional Engineer/LIS/TSTRANSCO/Hyderabad
Superintending Engineer/Civil/VS/Hyderabad

PS to Chairman &Managing Director/TSTransco/VS/Hyd.
PS to Joint Managing Director/Comml&HRD/TSTransco/VS/Hyd.
PS to Director /Grid,Transmission& Management/ TSTransco/VS/Hyderabad.
The FA & CCA (Accounts)/TSTransco/VS/Hyderabad.

The Chief Engineer/Metro Zone/Hyderabad
DE/Tech , O/o CE/Metro Zone
SE/ OMC (Metro)/Hyderabad
DE/ Trans /Metro/Hyderabad, OMC/Metro Circle
DE/O&M/Erragadda, OMC/Metro Circle
DE/MRT&Trans/ Metro/ Hyd , OMC/Metro Circle
SE/ O&M/Ranga Reddy
DE/O&M/Moulali, O&M/Ranga Reddy Circle
DE/O&M/ Chandrayangutta, O&M/Ranga Reddy Circle
DE/ MRT (O&M)/ R.R., O&M/Ranga Reddy Circle
SE/ Construction /Ranga Reddy
DE/ MRT /Const/ R.R. , Construction /Ranga Reddy
EE/Const./Stores/ Erragadda/Hyderabad , OMC/Metro Circle
EE/Const./Twin Cities / Hyderabad, OMC/Metro Circle
EE/Const./Cables/Hyderabad, OMC/Metro Circle
EE/Const./Ring Mains/RR, Construction/Ranga Reddy Circle
EE/Const./ RR, Construction /Ranga Reddy
SE/ Civil /Metro/Hyderabad
EE/Const./ Civil /Metro/Hyderabad
EE/Civil/O&M/ Hyderabad
SE/Telecom/Metro/Hyderabad
DE/Telecom/Metro/Hyderabad
The Chief Engineer/ Rural Zone/Hyderabad
Divisional Engineer/Technical, O/o CE/RZ/Hyd.
Superintending Engineer/OMC/Sangareddy.
Divisional Engineer/Technical, O/o SE/OMC/Sanga Reddy.
Divisional Engineer/O&M/Yeddulailaram.
Divisional Engineer/O&M/Siddipet.
Divisional Engineer/MRT & Transformers/Sangareddy.
Executive Engineer/Construction/Sangareddy.
Superintending Engineer/OMC/Mahabubnagar.
Divisional Engineer/Technical, O/o SE/OMC/Mahaboobnagar
Divisional Engineer/O&M/Wanaparthy.
Divisional Engineer/O&M/Mahabubnagar.
Divisional Engineer/MRT& Transformers / Mahabubnagar.
Executive Engineer/Construction/ Mahabubnagar.
Superintending Engineer/O&M/Nalgonda.
Divisional Engineer/O&M/Nalgonda.
Divisional Engineer/O&M/Miryalagudda.

Divisional Engineer/MRT& Transformers / Nalgonda.
Superintending Engineer/Construction/Nalgonda.
Executive Engineer/Construction/Nalgonda.
Superintending Engineer/Civil / Rural/Hyderabad.
Executive Engineer/Civil/TLC/Rural-I/Hyderabad.
Executive Engineer/Civil/TLC/Rural-II/Hyderabad.
Superintending Engineer/Telecom / Rural/Hyderabad.
Divisional Engineer/Telecom/Mahabubnagar.
Divisional Engineer/Telecom/Sangareddy.
Divisional Engineer/Telecom/Nalgonda.
The Chief Engineer/ Warangal Zone/Warangal
Divisional Engineer/Technical, O/o CE/WZ/Hyd.
Superintending Engineer/OMC/Warangal
Divisional Engineer/Technical, O/o SE/OMC/Warnagal.
Divisional Engineer/O&M/Warangal-I
Divisional Engineer/O&M/Warangal-I
Divisional Engineer/MRT & Transformers/Warangal
Executive Engineer/Construction/ Warangal.
Superintending Engineer/OMC/Karimnagar
Divisional Engineer/Technical, O/o SE/OMC/ Karimnagar
Divisional Engineer/O&M/Karimnagar
Divisional Engineer/O&M/Ramagundam
Divisional Engineer/MRT& Transformers / Karimnagar
Executive Engineer/Construction / Karimnagar
Superintending Engineer/OMC/Nizamabad
Divisional Engineer/O&M/ Nizamabad
Divisional Engineer/O&M/Dichpally
Divisional Engineer/MRT& Transformers / Nizamabad
Executive Engineer/Construction / Nizamabad
Superintending Engineer/OMC/Khammam
Divisional Engineer/O&M/ Khammam
Divisional Engineer/MRT& Transformers / Khammam
Executive Engineer/Construction / Khammam
Superintending Engineer/OMC/Adilabad
Divisional Engineer/O&M/ Mancherial
Divisional Engineer/MRT& Transformers / Adilabad

Executive Engineer/Construction / Adilabad

Superintending Engineer/Civil / Warangal

Executive Engineer/Civil/TLC/Warangal

Executive Engineer/Civil/TLC/ Karimnagar

Executive Engineer/Civil/TLC/ Nizamabad

Superintending Engineer/Telecom / Warangal

Divisional Engineer/Telecom/ Warangal

Divisional Engineer/Telecom/Karimnagar

Divisional Engineer/Telecom/Nizamabad

// FORWARD BY ORDER //

DIVISONAL ENGINEER-1
O/o Chief Engineer(Construction)
TSTRANSCO
Vidyut Soudha, Hyderabad

INDEX

PREAMBLE

1. The Rates for the item of works (Line & Substations) involved under special conditions in the existing SSR 2014-15 are as follows:

(I) TRANSMISSION LINE WORKS:

(II)
(III)

Sl. No.	Description of work	% Over the basic labour rates
1.	River Crossing with JC type towers	100% extra
2.	2nd Circuit Stringing with 1st Circuit lives.	75% extra
3.	Works under shutdown: 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	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

SUBSTATIONS AND OTHER WORKS:

Sl. No.	Description of work	% Over the Basic labour rates
1.	Works under shutdown: 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

Sl. No.	Description of work	% Over the Basic labour rates
2.	Dismantling works	75% of Normal Rate.
3.	Emergency Works such as break down works. This will not be applicable for pre-arranged shutdown works.	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.

Note:- However if more than one special condition such as emergency, shutdown, 2nd circuit stringing with First 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 to be dispensed.

2 For EHT Transmission line works, Keeping scattered in nature, some extra provisions are provide and are as follows

a. 5% extra provision on the basic rates of TSTRANSCO towards scattered area mobilization efforts in general areas

Or

b. 10% extra provision on the basic rates of TSTRANSCO towards scattered area mobilization efforts in difficult areas. The concerned SE/ Construction(or)SE/OMC has to certify that entire line passes through difficult terrain / areas duly furnishing the justification.

Note:- If 10% extra toward mobilization efforts in difficult areas is applicable for a work, then the 5% extra towards mobilization effort in general areas is not applicable.

c Transmission line erection works, Uniform area allowance minimum of 25% on basic labour charges for the entire state as recommended by Board of Chief Engineers will be allowed against weighted average of area allowance mentioned in Schedule of rates except in Greater Municipal corporation limits. If the entire line is with in the Greater Municipal Corporation limits, area allowance shall be considered as mentioned in Common SSR. *This uniform area allowance is applicable only for the Transmission line erection works.* However area allowance shall be considered as adopted from Common SSR, for the works other than transmission line works.

3(a) 10% extra to the rate 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 and after laying of earth mat.

3(b) 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.

3(c) 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.

3(d) The rates for tree cutting and jungle clearance may be followed as per Common SSR of Govt. of Andhra Pradesh/Telangana.

4. AREA ALLOWANCES:

A) CORPORATIONS & MUNICIPALITIES:

a) (i) 25% extra over the rates on labour component of works is allowed in all Municipal Corporation Limits of Telanagana except Greater Hyderabad, (up to a belt of 12 Kms. from Municipal Corporation limits) and other corporations as notified by the Government from time to time.

(ii) 40% extra over the rates on labour component of works for Greater Hyderabad, (up to a belt of 12 Kms. from Municipal Corporation limits).

b) Allow 20% extra over basic rates on labour component of works in all District Headquarters and the remaining Municipal limits (up to a belt of 12 Kms. from Municipal limits).

B) JAIL COMPOUNDS:

15% extra is allowed over basic labour rates for the work in the Jail compounds. Only equivalent number of Man Mazdoor shall be provided in the Jail premises and no women Mazdoor are allowed inside.

C) INDUSTRIAL AREA:

20% over basic rates on labour component works allowed for works situated within 10 Kms belt of Industrial area of, Jeedimetla, Lingampally, Ibrahimpatnam,Tandur in Ranga Reddy District, Kothur in Mahabubnagar District, Patancheru, Ramachandrapur in Medak District, Bibinagar in Nalgonda District, Ramagundam and Godavarikhani in Karimnagar District, Manchiryal, Mandamarri, Bellampalli in Adilabad District, Sarpaka, Kothagudem, Paloncha, Manguguru, Singareni Collieries in Khammam District, Kamalapur, Bhoopalpally of Warangal District, Wadepally of Nalgonda District, Nagapally (Centenary Colony, Begumpet "X" roads),Takkelapally of Karimnagar District

D) AGENCY / TRIBAL AREAS:

a) 25% extra is allowed for the works located with in the interior Agency / Tribal limits, i.e. for the works located with in & upto16 KMs from any all weather route inside Agency / Tribal.

b) 40% extra is allowed for the works located with in the interior Agency / Tribal limits, i.e. for the works located beyond 16 KMs from any all weather routes inside Agency / Tribal. The extra percentage under Agency / Tribal areas allowance may be allowed on the labour component and on the labour charges in the rates for conveyance of materials.

E) GHAT ROADS:

For Ghat Roads steeper than 1 in 20, the length of the road may be taken as 1.5 times the existing length of the road for the purpose of leads only for conveyance of materials based on the certificate for the Ghat Road given by the Superintending Engineer concerned. Under compelling circumstances, the concerned Chief Engineer can adopt the equivalent length of road as 2 ½ times of actual length.

Note: If more than one area allowance (such as those) for (1) Municipalities (2) Agency / Tribal areas (3) Industrial areas are applicable for a particular situation, only the maximum out of the allowable percentages is to be allowed.

5. 14% on basic labour rates towards for contractor's overheads and profit including labour importation is applicable only for Turnkey projects (New substations, Lines, 33kV features & Bay extension works) of more than 1 Crore and not applicable to O&M works and other than turnkey works.
Contractor's over heads and profit including Labour importation 14% is allowed on basic labour rates.

The overhead charges include the following:

- Site accommodation, setting up plant, access road, water supply, electricity and general site arrangements.
- Office furniture, equipment and communications.
- Expenditure on:
- Corporate office of contractor.
- Site si9upervision.
- Documentation and "as built' drawings.
- Mobilization / de-mobilization of resources.
- Labour camps with minimum amenities and transportation to work sites.
- Light vehicles for site supervision including administrative and managerial requirements.
- Laboratory equipment and quality control including field and laboratory testing.
- Minor T&P and survey instruments and setting outworks, including verification of line, dimensions, trial pits and bore holes, where require.
- Watch and ward.
- Traffic management during construction
- Expenditure on safe guarding environment.
- Sundries
- Financing Expenditure.
- Sales / Turn over tax.
- Work Insurance / compensation.
- AutoCAD Tower /Structure drawings of required sets.
- AutoCAD shop drawings of Towers /Structures of required sets.
- AutoCAD Substation layout.
- Testing and commissioning of the equipment.

6. **(i)** The area allowances, COP's and Mobilization charges are not applicable on Fabrication charges and Galvanization Charges.

(ii) The area allowance shall be applicable for O&M and RMI works also on par with construction works.

(iii) The mobilization charges shall be applicable for O&M & RMI works of lines also on par with construction works.

The area allowances are applicable for electrical works (labour), where the value of work is more than Rs.20.00 lakhs (electrical & civil). But this (TSTRANSCO SSR) is not applicable for only Civil works.

7. (a) **TREE CUTTING AND CLEARING OF JUNGLE**

Please refer prevailing Common SSR of Board of Chief Engineers.

7 (b) **THE (LEAD) CONVEYANCE CHARGES FOR TRANSPORTATION OF EQUIPMENT / MATERIALS.**

Please refer prevailing Common SSR of Board of Chief Engineers.

8. " **Erection of Power Transformers and Oil filtration Works**

The rates communicated by CE/Transmission vide letter No.CTO-121/F.PTRs erection works/D.No.104/08, Dt.05.07.2008 and subsequent Amendment No.I, dt. 15.07.2009 and Amendment No.II, dt. 21-04-11 on rate contract basis for erection, dismantling, transportation and oil filtration of power transformers through private agency are valid up to 30.09.2014.

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. excluding service tax.

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.

9. **Civil Engineering Works in Transmission lines & Substations:**

For Civil items works of Transmission Lines and Substations the prevailing common SSR for engineering departments shall be followed in Toto. Some provisions made in T.O.O.CE (Civil) Ms No.148, dated.21.10.2009 are also applicable for civil works. But the TSTRANSCO SSR 2014-15 is not applicable for Civil Works.

10. 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.

11. All statutory levies such as VAT (Works Contract Tax), Service Tax., Cess for labour welfare if any, are based on the prevailing notified rate, shall have to be added in the estimate

12. The S.S.R will come into force with immediate effect until further orders.

Sd/-MOHD.ANWARUDDIN
DIRECTOR(GRID, TRANSMISSION AND MANAGEMENT)

// FORWARD BY ORDER //

DIVISONAL ENGINEER-1

O/o Chief Engineer (Construction)

TSTRANSCO

Vidyut Soudha, Hyderabad

ANNEXURE - I

ERECTION OF 220kV & 132 kV TRANSMISSION LINES

Sl. No.	Item No.	Description of Item	Unit	SS Rate for 2014-15 (Rs.)
CL1	1	Check Survey, peg marking the tower positions on ground, conforming to the approved Profile and tower schedules using GPS, Total stations, Digital the odolites etc. "the rate is also applicable for re-check survey if any done due to ROW problems"	kM	3807.00
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*.(With Theodolite / With GPS equipment (As per Clause 4.9 of survey) /With total station equipment).*	RKM	3458.00
	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.		
		This work can be done with Theodolite or with GPS equipment (As per clause no.4.9 of survey) or with total station equipment. This work involves the following items.		
CL3	i)	Tower schedules as per tower spotting requirements plotted on reproducible tracing of profile original with one extra copy shall be given . *Towers Schedules should be submitted with GPS Co-ordinates. Identification of wind zones, collection of Hydraulic data of rivers / drains from competent authority.*	RKM	11872.00
CL4	ii)	Taking earth resistivity at an interval of 1 Km by electrical resisitivity method (4 point method) or by ERM method.	Loc	864.00
	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)		0.00
CL5	3 iii) a	up to 25KM	Job	4610.00
CL6	3 iii) b	Above 25KM	Job	8451.00
CL7	3 v)	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, *up to required corridor* for 132kV Line -27 Metres & 220kV Line -35 Meters) indicating name of tree, girth & height. Separate tree schedule should be submitted along with the profile for arriving tree compensation amount.	Each	17.00

CL8	3 (vi)	Preparation of ground profiles for Railway crossing, River crossing and EHV power line crossing separately wherever required.	Each crossing	2573.00
		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.		
CL9	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	1424.00
	5	Setting of stubs with stub-setting template : 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).		
CL10	(a)	132 KV P, R & S-Type Towers	Loc.	6795.00
CL11	(b)	220 KV A, B, C & D-Type Towers	Loc.	9902.00
CL12	(c)	132 KV Multi circuit Towers	Loc.	8494.00
CL13	(d)	220 KV Multi circuit Towers	Loc.	12376.00
CL14	(e)	132kV Narrow based Multi Circuit Towers.	Single pit	7810.00
CL15	(f)	220kV Narrow based Multi Circuit Towers.	Single pit	11395.00
CL16	(g)	Pole/structure for termination of 220/132kV cables	Loc.	7644.00
CL17	(h)	220 /132 kV Narrow based tower	Loc.	11139.00
CL18	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	4498.00
CL19	6(b)	Erection of all types of narrow based towers / multi circuit tower structures / narrow based multi circuit towers 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	6302.00
CL20	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	8101.00
CL22	6(d)	Erection of pole/structure for 220/132 kV cable termination	MT	5400.00

	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.Which excludes the works involved in the crossing of LT, 11kV & 33kV power lines viz dismantling and restringing of conductor		
CL23	(i)	3 Nos. Zebra conductors	RKM	38362.00
CL24	(ii)	6 Nos. Zebra conductors	RKM	57541.00
CL25	(iii)	2 Nos. Panther conductors	RKM	20455.00
CL26	(iv)	3 Nos. Panther conductors	RKM	30686.00
CL27	(v)	6 Nos. Panther conductors	RKM	48590.00
CL28	(vi)	2 Nos. Moose conductors	RKM	32393.00
CL29	(vii)	3 Nos. Moose conductors	RKM	48590.00
CL30	(viii)	6 Nos. Moose conductors	RKM	76717.00
CL31	(ix)	3 Nos. Bear conductors	RKM	38362.00
CL32	(x)	6 Nos. Bear conductors	RKM	57541.00
CL33	(xi)	3 Nos. Dog conductors	RKM	23014.00
CL34	(xii)	6 Nos. Dog conductors	RKM	36441.00
		STRINGING OF HTLS POWER CONDUCTOR 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.		
CL35	(i)	3 Nos Moose Conductors	RKM	180000.00
CL36	(ii)	6 Nos Moose Conductors	RKM	270000.00
CL37	(iii)	3 Nos Zebra Conductors	RKM	170000.00
CL38	(iv)	6 Nos Zebra Conductors	RKM	255000.00
CL39	(v)	3 Nos Panther Conductors	RKM	160000.00
CL40	(vi)	6 Nos Panther Conductors	RKM	240000.00
CL41	8	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	6140.00
CL42	9	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, *BH Coke*, Salt etc., and measuring tower footing resistance.	Nos.	3904.00
CL43	10	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.	3904.00

CL44	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,*BH Coke*, Salt etc., and measuring tower footing resistance. (Without GI Flat) for counter poise earthing.	Nos.	3178.00
CL45	12	Counterpoise earthing including clamping devices and terminal lugs, but excluding cost of steel wire.	Rmts	35.00
CL46	13	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	16.00
CL47	14	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	24.00
CL48	15	Laying of 33 kV 400 sq.mm XLPE cable	Rmts	261.00
CL49	16	Termination of 400 sq.mm XLPE cable	Each	4746.00
CL50	17	Dismantling & re stringing of 33 kV conductor (all types of conductors) for crossing of 33 kV line during stringing of EHT lines.	Per conductor	2480.00
CL51	18	Dismantling & re stringing of 11 kV conductor (all types of conductors) for crossing of 11 kV line during stringing of EHT lines	Per conductor	1357.00
CL52	19	Dismantling & re stringing of LT conductor/cables for crossing of LT line (all types) during stringing of EHT lines	Per conductor	854.00

DIRECTOR(GRID, TRANSMISSION & MANAGEMENT)
// FORWARD BY ORDER //

DIVISONAL ENGINEER-1
O/o Chief Engineer(Construction)
TSTRANSCO
Vidyut Soudha, Hyderabad

ANNEXURE - II

ERECTION OF 220kV, 132 kV & 33kV SUBSTATIONS

Sl. No.	Item No.	Description of Item	Unit	Rate for 2014-15 (Rs.)
(1)	(2)	(3)	(4)	(5)
CS1	1	Hoisting of Insulators and hardware, stretching the conductor and stringing of ***220 kV bus*** comprising of three phases with ***Quadraple Moose*** conductor to a tension of **900kgs for single moose conductor**.(***The maximum length or up to a length of bus section of*** **40m**)	**Bus Section**	20452.00
CS2	2	Hoisting of Insulators and hardware, stretching the conductor and stringing of ***220 kV bus*** comprising of three phases with ***single Zebra/Moose*** conductor to a tension of **900kgs**.(The maximum length or up to a length of bus section of **40m**)	**Bus Section**	5114.00
CS3	3	Hoisting of Insulators and hardware, stretching the conductor and stringing of ***220 kV bus*** comprising of three phases with ***Twin Zebra/Moose*** conductor to a tension of **1800kgs**, including fixing of spacer clamps(The maximum length or up to a length of bus section of **40m**).	**Bus Section**	10230.00
CS4	4	Hoisting of Insulators and hardware, stretching the conductor and stringing of ***132 kV bus*** comprising of three phases with ***Single Zebra/Moose*** conductor to a tension of **900kgs**.(The maximum length or up to a length of bus section of **45m**).	**Bus Section**	5114.00
CS5	5	Hoisting of Insulators and hardware, stretching the conductor and stringing of ***132 kV bus*** comprising of three phases with ***Twin Zebra/Moose*** conductor to a tension of **1800kgs** including fixing of spacer clamps.(The maximum length or up to a length of bus section of **45m**).	**Bus Section**	10230.00
CS6	6	Hoisting of Insulators and hardware, stretching the conductor and stringing of **33 kV bus** comprising of three phases with ***Single Zebra/Moose*** conductor to a tension of **450kgs**.(The maximum length or up to a length of bus section of **20m**).	**Bus Section**	3837.00
CS7	7	Hoisting of Insulators and hardware, stretching the conductor and stringing of ***33 kV bus*** comprising of three phases with ***Twin Zebra/Moose*** conductor to a tension of **900kgs** including fixing of spacer clamps.(The maximum length or up to a length of bus section of **20m**).	**Bus Section**	6396.00
CS8	8	Hoisting of Insulators and hardware, stretching the conductor and stringing of ***132 kV bus*** comprising of ***two phases*** with ***Single Zebra/Moose*** conductor to a tension of **900kgs**.(The maximum length or up to a length of bus section of **45m**).	**Bus Section**	3408.00
CS9	9	Fixing of spacers for Twin Moose conductor	Each	101.00
CS10	10	Fixing of spacers for Quadruple Moose Conductor	Each	140.00
CS11	11	Fixing of Hardware,stretching the ground wire and stringing of earth wire to a tension of 450kgs from pinacle to pinacle**.**	Each	764.00
CS12	12	Fixing of Hardware,stretching the ground wire and stringing of earth wire to a tension of 450kgs from pinacle to ground.	RM	52.00
CS13	13	Connection of equipment to bus and or another equipment with ***single zebra/Moose/Panther*** conductor including measuring, cutting,clamping and hoisting of suspension insulator assembly to support the conductor wherever necessary.	Each	268.00

CS14	14	Connection of equipment to bus and or another equipment with ***Twin zebra/Moose/Panther*** conductor including measuring, cutting,clamping and hoisting of suspension insulator assembly to support the conductor wherever necessary.	Each	415.00
CS15	15	Connection of equipment to bus and or another equipment with **Quad *zebra/Moose/Panther*** conductor including measuring, cutting,clamping and hoisting of suspension insulator assembly to support the conductor wherever necessary.	Each	831.00
	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	79.00
CS17	16 b	50x 8mm MS Flat / GI Flat.	RM	62.00
CS18	16 c	75x 8mm MS Flat / GI Flat.	RM	71.00
CS19	16 d	For laying of earth flat in hard rock in substation / bays extension, an additonal 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 remvoal of hard rocks.	RM	54.00
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 in side the pit including supply and fixing RCC collars 0.75 meter dia (OD), 50mm thick and 0.60meters long in side 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	11402.00
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 alluminium in cable trenches including cost of suitable metalic cable glands with rubber lining. **Note:** This includes running of cables in control room where cables are run on cable racks in cable duct.	RM	9.00
	19	Laying of power cables.		
CS22	19 a	upto 50 sqmm	RM	12.00
CS23	19 b	above 50 sqmm	RM	16.00
	20	Cable terminations to the switchgear, Marshalling boxes / Panel terminal blocks/control & relay panels, LTAC panel including providng 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.	27.00
CS25	20 ii	4.0 sqmm Aluminium with Aluminium lugs each core at both ends.	Nos.	29.00

CS26	20 iii	Up to 50 sqmm Power Cable with lugs each core at both ends.	Nos.	63.00
CS27	20 iv	Above 50 sqmm Power Cable with lugs each core at both ends.	Nos.	115.00
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	1024.00
	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	17902.00
CS30	22.2	132 kV Circuit breakers with support structure & marshalling boxes including Ploe to Pole cable wiring and terminations.	Each	12790.00
CS31	22.3	33 kV Circuit breakers including Ploe to Pole cable wiring and terminations.	Each	5154.00
CS32	22.4	2-pole 220 kV Circuit Breaker with support structure & marshalling boxes incl. grouting of foundation bolts & wiring of cables & terminations.	Each	15216.00
CS33	22.5	2-pole 132 kV Circuit Breaker with support structure & marshalling boxes incl. grouting of foundation bolts & wiring of cables & terminations.	Each	10871.00
CS34	22.6	220 kV Current Tranformers.	Each	4350.00
CS35	22.7	132 kV Current Tranformers.	Each	2813.00
CS36	22.8	33 kV Current Tranformers.	Each	869.00
CS37	22.9	220 kV Potential Transfomers.	Each	4350.00
CS38	22.10	132 kV Potential transformers.	Each	2813.00
CS39	22.11	33 kV Potential transformers.	Each	869.00
CS40	22.12	220 kV Lightning Arrestors.	Each	2813.00
CS41	22.13	132 kV Lightning Arrestors.	Each	1328.00
CS42	22.14	33 kV Lightning Arrestors.	Each	519.00
CS43	22.15	220 kV Capacitve Voltage Transformers.	Each	4093.00
CS44	22.16	132 kV Capacitve Voltage Transformers.	Each	2813.00
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	6906.00
CS46	22.18	132 kV Isolators with earth swtich including solid core insulators erection, alignment in full shape for smooth operation by manually.	Each	5114.00
CS47	22.19	220 kV Isolators without earth swtich including solid core insulators erection, alignment in full shape for smooth operation by Electrical and manually.	Each	6396.00
CS48	22.20	132 kV Isolators without earth swtich including solid core insulators erection, alignment in full shape for smooth operation by manually.	Each	4601.00

CS49	22.21	2-pole, 220 kV Isolators without earth swtich including solid core insulators erection, alignment in full shape for smooth operation by Electrical and manually.	Each	5436.00
CS50	22.22	2-pole, 132 kV Isolators without earth swtich including solid core insulators erection, alignment in full shape for smooth operation by Electrical and manually.	Each	3911.00
CS51	22.23	33 kV Isolators including solid core insulators erection, alignment in full shape for smooth operation.	Each	1662.00
CS52	22.24	220 kV Bus Post Type Insulators.	Each	362.00
CS53	22.25	132 kV Bus Post Type Insulators.	Each	273.00
CS54	22.26	33 kV Solid Core Insulators	Each	183.00
CS55	23	33 kV /400 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	5777.00
CS56	24	Erection of Control / Relay panels, LTAC panels, announciation, **PTDB** panels etc.,in the control room duly mounting them on channels and grouting them with foundation bolts excluding cost of channels & foundation bolts **(for 220kV & 132kV), including** man power support to MRT wing for commissioning.	Each	2272.00
CS57	25	Erection of 220 V, 200 Ah/ 80 Ah Lead Acid battery in complete shape fit for charging.	Set	8904.00
CS58	26	Erection of 220 V, 200 Ah/ 80 Ah maintenance free battery in complete shape fit for charging .	Set	2878.00
CS59	27	Erection of 220 V, 200 Ah / 80Ah battery charger.	Set	2959.00
CS60	28	Erection of Capacitor Bank including series reactor of 7.5 MVAR Capacity	Each	4586.00
CS61	29	Erection of Marshalling kiosk	Each	764.00
CS62	30	Erection of Marshalling boxes	Each	371.00
CS63	31	Erection of Lighting pillar box in switchyard on foundation laid (Excluding pillar box). **(for 220kV & 132kV)**	Each	1023.00
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	8369.00
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	4900.00
	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 stubsetting template, dismantling of template after completion of initial curing of CC		
CS66	34.1	220kV Towers	Set	3302.00

CS67	34.2	132kV Towers	Set	2371.00
CS68	34.3	33kV Towers & CPL's	Set	592.00
CS69	34.4	220kV Isolator	Set	2477.00
CS70	34.5	132kV Isolator	Set	1778.00
CS71	34.6	220 kV Breaker	Set	2142.00
CS72	34.7	132 kV Breaker	Set	1606.00
CS73	34.8	33 kV Breaker	Set	1071.00
CS74	35	Erection of the main and auxiliary structures etc., using bolts and nuts.	MT	2558.00
CS75	36	Fixing of 90lb rail poles over the transformer plinths.	RM	509.00
CS76	37	Fixing of 105lb rail poles over the transformer plinths.	RM	595.00
CS77	38	Erection of 33kV HG Fuse set	Each	618.00
CS78	39	Erection of 33kV PT Distribution Box	Each	372.00
CS79	40	Laying and Terminations of 11kV, XLPE 1000 Sqmm Cable	RM	130.00
CS80	41	Erection of 11kV VCB outdoor type Kisok (within built Breaker, CTs, PTs, Surge Arrestors & Relays).	Each	2642.00
		Marking as per approved layout with the help of surveyor		
CS81	42	220 kV sub-station	Each	32124.00
CS82	43	132 kV sub-station	Each	21416.00
CS83	44	Bay / Bays in one sub-station	Each	10708.00
	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 & 50X 8mm flat earth pits,yard lighting fixtures etc.,		
CS84	i	132kV SS layout drawing	Job	5440.00
CS85	ii	220kV SS layout drawing	Job	6675.00
CS86	46	Writing of letters in control room panels of lettering on panels marshalling boxes.	Line	77.00
CS87	47	Supply and installation of Key - Board of size 1.5'x2' of Eco Wood Board with Glass covering with lock and key arrangments for providing all the keys of equipment and SS.	Each	4280.00

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.

DIRECTOR(GRID, TRANSMISSION & MANAGEMENT)

// FORWARD BY ORDER //

DIVISONAL ENGINEER-1
O/o Chief Engineer(Construction)
TSTRANSCO
Vidyut Soudha, Hyderabad

ANNEXURE - III					
	I	**Loading / Unloading of materials from departmental / Private vehicles in to the stores yard and stacking and vice-versa**			
Sl. No.	**Item No.**	**Description of Item**	**Unit**	**SS Rate for 2014-15**	
				Loading	Un Loading
				91.90	107.10
	2	All other materials			
ST2	(i)	Steel	MT	208.60	208.60
ST3	(ii)	Tower parts	MT	208.60	208.60
ST4	(iii)	RS Joists and rail poles and MS Sheets pf various sizes.	MT	208.60	208.60
	3	Cable / Conductor drums (for loading / un loading)			
ST5	a	Panther ACSR	Each Drum	229.50	229.50
ST6	b	Zebra ACSR	Each Drum	321.20	321.20
ST7	c	Moose ACSR	Each Drum	321.20	321.20
ST8	d	Moose ACSR (Huge Drums of 1.75KM and above)	Each Drum	472.20	472.20
ST9	e	Earth wire	Each Drum	137.60	137.60
ST10	f	Control cables up to 6 Core	Each Drum	137.60	137.60
ST11	g	Control cables above 6 Core	Each Drum	183.50	183.50
ST12	h	3 1/2 Core LTAC cable drum (up to 500 meters).	Each Drum	183.50	183.50
ST13	i	3 1/2 Core LTAC cable drum (above 500 meters).	Each Drum	229.50	229.50
	4	Other materials received in cases.			
ST14	(i)	Case weighing not more than 100kgs.	Each case	121.00	121.00
ST15	(ii)	Case weighing from101kgs to 500kgs.	Each case	228.10	228.10
ST16	(iii)	Case containg fragile items and weighing more than 501kgs and up to 1MT	Each case	456.30	364.40
ST17	(iv)	for LTAC panel	Each	304.50	304.50
ST18	v(a)	70KN Normal disc insulator	Each	1.20	1.20
ST19	v(b)	120KN Normal disc insulator	Each	1.50	1.50
ST20	v(c)	160KN Normal disc insulator	Each	1.80	1.80
ST21	vi(a)	70KN Anti-fog disc insulator	Each	1.50	1.50
ST22	vi(b)	120KN Anti-fog disc insulator	Each	1.80	1.80
ST23	vi(c)	160KN Anti-fog disc insulator	Each	2.40	2.40
	(vii)	Loading / Un loading and stacking charges for 70KN /120KN SRC insulators.			
ST24	(a)	132kV	Each string	2.40	2.40
ST25	(b)	220kV	Each string	3.00	3.00
ST26	(viii)	Loading / Un loading and stacking charges for 120KN /160KN SRC insulators for 400kV.	Each string	3.50	3.50
	5	Cases containing Control & Relay Panels			
ST27	(a)	33kV	Each	304.50	304.50
ST28	(b)	132kV and 220kV	Each	379.60	379.60
	6	Cases containing CTs, PTs, CVTs			
ST29	(i)	11kV to 33kV Rating	Each case	91.90	91.90
ST30	(ii)	Above 33kV and up to 132kV	Each case	458.80	458.80
ST31	(iii)	220kV Rating	Each case	684.20	684.20
	7	Cases containing LAs			

ST32	(i)	33kV	Each case	19.30	19.30
ST33	(ii)	132kV	Each case	228.10	228.10
ST34	(iii)	220kV	Each case	304.50	304.50
	8	Loading / Un-Loading of			
ST35	1	33kV Breaker	Each set	912.40	912.40
ST36	2	132kV CB	Each set	1823.40	1823.40
ST37	3	220kV SF6 CB	Each set	2278.10	2278.10
ST38	4	Station Transformer (100KVA)	Each set	350.00	350.00
ST39	5	Station Transformer (250KVA)	Each set	419.30	419.30
ST40	6	220V 80AH Battery ***(Conventional)*** *(Lead Acid)*	Set	759.40	759.40
ST41	7	220V 80AH Battery (VRLA) (Maintenance Free)	Set	532.60	532.60
ST42	8	220V 200AH Battery ***(Conventional)*** *(Lead Acid)*	Set	834.50	834.50
ST43	9	220V 400AH Battery	Set	1215.60	1215.60
ST44	10	220V Battery Charger with DC distribution Board	Set	456.30	456.30
ST45	11	DCDB for battery Charger.	Each	151.60	151.60
ST46	12	132kV Hardware single	Set	10.70	10.70
ST47	13	132 KV Hardware double	Set	11.10	11.10
ST48	14	220 kV Hardware single	Set	15.10	15.10
ST49	15	220 KV Hardware double	Set	16.10	16.10
ST50	16	220 KV Isolators, without insulators including machanism box	Set	456.30	456.30
ST51	17	220kV Solid core insulators	Each	61.10	61.10
ST52	18	132 KV Isolators (without soild core insulators)	Each	342.10	342.10
ST53	19	132kV Solid core insulators	Each	37.60	37.60
ST54	20	33 KV Isolators (without soild core insulators)	Each	151.60	151.60
ST55	21	33kV Solid core insulators	Each	4.30	4.30
ST56	22	Vibration dampers, mid span compression joints, repair sleeves, clamps & connectors etc	100 Nos	151.60	151.60
	23	Capacitor Banks			
ST57	a	5 MVAR	Set	1215.60	1215.60
ST58	b	Neutral C.T.	Each	83.40	83.40
ST59	24	Scrap items like MS Scrap, GI Scrap, Ferrous Scrap etc,.	Per MT	228.10	228.10
ST60	25	Scrap items like Conductor scrap, Earth wire Scrap, etc,.	Per MT	304.50	304.50
ST61	26	Bolts & Nuts weighing 50 Kgs bags <u>including springs washers, flat washers.</u>	Each bag	7.00	7.00
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	0.70	0.60
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	0.60	0.60
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	1.00	1.00
ST65	30	Copper Scrap	Per MT	182.10	182.10
ST66	31	Battery Scrap	Per MT	190.50	190.50

ST67	32	Capacitor units Scrap	Each	8.20	8.20
ST68	33	33kV Breaker Limb	Each	153.80	153.80
ST69	34	132kV Breaker Limb	Each	379.60	379.60
ST70	35	220kV Breaker Limb	Each	546.50	546.50
ST71	36	Tyres scrap of all sizes	Each	18.20	9.20
ST72	37	Empty oil drums	Barrel	6.40	6.40
ST73	38	Full oil drums	Barrel	38.00	38.00
ST74	39	220V, 200AH Battery (VRLA) (Maintenance free)	Set	584.30	584.30
ST75	40	220kV Bushing	Each	236.10	236.10
ST76	41	132kV Bushing	Each	118.00	118.00
ST77	42	33kV Bushing	Each	29.60	23.60
	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. 326.90/- and in case is loaded by using a crane then labour charges would be Rs.109.00 & crane hire charges would be Rs.217.90.			
	II.	**Loading and Un loading and counting at Stores for check measuring and Stock Verification Purpose**			
Sl. No.	**Item No.**	**Description of Item**		**Unit**	**SSR for 2014-15**
ST78	43	Tower parts counting on part wise and restocking at stores yard (for stock verification purpose)		Per MT	76.50
ST79	44	Labour charges for weighing and restocking of GI Tower Parts or Bolts & Nuts, Washers (for stock verification purpose)		Per MT	304.50
ST80	45	Labour charges for loading and unloading of ACSR, AAA Conductor & Earth wire bits for weighiment (for stock verification purpose).		Per MT	304.50
ST81	46	Counting and Restocking of Hardware (Iron parts, Al jumper cones, Al Tensition cones, PA rods, Arcing horns, Al grippers etc) (for stock verification purpose)		Each set	4.60
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	1.50
ST83	48	Counting and restocking of insulators of various capacities (for stock verification purpose)		Each	1.50
ST84	49	Loading of Assorted tower parts from different places by observing part wise and loading in to lorry at stores		Per MT	228.10
ST85	50	For Opening and Repacking of Packing of Panels for check measuring purpose		Each	45.80
	51	For Opening and Repacking of Packing of Breakers for check measuring purpose			0.00
ST86	(a)	220 kV		Each	151.60
ST87	(b)	132 kV		Each	107.10
ST88	(c)	33 kV		Each	45.80
ST89	52	For Opening and Repacking of Packing of Fragile Materials, and Small Packages like wooden, Cartoon Boxes etc., for check measuring purposes.		Each	22.80

	III	Crane Hire charges:(for departmental works at the premises)		
Sl. No.	**Item No.**	**Description of Item**	**Unit**	
	53	For 2 to 8 Tonne Capacity crane		
ST90		i.For Ist hour	Hour	2229.90
ST91		ii.For every hour or part thereof after Ist hour	Hour	1012.90
	54	For 8 to 20 Tonne Capacity crane		0.00
ST92		i.For Ist hour	Hour	3477.70
ST93		ii.For every hour or part thereof after Ist hour	Hour	1159.20
	55	For above 20 Tonne Capacity crane		0.00
ST94		i.For Ist hour	Hour	5363.00
ST95		ii.For every hour or part thereof after Ist hour	Hour	1885.30
	IV	**Sparing of Departmental vehicle to the contractor:**		0.00
Sl. No.	**Item No.**	**Description of Item**	**Unit**	
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 work.	Per day	2922.90
			Plus additional KM	24.30
ST97	57	Providing Transportation to Officers	Rs./km	5.00

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 Rs24309.3/-(Rs.1013-per hr X 24Hrs) + (Fuel cost & lubricants) per day or part thereoff and the time is to be reckoned from the time of leaving department premises till reaching back.

DIRECTOR(GRID, TRANSMISSION & MANAGEMENT)

// FORWARD BY ORDER //

DIVISONAL ENGINEER-1
O/o Chief Engineer(Construction)
TSTRANSCO
Vidyut Soudha, Hyderabad

ANNEXURE –IV

TRANSPORT OF EQUIPMENTS / MATERIALS

Sl.No.	Item No.	Description of Item	Per Load
		The following are the minimum materials / equipment, for each load. One Load = 9.0 MT	
	1	**CTs, PTs, & CVTs:**	
T.1	1.a	220 kV	2 Nos.
T.2	1.b	132 kV	3 Nos.
T.3	1.c	33 kV	12 Nos.
	-	NOTE: For transport of 220kV CTs, PTs &CVTs extra provision of Rs.180/- may be added for each load towards labour for clearing the obstructions like electrically and telephone lines as the equipment are very tall.	
	2	**SF6 Circuit Breakers:**	
T.4	2.a	220 kV	1/2 sets
T.5	2.b	132 kV	2/3 sets
T.6	2.c	33 kV	2 Nos.
	3	**Isolators with or without Earth switch including post type insulators:**	
T.7	3.a	220 kV	1 set.
T.8	3.b	132 kV	2 Sets
T.9	3.c	33 kV	8 Nos.
	4	**Lighting Arrestors:**	
T.10	4.a	220 kV	6 Nos.
T.11	4.b	132 kV	6 Nos.
T.12	4.c	33 kV	24 Nos.
	5	**Control & Relay panels:**	6 Nos.
	6	**ACSR Conductor and Earth wire drums:**	
T.13	6.a	ACSR moose	3Nos.
T.14	6.b	ACSR Zebra	4Nos.
T.15	6.c	ACSR Panther	6Nos.
T.16	6.d	Earth wire of 2 km per each drum	8Nos.
T.17	6.e	Earth wire of 3 km per each drum	6 Nos.
T.18	6.f	CABLE DRUMS	10Nos.
	7	**Disc Insulators**	
T.19	7.a	70 KN	1000 Nos.
T.20	7.b	120KN	800 Nos.
	8	**Silicon Rubber Insulators**	
T.21	8.a	70 KN	275 Nos.
T.22	8.b	120KN	228 Nos.
	9	**Wave Traps**	
T.23	9.a	220kV	6 Nos.
T.24	9.b	132kV	16 Nos.

DIRECTOR (GRID, TRANSMISSION & MANAGEMENT)

// FORWARD BY ORDER //

DIVISONAL ENGINEER-1
O/o Chief Engineer(Construction)
TSTRANSCO
Vidyut Soudha, Hyderabad

ANNEXURE - V

RATES FOR HANDLING & ERECTION OF POWER TRANSFORMERS

Sl. No.	Item No.	Description of Item	Unit	SSR rate for 2014-15
	1	**2**	**3**	**5**
	A)	**HANDLING AS JOB WORK BY DEPARTMENT**		
	1	**Loading/Unloading of T&P such as wooden sleepers, winch jacks, packing pieces etc., required for handling the power transformers.**		
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	1003.00
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	1003.00
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	1003.00
	2	**Loading/Unloading of fragile material such as**		
	a)	LV bushing / Neutral bushing for 132 kV transformer		
PT4	(i)	Loading	Each	30.00
PT5	(ii)	Unloading	Each	24.00
	b)	132kV Bushings		
PT6	(i)	Loading	Each	118.00
PT7	(ii)	Unloading	Each	118.00
	c)	220kV Bushings		
PT8	(i)	Loading	Each	236.00
PT9	(ii)	Unloading	Each	236.00
		NOTE :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	1660.00
	4	**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.**		
	a	Transformers upto 16 MVA capacity		
PT11		Up to 10 Mtrs.	LS	2642.00
PT12		Over and above 10 Mtrs.	RM	263.00
	b	Transformers above 16MVA and upto 31.5 MVA capacity		
PT13		Up to 10 Mtrs.	LS	4825.00
PT14		Over and above 10 Mtrs.	RM	483.00
	c	Transformers above 31.5MVA and upto 50 MVA capacity		
PT15		Up to 10 Mtrs.	LS	5631.00
PT16		Over and above 10 Mtrs.	RM	563.00

	d	Transformers above 50MVA and upto 100 MVA capacity		
PT17		Up to 10 Mtrs.	LS	6959.00
PT18		Over and above 10 Mtrs.	RM	695.00
	e	Transformers above 100MVA and upto 160 MVA capacity		
PT19		Up to 10 Mtrs.	LS	8953.00
PT20		Over and above 10 Mtrs.	RM	896.00
	5	**Turning the transformer through 90 degrees including making arrangements as above.**		
PT21	a	Transformers upto 16 MVA capacity	Each	2365.00
PT22	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	2966.00
PT23	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	3689.00
PT24	d	Transformers above 50MVA and upto 100 MVA capacity	Each	4221.00
PT25	e	Transformers above 100MVA and upto 160 MVA capacity	Each	5276.00
	6	**Turning the transformer through 180 degrees including making arrangements as above.**		
PT26	a	Transformers upto 16 MVA capacity	Each	4100.00
PT27	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	4930.00
PT28	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	5809.00
PT29	d	Transformers above 50MVA and upto 100 MVA capacity	Each	6455.00
PT30	e	Transformers above 100MVA and upto 160 MVA capacity	Each	7745.00
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	1003.00
PT32	7(b)	Movement of 10 MT winch for anchoring.	1 Job	908.00
	8	**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.**		
PT33	a	Transformers upto 16 MVA capacity	Each	2870.00
PT34	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	4423.00
PT35	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	5507.00
PT36	d	Transformers above 50MVA and upto 100 MVA capacity	Each	7341.00
PT37	e	Transformers above 100MVA and upto 160 MVA capacity	Each	9393.00
	9	**Pulling the transformer from platform to the truck for loading/ from truck to the platform for unloading**		
PT38	a	Transformers upto 16 MVA capacity	Each	2414.00
PT39	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	4221.00
PT40	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	4691.00
PT41	d	Transformers above 50MVA and upto 100 MVA capacity	Each	5866.00
PT42	e	Transformers above 100MVA and upto 160 MVA capacity	Each	7928.00
	10	**Fixing of transformer wheels to main tank including alignment of transformer etc.,**		
PT43	a	Transformers upto 16 MVA capacity	Job	1116.00
PT44	b	Transformers above 16MVA and upto 31.5 MVA capacity	Job	1317.00
PT45	c	Transformers above 31.5MVA and upto 50 MVA capacity	Job	1918.00
PT46	d	Transformers above 50MVA and upto 100 MVA capacity	Job	2485.00
PT47	e	Transformers above 100MVA and upto 160 MVA capacity	Job	3682.00
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	1829.00

	12	**Removal of steel rope and turn buckles of transformer main tank on truck.**		
PT49	(a)	Up to 100MVA Capacity	Job	503.00
PT50	(b)	above 100MVA and up to 160MVA Capacity	Job	753.00
	13	Tieing the transformer main tank on to the truck with steel rope and turn buckles		
PT51	(a)	Up to 100MVA Capacity	Job	647.00
PT52	(b)	above 100MVA and up to 160MVA Capacity	Job	968.00
	14	Assisting for lifting of overhead live lines, while transporting of transformers by truck.		
PT53	(a)	Up to 100MVA Capacity	Job	1417.00
PT54	(b)	above 100MVA and up to 160MVA Capacity	Job	2832.00
	B)	**ERECTION OF POWER TRANSFORMERS AS JOB WORK BY DEPARTMENT**		
	1	Opening of crates and keep ready for erection of accessories of transformers		
PT55	a	Transformers upto 16 MVA capacity	Job	1577.00
PT56	b	Transformers above 16MVA and upto 31.5 MVA capacity	Job	1971.00
PT57	c	Transformers above 31.5MVA and upto 50 MVA capacity	Job	2638.00
PT58	d	Transformers above 50MVA and upto 100 MVA capacity	Job	3166.00
PT59	e	Transformers above 100MVA and upto 160 MVA capacity	Job	4221.00
	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	2365.00
PT61	b	Transformers above 31.5MVA and upto 100 MVA capacity	Job	3156.00
PT62	c	Transformers above 100MVA and upto 160 MVA capacity	Job	4335.00
PT63	d	Transportation of oil barrels from unloading place to the filter machine in the substation.	Job	2359.00
	3	Erection of Radiators to the transformers including headers		
PT64	a	Transformers upto 16 MVA capacity	Job	1755.00
PT65	b	Transformers above 16MVA and upto 31.5 MVA capacity	Job	2812.00
PT66	c	Transformers above 31.5MVA and upto 50 MVA capacity	Job	3495.00
PT67	d	Transformers above 50MVA and upto 100 MVA capacity	Job	4284.00
PT68	e	Transformers above 100MVA and upto 160 MVA capacity	Job	5840.00
	4	Erection of main conservator tank.		
PT69	a	Transformers upto 16 MVA capacity	Each	1583.00
PT70	b	Transformers above 16MVA and upto 31.5 MVA capacity	Each	1760.00
PT71	c	Transformers above 31.5MVA and upto 50 MVA capacity	Each	2582.00
PT72	d	Transformers above 50MVA and upto 100 MVA capacity	Each	4021.00
PT73	e	Transformers above 100MVA and upto 160 MVA capacity	Each	5176.00
PT74	f	Pronal bag testing and commissioning	Each	1741.00
PT75	g	Hiring of compressor	Each	1220.00
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	1911.00

	5	Erection of transformer bushing		
PT77	a	33 kV Neutral and teritary bushings	Each	345.00
PT78	b(I)	132 kV bushings up to 100MVA.	Each	642.00
PT79	b(ii)	132 kV bushings for above 100MVA and up to 160MVA	Each	804.00
PT80	c(I)	220 kV bushings up to 100MVA	Each	965.00
PT81	c(ii)	220 kV bushings for above 100MVA and up to 160MVA	Each	1196.00
PT82	d(I)	220kV 3 Nos. erection of turrets up to 100MVA	Job	1381.00
PT83	d(ii)	220kV 3 Nos. erection of turrets for above 100MVA and up to 160MVA	Job	1812.00
PT84	e(I)	132kV 3 Nos. erection of turrets up to 100MVA	Job	648.00
PT85	e(ii)	132kV 3 Nos. erection of turrets for above 100MVA and up to 160MVA	Job	950.00
PT86	6	Erection of air blowers (cooling fans) including frames and control cubical etc., (for each transformer)	Job	2610.00
PT87	7	Erection of LA frames (HV & LV side)	Each	819.00
PT88	8(a)	I).Erection of driving mechanism box, bevel gear of OLTC for below 100MVA..	Each	819.00
PT89		ii).Erection of driving mechanism box, bevel gear of OLTC 100MVA and above 100MVA.	Each	1638.00
PT90	8(b)	ii).Erection of OLTC conservator tank with stand for up to 100MVA.	Each	1058.00
PT91		ii).Erection of OLTC conservator tank with stand for above 100MVA and upto 160MVA.	Each	1583.00
	9	Erection of pipe line.		
PT92	a	Transformers upto 31.5 MVA capacity	Each	554.00
PT93	b	Transformers above 31.5MVA and upto 50 MVA capacity	Each	828.00
PT94	c	Transformers above 50MVA and upto 100 MVA capacity	Each	1403.00
PT95	d	Transformers above 100MVA and upto 160 MVA capacity	Each	1754.00
PT96	10	I).Erection of Thermometer, pressure Relief valve and vent pipe etc.,	Each	554.00
PT97		ii)Erection of Thermometer, pressure Relief valve and vent pipe etc.,100MVA and above PTRs.	Each	828.00
	11	Erection of detachable OLTC including connecting internal jumper with OLTC tank.		
PT98	a	Transformers upto 31.5 MVA capacity	Each	2721.00
PT99	b	Transformers above 31.5MVA and upto 100 MVA capacity	Each	4100.00
PT100	c	Transformers above 100MVA and upto 160 MVA capacity	Each	4571.00
PT101	12	I).Erection of separate, cooler bay including 'A' frame header pipes and bends of transformers up to 100 PTRs MVA capacity.	Bay	5866.00
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	6455.00
	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	2269.00
PT104	b	Transformers 31.5MVA and 50 MVA capacity	Job	3526.00

PT105	c	Transformers 100 MVA and upto 160 MVA capacity	Job	4537.00
	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	1136.00
PT107	b	Transformers 31.5MVA and 50 MVA capacity	Job	1387.00
PT108	c	Transformers 100 MVA and upto 160 MVA capacity	Job	1637.00
PT109	14	Erection of supporting insulators and earth flat for HV & LV Neutrals / Tertiary.	Job	554.00
	C	**OIL FILTERATION OF TRANSFORMERS AS JOB WORK BY DEPARTMENT**		
PT110	1	Loading / Unloading of 2KL Oil filter.	Job	1937.00
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	936.00
PT112	3	Loading / unloading of full transformer oil barrels.	Barrel	38.00
PT113	4	Loading / unloading of oil drums.	Barrel	6.00
	5	Oil topping for transformer through oil filter:		
	5.1	Transformer already filled with oil		
PT114	a	Transformers upto 31.5 MVA capacity	Each	744.00
PT115	b	Transformers above 31.5MVA and upto 50 MVA capacity when the transformer is received with transformer oil	Each	1638.00
PT116	5.2	Transformers above 50MVA upto 160 MVA capacity When the transformer is received empty with Nitrogen	Barrel	24.00
	6	Assisting labour for filtering of oil for a period of 5 days during filteration of oil		
PT117	a	For a period of 5 days for Transformers upto 31.5 MVA capacity	Each	3537.00
PT118	b	For a period of 5 days for Transformers above 31.5 MVA and upto 100 MVA capacity	Each	4952.00
PT119	c	For a period of 5 days for Transformers above 100 MVA and upto 160 MVA capacity	Each	7076.00
PT120	a	Over and above 5 days for Transformers upto 31.5 MVA capacity	per day	707.00
PT121	b	Over and above 5 days forTransformers above 31.5 MVA and upto 100 MVA capacity	per day	990.00
PT122	c	Over and above 5 days forTransformers above 100 MVA and upto 160 MVA capacity	per day	1415.00
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 transformercapacity.	Job	654.00
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	1741.00
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	81.00

	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	2610.00
PT127	(b)	Above 100MVA PTRs.	Job	5222.00
PT128	10	Loading / Unloading of 5 KL Storage tanker.	Job	864.00
	11	Hire charges for a private tractor for transport of 6 KL of oil filter.		
PT129		Up to 50 KM	LS	4098.00
PT130		Beyond 50 KM	per KM	79.00
	12	Providing of oil tanker on daily hire charges		
PT131	a	10 KL capacity	Per day	1285.00
PT132	b	20 KL capacity	Per day	2356.00
	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	6425.00
PT134		More than 50 KM	KM	32.00
	14	Unloading of oil tanker at site and loading the same after completion of the job		
PT135		10 KL capacity	Job	5086.00
	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	15341.00
PT137	b)	50 MVA Transformer	LS	19946.00
PT138	c)	100 MVA Transformer	LS	22122.00
PT139	d)	160 MVA Transformer	LS	22122.00
	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	7671.00
PT141	b)	50 MVA Transformer	LS	9972.00
PT142	c)	100 MVA Transformer	LS	11060.00
PT143	d)	160 MVA Transformer	LS	11060.00
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	374.00
PT145	17	Unloading of 20 KL oil storage taken at site and loading the same after completion of the job	Job	5556.00
	D)	Insurance for fragile material during transportation, erection, dismantling may be paid as per actuals from department side for department works.		

DIRECTOR(GRID, TRANSMISSION & MANAGEMENT)

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ANNEXURE - VI

Rates for O&M works of EHT Lines

Sl. No.	Item No.	Description of work	Unit	SSR 2014-15 (Rs.)
OM1	1	(a).Providing of Vibration dampers (for 220 KV & 132 KV lines) (Excluding Material & Transportation cost)	Each	114
OM2		(b). Providing of spacer damper for 400 KV twin Moose lines (Excluding Material & Transportation cost)	Each	156
	2	Painting of towers with two coats of aluminum paint using Aluminum paint 1st grade containing 306 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	3642
OM4	(b	Labour charges for painting including scratching and cleaning of towers of 1st coat of Alluminum with out cost of paint & brushes.	MT	1020
OM5	(c	(*) Second coat of 1st Grade Aluminium Paint duly scratching and cleaning of towers including labour charges, cost of pint, brushes, etc.	MT	2131
OM6	(d	(*) Labour charges for painting including scratching and cleaning of towers of 2nd coat of Aluminum with out cost of paint & brushes.	MT	578
		(*) : The requirement of 2nd coat is to be justified by the concerned Divisional Engineer/Executive Engineer before execution of the work.		
	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	2281
OM8	(b	Labour charges for painting of towers including scratching and cleaning of towers without cost of paint & brushes.	MT	1265
OM9	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	913
OM10	5	Providing of Arcing Horns for 132 KV line (Excluding Material & Transportation cost)(without lefty & Pullies)	Each	114
OM11	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	1340
OM12	7	Providing of Arcing Horns for 220 KV line (Excluding Material & Transportation cost)(without lefty & Pullies)	Each	114
OM13	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	102
OM14	9	Replacement of insulators at Suspension tower of 132 KV line (Excluding Material & Transportation cost)	Per string	1150
OM15	10	Replacement of insulators at Tension tower of 132 KV line (Excluding Material & Transportation cost)	Per string	1946
OM16	11	Replacement of insulators at Suspension tower of 220 KV line (Excluding Material & Transportation cost)	Per string	1265

OM17	12	Replacement of insulators at Tension tower of 220 KV line (Excluding Material & Transportation cost)	Per string	2237
OM18	13	Replacement of 132 KV line single suspension insulator string with double suspension insulator strings (Excluding Material & Transportation cost)	Per string	1724
OM19	14	Replacement of 132 KV line single tension insulator string with double tension insulator strings (Excluding Material & Transportation cost)	Per string	2918
OM20	15	Replacement of 220 KV line single suspension insulator string with double suspension insulator strings (Excluding Material & Transportation cost)	Per string	1831
OM21	16	Replacement of 220 KV line single tension insulator string with double tension insulator strings (Excluding Material & Transportation cost)	Per string	3355
OM22	17	Replacement of insulators at Suspension tower of 400kV line (Excluding material & Transportation cost)	Per string	1715
OM23	18	Replacement of insulators at Tension tower of 400kV line (Excluding material & Transportation cost)	Per string	2860
OM24	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	4.28
OM25	18	Fixing of earth bonds for existing transmission line towers	Each	114.00
	19	Re-Stringing of power conductor on the existing lines (for correction of sag) including fixing of tension insulators / suspension insulators, Hardware and accessories, rough sagging, jointing, tensioning, clipping and fixing of performed armour rods and vibration dampers, measuring ground clearances wherever necessary. Which includes the works involved in the crossing of LT, 11 KV & 33 KV power lines viz dismantling and restringing of conductor.		
OM26	a	3. Nos. Zebra conductors	RKM	28771
OM27	b	6. Nos. Zebra conductors	RKM	43155
OM28	c	2. Nos. Panther conductors	RKM	15341
OM29	d	3. Nos. Panther conductors	RKM	23015
OM30	e	6. Nos. Panther conductors	RKM	36443
OM31	f	2. Nos. Moose conductors	RKM	24294
OM32	g	3. Nos. Moose conductors	RKM	36443
OM33	h	6. Nos. Moose conductors	RKM	57538
OM34	i	3. Nos. Bear conductors	RKM	28771
OM35	j	6. Nos. Bear conductors	RKM	43155
OM36	k	3. Nos. Dog conductors	RKM	17260
OM37	l	6. Nos. Dog conductors	RKM	27331
	21	***Loading / Unloading charges :***		
	(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	

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ANNEXURE -VII			
SSR RATES PROPOSAL FOR THE YEAR 2014-15 FROM TELECOM WING			
Sl.No.	**Description**	**Unit**	**SS Rates 2014-15 (Rs.)**
1	Erection of PLCC panel in 220KV/132KV SS	Each	**5669**
2	Erection of LMU	Each	**947**
3	Erection of Wave Trap		
i	Fixing of wavetrap on pedastal mounting insulator stack in 400KV	Each	**5297**
ii	Fixing o f the wave trap on pedastal mounting insulator stack in 200KV	Each	**4293**
iii	Fixing of the wave trap on Suspension mounting including jumpering in 132KV	Each	**2559**
4	Erection of PLCC 48V DC/50A, 35A charger in 220KV/132KV	Each	**2617**
5	Erection of PLCC 48V DC/100A charger in 400 KV SS	Each	**7614**
6	Erection of 48V/200AH & 250AH battery sets in 132 & 220 KV SS	Each	**5939**
7	Erection of 48V/400AH battery set in 400 KV SS	Each	**7890**
8	Erection of OLTE & MUX (Optical line terminal equipment) equivalent to PLCC pannel	Each	**5669**
9	Erection of FDP(Fibre Distribution Panel in 400KV/220KV/132KV SS (12F)	Each	**8047**
10	Erection of FDP(Fibre Distribution Panel in 400KV/220KV/132KV SS (24F)	Each	**13429**
11	Erection of FDP(Fibre Dis~~tr~~ibution Panel in 400KV/220KV/132KV SS (48F)	Each	**24199**
12	Erection of 16/16 EPAX equipment in 400KV/220KV/ 132KV SS	Each	**2342**
13	Erection of RTU panel in 400KV/220KV/132KV SS	Each	**14404**
14	Erection of protection coupler equipment in 400KV/220KV/132KV SS	Each	**2342**
15	Laying of optical fibre approach cable in switch yards of 400KV, 220KV & 132KV (Including hardware)	KM	**26120**
16	Laying of HDPE Pipe in trenches in 400KV, 220KV, 132KV SS.	KM	**9937**
17	Laying of 12F/24 F OPGW cable on 220KV and 400 KV lines (including Splicing and fixing of hardware accessories)	Km	**58519**
18	Stringing of ADSS type optical fibre cable (12F/24F capacity) on 132KV, 220KV line sections in plane areas/ forest areas/ hill areas separately, inclusive of splicing and fixing of hardware accessories		
i	For plane area	KM	**27544**
ii	for agency or tribal area (25% extra on Plane area)	KM	**34430**
iii	for Hill areas(40% extra on Plane area)	KM	**38562**
iv	for interior area(40% extra on Plane area)	KM	**38562**
v	for municipal coorporation areas (upto 12 Kms frrom municipality)(25% extra on Plane area)	KM	**34430**
vi	for municipalites (upto 12 Kms from municipality)(20% extra on Plane area)	KM	**33053**
19	Fixing of tension clamp set of OFC on 132KV & 220KV towers	per set	**1888**
20	Fixing of suspension clamp set of OFC on 132KV, 220KV towers	per set	**1555**
21	Fixing of tension clamp set of OPGW on 400KV lines	per set	**2284**
22	Fixing suspension clamp set of OPGW on 400KV lines	per set	**1951**
23	Fixing of splice box on 132KV & 220KV towers	Each	**2841**

24	Fixing of splice box on 400KV towers	Each	**3551**
25	Fixing of vibration dampers on 132KV & 220KV towers	Per set	**883**
26	Fixing of vibration dampers on 400KV towers	Per set	**1125**
27	Splicing charges for OFC fibres laid on 132KV, 220KV, 400KV lines in plane Areas/Forest/ Hill Areas/ Municipal limits, separately for each case		
i	For plane area	Each fibre splice	**449**
ii	for agency or tribal area	Each fibre splice	**561**
iii	for Hill areas	Each fibre splice	**627**
iv	for interior area	Each fibre splice	**627**
v	for municipal corporation areas (upto 12 Kms from municipalities)	Each fibre splice	**561**
vi	for municipalities (upto 12 Kms from municipalities)	Each fibre splice	**538**
28	Splicing charges for OFC fibres laid in Offices at Hyderabad and Rangareddy Districts	Each fibre splice	**236**
29	Erection of RCC Joint Chambers.	No	**3726**
30	Blowing(laying)unarmoured UG OFC 24F/48F (DWSM)in the existing HDPE duct in case of underground works	KM	**20987**
31	Fixing of ADSS type OFC to the tower members with ties, clamps etc.		
i	for 220kv/132 kv	Each	**1549**
ii	for 400kv	Each	**1937**
32	Laying of aerial type OFC (12F) on 33KV/11KV HT/LT poles	KM	**9125**
33	Laying of 6 pair telephone cable in the trenches in 132KV, 220KV & 400KV	KM	**6906**
34	Laying of Cat 5E/6 Cables in Offices.	KM	**3541**
35	Laying of Cat 5E/6 Cables with Conduit pipes along with accessories in Offices.	KM	**10624**
36	Fixing of 6U × 19 inch Rack in Offices for ERP works	Each	**295**
37	Laying of single pair telephone cable in the trenches in 132KV, 220KV & 400KV	KM	**6375**
38	Laying of 25sq mm battery cable in control room in 132kv, 220KV & 400KV	KM	**15051**
39	Laying of Co-axial cable from switch yard gantry tower to communication room in the existing trench	KM	**14449**
40	Laying of 6 pair telephone cable on overhead poles LT & HT	KM	**5312**
41	Laying of single pair telephone cable on overhead poles LT & HT	KM	**5312**
42	Laying of RF cables in 132KV, 220KV & 400 KV SS	KM	**14449**
43	Digging of 1 X 1 X 1 (Cu.mt) ducts for laying of telephone cable in 132KV, 220KV, 400KV SS	Cu.mt	**550**
44	Excavation, refilling & closing of ducts of 1 X 1 X 1 (Cu.mt) in 132 KV, 220KV and 400 KV SS premises	Cu.mt	**1101**
45	Erection of earth pit as per standards in 132KV, 220KV SS for communication purpose	Each	**11402**
46	Erection of earth pit as per standards in 400 KV SS	Each	**11402**
47	Erection of VSAT equipment in 132KV, 220KV, 400 KV SS	Each	**5399**
49	Loading/unloading charges for PLCC equipment in 132KV SS, 220KV/400KV in to vehicle		
i	for single channel PLCC pannel	Each	**550**
ii	for Twin channel PLCC pannel	Each	**550**
50	Loading/unloading charges for 48V/35A, 50A, chargers	Each	**550**
51	Loading/unloading charges for 48V/100A chargers	Each	**826**
52	Loading/unloading charges for OLTE/MUX equipment	Each	**826**

53	Loading/unloading charges for RTU panels	Each	**826**
54	Loading/unloading charges for EPAXs	Each	**275**
55	Loading/unloading charges for battery sets 48V/150 AH, 250 AH, 400 AH		
i	for 150 AH	Each	**550**
ii	for 250 AH	Each	**550**
iii	for 400AH	Each	**826**
56	Loading/unloading charges for LMUs	Each	**275**
57	Loading/unloading charges for Wavetrap		
i	132KV wave trap	Each	**275**
ii	220KV Wave Trap & 400 KV	Each	**550**
58	Dismantling of exisiting PLCC chargers (35A, 50A, 100A)		
i	35/50A	Each	**1309**
ii	100A	Each	**3807**
59	Dismantling of existing 48V/165AH, 200AH, 250AH battery sets	Each	**2969**
60	Dismantling of existing 48V/400 AH battery sets	Each	**3945**
61	Dismantling of existing RTU, OLTE/MUX equipment		
I	RTU	Each	**7202**
ii	OLTE/MUX	Each	**2834**
62	Dismantling of EPAXs	Each	**1171**
63	Dismantling of wave traps on 132 KV/220KV SS/400 KV SS separately		
i	50% of Erection of 2000A/1 m H Wave Trap(400 kv)	Each	**2649**
ii	50 % of Erection of 1250A/0.5 mH Wave Trap(220 kv)	Each	**2146**
iii	50% of Erection of 630A/0.2mH Wave Trap (132 KV)	Each	**1280**
64	Dismantling of 12F/24F ADSS cable from 132KV, 220KV SS lines	Each	**13772**
65	Dismantling of 12F/24F OPGW cable from 132KV, 220KV SS,400KVSS lines	Each	**29260**
66	Dismantling and bringing down of splice boxes on 132KV, 220KV towers	Each	**1420**
67	Dismantling and bringing down of splice boxes on 400KV towers	Each	**1775**
68	Hiring charges of 5 KVA Diesel Generator per day for attending OFC break down works	Each	**838**
69	Hiring charges of 230V AC inverter (2KVA) with battery backup for attending OFC break down works	Each	**838**
70	Hiring charges of 8X8X10(C.u.ft) closed tent shutter for attending splicing works for attending OFC break down works	Each	**590**
71	Dismantling of VHF 30 ft masts with Gay wires etc.	Each	**1728**
72	Dismantling of 10 ft/20 ft trylon masts	Each	**1395**
	UGOF cabling works rates		
	UGFO Cabling		
	Survey & documentation		
73	Survey of route, providing as built drawing, documentation for unarmoured underground optical fibre cable	Km	3499
	Excavation &Backfilling		
74	All types of soil, road, footpath, including PCC, sand, warning brick/stone, semi-circular RCC split cover etc. for underground fibre optic cable.	Km	139864
75	Warning Tape (including supply and installation).	Km	20986
76	Laying of PLB HDPE pipe O.D. 40mm	Km	9937

77	Installation of HDPE pipe by **Trenchless digging**		
(a)	0-10 mtrs	mtr	559
(b)	> 10 and up to 30 mtrs	mtr	630
(c)	More than 30 mtrs	mtr	699
78	Laying of GI pipe 100mm (Nominal bore), Including accessories.	mtr	178
79	Laying of RCC hume pipe (NP3), 100mm Diameter (Inside), Including accessories.	mtr	267
80	Laying of Unamoured Underground Optical Fibre Cable - 24 Fibers DWSM	Km	20987
81	Installation of Joint box in underground (Including splicing & testing) - 24 Fibers	No.	4375
82	Erection of RCC Joint Chambers	No.	3726
83	Installation of PLB HDPE pipe on wall in building premises including routing of OFC through it	mtr	353
84	Reinstatement of excavated area/damages (in road, pavement, footpath etc.)	Sq.mtrs	177
85	Main Distribution frame (100 pairs)	Nos.	1750
86	1.5 Ton Split type AC Units including 4 KVA Stabilizer	Nos.	9530
	DIRECTOR(GRID, TRANSMISSION & MANAGEMENT)		
	// FORWARD BY ORDER //		
	DIVISONAL ENGINEER-1		
	O/o Chief Engineer(Construction)		
	TSTRANSCO		
	Vidyut Soudha, Hyderabad		

LAYING OF 132KV UG CABLE (SINGLE CIRCUIT)

Item No.	Sl. No.	Description of Material/Work	UNIT	SSR 2014-15
	1	**CABLE ROUTE SURVEY**		
U1S 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 as per SSR 2013-14. (a) With GPS equipment (As per clause 4.9 of survey) (b) With total station equipment.	Mts.	250.00
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 questionnare and marking of proposed cable route in topo sheet, tower/SS sketch, Single line diagram etc.(30 copies/sets) .(**NOTE**: 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.	750.00
	2	**LAYING OF CABLE**		
	2.1	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	6635.00
U1S 4	b)	Hard Rock with soils	Rmt	9115.00
U1S 5	c)	CC or BT road surface etc.	Rmt	5913.50
U1S 6	d)	Hard Rock	Rmt	6819.50
U1S 7	e)	CC or BT road with Hard rock	Rmt	12668.00
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	8315.00
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	19576.00
U1S 10	h)	Cable laying in built up trenches, cable trays and supports etc. complete including cost of trays and support etc, complete.	Rmt	8315.00
U1S 11	i)	Cable laying across the culverts and over bridges etc., complete in PVC pipes of 250 mm dia in complete	Rmt	8315.00
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	8000.00
U1S 13	k)	Cable laying while clamping bare on the walls , ceiling and structures including cost of clamps in complete shape	Rmt	3000.00
U1S 14	l)	Cable laying across the railway tracks	Rmt	20000.00
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	1500.00
	2.2	**Including excavation and excluding backfilling without cable laying**		
U1S 16	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	8500.00

U1S 17	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	3000.00
	2.3	**Excluding excavation and including backfilling**		
U1S 18	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	1250.00
U1S 19	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	4000.00
U1S 20	**2.4**	Only excavation and back filling of soil without laying of cable	Rmt	1500.00
U1S 21	**2.5**	Excavation and backfilling of suitable thermal backfill for maintainings soil thermal resistance value of 120 degrees	Cum	4000.00
U1S 22	**2.6**	Laying of cable excluding excavation and backfilling	Rmt	400.00
	2.7	**Laying of cable by Horizontal Directional Drilling (HDD) incl. cost of 250 mm HDPE Pipe**		
U1S 23	a)	Soil/Morrem,soft rock (upto 5000 PSI) per each pipe	Rmt	9800.00
U1S 24	b)	Soil/Hard rock (5000 PSI upto 9000 PSI) per each pipe	Rmt	16000.00
	3	**LAYING OF CO-AXIAL CABLE**		
U1S 25	a)	300sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	15.00
U1S 26	b)	300sq.mm.single core copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	15.00
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	15.00
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	15.00
	4	For pulling optical fiber cable the following items shall be done while excavation of trenches as per specifications		
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 contract/tender.	RM	100.00
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	7000.00
	5	**CABLE JOINTING**		
		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., tarpaullin 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.		
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.	300000.00
U1S 32	b)	Jointing charges for cross bonding joints/normal joints	Nos.	150000.00
	6	**TERMINATION CHARGES**		
		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., tarpaullin tent, DG set, air conditioner, scaffolding etc complete wherever necessary for complete item of work.		
U1S 33	a)	132 KV tower mounted type cable end terminations including erection on tower in all respects	Each	350000.00

U1S 34	b)	132 kV Outdoor type cable end terminations with silicon materials complete in all respect.	Each	300000.00
U1S 35	c)	132 kV SF6 type cable end terminations complete in all respect.	Each	300000.00
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 eath resistance calculations considerting 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	25000.00
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 2013-14)	Each	10650.00
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	**CONNECTION OF LINK BOXES**		
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	30000.00
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 for inserting link boxes , and refilling, etc. including earthing as per the directions of site engineer.	Each	40000.00
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 work.	Each	5000.00
U1S 43	11	Road cutting charges and charges for way leaves to be paid for various Government and other agencies	Mts.	6000.00
U1S 44	12	Site testing and commissioning (including phase sequence test, megger test, continuity test, HV test etc.)	KM	200000.00

DIRECTOR(GRID, TRANSMISSION & MANAGEMENT)

// FORWARD BY ORDER //

DIVISONAL ENGINEER-1
O/o Chief Engineer(Construction)
TSTRANSCO
Vidyut Soudha, Hyderabad

LAYING OF 132KV UG CABLE (DOUBLE CIRCUIT)

Item No.	Sl.No.	Description of Material/Work	UNIT	SSR 2014-15
	1	**CABLE ROUTE SURVEY**		
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 as per SSR 2013-14. (a) With GPS equipment (As per clause 4.9 of survey) (b) With total station equipment.	Mts.	250.00
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 questionnare and marking of proposed cable route in topo sheet, tower/SS sketch, Single line diagram etc.(30 copies/sets). (**NOTE**: 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.	1000.00
	2	**LAYING OF CABLE**		
	2.1	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	12000.00
U1D 4	b)	Hard Rock with soils	Rmt	16000.00
U1D 5	c)	CC or BT road surface etc.	Rmt	10000.00
U1D 6	d)	Hard Rock	Rmt	12500.00
U1D 7	e)	CC or BT road with Hard rock	Rmt	24000.00
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	15000.00
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	19576.00
U1D 10	h)	Cable laying in built up trenches, cable trays and supports etc. complete including cost of trays and support etc, complete.	Rmt	15000.00
U1D 11	i)	Cable laying across the culverts and over bridges etc., complete in PVC pipes of 250 mm dia in complete	Rmt	15000.00
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	16000.00
U1D 13	k)	Cable laying while clamping bare on the walls , ceiling and structures including cost of clamps in complete shape	Rmt	6000.00
U1D 14	l)	Cable laying across the railway tracks	Rmt	35000.00
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	3000.00

	2.2	**Including excavation and excluding backfilling without cable laying**		
U1D 16	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	17000.00
U1D 17	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	6000.00
	2.3	**Excluding excavation and including backfilling**		
U1D 18	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	2500.00
U1D 19	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	6000.00
U1D 20	**2.4**	Only excavation and back filling of soil without laying of cable	Rmt	3000.00
U1D 21	**2.5**	Excavation and backfilling of suitable thermal backfill for maintainings soil thermal resistance value of 120 degrees	Cum	8000.00
U1D 22	**2.6**	Laying of cable excluding excavation and backfilling	Rmt	800.00
	2.7	**Laying of cable by Horizontal Directional Drilling (HDD) incl. cost of 250 mm HDPE Pipe**		
U1D 23	a)	Soil/Morrem,soft rock (upto 5000 PSI) per each pipe	Rmt	9800.00
U1D 24	b)	Soil/Hard rock (5000 PSI upto 9000 PSI) per each pipe	Rmt	16000.00
	3	**LAYING OF CO-AXIAL CABLE**		
U1D 25	a)	300sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	25.00
U1D 26	b)	300sq.mm.single core copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	25.00
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	25.00
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	25.00
	4	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	100.00
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	7000.00
	5	**CABLE JOINTING**		
		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., tarpaullin 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.		
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.	450000.00
U1D 32	b)	Jointing charges for cross bonding joints/normal joints	Nos.	150000.00
	6	**TERMINATION CHARGES**		
		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., tarpaullin tent, DG set, air conditioner, scaffolding etc complete wherever necessary for complete item of work.		

U1D 33	a)	132 KV tower mounted type cable end terminations including erection on tower in all respects	Each	350000.00
U1D 34	b)	132 kV Outdoor type cable end terminations with silicon materials complete in all respect.	Each	300000.00
U1D 35	c)	132 kV SF6 type cable end terminations complete in all respect.	Each	300000.00
U1D 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 considerting 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	40000.00
U1D 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	10650.00
U1D 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	**CONNECTION OF LINK BOXES**		
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 site engineer.	Each	30000.00
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	40000.00
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	5000.00
U1D 43	11	Road cutting charges and charges for way leaves to be paid for various Government and other agencies	Mts.	10000.00
U1D 44	12	Site testing and commissioning (including phase sequence test, megger test, continuity test, HV test etc.)	KM	300000.00

DIRECTOR(GRID, TRANSMISSION & MANAGEMENT)

// FORWARD BY ORDER //

DIVISONAL ENGINEER-1
O/o Chief Engineer(Construction)
TSTRANSCO
Vidyut Soudha, Hyderabad

LAYING OF 220 KV UG CABLE (SINGLE CIRCUIT)

Item No.	Sl.No.	Description of Material/Work	UNIT	SSR 2014-15
	1	**CABLE ROUTE SURVEY**		
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 as per SSR 2013-14. (a) With GPS equipment (As per clause 4.9 of survey) (b) With total station equipment.	Mts.	250.00
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 questionnare and marking of proposed cable route in topo sheet, tower/SS sketch, Single line diagram etc.(30 copies/sets) .(**NOTE**: 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.	750.00
	2	**LAYING OF CABLE**		
	2.1	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	7962.00
U2S 4	b)	Hard Rock with soils	Rmt	10938.00
U2S 5	c)	CC or BT road surface etc.	Rmt	7096.20
U2S 6	d)	Hard Rock	Rmt	8183.40
U2S 7	e)	CC or BT road with Hard rock	Rmt	15201.60
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	9978.00
U2S 9	g)	Cable laying in built up trenches, cable trays and supports etc. complete including cost of trays and support etc, complete.	Rmt	9978.00
U2S 10	h)	Cable laying across the culverts and over bridges etc., complete in PVC pipes of 250 mm dia in complete	Rmt	9978.00
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	9000.00
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	2000.00
U2S 13	k)	Cable laying while clamping bare on the walls , ceiling and structures including cost of clamps in complete shape	Rmt	4000.00

U2S 14	l)	Cable laying across the railway tracks	Rmt	25000.00
	2.2	**Including excavation and excluding backfilling without cable laying**		
U2S 15	a)	Hard rock with CC or BT Road surfaces etc.	Rmt	8500.00
U2S 16	b)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	3000.00
	2.3	**Excluding excavation and including backfilling**		
U2S 17	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	1250.00
U2S 18	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	5000.00
U2S 19	**2.4**	Only excavation and back filling of soil without laying of cable	Rmt	1500.00
U2S 20	**2.5**	Excavation and backfilling of suitable thermal backfill for maintainings soil thermal resistance value of 120 degrees	Cum	4000.00
U2S 21	**2.6**	Laying of cable excluding excavation and backfilling	Rmt	500.00
	2.7	**Laying of cable by Horizontal Directional Drilling (HDD) incl. cost of 250 mm HDPE Pipe**		
U2S 22	a)	Soil/Morrem,soft rock (upto 5000 PSI) per pipe	Rmt	9800.00
U2S 23	b)	Soil/Hard rock (5000 PSI upto 9000 PSI) per pipe	Rmt	16000.00
	3	**LAYING OF CO-AXIAL CABLE**		
U2S 24	a)	240sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	15.00
U2S 25	b)	240sq.mm.single core copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	15.00
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	15.00
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	15.00
	4	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	100.00
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	7000.00
	5	**CABLE JOINTING**		
		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., tarpaullin 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.		

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	350000.00
U2S 31	b)	Jointing charges for cross bonding joints for each phase	Each	250000.00
	6	**TERMINATION CHARGES**		
		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., tarpaullin 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	420000.00
U2S 33	b)	220 kV Outdoor type cable end terminations with silicon materials complete in all respect.	Each	350000.00
U2S 34	c)	220 kV SF6 type cable end terminations complete in all respect.	Each	350000.00
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 considerting 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	25000.00
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	10650.00
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, 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	**CONNECTION OF LINK BOXES**		
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	30000.00

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	40000.00
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	5000.00
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.	6000.00
U2S 43	12	Site testing and commissioning (including phase sequence test, megger test, continuity test, HV test etc.)	KM	200000.00

DIRECTOR(GRID, TRANSMISSION & MANAGEMENT)

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DIVISONAL ENGINEER-1
O/o Chief Engineer(Construction)
TSTRANSCO
Vidyut Soudha, Hyderabad

LAYING OF 220 KV UG CABLE (DOUBLE CIRCUIT)

Item No.	Sl.No.	Description of Material/Work	Unit	SSR 2014-15
	1	**CABLE ROUTE SURVEY**		
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 as per SSR 2013-14. (a) With GPS equipment (As per clause 4.9 of survey) (b) With total station equipment.	Mts.	250.00
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 questionnare and marking of proposed cable route in topo sheet, tower/SS sketch, Single line diagram etc.(30 copies/sets) .(**NOTE**: 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.	1000.00
	2	**LAYING OF CABLE**		
	2.1	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	13270.00
U2D 4	b)	Hard Rock with soils	Rmt	18230.00
U2D 5	c)	CC or BT road surface etc.	Rmt	11827.04
U2D 6	d)	Hard Rock	Rmt	13639.00
U2D 7	e)	CC or BT road with Hard rock	Rmt	25336.00
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	16630.00
U2D 9	g)	Cable laying in built up trenches, cable trays and supports etc. complete including cost of trays and support etc, complete.	Rmt	16630.00
U2D 10	h)	Cable laying across the culverts and over bridges etc., complete in PVC pipes of 250 mm dia in complete	Rmt	16630.00
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	18000.00
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	4000.00
U2D 13	k)	Cable laying while clamping bare on the walls , ceiling and structures including cost of clamps in complete shape	Rmt	8000.00
U2D 14	l)	Cable laying across the railway tracks	Rmt	40000.00
	2.2	**Including excavation and excluding backfilling without cable laying**		
U2D 15	a)	Hard rock with CC or BT Road surfaces etc.	Rmt	17000.00
U2D 16	b)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	6000.00

	2.3	**Excluding excavation and including backfilling**		
U2D 17	a)	Hard Gravel soils, BC Soils, Red Earth, stone & Earth mixed with fair size boulders etc.,	Rmt	2500.00
U2D 18	b)	Hard rock with CC or BT Road surfaces etc.	Rmt	7000.00
U2D 19	**2.4**	Only excavation and back filling of soil without laying of cable	Rmt	3000.00
U2D 20	**2.5**	Excavation and backfilling of suitable thermal backfill for maintainings soil thermal resistance value of 120 degrees	Cum	8000.00
U2D 21	**2.6**	Laying of cable excluding excavation and backfilling	Rmt	1000.00
	2.7	**Laying of cable by Horizontal Directional Drilling (HDD) incl. cost of 250 mm HDPE Pipe**		
U2D 22	a)	Soil/Morrem,soft rock (upto 5000 PSI) per pipe	Rmt	9800.00
U2D 23	b)	Soil/Hard rock (5000 PSI upto 9000 PSI) per pipe	Rmt	16000.00
	3	**LAYING OF CO-AXIAL CABLE**		
U2D 24	a)	240sq.mm. co-axial copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	25.00
U2D 25	b)	240sq.mm.single core copper cable conductor PVC insulated 6.6KV grade across the cable.	Rmt	25.00
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	25.00
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	25.00
	4	For pulling optical fiber cable the following items shall be done while excavation of trenches as per specifications		
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	100.00
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	7000.00
	5	**CABLE JOINTING**		
		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., tarpaullin 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.	510000.00
U2D 31	b)	Jointing charges for cross bonding joints for each phase	Nos.	250000.00
	6	**TERMINATION CHARGES**		
		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., tarpaullin 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	420000.00
U2D 33	b)	220 kV Outdoor type cable end terminations with silicon materials complete in all respect.	Each	350000.00
U2D 34	c)	220 kV SF6 type cable end terminations complete in all respect.	Each	350000.00

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 eath resistance calculations considerting 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.	40000.00
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.	10650.00
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	**CONNECTION OF LINK BOXES**		
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	30000.00
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	40000.00
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 and operational items of work.	Nos.	5000.00
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.	10000.00
U2D 43	12	Site testing and commissioning (including phase sequence test, megger test, continuity test, HV test etc.)	KM	300000.00

DIRECTOR(GRID, TRANSMISSION & MANAGEMENT)

// FORWARD BY ORDER //

DIVISONAL ENGINEER-1
O/o Chief Engineer(Construction)
TSTRANSCO
Vidyut Soudha, Hyderabad