



# BIHAR STATE POWER TRANSMISSION COMPANY LTD.



## SCHEDULE OF RATES 2014-15



# FOREWORD



*I*t's a matter of great pleasure and pride that the team of Bihar State Power Transmission Company has prepared this all-encompassing SOR based on its own comprehensive studies on different aspects of Transmission projects and by its indigenous resources and methodologies.

BSPTCL has under taken a large number of projects to strengthen the transmission system of state. Various new projects are also to be under taken to augment this strengthening process. "The Schedule of Rates" (SOR) will be the most vital key inputs in preparing the DPRs for new projects.

This SOR will not only ensure parity in the rates applicable to different products and services within the company but also act as a reference book for other organizations also.

The Engineers of BSPTCL deserve real appreciation for this well structured and methodically prepared SOR. A special word of mention for Mr. Sanjay Kumar Singh, MD BSPTCL, who has conceived and initiated the documentation of this SOR.

I congratulate MD, BSPTCL and BSPTCL team once again for accomplishment of this wonderful work.

I hope this SOR will be updated within scheduled time frame in accordance with the change in rates of items and latest technological requirements in upcoming power projects across the globe.

With best wishes.

**PRATYAYA AMRIT, IAS**  
Secretary Energy-cum-CMD, BSP(H)CL

## From the desk of the Managing Director

Rapid development in transmission sector is taking place in Bihar. Large numbers of projects are being implemented by Bihar State Power Transmission Company Ltd (BSPTCL) in order to increase the evacuation capacity. It is, therefore, the need of hour to have proper reference rates for estimation of project cost and preparation of DPR.



BSPTCL has carried out a detailed exercise and has framed Schedule of Rates (SOR) for various components i.e supply of equipments, supply of materials and erection of equipments etc. The rates have been taken broadly from the DPR of various transmission schemes concurred by Central Electricity Authority and sanctioned by Planning Commission in 2013-14 under BRGF.

This SOR will be applicable for works of substation and transmission line i.e. construction of new substation, extension of existing substation, renovation and modernization of substation, new transmission lines, stringing of 2nd circuit conductors, reconductoring work of existing transmission lines etc.

Besides, there are activities relating to day to day maintenance of transmission lines and substations. The rates for these works are different from the above due to involvement of mobilization and demobilization of gangs/contractor for small magnitude of work at a very short notice. Moreover, these are manpower intensive works. Accordingly, the rates for repair and maintenance works have been finalized keeping in view mainly the prevailing labour rates.

The rates for maintenance works has been indicated separately in this SOR.

The rates for general civil work applicable in Transmission sector have also been worked out and indicated in SOR.

BSPTCL is going to install Gas insulated sub-station, sub-station automation system and high capacity conductors in transmission lines. The rates for such items will be covered subsequently.

The rates of left out items, if any, will be covered based on feedback. The SOR will be updated and supplemented at regular intervals.

In the end, I must thank the team of competent engineers of BSPTCL for preparing the SOR.

**Sanjay Kumar Singh, IAS**  
Managing Director, BSPTCL

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## SCHEDULE OF RATE FOR CONSTRUCTION OF 220KV TRANSMISSION LINE (SUPPLY COMPONENT)

Sl. No	DESCRIPTION	Unit	Unit Ex-works Price (in RS.)	Unit landed cost inclusive of E.D(@12.36%), CST(@2%) & Freight & Insurance (@4%) without Entry Tax (Applicable for Turn-key projects) (in RS.)	Unit landed cost inclusive of E.D (@12.36%), CST (@2%) & Freight (@ 2%) only (Applicable for direct procurement) (in RS.)
1	Stub and galvanised tower materials with all fasteners i.e. Nut, Bolt, Washer, Step Bolt etc. as per requirement.	MT	76,087.20	90,689.55	88,875.15
2	ACSR Zebra conductor	KM	249,073.65	296,874.90	290,937.15
3	GI (7/10) SWG Earth wire	KM	44,248.05	52,739.40	51,685.20
4	Template (Black)	MT	71,109.15	84,756.00	83,061.30
5	70 KN Disc insulator	Nos.	452.55	539.70	528.15
6	90 KN Disc insulator	Nos.	464.10	553.35	541.80
7	120 KN Disc Insulator	Nos.	676.20	806.40	789.60
8	V.D. for ACSR Zebra conductor	Nos.	867.30	1,034.25	1,013.25
9	V.D. for G.I (7/10) SWG earth wire	Nos.	689.85	822.15	805.35
10	<b>Hardware fittings</b>				
	(i) Single Suspension fitting	Set	3,769.50	4,492.95	4,402.65
	(ii) Double tension fitting	Set	7,346.85	8,757.00	8,581.65
	(iii) Single tension fitting	Set	3,202.50	3,816.75	3,741.15
	(iv) MSCJ for 7/10 SWG E.W	Nos.	321.30	383.25	374.85
	(v) Repair sleeve for Zebra Conductor	Nos.	336.00	400.05	392.70
	(vi) Flexible copper bond for E.W	Nos.	917.70	1,094.10	1,072.05

Sl. No	DESCRIPTION	Unit	Unit Ex-works Price (in RS.)	Unit landed cost inclusive of E.D(@12.36%), CST(@2%) & Freight & Insurance (@4%) without Entry Tax (Applicable for Turn-key projects) (in RS.)	Unit landed cost inclusive of E.D (@12.36%), CST (@2%) & Freight (@ 2%) only (Applicable for direct procurement) (in RS.)
10	<b>Hardware fittings</b>				
	(i) Single Suspension fitting	Set	3,769.50	4,492.95	4,402.65
	(ii) Double tension fitting	Set	7,346.85	8,757.00	8,581.65
	(iii) Single tension fitting	Set	3,202.50	3,816.75	3,741.15
	(iv) MSCJ for 7/10 SWG E.W	Nos.	321.30	383.25	374.85
	(v) Repair sleeve for Zebra Conductor	Nos.	336.00	400.05	392.70
	(vi) Flexible copper bond for E.W	Nos.	917.70	1,094.10	1,072.05
	(vii) Earthwire tension clamp	Nos.	742.35	885.15	867.30
	(viii) Earthwire suspension clamp	Nos.	774.90	924.00	905.10
	(ix) U-Bolt	Nos.	68.25	80.85	79.80
	(x) Armour rod for Zebra	Nos.	684.60	815.85	799.05
	(xi) Hanger for 220 KV Tower	Nos.	239.40	285.60	279.30
	(xii) MSCJ for Zebra Conductor	Nos.	952.35	1,135.05	1,111.95
	(xiii) T-Connector	Nos.	1,622.25	1,933.05	1,894.20
11	<b>Tower accessories</b>				
	(i) Phase plate	Set of three	224.70	267.75	262.50
	(ii) Number plate	Nos.	203.70	242.55	238.35
	(iii) Anti climbing device	Nos.	7550.55	8999.55	8820.00
	(iv) Pipe type earthing	Nos.	4439.40	5290.95	5184.90
	(v) Danger plate	Nos.	203.70	242.55	237.30

## SCHEDULE OF RATE FOR CONSTRUCTION OF 220KV TRANSMISSION LINE (ERECTION COMPONENT)

Sl. No	DESCRIPTION	Unit	Unit rate inclusive of Service Tax @ 12.36% (in RS.)	Unit rate inclusive of Service Tax & Freight, Insurance @ 4% (in RS.)
1	Detail survey including route alignment, profiling & tower spotting.	KM	24,851.40	24,851.40
2	Check Survey.	KM	15,811.95	15,811.95
3	Soil investigation.	Location	14,064.75	14,064.75
4	Tower erection.	MT	9,633.75	9,633.75
5	Stringing of conductor & earthwire with all hardware fitting etc. (complete in all respect) D/C line.	KM	315,047.25	315,047.25
6	Foundation			
(i)	Excavation (Dry soil).	CuM	220.50	220.50
(ii)	Excavation (Wet soil).	CuM	243.60	243.60
7	Concreting			
(i)	Concreting 1:1.5:3 (M-20).	CuM	10,308.90	10,308.90
(ii)	Concreting 1:3:6	CuM	9,276.75	9,276.75
(iii)	Reinforcement.	MT	76,400.10	76,400.10
8	Danger Plate.	Nos.	254.10	254.10
9	Number Plate.	Nos.	254.10	254.10
10	Phase Plate.	Set of three	254.10	254.10
11	Anti Climbing Device.	Nos.	3,194.10	3,194.10
12	Pipe type earthing.	Nos.	6,600.30	6,600.30
13	Destringing of existing conductor & its transportation to store.	KM	153,114.15	153,114.15
14	Revetment			
	(i) Random Rubble Stone Masnoary including excavation.	CuM	5,567.10	5,567.10
	(ii) Backfilling & levelling of volume enclosed.	CuM	290.85	290.85
	(iii) (M-15) 1:2:4 concrete for top seal cover of revetment.	CuM	12,432.00	12,432.00



## SCHEDULE OF RATE FOR CONSTRUCTION OF 132KV TRANSMISSION LINE (SUPPLY COMPONENT)

Sl. No	DESCRIPTION	Unit	Unit Ex-works Price (in RS.)	Unit landed cost inclusive of E.D(@12.36%), CST(@2%) & Freight & Insurance (@4%) without Entry Tax (Applicable for Turn-key projects) (in RS.)	Unit landed cost inclusive of E.D (@12.36%), CST (@2%) & Freight (@ 2%) only (Applicable for direct procurement) (in RS.)
1	Stub and galvanised tower materials with all fasteners i.e. Nut, Bolt, Washer, Step Bolt etc. as per requirement.	MT	76,087.20	90,689.55	88,875.15
2	ACSR Panther conductor	KM	179,000.00	212,000.00	207,900.00
3	G.I (7/9) SWG Earth wire	KM	49,498.05	52,740.45	51,726.15
4	Template (Black)	MT	70,584.15	84,757.05	83,126.40
5	70 KN Disc insulator	Nos.	452.55	539.70	528.15
6	90 KN Disc insulator	Nos.	464.10	553.35	541.80
7	V.D for ACSR Panther conductor	Nos.	649.95	774.90	759.15
8	V.D for G.I (7/9) SWG earth wire	Nos.	542.85	646.80	634.20
9	Hardware fittings				
	(i) Single Suspension fitting	Nos.	3,284.40	3,914.40	3,835.65
	(ii) Double tension fitting	Nos.	3,676.05	4,381.65	4,294.50
	(iii) Single tension fitting	Nos.	2,194.50	2,615.55	2,563.05
	(iv) MSCJ for 7/9 SWG E.W	Nos.	321.30	383.25	374.85
	(v) Repair sleeve for Panther Conductor	Nos.	270.90	322.35	316.05
	(vi) Flexible copper bond for E.W	Nos.	917.70	1,094.10	1,072.05
	(vii) Earthwire tension clamp	Nos.	689.85	822.15	805.35
	(viii) Earthwire suspension clamp	Nos.	689.85	822.15	805.35

Sl. No	DESCRIPTION	Unit	Unit Ex-works Price (in RS.)	Unit landed cost inclusive of E.D(@12.36%), CST(@2%) & Freight & Insurance (@4%) without Entry Tax (Applicable for Turn-key projects) (in RS.)	Unit landed cost inclusive of E.D (@12.36%), CST (@2%) & Freight (@ 2%) only (Applicable for direct procurement) (in RS.)
9	Hardware fittings				
	(ix) U-Bolt (5/8")	Nos.	68.25	80.85	79.80
	(x) Armour rod for Panther	Nos.	684.60	815.85	799.05
	(xi) Hanger for 132 KV Tower	Nos.	239.40	285.60	279.30
	(xii) MSCJ for Panther Conductor	Nos.	786.45	937.65	918.75
	(xiii) T-Connector	Nos.	1,392.30	1,659.00	1,625.40
10	Tower accessories				
	(i) Phase plate	Set of three	224.70	267.75	262.50
	(ii) Number plate	Nos.	203.70	242.55	237.30
	(iii) Anti climbing device	Nos.	7550.55	8999.55	8818.95
	(iv) Pipe type earthing	Nos.	4439.40	5290.95	5185.95
	(v) Danger plate	Nos.	203.70	242.55	238.35

## SCHEDULE OF RATE FOR CONSTRUCTION OF 132KV TRANSMISSION LINE (ERECTION COMPONENT)

Sl. No	DESCRIPTION	Unit	Unit rate inclusive of Service Tax @ 12.36% (in RS.)	Unit rate inclusive of Service Tax & Freight, Insurance @ 4% (in RS.)
1	Detail survey including route alignment, profiling & tower spotting.	KM	24,851.40	24,851.40
2	Check Survey.	KM	15,811.95	15,811.95
3	Soil investigation.	Location	14,064.75	14,064.75
4	Tower erection.	MT	9,633.75	9,633.75
5	Stringing of conductor & earthwire with all hardware fitting etc. (complete in all respect) D/C line.	KM	262,854.90	262,854.90
6	Foundation			
(i)	Excavation (Dry soil).	CuM	220.50	220.50
(ii)	Excavation (Wet soil).	CuM	243.60	243.60
7	Concreting			
(i)	Concreting 1:1.5:3 (M-20).	CuM	10,308.90	10,308.90
(ii)	Concreting 1:3:6	CuM	9,276.75	9,276.75
(iii)	Reinforcement.	MT	76,400.10	76,400.10
8	Danger Plate.	Nos.	254.10	254.10

Sl. No	DESCRIPTION	Unit	Unit rate inclusive of Service Tax @ 12.36% (in RS.)	Unit rate inclusive of Service Tax & Freight, Insurance @ 4% (in RS.)
9	Number Plate.	Nos.	254.10	254.10
10	Phase Plate.	Set of three	254.10	254.10
11	Anti Climbing Device.	Nos.	3,194.10	3,194.10
12	Pipe type earthing.	Nos.	6,600.30	6,600.30
13	Destringing of existing conductor & its transportation to store.	KM	63,825.30	63,825.30
14	Revetment			
	(i) Random Rubble Stone Masnoary including excavation.	CuM		5,789.70
	(ii) Backfilling & levelling of volume enclosed.	CuM		302.40
	(iii) (M-15) 1:2:4 concrete for top seal cover of revetment.	CuM		12,928.65

## SCHEDULE OF RATE FOR CONSTRUCTION OF 33KV LINE (SUPPLY COMPONENT)

Sl. No	DESCRIPTION	Unit	Unit Ex-works Price (in RS.)	Unit landed cost inclusive of E.D(@12.36%), CST(@2%) & Freight & Insurance (@4%) without Entry Tax (Applicable for Turn-key projects) (in RS.)	Unit landed cost inclusive of E.D (@12.36%), CST (@2%) & Freight (@ 2%) only (Applicable for direct procurement) (in RS.)
1	ACSR Dog Conductor.	KM	75,075.00	89,483.10	87,762.15
2	Pole/Support structure 13M, 60 kg Working load Rail Pole.	No.	47,832.75	57,011.85	55,917.75
3	9M, 400 Kg. Working load PSC Pole.	No.	4,397.40	5,241.60	5,140.80
4	Fabrication & Support of M.S. galvanised item-Pole top bracket, V-cross arm, guarding cross arm and guard cross arm, D.P. Channel, DP channel clamp, stay clamp side, DP cross bracing & clamp etc. (complete).	MT	92,820.00	1,10,634.30	108505.95
5	Nuts and Bolts Washers (Plain & Spring).	MT	116,025.000	1,38,292.35	135632.7
6	33KV Pin insulator 33KV porcelain pin Insulator with 900mm Creepage distance along with 10KN pin, nut & washers complete as per TS.	set	614.25	732.90	718.20
7	36 KV Insulator string along with Hardware & Accessories Complete in all respect 70KN B&S disc Insulator(one string consisting of 3disc insulator) as per T.S.	set	1,569.75	1,942.50	1,835.40
8	Stay set complete with stay wire(7/10SWG) along with Stone stay plate(6000x600x20)	set	873.60	1,040.55	1021.65
9	GI Wire 8 SWG for guarding and lacing and earthing.		80.85	96.08	94.50
10	Earthing Complete				
	(a) Spiral type	set	3412.50	4067.70	3,988.95
	(b) Pipe Type	set	3412.50	4067.70	3,988.95

## SCHEDULE OF RATE FOR CONSTRUCTION OF 33KV LINES (ERECTION COMPONENT)

Sl. No	DESCRIPTION	Unit	Unit Price (in RS.)	Unit price inclusive of service tax @ 12.36% (in RS.)
1	Route Survey and pole spotting of 33KV line.	KM	3,963.75	4,217.85
2.1	Erection of 13M, 60 kg Rail pole including concrete foundation as per approved drawing and T.S. This include Supply of foundation material.	No.	6,155.52	6,916.35
2.2	Erection of double pole structure using 13M, 60 kg Rail poles including concreting of the pole(inclusive supply of foundation material) in all respect.	No.	12,311.25	13,832.70
2.3	Erection of triple pole structure using 13M, 60 kg Rail poles including concreting of the pole( inclusive supply of foundation material) in all respect.	No.	12,311.25	13,832.70
2.4	Erection of Four pole structure using 13M, 60 kg Rail poles including concreting of the pole(inclusive supply of foundation material) in all respect.	No.	12,311.25	13,832.70
3.1	Erection of 9M, 400Kg PSC Pole including foundation( including supply of foundation material), fixing of cross arm, pole top bracket , anti climbing device, dauger brand and other accessories complete in all respect as per T.S.	No.	6,155.52	6,916.35
3.2	Erection of D.P Structure with 9M, 400Kg PSC Pole including foundation (including supply of foundation material), fixing of cross arm, pole top bracket, anti climbing device, dauger brand and other accessories complete in all respects as per technical specification.	No.	12,311.25	13,832.70
3.3	Erection of T.P Structure with 9M, 400Kg PSC Pole including foundation(including supply of foundation material), fixing of cross arm, pole top bracket , anti climbing device, dauger board and other accessories complete in all respects as per technical specification.	No.	12,311.25	13,832.70
3.4	Erection of F.P Structure with 9M, 400Kg PSC Pole including foundation(including supply of foundation materials), fixing of cross arm, pole top bracket , anti climbing device, dauger board and other accessories complete in all respects as per technical specification.	No.	12,311.25	13,832.70
4	Stringing of S/C line 3-ph 3-wire 33KV line along with continuous earth wire with ACSR DOG conductor. This includes installation of all fabricated material, insulators, hardware fittings at 2/3/4 pole structure guarding at various crossings, Jumpring etc. as per T.S. This shall also including supply and installation of mid span joints, repair sleeves PG Clamps, danger plate & anti climbing device. Danger plate & anti –climbing device will be installed on all 2/3/4 pole structure.	KM	27,027.00	30,367.05
5	33KV stay set complete in all respect as per TS.	Set	1,425.90	1,602.30
<b>6</b>	<b>Erection of earthing complete as per technical specification</b>			
	(a) Spiral type	Set	450.45	506.10
	(b) Pipe type	Set	450.45	506.10