PUNJAB STATE ELECTRICITY REGULATORY COMMISSION
SITE NO. 3, BLOCK B, SECTOR 18-A MADHYA MARG, CHANDIGARH

Petition No. 40 of 2024
Date of Order: 31.12.2024

Petition under Regulation 47 of Supply Code 2014 and Regulation 8(4) of Chapter II of the Conduct of Business Regulations 2005 for revision of Standard Cost Data.

And

In the matter of: Punjab State Power Corporation Limited, The Mall, Patiala-147001.

...Petitioner

Commission: Sh.Viswajeet Khanna, Chairperson
Sh. Paramjeet Singh, Member

ORDER

Punjab State Power Corporation Limited (PSPCL) has filed this petition for revision of Standard Cost Data under Regulation 47 of Supply Code 2014 and Regulation 8(4) of Chapter II of the Conduct of Business Regulations 2005. PSPCL has submitted as under:

1.1 Earlier the Standard Cost Data was approved by the Commission during the year for 2019-2020 vide memo no. 460/PSERC/DTC/DTJ-56/Vol.X dated 24.05.2019. The same was issued vide Commercial Circular No. 23/2019 dated 28.05.2019.

1.2 Thereafter, as per Sr. No. 6 of the minutes of the meeting of the Supply Code Review Panel held on 28.04.2023, PSPCL was directed to take immediate action to get the Standard Cost Data revised. In this regard, the aforementioned minutes stated that *"In fact, the cost data was last got*

approved four years ago i.e. in May, 2019 wherein it was seen that the overall cost of release of connections across the state is met with through the service connection charges. Thus in case the cost has escalated, PSPCL should submit the proposal for cost revision along with requisite documents".

1.3 Accordingly, to prepare the cost data for LT and HT/EHT consumers, Committees were constituted. Subsequently, the cost data on the basis of data related to the year 2022-23 along with supporting documents in respect of DS, NRS, Industrial (SP, MS and LS), Street Light, Bulk Supply, AP categories covering specifications of various items and material as well as labour/other charges for providing electric line/plant to various categories of consumers/applicants for the purpose of giving power supply was prepared for computation of Standard Cost Data for various categories of consumers and was submitted to the Commission on 25.04.2024 & 20.05.2024 for consideration.

1.4 Subsequently, vide memo no. 2904/PSERC/DTJ-50 (Vol. VII) dated 11.06.2024, the Commission directed as under:-

It is observed that the computation of Standard Cost Data for various consumers has been done on the basis of data related to year 2022-23. In this regard, the Standard Cost Data may be worked out on the basis of latest data of year 2023-24. Moreover, the actual cost of material issued by store organization for release of connection to various categories of consumers during 2023-24 may also be supplied along with Standard Cost Data. Further, the supporting documents in respect of the category-wise and

slab-wise cost data for LT consumers be also supplied for verification of the same.

1.5 Further, in continuation of the above mentioned letter, vide memo no. 2971/PSERC/DTJ-50 (Vol. VII) dated 26.06.2024, the Commission directed PSPCL to file a petition in this regard so that all the stakeholders get an opportunity to file their comments/objections on the proposed cost data, as per Regulation 8(4) of the PSERC (Conduct of Business) Regulations, 2005.

1.6 Accordingly, PSPCL filed the instant petition wherein it was submitted that variable charges/fixed charges of LT consumers were estimated and forwarded as per costs received from the field offices (i.e. DS Circle- Ludhiana, Patiala & Bathinda). As it is a tedious and time-consuming exercise to gather more data and further keeping in view the urgency of the matter, PSPCL requested that cognizance of data already submitted vide their earlier memo no. 118/SCD/22-23 dated 25.04.2024 for the year 2022-23 w.r.t. LT may be taken by the Commission while deciding the same for the year 2023-24.

1.7 PSPCL further submitted that the Standard Cost Data (slab-wise & load wise) previously submitted by the DS Circles of PSPCL is based on estimation/extrapolation of data of material & cost incurred for the same. Therefore, it is not practically feasible to determine sub-category-wise, load-wise & slab-wise expenditure incurred for release of connection for load upto 100 kW. However, total number of connections released under category of GSC, Industrial, AP

and cost of material against them during the FY 2023-24 is as under:-

1.7.1 Cost of material:-

The circle wise and category wise (GSC, Industrial & AP), cost of material/transformer for the FY 2023-24, as provided by the O/o CE/IT, PSPCL is tabulated below: -

S.No.	Circle	Cost of Material used in GSC connection (in Rs.)	Cost of Material used in Industrial connection (SP, MS, LS) (in Rs.)	Cost of Material used in AP connection (in Rs.)
1	Patiala	6,70,88,112	6,45,15,091	18,20,567
2	Sangrur	3,93,02,761	3,79,69,432	49,95,464
3	Ropar	7,91,96,384	5,08,64,987	35,54,813
4	Mohali	7,52,26,212	5,19,41,488	3,29,572
5	Bathinda	9,94,73,442	6,12,97,864	1,31,42,522
6	Faridkot	6,07,63,380	1,84,43,074	60,75,106
7	Ferozpur	5,46,76,114	1,74,37,576	62,52,919
8	Mukatsar	9,63,62,232	2,50,32,733	1,58,08,312
9	Jalandhar	4,01,34,436	2,76,09,029	1,08,131
10	Kapurthala	7,14,30,862	1,07,78,190	25,06,875
11	Hoshiarpur	4,07,35,188	2,73,94,585	44,45,134
12	Nawanshahr	3,66,50,743	92,09,731	47,78,751
13	City Amritsar	94,88,529	42,94,807	-6,485
14	Sub-urban Amritsar	7,26,69,448	55,90,213	24,79,131
15	Tarn taran	4,17,65,350	1,70,36,481	16,56,063
16	Gurdaspur	11,64,64,664	2,32,21,099	34,25,933
17	City West Ludhiana	3,02,22,914	9,57,32,852	2,29,902
18	City East Ludhiana	1,18,17,935	5,02,25,085	-234

S.No.	Circle	Cost of Material used in GSC connection (in Rs.)	Cost of Material used in Industrial connection (SP, MS, LS) (in Rs.)	Cost of Material used in AP connection (in Rs.)
19	Khanna	2,87,75,387	4,36,56,525	7,07,088
20	Sub-urban Ludhiana	5,82,85,135	2,36,76,135	17,26,738
21	Barnala	344,53,827	2,66,28,265	13,56,137
Total		116,49,83,055	70,25,49,242	7,53,92,439

1.7.2 Total load & no. of connections:-

The circle-wise and category-wise (GSC, Industrial & AP) total number of connections and total load released for the FY 2023-24, as provided by the O/o CE/Planning, PSPCL is tabulated below :-

S. No.	Circle	GSC Connections	GSC Load (in kW/ kVA)	Industrial Connections	Industrial Load (in kW/ kVA)	AP Connections	AP Load (in kW/ kVA)
		Nos.	Load	Nos.	Load	Nos.	Load
1	Amritsar-city	6018	16034	159	2807	0	0
2	Amritsar-sub	16725	37100	201	10155	20	86
3	Taran-taran	10408	20817	93	11684	9	59
4	Gurdaspur	19519	43389	248	15531	13	107
5	Jalandhar	20665	49349	235	21853	2	15
6	Hoshiarpur	16428	38063	187	12930	20	465
7	Nawanshahar	9101	20707	97	7225	17	776
8	Kapurthala	12128	28577	131	17991	0	0
9	Khanna	10746	25614	258	133747	2	14
10	Ludhiana-East	10459	23474	767	25032	0	0
11	Ludhiana-sub	9643	24038	186	16458	6	43
12	Ludhiana-West	18663	49370	698	58142	0	0
13	Patiala	18377	45863	385	78505	4	34
14	Sangrur	11745	26383	355	27712	42	463
15	Mohali	30209	140997	297	31316	1	45
16	Barnala	11541	28659	323	21954.96	7	70

S. No.	Circle	GSC Connections	GSC Load (in kW/ kVA)	Industrial Connections	Industrial Load (in kW/ kVA)	AP Connections	AP Load (in kW/ kVA)
		Nos.	Load	Nos.	Load	Nos.	Load
17	Ropar	22441	76244	244	46795	48	586
18	Bathinda	23667	60227.9	653	59298	46	479
19	Muktsar	19497	39066	349	21809	122	611
20	Ferozepur	8806	17938	181	18997	29	224
21	Faridkot	11076	31066	192	21915	23	151
	Total	317862	842975.90	6239	661856.96	411	4228

1.7.3 Cost Data of 11 kV lines, cables & breaker:-

The abstract of the detailed calculations as provided by the O/o CE/Distribution Projects, PSPCL is tabulated below:-

S.No.	Particulars	Rates worked out (Rs. in Lacs.)
1	a) Per ckt km cost of 11 kV line with 30 mm² ACSR conductor.	4.437446
	b) Per ckt km cost of 11 kV line with 50 mm² ACSR conductor.	5.866854
	c) Per ckt km cost of 11 kV line with 80 mm² ACSR conductor.	7.949057
	d) Per ckt km cost of 11 kV line with 100 mm² ACSR conductor.	8.629683
2	a) Per kVA per Ckt. km cost of 11 kV line with 30 mm² ACSR conductor (Max. load on feeder 30 mm² ACSR in kVA= 1905) =1(a)/1905	0.002329
	b) Per kVA per CKt. km cost of 11 kV line with 50 mm² ACSR conductor. (Max. load on feeder 50 mm² ACSR in kVA= 2819) =1(b)/2819	0.002081
	c) Per kVA per Ckt. km cost of 11 kV line with 80 mm² ACSR conductor. (Max. load on feeder 80 mm² ACSR in kVA= 3753) =1(c)/3753	0.002118
	d) Per kVA per Ckt. km cost of 11 kV line with 100 mm² ACSR conductor. (Max. load on feeder 100 mm² ACSR in kVA= 4839) =1(d)/4839	0.001783
3	a) Per ckt. km cost of 11 kV 3c x 35	10.30378

S.No.	Particulars	Rates worked out (Rs. in Lacs.)
	mm² XLPE Cable erecting on 9m poles	
	b) Per ckt. km cost of 11 kV 3cx 150 mm² XLPE Cable erecting on 9m poles.	16.95509
	c) Per ckt. km cost of 11 kV 3c x 300 mm² XLPE Cable erecting on 9m poles.	25.60065
4	a) Per kVA per ckt. km cost of 11 kV 3c x 35 mm² XLPE Cable erecting on 9m poles (Max. load on feeder 35 mm² XLPE cable in kVA= 2381) =3(a)/2381	0.004328
	b) Per kVA per ckt. km cost of 11 kV 30 x 150 mm² XLPE Cable per Ckt. km erecting on 9m poles. (Max. load on feeder 150 mm² XLPE cable in kVA= 5620) =3(b)/5620	0.003017
	c) Per kVA per ckt. km cost of 11 kV 30 x 300 mm² XLPE Cable per Ckt. km erecting on 9m poles (Max. load on feeder 300 mm² XLPE cable in kVA= 5620) =3(c)/8573	0.002986
5	a) Per Ckt. km cost of 11 kV 3c x 35 mm² XLPE Cable erecting on 11m poles	12.54634
	b) Per ckt. km cost of 11 kV 30 x 150 mm² XLPE Cable erecting on 11m poles	19.19765
	c) Per ckt. km cost of 11 kV 30 x 300 mm² XLPE Cable erecting on 11m poles	27.84321
6	a) Per kVA per ckt km cost of 11 kV 3c x 35 mm² XLPE Cable erecting on 11m poles (Max. load on feeder 35 mm² XLPE cable in kVA= 2381) =5(a)/2381	0.005269
	b) Per kVA per ckt km cost of 11 kV 3c x 150 mm² XLPE Cable erecting on 11m poles (Max. load on feeder 150 mm² XLPE	0.003416

S.No.	Particulars	Rates worked out (Rs. in Lacs.)
	cable in kVA= 5620) =5(b)/5620	
	c) Per kVA per ckt km cost of 11 kV 3c x 300 mm² XLPE Cable erecting on 11m poles. (Max. load on feeder 300 mm² XLPE cable in kVA= 5620) =5(c)/8573	0.003248
7	Cost of 11 kV breaker	6.241757
8	Per kVA cost of 11 kV breaker with CT Ratio 400-200 Amp	0.001248

1.7.4 Cost Data 33kV/66 kV transmission lines & cables, sub-stations & line bays:-

The abstract of the detailed calculation as provided by the O/o CE/TS, PSPCL is tabulated below:-

S.No.	Particulars	Rates worked out (Rs. in Lacs.)
1	a) 66 kV SC line on SC towers with 200 mm² (0.2 sq. Inch) copper equivalent conductor per ckt. km	32.42
	b) 66 kV SC line on DC towers with 200 mm² (0.2 sq. Inch) copper equivalent conductor per ckt. km	36.47
	c) 66 kV DC line on DC towers with 200 mm² (0.2 sq. Inch) copper equivalent conductor per ckt. km	47.14
	d) 66 kV SC line on DC towers with 420 mm² (0.4 sq. Inch) copper equivalent conductor per ckt. km	63.6
	e) 66 kV DC line on DC towers with 420 mm² (0.4 sq. Inch) copper equivalent conductor per ckt. km	81.51
2	a) 66 kV 240 mm² U/G Cable per ckt. km (Single Circuit) (Supply + laying including accessories)	297.24
	b) 66 kV 240 mm² XLPE U/G Cable per ckt. km (Double Circuit) (Supply + laying including	528.30

S.No.	Particulars	Rates worked out (Rs. in Lacs.)
	accessories)	
	c) 66 kV 630 mm² XLPE U/G Cable per ckt. km (Single Circuit) (Supply + laying including accessories)	496
	d) 66 kV 630 mm² XLPE U/G Cable per ckt. km (Double Circuit) (Supply + laying including accessories)	892.79
	e) 66 kV 1000 mm² XLPE U/G Cable per ckt. km (Single Circuit) (Supply + laying including accessories)	789.71
	f) 66 kV 1000 mm² XLPE U/G Cable per ckt. km (Double Circuit) (Supply + laying including accessories)	1412.48
3	a) Cost of 66 kV back up line with SC on SC towers with 200 mm² (0.2 sq. Inch) copper equivalent conductor per MVA per Ckt. km	0.74
	b) Cost of 66 kV back up line with SC on DC towers with 200 mm² (0.2 sq. Inch) copper equivalent conductor per MVA per Ckt. km	0.83
	c) Cost of 66 kV back up line with DC on DC towers with 200 mm² (0.2 sq. Inch) copper equivalent conductor per MVA per Ckt. km	0.54
	d) Cost of 66 kV back up line with SC on DC towers with 420 mm² (0.4 sq. Inch) copper equivalent conductor per MVA per Ckt. km	0.98
	e) Cost of 66 kV back up line with DC on DC towers with 420 mm² (0.4 sq. Inch) copper equivalent conductor per MVA per Ckt. km	0.63

S.No.	Particulars	Rates worked out (Rs. in Lacs.)
4	a) Cost of 66 kV 240 mm² U/G XLPE Cable per MVA per Ckt. km (Single Circuit)	6.83
	b) Cost of 66 kV 240 mm² U/G XLPE Cable per MVA per Ckt. km (Double Circuit)	6.07
	c) Cost of 66 kV 630 mm² U/G XLPE Cable per MVA per Ckt. km (Single Circuit)	7.68
	d) Cost of 66 kV 630 mm² U/G XLPE Cable per MVA per Ckt. km (Double Circuit)	6.92
	e) Cost of 66 kV 1000 mm² U/G XLPE Cable per MVA per Ckt. km (Single Circuit)	9.08
	f) Cost of 66 kV 1000 mm² U/G XLPE Cable per MVA per Ckt. km (Double Circuit)	8.17
5	a) 66 kV SC line on DC towers with 150 mm² (HTLS conductor) per ckt. km (including erection charges)	57.41
	b) 66 kV DC line on DC towers with 150 mm² (HTLS conductor) per ckt. km (including erection charges)	85.31
	c) 66 kV SC line on DC towers with 200 mm² (HTLS conductor) per ckt. km (including erection charges)	67.83
	d) 66 kV DC line on DC towers with 200 mm² (HTLS conductor) per ckt. km (including erection charges)	100.67
	e) 66 kV SC line on DC towers with 420 mm² (HTLS conductor) per ckt. km (including erection charges)	103.53
	f) 66 kV DC line on DC towers with 420 mm² (HTLS conductor) per ckt. km (including erection charges)	173.98
6	a) Cost of 66 kV SC on DC towers with 150 mm² (HTLS conductor) per MVA per ckt. km	0.78
	b) Cost of 66 kV DC on DC towers with 150 mm² (HTLS conductor) per MVA	0.58

S.No.	Particulars	Rates worked out (Rs. in Lacs.)
	per ckt. km	
	c) Cost of 66 kV SC on DC towers with 200 mm² (HTLS conductor) per MVA per ckt. km	0.78
	d) Cost of 66 kV DC on DC towers with 200 mm² (HTLS conductor) per MVA per ckt. km	0.57
	e) Cost of 66 kV SC on DC towers with 420 mm² (HTLS conductor) per MVA per ckt. km	0.80
	f) Cost of 66 kV DC on DC towers with 420 mm² (HTLS conductor) per MVA per ckt. km	0.67
7	a) 66 kV SC on DC line on Monopoles with 200 mm² (0.2 sq. inch) ACSR conductor per ckt. km (including erection charges)	187.46
	b) 66 kV DC on DC line on Monopoles with 200 mm² (0.2 sq. inch) ACSR conductor per ckt. km (including erection charges)	197.43
	c) 66 kV SC on DC line on Monopoles with 420 mm² (0.4 sq. inch) ACSR conductor per ckt. km (including erection charges)	282.75
	d) 66 kV DC on DC line on Monopoles with 420 mm² (0.4 sq. inch) ACSR conductor per ckt. km (including erection charges)	310.90
8	Cost of 33kV/66 kV additional line bay	33.01

PSPCL also submitted the proformas containing information of the purchase orders of concerned material along with copies of the purchase orders for all major items (like power transformers, breakers, cables, conductors, tower material, disc insulator, etc). Further, the latest rate list of material issued by the O/o CE/Stores & Workshop, PSPCL, Ludhiana was also attached.

1.7.5 Cost Data of 132kV/220kV transmission lines & line bays:-

The abstract of the detailed calculations as provided by the office of CE/TS, PSTCL is tabulated below:-

S.No.	Particulars	Rates worked out (Rs. in Lacs.)
1.	a) 132 kV line bay	92.48
	b) 220 kV line bay	157.22
2	a) 132 kV SC line on SC Towers with 0.2 sq. inch Copper equivalent conductor per Ckt. km. (ASCR Nominal Al Area 200 mm²)	41.21
	b) 132 kV SC line on DC Towers with 0.2 sq. inch Copper equivalent conductor per Ckt. km (ASCR Nominal Al Area 200 mm²)	46.61
	c) 132 kV DC line on DC Towers with 0.2 sq. inch Copper equivalent conductor per Ckt km. (ASCR Nominal Al Area 200 mm²)	54.94
3 (a)	i. 220 kV SC line on SC Towers with 0.4 sq. inch Copper equivalent conductor per Ckt km. (ASCR Nominal Al Area 420 mm²)	NA
	ii. 220 kV SC line on DC Towers with 0.4 sq. inch Copper equivalent conductor per Ckt. km. (ASCR Nominal Al Area 420 mm²)	73.76
	iii. 220 kV DC line on DC Towers with 0.4 sq. inch Copper equivalent conductor per Ckt km. (ASCR Nominal Al Area 420 mm²)	93.40
3 (b)	i. 220 kV SC line on SC Towers with 0.5 sq. inch Copper equivalent conductor per Ckt km. (ASCR Nominal Al Area 520 mm²)	NA
	ii. 220 kV SC line on DC Towers with 0.5 sq. Inch Copper equivalent conductor per Ckt km. (ASCR Nominal Al Area 520 mm²)	92.21
	iii. 220 kV DC line on DC Towers with 0.5 sq. inch Copper equivalent conductor per Ckt. km (ASCR Nominal Al Area 520 mm²)	110.23
4.	a) Cost of 132 kV line bay at mother station per MVA (MVA capacity considered for Panther conductor = 111.34 MVA)	0.83
	b) Cost of 220 kV line bay at mother station per MVA (MVA capacity considered for Zebra	0.56

S.No.	Particulars	Rates worked out (Rs. in Lacs.)
	conductor = 280.83 MVA)	
5.	a) Per MVA cost of 132 kV substation (with one 20MVA, 132/11 T/F and 8 no.11 kV O/G feeders to be fed by T-off) (20 MVA capacity considered 1428.86 in whole)	71.44 per MVA
	b) Per MVA cost of 220kV substation (with 1 x 160 MVA 220/66 T/F) (160 MVA capacity considered 2768.68 in whole)	17.30 per MVA
6	a) Per MVA cost of 400 kV line bay. (400 kV projects are Turnkey based)	NA
	b) Per MVA cost of 220 kV line bay. (MVA capacity considered by taking Moose Conductor = 318.55)	0.49
	c) Per MVA cost of 132 kV line bay. (MVA capacity considered by taking Panther Conductor = 111.34)	0.83
	d) Per MVA cost of 66 kV line bay. (MVA capacity considered by taking Panther Conductor = 55.67)	0.96
7	a) Per MVA per Ckt. km cost of 132 kV SC line on SC Towers with 200 mm² conductor (MVA capacity considered by taking Panther Conductor = 111.34)	0.37
	b) Per MVA per Ckt. km cost of 220 kV SC line on DC Towers with 420 mm² conductor (MVA capacity considered by taking Zebra Conductor = 280.83)	0.27
	c) Per MVA per Ckt. km cost of 220 kV SC line on DC Towers with 520 mm² conductor (MVA capacity considered by taking Moose Conductor = 318.55)	0.29
	d) Per MVA per Ckt. km cost of 400 kV SC line on DC Towers with 520 mm² conductor (400 kV projects are Turnkey based)	NA

PSPCL submitted the proforma containing information of the purchase orders of all the major items along with copies of the purchase orders. The brief details provided by PSTCL for

executing the work related to replacement of an existing conductor with HTLS conductor on turnkey basis were also submitted.

1.8 Normative and Variable Cost:-

Sr. No.	Description	Amount in Rs.
1	Normative cost of 11 kV (Annexure-N)	1656.40
2	Normative cost of 66 kV (Annexure-O)	498.59
3	Variable Cost per metre of LT (DS Consumers) (Annexure-P)	
	Load upto 2 KW	528.334
	Load 2-7 KW	569.371
	Load 7-50 KW	645.360
	Load 50-100 KW	1088.596
	Total Cost per meter	571.165

1.9 PSPCL sought approval of the Standard Cost Data of the following in view of the details mentioned in the above paras:-

(i) LT Consumers
(ii) 11 kV Lines and Cables
(iii) 66 kV Lines and Cables
(iv) 66 kV Sub-Stations
(v) 220/132/66 kV line bays
(vi) 132/220kV transmission lines
(vii) System Loading Charges
(viii) Normative Cots for 11kV, 66kV
(ix) Variable Cost of LT (DS Consumers)

1.10 PSPCL further submitted that the per Ckt. km and per Ckt. km per kVA/MVA cost of various 11/66/132/220 kV lines, per

kVA/MVA cost of 11 kV outgoing breaker and 66/132/220 kV line bays approved in the cost data shall be used for working out Security (works) as per Regulation 9.3 and proportionate cost of the common portion of line to be recovered from applicants/consumers as per regulation 9.1.1 and 9.1.3 of the Supply Code, 2014, as amended from time to time. The Standard cost data approved by the Commission may be applicable to the demand notices to be issued from the date of issue of the Commercial Circular.

PSPCL further submitted that the permanent standing committee constituted to finalize/propose the cost data in respect of all types 33 kV/66kV (e.g. new substations, additional transformers, augmentation of transformers, new transmission lines/ cables, augmentation of existing lines/ cables, replacement of existing line/cables, new LE controlled bay, new circuit breaker controlled line bays and conversion of LE controlled bay to circuit breaker, control bay etc.) works, recommended as below:-

1.10.1 66 kV Transmission lines & Cables:-

The estimated cost of 66 kV lines and cables was recommended as per the detail given in the attached Annexures, to be read along with notes provided in these Annexures. Further,

a) Where the connection of the consumer can be released on SC on SC basis, however to avoid future RoW issues, PSPCL decides to release it on SC on DC basis, then the due SC on SC charges may be got deposited from the consumer which come out to be 90% approx. of SC on DC charges as per standard cost data.

b) HTLS conductor can be designed to carry 1.5 to 2.5 times the current of the conventional ACSR conductor of the same size. For convenience, HTLS conductor MVA capacity of the line has been considered double of its equivalent ACSR conductor line capacity.

1.10.2 66kV Line Bay & Sub-Stations:-

The estimated cost of 66kV line bay and per MVA cost of sub-stations, were recommended by PSPCL as per details given in the attached Annexures, to be read along with notes provided in these Annexures. Further, PSPCL submitted that in the earlier approved standard cost data during the year 2019-20, establishment charges @ 16% were taken. However, as per clause 39 of ESIM, departmental charges @ 27.5% (inclusive of T&P charges @ 1.5%) are required to be taken in case of works executed by PSPCL on behalf of a consumer but remains the property of the private consumer. Accordingly, departmental charges @ 27.5% shall be applicable while calculating cost data for works related to 66kV sub-stations and new 66kV bays. As T&P charges @1.5% are already included in the departmental charges, hence charges in column 4 (contingency & storage charges, transportation, T&P and erection charges) are required to be reduced to 9.5% from 11%.

1.10.3 Further, a differential factor between SC on SC monopole line and SC on DC monopole line works out to be 0.88. Further, the differential factor between SC on SC HTLS line and SC on DC HTLS line works out to be 0.94.

1.10.4 Transmission lines/bays for 33kV system are designed and constructed for 66kV capacities and so cost chargeable from consumers remains the same for both 33kV and 66kV lines

/bays. The 66kV line charges are exclusive of railways crossing charges and shall be chargeable, if required, on actual basis as it varies from case to case. Ckt km in case of cables include 4 nos. single core cables which includes 1 no. spare cable also. The cost of cable cannot be generalized as it varies from site to site and from work order to work order. Even in a single specification with two or three works, rates can be different. The works of underground cables, monopoles and augmentation/replacement of HTLS conductor are be carried out on turnkey basis. The cost of supply and laying of cable shall be allowed to be recovered from the consumer on actual basis. Further, the compensation charges for land under the transmission line conductor, Right of way (RoW) be considered as per the Annexures enclosed by PSPCL.

1.10.5 PSPCL also submitted that the land cost varies significantly across Punjab. For instance, land in Chandigarh and Ludhiana periphery is considerably more expensive compared to border areas like Tarantaran and Muktsar. Accordingly, PSPCL proposed that System Loading Charges (SLC) for the cases where land is not provided by the developer and in case where land for grid substation is provided by the developer, may be decided by the Commission on the basis of market rate.

1.11 PSPCL accordingly requested the Commission to consider and approve the aforementioned proposal and to pass the order by incorporating the cost data for recovery of charges from various types of consumers for supply of electricity.

2. The petition was admitted vide order dated 02.09.2024. Further, as the interest of the licensee as well as that of the

consumers was involved in the petition, PSPCL was directed to publish a public notice inviting suggestions/objections from the public/stakeholders as required under Regulation 67 of the PSERC (Conduct of Business) Regulations 2005. PSPCL issued a public notice inviting suggestions/objections from the general public and stakeholders which was published on 10.09.2024 in English and Punjabi newspapers.

3. In response to the public notice, objections/suggestions were received from Sh. Satish Marwah. Further, PSPCL submitted additional documents vide memo no. 205 dated 12.09.2024.

4. The petition was taken up for hearing as well as public hearing on 23.10.2024. The Commission vide Order dated 24.10.2024 directed PSPCL to submit its reply/comments to the objections received along with the following information:

(i) In the cost data of 33/66 kV line bay and sub-stations (Annexure-D), Rs.195 lakh has been shown as cost of land and building. Necessary supporting documents may be supplied.

(ii) While calculating normative cost of 11 kV lines (Annexure-N), the average line length has been considered as 5 km. The basis for the same may be furnished.

(iii) While calculating the normative cost of 11 kV lines (Annexure-N), 150 mm² service cable has been considered to feed a maximum of 150 kVA demand. Reasons for not considering 35 mm² cable may be furnished.

(iv) In the cost of 11 kV lines/cables (Annexure-F), Erection charges for XLPE cables have been shown as Rs. 56718/-. The copy of the instructions vide which these charges have been circulated to the field offices for preparation of estimates may be supplied.

(v) While calculating the normative cost of 66kV lines (Annexure-O) the cost of 66 kV single circuit line on single circuit towers has been calculated but the same has not been considered while calculating the normative cost. The reasons thereof may be explained. Secondly, 90% of the cost of 66 kV single circuit line on double circuit towers has been considered for calculating the cost of single circuit line, the criteria adopted for the same may be explained. Thirdly, average length of 66 kV line has been considered as 5 km for calculating the normative cost of 66 kV lines, the basis for the same may be explained.

(vi) In the cost data of 11 kV lines, the transportation, contingency and T&P charges have been considered as 6% whereas as per the estimates approved by the various offices of PSPCL, such charges are considered as 5%. The same may be clarified.

(vii) In the cost data for 66 kV lines (Annexure-A), labour charges including contingency and storage have been considered @ 20%. Secondly, under the column “other charges” a lumpsum amount of Rs. 4.02 lakh have been considered. Necessary justification may be provided.

(viii) In the cost data for 66 kV line bay, cost of civil works has been considered as Rs. 6 lakh and that of earthing material as Rs. 1.2 lakh. The justification for the same be provided.

5. Vide memo. no. 6826 dated 08.11.2024, PSPCL submitted its reply to the above queries as under:

i. As per memo no. 1440 dated 25.10.2024 of the O/o Dy.CE/Civil Works, PSPCL, Patiala, the cost of civil works required for commissioning of a new 66 kV sub-station is Rs. 125 lakhs. Further, cost of Land has been taken as

Rs. 70 lakhs as per the prevalent practice. A note has been incorporated in the Standard Cost Data of substation design that the Land Cost is variable and depends upon site to site.

ii. In regard to the average line length taken as 5 km, PSPCL submitted that as per the guidelines for creating of a new grid sub-station, “a new grid sub-station should not be located within a distance of 5 km from an existing sub-station” So, as per these guidelines a minimum displacement between two sub-stations of PSPCL should be 5 km.

iii. The service cable may be considered as 35 mm² instead of 150 mm² as a maximum load of 150 kVA can be released through this size of cable.

iv. Copy of instructions issued vide memo no.871/75/RE/WS dated 15.12.2015 as well as the report of the Committee to suggest the labour schedule rate from the O/o the CE/RE & APDRP, PSPCL now CE/Distribution Projects, PSPCL have been attached.

v. (a) Regarding average length of 66 kV line as 5 km, reply as given in point no. (ii) may be considered. In regard to calculation of cost by converting 66 kV SC on DC line to SC on SC line by using a factor of 90% instead of taking the actual cost of SC on SC line, PSPCL submitted that at present PSPCL is not procuring or installing SC towers & hence rate of SC on SC cannot be ascertained.

(b) However, as per O/o CE/TS, PSPCL, Patiala (memo No. 6383/TSW/897 dated 28.10.24), the differential factor between SC on SC line & SC on DC line arrived

at by dividing the cost of SC on SC line with the cost of SC on DC line comes out to be 0.9.

vi. The transportation, contingency and T&P charges as per the estimates being approved in the field offices of the PSPCL may be considered as 5% by the Commission.

vii. As per O/o CE/TS, PSPCL, Patiala (memo No.6383/TSW/897 dated 28.10.24), it has been intimated that the 20% erection charges/labour charges component consists of labour charges for conductor installation (i.e. sagging), stub installation, tower installation, watch & ward charges along with 1% contingency & 1% storage charges. The above-mentioned charges fall in the range of 19 to 22%, so average of 20% has been taken as the reference for all the calculations. Secondly, under the column of "other charges", as already explained, it includes preliminary charges, forest clearance charges, PTCC & re-engineering charges, land under tower charges & Crop Compensation charges which are provided by the field offices.

viii. As per memo No. 1440 dated 25.10.2024 of O/o Dy.CE/Civil Works, PSPCL, Patiala, the cost of civil works required for erection of new 66kV Line Bays is around Rs. 6 lakhs and cost of earthing material required in erection of new 66kV Line Bay is Rs.1.2 lakhs.

6. The petition was further heard on 14.11.2024. Since the Supply Code, 2024 notified vide notification no. PSERC/Secy./Regu.191.dated 23.10.2024 came into force w.e.f. 14.11.2024, to operationalize various provisions of these Regulations, it was necessary, as an interim measure, to approve certain costs to be recovered from the

consumers for recovery of expenses incurred by the licensee subject to the final approval of the Cost Data in this petition. Accordingly, vide Order dated 14.11.2024, the Commission, after going through the submissions of the distribution licensee, approved the following normative costs to be recovered from the consumers/developers, as applicable subject to the final outcome of this petition:

(i) Normative Cost of 11 kV line

(a) As per Regulation 32(1)(i) of the Supply Code, 2024

For recovery of service connection charges from the applicants with demand exceeding 100 kVA but not exceeding 150 kVA, as per Regulation 32(1)(i) of the Supply Code, 2024 to be recovered against the applications received on or after 14.11.2024, Rs.1403/- per kVA

(b) As per Regulation 9(2)(iv) of the Supply Code, 2024

For recovery of normative cost in lieu of actual expenses for additional demand as per Regulation 9(2)(iv) of the Supply Code, 2024 to be recovered against the application received on or after 14.11.2024 –Rs.1227/- per kVA.

(c) As per Regulation 12(4) of the Supply Code, 2024

For calculating the estimated cost for obtaining bank guarantee from the promoters @ 35% of the estimated cost as per Regulation 12(4) of the Supply Code, 2024 to be recovered in case of NOCs to be issued on or after 14.11.2024 – Rs. 1557/- per kVA.

(ii) Normative Cost of 66 kVA line as per Regulation 9(2)(iv) of the Supply Code, 2024

For recovery of normative charges in lieu of actual

expenses for additional demand as per Regulation 9(2)(iv) of the Supply Code, 2024 to be recovered against the application received on or after 14.11.2024 – Rs.486/- per kVA.

(iii) Variable Cost for LT (DS) Consumers as per the first proviso to Regulation 32(1)(i) of the Supply Code, 2024

Variable Cost for LT (DS) Consumers outside the village Phirni where total length of service line exceeds 500 mtrs as per the first proviso to Regulation 32(1)(i) of the Supply Code, 2024 recoverable against the applications received on or after 14.11.2024 – Rs. 370/- per mtr for length of the service line beyond 500 mtrs along with fixed service connection charges as approved by the Commission.

(iv) System loading charges as per Regulation 12 of the Supply Code, 2024

System Loading Charges to be recovered as per Regulation 12 of the Supply Code, 2024 from the promoters – Rs. 3280/- per kVA.

It was further directed that the above charges shall be subject to the final approval of the Cost Data in this petition. Any refund or recovery, as the case may be, shall be effected accordingly within a month of the approval of the Cost Data.

7. Vide aforementioned Order dated 14.11.2024, PSPCL was further directed to furnish the following information/ documents within a week:

i. The current carrying capacities of conductors intimated by PSPCL and PSTCL are at variance. The same may be

reconciled and current carrying capacities of conductors (ACSR as well as HTLS) and cables at various voltages from 11 kV to 220 kV be intimated along with evidence.

ii. Similarly, the basis of taking the cost of SC line on SC tower as 90% of SC line on DC tower be intimated.

iii. Copies of work orders in support of the rates taken for HTLS conductors and erection thereof be furnished.

iv. The costs of laying of 66 kV 630 mm^2 and 1000 mm^2 cables have been shown to be significantly lower than that of 66 kV 240 mm^2 cable. The same may be clarified.

v. Under the head 'other charges' for erection of 66 kV lines, 5 nos. towers (4nos. 66 kV and 1no. 220 kV) have been considered for working out cost of land under the tower for a 1 km line. Justification for considering 1no. 220 kV tower along with documentary evidence be furnished.

vi. Further, the Commission observed that while calculating the cost of the common portion of the line in case of release of 11 kV and 66 kV connections or extension in demand, different methodology is being adopted by different field offices. For ease of doing business and to prevent harassment of the applicants/consumers, the Commission intended to approve normative costs in the Cost data in such cases covered under Clause (a) & (b) of Regulation 32(1) (ii) and Regulation 33(1)(ii) of the Supply Code, 2024 as in case of 132/220 kV connections under clause (c) of Regulation 32(1)(ii). PSPCL was directed to submit its proposal/comments within 10 days.

8. PSPCL submitted point wise reply to the above information/documents vide memo no. 7031 dated 29.11.2024 as under:

(i) The current carrying capacity of the various conductors used in PSTCL as well as in PSPCL is as per the current carrying capacity chart for transmission line conductors circulated by CE/TS, PSEB vide memo No. 2313 and 2738/PNT-204/T dated 17.09.1995 (copy enclosed). The calculations intimated earlier w.r.t PSTCL may be ignored as the same were calculated by CE/TS, PSTCL based on incorrect current carrying capacities inadvertently.

PSPCL further informed that the planning and design of 66 kV transmission lines are based on the capacity of proposed conductor. In PSPCL, the conductor of size 0.2 sq inch Panther/0.4 Sq inch Zebra are widely used in 66 kV transmission lines. Eventually the capacity of the conductor becomes the standard reference to finalize the capacity of 66 kV underground cable and HTLS conductor.

In this regard, the capacity of 66 kV underground cable of 240 sq mm copper conductor has been considered equivalent to 0.2 sq inch panther conductor i.e. 380 Amp/43.5 MVA and 564 Amp/64.5 MVA for 66 kV 630 sq mm copper conductor underground cable and same are being used by PSTCL.

The HTLS conductor is a tailor-made design with different current carrying capacities. HTLS conductor is procured and installed as per current carrying requirement given by the planning section. (copies of various work orders for HTLS conductor sent through email dtd. 28.11.2024).

The equivalent capacity of HTLS conductor is considered minimum twice than that of 0.2 sq inch Panther & 0.4 sq inch Zebra conductor i.e. 760 Amp for 0.2 sq inch HTLS equivalent conductor & 1130 Amp for 0.4 Sq inch HTLS equivalent conductor respectively.

(ii) As such PSPCL does not procure SC on SC towers. Cost of tower structure is worked out by calculating total tonnage weight of SC tower structure. On the basis of that, cost of SC on SC line is calculated. Further, dividing the said calculated cost of SC on SC line with the cost calculated for SC on DC line, the differential factor has been derived between SC on SC line & SC on DC line which comes out to be approx. 0.9.

(iii) A copy of the last work order in support of rates taken for HTLS conductors and erection has been attached. PSPCL reiterated that the cost of material of HTLS and its erection have been escalated by 5% on account of inflation and non-availability of recent W.O.

(iv) In case of the underground cables, the costs of laying has been taken to be the same as that in the work orders of respective sizes of the cable. Copies of the calculation sheet and work orders have been attached (copies of related work orders sent through email dated 28.11.2024).

(v) Under the head ‘other charges’ for erection of 66 kV lines, 5 nos. towers (4 nos. 66 kV and 1 no. 220 kV) have been considered for working out the cost of land under the tower for a 1 km line. The tower mentioned as 220 kV is used for 66 kV and 220 kV voltage levels. In PSPCL, this type of tower is mainly used for raising of line at crossings

of high buildings and to maintain appropriate height and electrical clearances.

(vi) The matter was deliberated with the higher authorities and after detailed discussions, it was decided that PSPCL in principle agrees with the Commission to go for Normative Cost for the common portion of the line in case of release of 11kV and 66kV connection or extension in demand.

Accordingly, PSPCL requested that the Normative Cost be decided and approved by the Commission, keeping in view of the financial interest of PSPCL as well as of consumers.

9. Further, PSPCL vide memo no 6826 dated 08.11.2024, also submitted its comments on the objections by Sh. Satish Marwah.

10. The petition was taken up for further hearing on 04.12.2024. After hearing the petitioner, the Order was reserved.

11. Commission's Analysis and Decision

In response to the public notice issued against the petition filed by PSPCL, objections/suggestions from only one objector were received. Further, the public hearing was held on 23.10.2024 wherein no objector appeared. The Commission, vide Order dated 24.10.2024, inter alia, directed PSPCL to submit its reply/comments to the objections which was submitted vide memo no 6826 dated 08.11.2024. In this regard, the objections, PSPCL's reply thereto and the views of the Commission thereon are given below:

11.1 Objection No.1

The Standard cost data petition has not been filed every year by PSPCL and has been filed after a lapse of 5 years in violation of Regulation 10 of the Supply Code, 2014. As a result, the cost borne by the new consumers has been subsidized as a part of tariff order issued by the Commission. This inefficiency on the part of PSPCL needs to be dealt with strictly and action should be taken against the delinquent officials under Section 142 of the Electricity Act for wilful disobedience of the provisions of the Supply Code.

PSPCL's Reply

The last Standard Cost Data was got approved from the Commission and was circulated by PSPCL vide CC No. 23/2019 dated 28.05.2019.

In March, 2020, Covid-19 pandemic led to lockdown due to which the working of the Organisation was severely hampered. Further, due to the pandemic, the rates of the material were not realistic. Therefore, it was not prudent to consider the preparation of the Standard Cost Data. In the month of April 2023, during the Supply Code Review Panel meeting, PSPCL was directed to submit the revised Standard Cost Data. Accordingly, PSPCL had submitted the Standard Cost Data for the year 2022-23 to the Commission. However, the Commission directed that latest Standard Cost Data for the year 2023-24 be submitted. Accordingly, the Standard Cost Data for the year 2023-24 was submitted by PSPCL in June 2024. As per the directions of the Commission, the same was submitted vide Petition No. 40 of 2024 in the month of September, 2024. It is further submitted

that preparation of Standard Cost Data is a lengthy and time-consuming process. In view of the difficulty being faced for the annual preparation of the Standard Cost Data, the Commission has increased the timeline to three years in the Supply Code, 2024.

Views of the Commission

PSPCL has defaulted in submitting the cost data for approval in accordance with Regulation 10 of the Supply Code, 2014. Taking a serious view, the Commission in the Supply Code Review panel meeting held in April, 2023 directed PSPCL to immediately submit the cost data for approval. However, keeping in view the difficulties being faced by the licensee(s) to carry out this detailed exercise every year and also to bring clarity to the consumers regarding their liability in order to avail of an electricity connection or extension in load/demand, Regulation 36 of the Supply Code, 2024 now specifies a period of 3 years for revision of cost data with an annual increase, as may be decided by the Commission while approving the cost data, to take care of increase in the cost of material and labour. PSPCL is further directed to submit a petition for the next revision/approval of the cost data before 15th September, 2027 failing which, in addition to penal action against the licensee, suo-moto proceedings shall be initiated to approve the cost data as per record/data available with the Commission.

11.2 Objection No.2

The excess amount passed due to under recovery of service connection charges as capital cost in tariff order needs to be deducted and should not be allowed as part of capital cost by

PSERC and action be taken against the delinquent officials for failure to comply with the provisions of the Supply Code.

PSPCL's Reply

This objection does not pertain to the present petition.

Views of the Commission

The issue does not relate to this petition.

11.3 Objection No.3

The petition filed by PSPCL does not take into consideration the material rate list issued on 24.04.2024.

PSPCL's Reply

Standard Cost Data has been prepared for the FY 2023-24 based on the material list issued.

However, rate list issued vide memo no. 3734/39 dated 24.04.2024 pertains to the FY 2024-25.

Views of the Commission

The latest store rates issued by PSPCL vide memo dated 24.04.2024 for FY 2024-25 has been considered while approving the cost data for the relevant works.

11.4 Objection No.4

The Standard cost data does not take into consideration the cost recoverable in case of composite line having 100 sq mm ACSR conductor and 150/300 sq mm HT XLPE Cable installed on the same 11 m poles.

PSPCL's Reply

The Standard Cost Data for the composite line having 100 sq mm ACSR and 150/300 sq mm HT XLPE cable has not been prepared as the same will not be practically feasible.

Composite line means there are two no. ckts. running parallel on the same poles and a consumer will be provided supply either from ckt.-1 (ACSR) or from ckt.-2 (XLPE Cable) and therefore per kVA cost will be recovered accordingly.

Views of the Commission

An applicant is liable to pay full cost of service line and proportionate cost of the common portion of the line including breaker/bay. The cost of a service line is recovered on actual basis. The proportionate cost of the common portion for 11/66/132/220 kV has been determined on normative basis by taking the weighted average of lines with ACSR conductor, XLPE cables, HTLS conductor etc. in the distribution/sub-transmission system of PSPCL.

11.5 Objection No.5

When the maximum load on 11 kV feeder is allowed as 4000 kVA, then why in the calculation of per kVA cost of VCB, 5000 kVA capacity is taken. If line can take a load of 4000 kVA then capacity of the line as a limiting factor should be taken instead of VCB capacity of 5000 kVA. So the per kVA cost has been calculated incorrectly and needs rectification.

PSPCL's Reply

VCB capacity of 5000 kVA has been taken into account while calculating the per kVA cost of VCB, which has already been approved by the Commission in the Standard Cost Data approved for the year 2019-20 on 24.05.2019 as the maximum load on the 11 kV feeder is restricted to 4839 kVA, as per the standard instructions issued, which is almost at par with the VCB capacity of 5000 kVA.

Views of the Commission

As per Regulation 5(2) of the Supply Code, 2024, the specified voltage for release of demand up to 5000 kVA is 11 kV so the proportionate cost of the breaker to be recovered from the applicant/consumer has also been taken as 5000 kVA.

11.6 Objection No.6

When the maximum load on an 11 kV feeder is allowed as 8573 kVA using XLPE 300 sq mm HT cable, then why in calculation of per kVA cost of VCB, 5000 kVA capacity is taken. If line can take a load of 8573 kVA then the capacity of the line as a maximum factor should be taken instead of the VCB capacity of 5000 kVA. So, the per kVA cost has been calculated incorrectly and needs rectification.

PSPCL's Reply

The maximum load carrying capacity of 300 sq mm HT XLPE cable has been taken as 8573 kVA but, as the capacity of the VCB is 5000 kVA, hence a maximum factor of 5000 kVA has been taken while calculating the per kVA cost of the line. The revised cost data of 300 sq mm HT XLPE cable has been attached. PSPCL has proposed the maximum loading factor of the 300 sq mm HT XLPE cable as 4642 kVA, but has been approved as 8573 kVA by the Commission in the Standard Cost Data approved for the year 2019-20 on 24.05.2019.

Views of the Commission

As per Regulation 5(2) of the Supply Code, 2024, the specified voltage for release of demand up to 5000 kVA is 11

kV so the proportionate cost of the breaker to be recovered from the applicant/consumer has also been taken as 5000 kVA.

11.7 Objection No.7

When the maximum capacity of the VCB is 400 A, then the corresponding capacity of a 300 sq mm line should be taken as 7619 kVA (400/52.5 MVA) as VCB shall be a limiting factor. So, the per kVA cost has been calculated incorrectly and needs rectification.

PSPCL's Reply

As mentioned earlier, though the maximum load carrying capacity of 300 sq mm HT XLPE cable is 8573 kVA, yet the capacity of VCB is 5000 kVA. Therefore, the maximum factor of 5000 kVA has been taken while calculating the per kVA cost of the line of 300 sq mm HT XLPE cable.

Views of the Commission

As per Regulation 5(2) of the Supply Code, 2024, the specified voltage for release of demand up to 5000 kVA is 11 kV so the proportionate cost of the breaker to be recovered from the applicant/consumer has also been taken as 5000 kVA.

11.8 Objection No.8

PSPCL has allowed loading of EHT lines upto 110% but in the calculation of the Standard Cost Data, 100% capacity is taken which needs to be modified.

PSPCL's Reply

The standard cost data for FY 2023-24 is prepared on the

same pattern as the previously approved cost data by the Commission.

Ideally the lines are planned/ operated for 100% loading only but the same are allowed to cater to loading of 110% in exigent/ emergent conditions which prevail only for a small transient period and as such 110% loading of line is not a regular phenomenon. As such, consideration of loading at 100% for standard cost data is justified.

Views of the Commission

No instructions/guidelines have been issued by the Commission to load the EHT line above its 100% capacity. It is for the licensee to ensure safe and secure operation of its distribution/transmission system as per the safety regulations issued by the CEA.

11.9 Objection No.9

PSPCL has been charging GST extra on cost of 220 kV and 66 kV Bay and has been recovering more cost than approved by the Commission. So the cost recoverable as per standard cost data needs to be checked with actual recovered by PSPCL in the last few connections.

PSPCL's Reply

GoI, Ministry of Finance Notification No. 08/2024 Central Tax (Rate) dated 08.10.2024, has exempted GST on incidental or ancillary services for the supply of transmission and distribution of electricity and also has regularized the payment of GST for supply of such services for the period from 01.07.2017 to 09.10.2024 on "as is where is" basis. The

instructions in this regard has been issued by PSPCL vide CC No. 39/2024 dated 22.10.2024.

Views of the Commission

The issue does not relate to this petition.

11.10 Objection No.10

There is no cost data of recoverable cost of underground 11 kV lines as PSPCL is allowing the same in urban areas as well as private colonies. Further, 50% recoverable service connection charges proposed in the new draft Supply Code shall become a bone of contention in such areas. PSPCL has not taken into consideration the installation of DWC pipes or RCC trenches etc for laying underground cables. PSPCL is following its own schedule for recovery of charges without approval of PSERC which needs to be checked and regulated.

PSPCL's Reply

There is no usual practice of laying underground cables by PSPCL. However, the same is done in some very congested urban pockets or in private colonies. In both the cases, cable is not laid for industrial consumers but for general consumers only and therein the cost per kVA is recovered as per schedule of general charges, which has already been approved by the Commission. Hence, Standard Cost Data of underground 11 kV lines has not been prepared.

Views of the Commission

The objector may refer to the reply of PSPCL.

11.11 Objection No.11

The material rate list of PSPCL contains GST amount but field offices charge separate GST amount on material, labour as well as system loading charges which needs to be regulated as consumers end up paying double GST.

PSPCL's Reply

Vide GoI, Ministry of Finance Notification No. 08/2024 Central Tax (Rate) dated 08.10.2024, GST has been exempted on the Service Connection Charges, System Loading Charges and other services which are incidental or ancillary to the supply of transmission and distribution of electricity.

Views of the Commission

The objector may refer to the reply of PSPCL.

11.12 Objection No.12

The standard cost data issued by PSPCL in calculations does not charge GST amount on labour resulting in incorrect charges and the entire standard cost data.

PSPCL's Reply

GST has been exempted on incidental or ancillary services for the supply of transmission and distribution of electricity vide Notification No. 08/2024 Central Tax (Rate) dated 08.10.2024 and instructions for the same have been circulated vide CC No. 39/2024.

Views of the Commission

The objector may refer to the reply of PSPCL.

11.13 Objection No.13

The 66 kV charges have been taken as deposit work by levying 27.5% charges whereas these are contributory works and become the property of PSPCL and should contain only 16% charges.

PSPCL's Reply

Cost Data prepared by Substation Design contain Establishment Charges @ 16%, however, a note has been given that in case work is to be carried out by PSPCL on behalf of the consumer at their specific request and such works are to be maintained by the concerned consumer and remain their property, then Department Charges @ 27.5% may be considered as per Clause 39 of ESIM.

Views of the Commission

Establishment charges @ 16% have been considered in the approved cost data.

11.14 Objection No.14

Variable cost per meter of LT needs to be recalculated as the same is based on assumption. Only cost of LT cable be taken as variable instead of total charges.

PSPCL's Reply

The cost of the LT cable is minor compared to the total estimated cost. However, if the length exceeds a certain limit, additional electrical infrastructure needs to be erected to supply power to consumers. So only the cost of the LT cable cannot be taken as the variable cost instead of the total charges.

Views of the Commission

Variable cost is recoverable only in case of an agriculture or domestic connection outside the village phirni. In all other cases, no variable charges are recoverable and only per kW/kVA charges are recoverable.

11.15 Objection No.15

For existing NOCs issued to the developers where connectivity charges have not been deposited, the existing charges as per NOC be recovered instead of the new charges as plots have been sold by developers considering cost as per the old NOC instead of the revised rates.

PSPCL's Reply

The point raised is not relevant to the current petition, which pertains specifically to Standard Cost Data. However, in this context PSPCL has submitted as under:-

PSPCL has issued NOCs to colonies as per the provisions and regulations stipulated in the Supply Code by PSERC. At present the validity of the NOC is for five years. Since Supply Code Regulations may change over time, a specific condition is included in the NOC stating that the estimated cost is tentative and this cost is subject to change based on the actual estimate sanctioned at the time of work's execution as per the applicable Regulations of the Supply Code-2014 when electrical connectivity is sought by the developer. Therefore, the developer's obligation to deposit the connectivity charges as per applicable regulations of Supply Code at the time of execution of the work is in order and no change is proposed in this regard.

Views of the Commission

The recovery of charges has to be in accordance with the provisions of the Supply Code, 2024. The objector may refer to the comments of PSPCL also.

11.16 Objection No.16

The cost data does not incorporate the cost of SCADA in sub stations, use of GIS sub stations etc which need to be incorporated.

PSPCL's Reply

Cost of SCADA Compatible 11kV VCB Panels, C&R Panels is already incorporated in the Cost Data.

Further, PSPCL had constructed only 2 no. GIS Substations (i.e. Chaura Bazaar & Golden Temple Amritsar) in the year 2015-16 & 2016-17 out of the total approx. 832 nos. 66 kV Substations. As there is very little requirement of GIS Substations, as such, Cost Data of GIS Substation is not included in the Standard Cost Data.

Views of the Commission

The objector may refer to the comments of PSPCL.

11.17 Objection No.17

PSPCL has shown that the tender rates for 66 kV cables vary as per work order. Why can't PSPCL procure cables for 66 kV as being done for 11 kV so as to reduce overall cost and dependency on a number of vendors. Further, a single bulk tender of material (based on last year quantities) shall reduce the overall cost.

PSPCL's Reply

The 66 kV underground cables are procured only on turnkey basis due to technical aspects in which cables are procured as per the work requirement and are laid by the manufacturer with a warranty period.

Views of the Commission

The objector may note the comments of PSPCL.

11.18 Objection No.18

System loading charges should be uniform as PSPCL shall not be able to calculate on collector rates.

11.19 Objection No.19

System loading charges should be uniform as based on land rates shall not be feasible as in many cases PSPCL procures Panchayat land free of cost and passing of the same to the consumers shall not be logical.

PSPCL's Reply to Obj.18 & Obj.19

The land cost varies significantly across Punjab, with areas like Mohali and Ludhiana being considerably more expensive compared to locations such as Tarntaran and Muktsar. Therefore, System Loading Charges should align with prevailing collector rates. Furthermore, the matter of acquiring Panchayat land at no cost is not relevant to the Standard Cost Data, so no comments are offered on this issue.

Views of the Commission to Obj.18 & Obj.19

The Commission has approved System Loading Charges (SLC) on per kVA basis for ease of doing business and to

bring uniformity in recovery of the SLC in the State.

11.20 Objection No.20

PSPCL should erect sub stations based on total cost of development. PSPCL takes free of cost land and later erects 66 kV back up line resulting in increased system loading charges to the developers. This should be rationalized.

PSPCL's Reply

As already mentioned in the Cost Data under the Notes that as per prevailing practice, average cost of land has been taken as Rs. 70 lakhs, whereas actual cost of land in some cases is much higher, whereas, in some cases free land is provided to PSPCL.

Views of the Commission

The Commission has approved System Loading Charges on per kVA basis for ease of doing business and to bring uniformity in recovery of the SLC in the State.

11.21 Objection No.21

The developers should be given the benefit of cost of land as per market/collector rates by PSPCL and the substation erected should be used to supply electricity to the project of the developer and not to adjoining areas.

PSPCL's Reply

PSPCL highlighted that grid substations are developed as part of an integrated electrical infrastructure in order to ensure an efficient and reliable electricity distribution network. Therefore, grid substations are planned based on the load requirements of the overall area and not for an

individual project. Furthermore, PSPCL has to bear O&M charges and planning a separate grid for each Project is not techno-commercially viable. Therefore, the grid substations being planned for a new project will also be utilized for adjoining areas for optimum utilization of electrical infrastructure.

Views of the Commission

Any electrical infrastructure developed and maintained by the distribution licensee at the expense of general consumers of the State has to be used for the welfare of the general public. Regulation 6(7) provides that

"The entire infrastructure laid for giving supply to the consumer, not withstanding that whole or a portion thereof has been paid for by the consumer, shall be the property of the distribution licensee for all intents and purposes. The distribution licensee shall maintain the infrastructure and shall have the right to use it for the supply of electricity to any other person by extending or tapping or augmenting its capacity provided that such extension or tapping or augmentation does not adversely affect the supply to the consumer(s) already connected therewith."

11.22 Objection No.22

The fixed charges recoverable for DS, NRS, SP and MS categories should be same as these include similar set of material to be installed. But cost of DS at Rs.6110/- per kVA/kW is significantly higher than Rs 2700 proposed under NRS which needs to be checked. Similarly, Rs.6990/- per

kVA for SP category is much higher and should be less than MS category.

PSPCL's Reply

As per this point, DS per kVA/KW charges are compared with NRS per kVA/KW charges, but the comparison is not based on slab-wise rates. In this comparison, DS charges of Rs.6110 per kVA/KW are taken from the slab above 50 kVA/KW and up to 100 kVA, while for NRS, per kVA/KW charges are taken from the slab above 20 kVA/KW and up to 100 kVA. For connections above 50 kVA/KW, a distribution transformer and line needs to be erected.

In the case of SP versus MS charges, the fixed charges for the SP category are Rs.6990/- per KW/kVA, while for MS, they are Rs.5060/- per KW/kVA. This difference arises because SP connections use 4/C LT cables from the transformer to the consumer premises, whereas mostly MS connections are supplied by erecting ACSR conductor lines up to the transformer, with all LT-side arrangements managed by the consumer. Additionally, ACSR conductors are less costly than 4/C LT cables, which is why the per kVA/KW cost for SP is slightly higher than for MS connections.

Views of the Commission

The Service Connection Charges as per Regulation 32(1)(i) and 33(1)(i) of the Supply Code, 2024 have been approved in the Cost Data keeping in view cost to serve, nature of the load and capacity of the distribution network utilized to cater to the quantum of load/demand.

11.23 Objection No.23

The transformer loading is taken as 80% for DS/NRS category but taken as 100% for industrial connections which needs to be rationalized in order to reduce per kVA charges.

PSPCL's Reply

For industries, the sanctioned load is a fixed load. However, for Domestic Supply (DS) and Non-Residential Supply (NRS) connections, the load depends on weather conditions. Additionally, these consumers may operate unregulated loads, making it unreasonable to compare them directly with industrial consumers.

Views of the Commission

The issue does not relate to the present petition.

11.24 Objection No.24:

Labour at 5300% premium is not available and consumers have to shell out extra expenditure directly to contractors of PSPCL, labour rate be revised so that contractors work.

PSPCL's Reply

When preparing any estimate, labor is calculated at a 5300% premium. However, the labor cost deposit from the consumer is based on the actual premium finalized at the time of the tender. For example, if the tender is at a 3250% premium, the consumer will only pay the labor cost at the 3250% premium, not at the 5300% premium.

Moreover, as per clause no 18.2 of Supply Code, 2024 consumer has the option to get the work carried out through an 'A' class contractor as per the estimate and layout

approved by the licensee. The applicant/consumer shall submit its option at the time of compliance of demand notice. In such cases, Service Connection Charges or Security (works), except proportionate cost of the common portion of line, shall not be recoverable from the applicant.

Views of the Commission

Regulation 18.2 of the Supply Code, 2024 provides option to the consumer to get work executed at its level. However, the Commission observes that the premium of 5300% on labour rates was last revised in April, 2010 and thereafter PSPCL made no efforts to review and revise the rates/premium. PSPCL is directed to review the labour rates and the premium within three months of the issue of this order.

11.25 Objection No.25:

The material procured by PSPCL is at higher prices as compared to neighbouring states which needs to be checked. A special committee be formed to check the aspects such as quality, specifications etc and to check difference in prices if they are resultant of cartelization of vendors.

PSPCL's Reply

While finalizing any tender enquiry, L-1 rates received after Reverse Auction/Negotiation are compared/checked with rates received in previous TE of PSPCL as well as rates of other utilities i.e. PSTCL etc. having same/similar specification, which is then further finalized by the committee already formed for TS Organization i.e. PPC/TS. Further, if

rates are found to be un-reasonable then the tender enquiries are dropped without any procurements.

Views of the Commission

The matter does not relate to the present petition.

11.26 Objection No.26:

PSPCL takes extra charges such as protection and testing charges from 11 kV independent consumers at the time of commissioning which are not part of standard cost data and recovery of the same needs to be regulated.

PSPCL's Reply

PSPCL does not take any charges for protection and testing from 11 kV independent consumers.

Views of the Commission

The objector may refer to the reply of PSPCL.

11.27 Objection No.27:

For 66 kV industrial connections, PSPCL and PSTCL deposit survey charges which are not part of standard cost data and these need to be incorporated along with adjustment of such charges when work is undertaken.

PSPCL's Reply

The survey charges are already included in the "other charges" in column no. 7 of Annexure-A of the Standard Cost Data.

The cost data formulated by PSTCL includes the survey charges for the line also. PSTCL only deals with the 132 kV

and above system and for the same, the survey charges are a part of the standard cost data.

Views of the Commission

The objector may refer to the reply of PSPCL.

11.28 Objection No.28:

In turnkey projects such as installation of 66 kV cable, if the tender of PSPCL comes at a lower price then the amount should be refunded to the consumer which is not done and saving of reduced allotment of tender amount is kept by PSPCL.

PSPCL's Reply

The estimate for 66 kV transmission turnkey projects is prepared on the basis of cost data rates. However, tendering process for procurement of material/execution of transmission work is carried out later after deposit of requisite estimated amount by the consumer. Upon completion of work, actual cost incurred based on tendered PO cum WO amount is booked to this estimate. The excess amount i.e. difference of amount deposited based on estimate and actual booked amount is refunded back to the consumer by respective accounting Units of TS.

Views of the Commission

Regulation 34(6) of the Supply Code, 2024 provides that in the event of Security (works) being in excess of the recoverable amount, the excess amount shall be determined by the distribution licensee within sixty (60) days from the date of release of connection and refunded by adjustment

against electricity bills of the immediately succeeding months. In case the distribution licensee fails to refund the excess amount within the stipulated time and adjust it against electricity bills of the immediately succeeding months, the distribution licensee shall be liable to pay interest on the excess amount at marginal cost of funds based lending rate (MCLR).

12. Accordingly, the submissions made and the cost data furnished by the licensee have been considered by the Commission. After undertaking a prudence check of the data submitted and the objections received, the standard cost data is determined as under.

13. Per kW/KVA service connection charges as per Regulation 32 and 33 for load/demand not exceeding 150 kW/kVA.

a) Regulation 32(1)(i) of the Supply Code, 2024 provides that the applicant requesting for a new connection for domestic, non-residential, industrial, bulk supply, Railway traction, AP high-tech and compost plants etc. with load/demand not exceeding 150 kW/kVA shall be required to pay only the per kW/kVA service connection charges irrespective of the length of service line as per the cost data approved by the Commission. Regulation 32(2) provides for recovery of per BHP/kW charges for release of AP connection. Regulation 32(3) and 32(4) provide for recovery of charges in case of the street lighting and CPPs/Co-generation plants/IPPs etc. respectively. Similar provisions have been specified for recovery of charges in

case of extension in load/demand in Regulation 33(1)(i), 33(2), 33(3) and 33(4) of the Supply Code, 2024.

PSPCL submitted the cost data vide memo dated 25.04.2024 and 20.05.2024 wherein for the LT consumers, PSPCL recommended kW/kVA charges on the basis of the data of three circles of PSPCL. The Commission vide letter dated 11.06.2024 directed PSPCL to submit supporting documents in respect of the category-wise and slab wise cost data justifying the kW/kVA charges for LT consumers. PSPCL was further directed to submit actual cost of the material issued by the stores for release of connections to various categories of consumers during FY 2023-24 along with the load released during the year.

PSPCL in the present petition submitted that it is not possible to determine category-wise and load-wise expenditure incurred and the per kW/KVA charges for different load slabs have been recommended by extrapolating the cost incurred for release of connections to different categories of consumers in the three circles. PSPCL also submitted the cost of the material issued for release of GSC, industrial and AP connections along with the load released for different categories of consumers during FY 2023-24.

As approved by the Commission in the previous Cost Data of 2019, the same methodology has been adopted to determine per kW/kVA charges in this petition also. The total cost of the material issued by the stores for release of GSC connections during FY 2023-24 has been

intimated by PSPCL as Rs.116.50 crore. After adding labour charges and 16% establishment charges, the total expenditure incurred by PSPCL for release of GSC connections during FY 2023-24 comes out to be Rs.155.41 crore. PSPCL intimated that a load of 8,42,916.9 kW was released under GSC categories. On further query, PSPCL revised the load released to 12,16,064 kW by including extension in load released during the year. From the data submitted by PSPCL in the ARR, it has been observed that under DS category, 33% of the load was released in the load slab up to 2 kW, 45% for load slab from 2 to 7 kW, 20% for load slab from 7 to 50 kW and only 2% for demand exceeding 50 kW. Under NRS category, 33% of the load was released in the load slab up to 7 kW, 27% for load slab of 7 upto 20 kW, 21% for the demand of 20 upto 100 kVA and 19% above 100 kVA. The per kVA per KM charges have been determined to ensure recovery of expenditure incurred by the licensee for release of connections/demand of these category of applicants/consumers.

Variable Charges in case of domestic connection outside the Village Phirni

As per first proviso to Regulation 32(1)(i) of the Supply Code, 2024, in case of domestic connection outside the Village Phirni, if the total length of service line exceeds 500 meter then the applicant is also liable to pay variable charges for additional length of service line along with per kW/kVA service connection charges. As this provision has been inserted in the Supply Code for the first time so no field data in this regard is available. Therefore, keeping in

view the increase in the cost of material, labour and other charges over a period of time, the Commission approves the variable charges @Rs.370/- per meter beyond the length of 500 meter against Rs.571/- per meter recommended by PSPCL. These variable charges shall also be applicable for the cases covered under the second proviso to Regulation 33(1)(i) of the Supply Code, 2024.

Service Connection Charges in case of AP connections

For calculating per BHP/kW charges in case of agriculture pump set (AP supply) as per Regulation 32(2) and 33(2), PSPCL submitted the data for FY 2023-24 indicating that a load of only 4228 kW was released during the year and the material cost against release of this load was Rs.7.53 crore. Since, the load released during FY 2023-24 by PSPCL against this category is very low so it will not be prudent to determine the per kW charges for release of AP load by considering the expenditure incurred for release of AP load during FY 2023-24. Therefore, the Commission, while considering the average increase of cost of material and labour over the last few years, determines the per BHP charges for release of AP connection as Rs. 6200/- per BHP against Rs.6954/- per BHP recommended by PSPCL. In addition, as recommended by PSPCL, the Commission approves the variable charges @ Rs. 315/- per meter, in case the length of the service line exceeds 500 meter, for recovery

against additional length of service line beyond the threshold limit.

To ensure full recovery of expenditure from the consumers/applicants of various load slabs, the Commission approves the per kW/kVA service connection charges for different categories of consumers covered under Regulation 32 and 33 of Supply Code, 2024 as per Annexure-1.

b) Per kW/kVA service connection charges for demand exceeding 100 kVA but not exceeding 150 kVA

The cost data submitted by PSPCL to determine the normative charges for the captioned supply has been calculated by assuming an average length of the 11 kV line as for 5 km and equal weightages for different sizes of the conductors and cables i.e., 50 sq.mm, 80 sq.mm & 100 sq.mm ACSR conductor and 150 sq.mm & 300 sq.mm cable sizes. Further, the cost of 11 kV breaker was added to the above which was then averaged for 125 kVA load. In reply to the query raised by the Commission, PSPCL intimated that the length of 11 kV line has been taken as 5 km because of the average distance between the grids being 5 kms. PSPCL also agreed that for supplying demand upto 150 kVA, cable size of 35 sq.mm instead of 150 sq. mm would suffice. The Commission is of the view that to determine proportionate cost of the common portion of 11 kV line, the assumption of average length of line as 5 KMs is in order but it may not be logical to assign equal weightages to the ACSR conductor and the cable in this 5 km average length of the line. Keeping

in view the lower use of the cables in the 11kV supply system, the Commission decides to make the presumption of usage of 20% cables and 80% ACSR conductor in the 11 kV system of PSPCL so out of the average of 5 KMs, cable length of 1 km and 4 kms of ACSR conductor has been considered. Accordingly, after adjusting the weightages as described above, the per kVA charges to be recovered from applicants/consumers for demand exceeding 100 kVA but not exceeding 150 kVA have been determined as Rs. 1400 per kVA (Annexure-2.)

14. Cost Data for 11 kV supply:

(a) As per Regulation 32(1)(ii) of the Supply Code, 2024, an applicant for load/demand exceeding 150 kW/kVA is liable to pay the cost of service line and the proportionate cost of the common portion of the main line including bay/breaker. The distribution licensee shall get the Security (works) deposited from the applicant on the basis of the cost data approved by the Commission. As per sub-clause (a) of Regulation 32(1)(ii), an applicant with specified supply voltage of 11 kV is required to pay the cost of the individual 11 kV service line to the premises and the proportionate cost of the common portion of the 11kV line up to the nearest feeding grid sub-station including breaker. Accordingly, the cost data of 11 kV lines with ACSR conductor and XLPE cables of different sizes is approved to determine the per kVA per KM cost of providing 11 kV service line, which is one of the components of Security (works). The

second component is the recovery of proportionate cost of the common portion of the distribution main including breaker. The Commission in its interim order dated 14.11.2024 observed that while calculating the cost of the common portion of the line in case of release of 11 kV and 66 kV connections or extension in demand, different methodology is being adopted by different field offices. For ease of doing business and to prevent harassment of the applicants/consumers, the Commission sought the comments of PSPCL for determination of normative costs in the Cost data in such cases covered under sub-clause (a) & (b) of Regulation 32(1) (ii) and Regulation 33(1)(ii) of the Supply Code, 2024 as in the case of 132/220 kV connections under clause (c) of Regulation 32(1)(ii). PSPCL in its reply vide memo dated 29.11.2024, as reproduced in Para-8(vi) of the order, requested the Commission to calculate the normative cost of the common portion of the line in case of release of 11 kV and 66 kV connections/extension in demand. Accordingly, the proportionate cost of the common portion of the line recoverable from the applicants/consumers has been determined on per kVA basis.

PSPCL submitted the cost data in respect of various 11 kV lines with ACSR conductor and XPLE cables of various sizes including the 11 kV outgoing breaker. In this regard, PSPCL supplied data in respect of ACSR conductor of sizes 30 mm^2, 50 mm^2, 80 mm^2 & 100mm^2 and cable sizes of 35 mm^2, 150 mm^2 & 300 mm^2 on 9

meter & 11 meter poles. Upon a query raised by the Commission, PSPCL agreed that the transportation, T&P and contingency charges are to be taken @ 5% instead of the earlier intimated @ 6%. Accordingly, for determining the cost, the aforementioned charges @ 5% have been taken. For calculating the aforementioned cost, the latest rates available for FY 2024-25 have been taken instead of the ones used by PSPCL which were for FY 2023-24, thereby leading to a divergence in the rates of PSPCL vis-à-vis the latest determined by the Commission.

After considering the cost of the conductors, cables and the breaker and taking into account their kVA capacity, the cost per kVA per km of the above mentioned conductor/cable sizes and per kVA cost of 11 kV outgoing breaker has been determined and is appended as Annexure-3.

(b) Proportionate cost of 11 kV line on normative basis

On the basis of the per kVA per km cost of 11 kV line with different sizes of ACSR conductor and XLPE cables on 9 meter poles as determined in Annexure-3, the average per kVA cost has been arrived at by considering an average length of 11 kV line as 5 kms, as recommended by PSPCL. However, instead of taking equal weightage of conductor and cables as recommended by PSPCL, the Commission calculated the per kVA cost by assuming conductor length of 4 kms and XLPE cables of 1 km, which comes out to be Rs.1102.92. Adding per kVA cost of 11kV breaker

(Rs. 123.66), the per kVA proportionate cost of 11 kV line including breaker comes out to be Rs. 1226.58 say **Rs. 1230/- per kVA.** (Annexure-4).

(c) Normative Charges as per Regulation 9(2)(iv)

Regulation 9(2)(iv) provides that the HT/EHT consumers, requiring additional demand upto 10% of their sanctioned contract demand or 500 kVA, whichever is less, shall be liable to pay the normative charges for the additional demand, in lieu of actual expenses as per the standard cost data approved by the Commission. This amount shall include expenditure incurred by the licensee for providing supply as per Regulation 33 of this Code. This normative cost deposited shall also be treated as amount paid against proportionate cost of the common portion of the line for all intents and purposes.

The per kVA proportionate cost determined by the Commission as per sub-para (b) of para 14 above i.e Rs. 1230/kVA would also apply in this case since, as per Regulation 9(2)(iv), only the proportionate cost of the common portion of line including breaker is recoverable from the consumer.

(d) Connectivity Charges as per Regulation 12(3)

Regulation 12(3) of the Supply Code, 2024 provides that the expenditure for providing 11 kV connectivity to a colony/complex shall include cost likely to be incurred by the distribution licensee for providing the individual 11kV service line(s) to the colony/complex and proportionate cost of common portion of the distribution main including breaker from the nearest feeding grid sub-station. The

cost of service line(s) shall be calculated by the licensee on actual basis as per the distribution system approved in the plan for granting connectivity to the colony. The proportionate cost of common portion of the distribution main including breaker from nearest feeding grid sub-station shall be recoverable on per kVA basis as determined by the Commission as per Para-b above i.e Rs. 1230/kVA.

(e) Bank Guarantee to be deposited by developers as per Regulation 12(4)

Regulation 12(4) provides that a promoter shall furnish a Bank Guarantee (BG valid for the period of NOC) or amount equivalent to 35% of the sum of the estimated cost of the LD system of the colony, normative cost of providing 11 kV supply and system loading charges as approved in the Standard Cost Data by the Commission for the full estimated load.The normative cost of providing the 11 kV supply shall consists of cost of service line and proportionate cost of the common portion of line including breaker. The proportionate cost of the common portion of line including breaker shall be the same as determined in Para-b above. After adding the normative cost of service cable of 150 mm^2 size to the same, the normative cost of providing 11 kV supply for calculating BG to be recovered from the developer while issuing the NOC comes out to be **Rs. 1545/- per kVA** (Annexure-5). It is pertinent to clarify that these normative charges are only for obtaining the BG from the promoter as per Regulation 12(4). The actual

recoverable cost of providing 11 kV supply shall be as per Regulation 12(3) read with para (d) above.

15. Cost Data for 66 kV:

(a) Recovery of Security(works) from consumer/applicant as per Regulation 32 and 33 of Supply Code, 2024

(i) Per kVA per KM cost of 66 kV lines with ACSR conductor and XLPE cables

PSPCL submitted data in respect of the cost data w.r.t 66 kV SC lines on SC & DC towers with ACSR conductor of sizes 200 mm^2 (Panther) and 420 mm^2 (Zebra) for SC lines on DC towers and DC lines on DC towers and with XLPE cable of sizes 240 mm^2, 630 mm^2 & 1000 mm^2 for both single circuit and double circuits.

Upon a query raised by the Commission in respect of reduction in span length from an average of 250 meters to 240 meters and increase in number of angle towers from 30 to 35% of the total towers, PSPCL submitted that span length for 66 kV towers has been reduced as per recommendation of the CPRI due to changes in governing IS 802. Further, PSPCL submitted that as per experience gained over the years, the usage of angle towers as well as extensions of towers has increased due to various reasons like RoW issues, increase in 132/220/440 kV line crossings, increase in networks of elevated highway, flyovers, railway lines and civil construction etc. resulting in more 66 kV line crossing. Moreover,

as per the revised safety guidelines issued by the CEA in 2023, the ground clearance/vertical clearance requirements from residential buildings have been increased. Due to the aforementioned reasons the percentage of angle towers has been increased from 30 to 35% of total towers and likewise the percentage of extension has been increased from 10% to 20% of total tonnage of towers.

PSPCL further submitted that the 20% labour charge component consists of labour charges for conductor installation, stub installation, tower installation, watch and ward charges along with 1% contingency and 1% storage charges. The above charges come out to be in the range of 19-22%. Accordingly, an average of 20% has been taken for all calculations. Regarding the lower cost of laying 66 kV cables with size 630 mm^2 and 1000 mm^2 as compared to that of 240 mm^2, PSPCL submitted that the actual cost has been worked out from the work orders of the respective sizes of cables. The calculation sheet and work orders have also been submitted by the PSPCL. The Commission has accepted the explanations referred to above and has determined the cost data accordingly.

Further, Regulation 32(1)(ii)(e) of the Supply Code, 2024, provides that where double circuit towers/multi-circuit supports are used for erecting a single circuit line, the concerned consumer/applicant shall be charged the cost of a single circuit towers only. Accordingly, the per Ckt per kVA cost for SC line on

SC towers, SC line on DC towers with ACSR panther conductor and SC on DC towers for ACSR zebra conductor has been determined. Similarly, the per kVA per ckt km cost with single ckt XLPE cable of size 240 mm^2, 630 mm^2 and 1000 mm^2 have been determined.

Regarding other charges viz for cost of land under towers, PSPCL considered 5 nos. towers per km including one 220 kV tower. Upon a query, PSPCL submitted that the 220 kV tower is used for Railway and others crossings. The explanation is not convincing since such crossing in each km of the line is not possible. Thus, only 4 nos. 66kV towers have been considered for calculating the per km cost of land under these towers. Similarly, other lumpsum charges claimed under "other Charges" have been moderated keeping in view the cost escalation of such charges as against those approved in the 2019 cost data.

Accordingly, after considering the above factors, the cost per ckt. km per kVA of 66 kV transmission line with ACSR conductor and 66 kV XLPE cable has been determined and is appended as Annexure-6.

(ii) Per kVA per KM Ckt. cost of 66 kV Transmission Line with HTLS Conductor

PSPCL submitted data in respect of 66 kV lines with HTLS conductor of 150 mm^2, 200 mm^2 and 420 mm^2 size on both SC line on DC towers and DC line on DC towers. PSPCL escalated the rates allowed in the

latest work order for HTLS conductor and its erection charges by 5% on account of inflation. Further, PSPCL submitted that the HTLS conductor can be designed to carry 1.5 to 2.5 times the current of a conventional ACSR conductor of the same size. However, for convenience, HTLS conductor capacity has been considered double of its equivalent ACSR conductor.

Since the work order for supply and erection of HTLS conductor is dated May 2023, the rates have been considered without the 5% enhancement. Taking into account the capacity of HTLS conductor as two times the capacity of the line with ACSR conductor, the per circuit km per kVA cost of SC line on DC towers with 150 mm^2 (Wolf) conductor, 200 mm^2 (Panther) conductor and 420 mm^2 (Zebra) HTLS conductor have been determined by the Commission and are appended as Annexure-7.

(iii) Per kVA per KM Ckt. cost of 66 kV Transmission Line on monopoles

PSPCL submitted data in respect of 66 kV SC line on DC monopoles and DC line on DC monopoles with 200 mm^2 and 420 mm^2 ACSR conductors. The rates for the supply and erection of monopoles has also been enhanced by PSPCL by 5% of the rates of work order. Further, the cost of conductor, earth-wire, string assembly and associated accessories was not included in the scope of the work order. Accordingly, the cost of per Ckt km per kVA, SC line on DC monopoles with 200 mm^2 and 400 mm^2 ACSR

conductor has been determined by considering work order rates without enhancement for supply and erection of monopoles and adding cost of items not covered under the work order i.e., conductor, earth-wire and associated accessories and taking into account the kVA capacity of ACSR conductors and is appended as Annexure-8.

Further PSPCL submitted that in many cases, the cost data of SC line on SC towers is not determined and in practice, SC line is erected on DC towers keeping in view the RoW issues etc and accordingly recommended that for calculating the cost of SC line on SC towers in such cases, a factor of 0.9 may be approved. The Commission observed that the actual differential factor between SC line on DC towers and SC line on SC towers comes out to be 0.88. Thus in case where the cost data for SC line on SC towers is not available the same may be derived from per kVA per KM cost of SC line on DC towers as approved by the Commission by using the factor of 0.88.

(b) Proportionate cost of 66 kV line on normative basis

Regulation 32(1)(ii)(b) and 33(1)(ii) provides that in case the premises of the applicant/consumer is fed from 66 kV in-between grid substation then the applicant shall pay the full cost of the service line and proportionate cost of common portion of the 66 kV line from the in-between substation to the feeding substation. As brought out in para 14(a) above, the Commission, as requested by PSPCL, decides to determine the cost of the common portion of the line on a normative basis.

PSPCL submitted the cost data for determination of 66 kV normative charges to be recovered from the 66 kV consumers. PSPCL calculated the normative cost by taking per kVA per circuit km cost of 66 kV SC line on DC towers with panther conductor by taking 90% of the cost of SC line on DC towers whereas the cost of SC line on SC towers with panther conductor is available. PSPCL also assumed equal weightage with ACSR conductor and XLPE cables of different sizes in the cost of 66 kV lines which is not as per the actual configuration of the 66 kV transmission network in the state. PSPCL assumed an average length of 66 kV line as 5 km.

On a query, PSPCL submitted the data which shows that the 66 kV transmission network in the state consists of lines with 97.79% ACSR conductor, 1.01% with HTLS conductor, 1.02% with XLPE cables and 0.08% on monopoles. Further, the data shows that the share of XLPE cables with sizes 240 mm^2, 630 mm^2 and 1000 mm^2 out of the total XLPE cable network is 76%, 23% and 1% respectively of the total 66 kV cable network. Further, it is observed that there are 829 nos. 66 kV Grid Sub-Stations in the state catering to a total area of 50362 sq. kms of the State i.e. the average area fed from a 66 kV sub-station comes out to be 675 sq. kms. which further translates into an average radial distance between two 66 grid sub-stations of about 4.40 km. The transmission lines are constructed as per the approved route plans which are usually more than the radial distance. Accordingly, the Commission accepts the

assumption of PSPCL to consider the average length of the 66 kV line for calculating normative per kVA cost of 66 kV line as 5 km.

In view of the above, the per kVA normative cost of 66 kV lines including bay has been calculated as **Rs. 576/- per kVA** (Annexure-9).

c) Determination of Normative Charges as per Regulation 9(2)(iv)

Regulation 9(2)(iv) provides that the HT/EHT consumers, requiring additional demand upto 10% of their sanctioned contract demand or 500 kVA, whichever is less, shall be liable to pay the normative charges for the additional demand, in lieu of actual expenses as per the standard cost data approved by the Commission. This amount shall include expenditure incurred by the licensee for providing supply as per Regulation 33 of this Code. This normative cost deposited shall also be treated as amount paid against proportionate cost of the common portion of the line for all intents and purposes.

The normative per kVA cost of 66 kV line including bay as determined in sub-para (b) of para 15 above i.e **Rs. 576/- kVA** shall also be applicable in this case.

d) Recovery of expenses in case of cluster sub-station as per Regulation 25 of Supply Code, 2024

As per Regulation 25(9)(i) of the supply Code, 2024, in case the cluster sub-station is catered from an in-between substation, then the constituent consumers shall jointly pay the full cost of the service line including its bay and the proportionate cost of the common portion of the main

line including its bay. The proportionate cost of the common portion of the main line determined on a normative basis as per sub-para (b) of para 15 above i.e. **Rs.576/- per kVA** shall also be applicable in cases covered under this regulation.

Further, in case of extension in demand by a constituent consumer or a new connection by an existing constituent member as per Regulation 25(9)(ii) and 25(9)(iii) of the Supply Code, 2024, the proportionate cost of the common portion of the main line determined on a normative basis as per para (b) above shall also be applicable in these cases.

16. Cost Data for 132 kV and 220 kV supply

(a) Recovery of Security (works) from consumer/applicant in terms of Regulation 32(1)(ii) and 33(1)(ii)

PSPCL/PSTCL submitted cost data for determination of per km per kVA cost of transmission lines with panther, zebra and moose conductor with the following assumptions in respect of enhancement of rates to cover the effect of factors like non-procurement of material during previous years and variable rates etc.

FY in which item procured	Prices Firm/Variable	Enhancement of Rates
Purchase during FY 2022-23	Firm	10%
Purchased during FY 2023-24	Variable	10%
Purchased earlier	Either firm or	20%

than 2022-23	variable	
Purchased during FY 2023-24	Firm	0%
Purchase during FY 2022-23	variable	20%

However, the Commission decides to allow enhancement of 10% for rates of items purchased during or before FY 2022-23.

While calculating the cost of per km per kVA of 132 kV SC line on SC towers with panther conductor, it is observed that PSTCL has considered the same quantity of material like cement, sand, crusher and steel while calculating the cost for concrete for 132 tower foundations as has been considered for 220 kV towers. The Commission has approved the cost by considering the quantities as was allowed in the 2019 cost data for a 132 kV tower foundation.

Further, the Railway Crossing Charges and Compensation for private tree cutting shall be recoverable from the applicant/consumer, if actually payable.

Accordingly, the per km per MVA cost of 132 kV SC line on SC towers with panther conductor and 220 kV SC lines on DC towers with zebra and moose conductors have been determined by the Commission and are at Annexure-10.

To determine the per MVA per ckt. km cost of 220kV SC line on SC towers, a factor of 0.88 shall be used.

(b) Recovery of proportionate cost of common portion of line including bay(s) on normative basis as per Regulation 32(1)(ii)(c) and 33(1)(ii)

Regulations 32(1)(ii)(c) and 33(1)(ii) of the Supply Code, 2024 provide that a 132 kV/220 kV applicant/ consumer, in addition to the cost of service line including its bay, shall be liable to pay the proportionate cost of the common portion of the transmission line including its bay(s) on a normative basis. PSPCL/PSTCL has not submitted any data/calculations for determination of the normative cost for a 132/220 kV line to be recoverable from the applicants/consumers. The Commission, in the Cost data approved in 2019, calculated the normative cost by considering an average length of 9 kms for the 132 kV line and 12 kms for the 220 kV line.

As per Regulation 5(2)(vi) of the Supply Code, 2024, the demand exceeding 50 MVA may be released at 132/220/400 kV as per the availability of voltage at the nearest feeding sub-station. Thus in view of the provisions of Supply Code, 2024, the normative cost has been determined.

As per the statistical data of PSTCL, there are 168 nos. 132/220 kV Grid Sub-Stations in the state catering to a total area of 50362 sq. kms i.e. the average area fed from each 132/220 kV sub-station comes out to be 299.77 sq. kms. which further translates into an average radial distance between two 132 and 220 kV sub-stations as 9.77 kms. So an average distance of 10 kms has been considered for calculating the per kVA

normative cost to be recovered for the common portion of the 132 and 220 kV transmission line including bay(s).

Further, upon a query raised by the Commission regarding the current carrying capacities of different conductors, the details were furnished by PSPCL and PSTCL. It has been submitted by PSPCL vide memo no.7031 dated 29.11.2024 that the current carrying capacities of various conductors used in PSPCL as well as PSTCL are as per the current carrying capacities chart for transmission line conductor circulated vide memo no.2313 and 2738/PNT-204/T dated 17.09.1995 and that the calculations intimated earlier by PSTCL may be ignored. Accordingly, the normative per MVA cost of 132 kV and 220 kV lines including bays have been calculated by considering the capacities as mentioned in the memo dated 17.09.1995. The per MVA proportionate cost of the common portions of 132 and 220 kV lines have been determined as **Rs. 4,22,575/MVA and Rs. 4,54,980/MVA** respectively. (Annexure-11).

c) Determination of Normative Charges as per Regulation 9(2)(iv)

Regulation 9(2)(iv) provides that the HT/EHT consumers, requiring additional demand upto 10% of their sanctioned contract demand or 500 kVA, whichever is less, shall be liable to pay the normative charges for the additional demand, in lieu of actual expenses as per the standard cost data approved by the Commission. This amount shall include expenditure incurred by the

licensee for providing supply as per Regulation 33 of this Code. This normative cost deposited shall also be treated as the amount paid against the proportionate cost of the common portion of the line for all intents and purposes.

The per MVA proportionate cost determined by the Commission as per sub-para (b) of para 16 above i.e **Rs. 4,22,575/- and Rs. 4,54,980/-** in case of the 132 kV and 220 kV lines respectively would also apply in this case.

d) Recovery of expenses in case of cluster sub-station as per Regulation 25 of Supply Code, 2024

As per Regulation 25(9)(i) of the Supply Code, 2024, in case the specified voltage of cluster sub-station is 132/220/400 kV, then the recovery of charges shall be as per Regulation 32(1)(ii)(c) of the Supply Code, 2024 i.e. the constituent consumers shall jointly pay the full cost of service line including bay and proportionate normative cost of the common portion of the main line including bay. The proportionate cost of the common portion of the main line determined on normative basis as per sub-para (b) of para 16 above shall also be applicable in cases covered under this regulation.

Further, in case of extension in demand by a constituent consumer or a new connection by an existing constituent member as per Regulation 25(9)(ii) and 25(9)(iii) of the Supply Code, 2024, the proportionate cost of the common portion of the main line determined on

normative basis, as per sub-para (b) of para 16 above, shall also be applicable in these cases.

17. Cost Data for 66 kV, 132 kV and 220 Bays

As per Regulation 32(1)(ii)(b) & (c) and 33(i)(ii) of the Supply Code, 2024, the HT/EHT consumers/applicants are required to pay the proportionate cost of the common portion of a transmission line including bay(s). Accordingly, PSPCL/PSTCL submitted cost data for 66 kV, 132 kV and 220 kV Bays. The cost of yard lighting and fire extinguishers in case of 66 kV bay has not been considered, as these were covered in the cost data of the grid sub-station. Similarly, in the cost data for the 132 kV and 220 kV bays, the cost of PTs has not been considered as PT's are common for the main bus-bar. The cost of PLCC equipment in case of 132/220 kV bays shall be recoverable from the applicant/consumer if actually provided on the service line feeding the premises of the applicant. Accordingly, per MVA cost for 66 kV, 132 kV and 220 kV bays has been determined and is attached as Annexure-12.

18. 66 kV sub-stations and System Loading Charges

As per Regulation 12 of the Supply Code, 2024, the developer/promoter of a colony/complex is liable to pay system loading charges as approved by the Commission. PSPCL submitted the cost data of 66 kV sub-stations with 12.5 MVA, 20 MVA and 31.5 MVA power transformers for determining the per kVA cost of a 66 kV grid sub-station. However, the cost data of a 66 kV sub-station with 12.5 MVA power transformer has not been determined as PSPCL has not procured any 12.5 MVA transformer since 2013.

Accordingly, the average per kVA cost of a 66 kV grid sub-station with 20 MVA and 31.5 MVA power transformer has been determined. After adding per kVA normative cost of 66 kV line as determined in para 15(b) above, the system loading charges have been determined as **Rs. 3370/- per kVA**.(Annexure-13)

19. Annual Rate of Increase to be applied on the Cost Data

The Regulation 36(3) of the Supply Code, 2024 specifies as under:

The rates approved by the Commission in the standard cost data under sub-regulation (2) of this regulation shall continue to be in force till these are amended or modified by the Commission either on the request of the licensee or suo-motu.

Provided that the fixed kW/kVA charges or KM-kVA charges as proportionate cost on normative basis shall be increased annually as may be decided by the Commission while approving the Cost data to neutralize cost escalation.

Further, the Regulation 12(4) ibid specifies as under:

…… The BG as per this regulation shall be extended for each block of 3 years by increasing the base value as approved by the Commission in the Standard Cost Data to take care of increase in the cost of material & labour till completion of the LD system as per approved lay out plan and deposit of all charges including System Loading Charges for total estimated load of the colony/complex…..

The Regulation 13(1)(iii) ibid specifies as under:

The Applicant shall furnish a bank guarantee valid for the

period of NoC or amount equivalent to 35% of the estimated cost as specified in Regulation 12(4) of this Code and shall be extended for each block of 3 years by increasing the base value as approved by the Commission in the Standard Cost Data to take care of increase in the cost of material & labour till completion of the LD system and deposit of all remaining charges including system loading charges for the total sanctioned demand.

Further, the Regulation 15(1)(iv) ibid specifies as under:

The promoter shall furnish a bank guarantee valid for the period of NoC equivalent to 35% of the estimated cost as specified in Regulation 12(4) of this Code and shall be extended for each block of 3 years by increasing the base value as approved by the Commission in the Standard Cost Data to take care of increase in the cost of material & labour till completion of the LD system and deposit of all remaining charges including system loading charges for the total sanctioned demand.

In view of the above provisions, the Commission has perused and calculated the increase in the rates of various components during the period from May, 2019 and the rates now approved in this cost data. Accordingly, the Commission approves the annual compounded rate of increase as 6% w.e.f. 01.01.2025 the first increase being applicable w.e.f. 01.01.2026 on the standard cost data being approved by the Commission vide this order.

20. Implementation

The above mentioned Standard cost data approved by the Commission shall be applicable w.e.f. 01.01.2025. These

rates shall be applicable for all the applications received for release of new load/demand including extension in load/demand received on or after 01.01.2025. These rates shall also be applicable in case of colonies/complexes developed under the by-laws of the State Government from the date as specified in the relevant regulations of the Supply Code, 2024.

These rates along with annual increase, as approved in this cost data, shall remain in force up to 31.12.2027. The distribution licensee shall file a petition for the revision of the cost data on or before 15.09.2027 failing which action under Section 142 of the Act may be initiated by the Commission. In such a case, the Commission may initiate suo-moto proceedings to revise the cost data as per the data available with the Commission. Further, the Standard Cost data approved by the Commission vide interim order dated 14.11.2024 is hereby superseded. Any consequential refund or recovery, as the case may be, based on this order, arising due to the charges recovered as per the interim order dated 14.11.2024 be effected within a month of this order.

In view of the above, the Standard Cost Data as per the provisions of Regulation 36 of the Supply Code, 2024 is approved and is annexed with this order.

The petition is disposed of accordingly.

Sd/-	Sd/-
(Paramjeet Singh)	**(Viswajeet Khanna)**
Member	**Chairperson**

Chandigarh
Dated: 31.12.2024