BEFORE THE ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION
HYDERABAD

FILING NO._____/2018
CASE NO. _____/2018

In the matter of:

Petition for Determination of Tariff for intra-State transmission lines of APTRANSCO for the year FY 2018-19 to include the same in the PoC Mechanism.

PETITION FILED UNDER SECTION 62 OF EA 2003 AND AS PER REGULATION 5 OF 2005 ISSUED BY APERC

In the matter of:

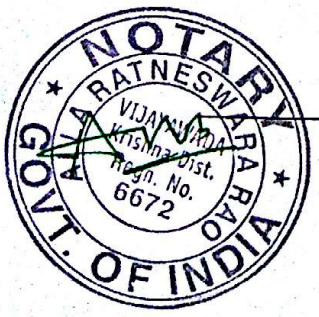
TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED

... Applicant

AFFIDAVIT OF APPLICANT VERIFYING THE APPLICATION ACCOMPANYING FILING OF AGGREGATE REVENUE REQUIREMENTS

I, Sri. CH.V.S.Subba Rao, S/o Sesha Sai, 56 years, officiating as Executive Director/HRD & Planning (holding Full Additional Charge), APTRANSCO, Vidyut Soudha, Gunadala, Vijayawada – 520008 do solemnly affirm and say as follows:

1. I am the Executive Director/HRD & Planning (FAC), APTRANSCO, the licensee company operating and controlling the Transmission Business & SLDC Activity of electricity in Andhra Pradesh pursuant to the license granted by the Hon'ble Commission. I am competent and duly authorized by APTRANSCO to affirm, swear, execute and file this affidavit in the present proceedings.



2. I have read and understood the contents of the accompanying petition for determination of tariff for newly identified Intra-State Lines of APTRANSCO for FY 2018-19. The statements made in the paragraphs of the accompanying application now shown to me are true to my knowledge derived from the official records made available to me and are based on information and advice received which I believe to be true and correct.

DEPONENT
EXECUTIVE DIRECTOR
HRD & Planning
APTRANSCO, Vidyut Soudha,
Gunadala, VIJAYAWADA-520 004.

VERIFICATION:

I, the above named Deponent solemnly affirm on this _____day of June 2018 that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.

DEPONENT

EXECUTIVE DIRECTOR
HRD & Planning
APTRANSCO, Vidyut Soudha,
Gunadala, VIJAYAWADA-520 004.

NOTARY GOVT. OF INDIA
ALLA RATNESWARA RAO
VIJAYAWADA Krishna Dist.
Regn. No. 6572
NOTARIAL

14/06/2018
Alla Ratneswara Rao
B.Com., LL.B
ADVOCATE - NOTARY
Appointed by Central Govt.
VIJAYAWADA, Krishna Dt. A.P.

BEFORE THE ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION
HYDERABAD

FILING NO._____/2018
CASE NO. _____/2018

In the matter of:

1. Petition for determination of tariff for intra-State transmission lines of APTRANSCO carrying inter-state power with other states for the year FY 2018-19 to include the same in the PoC Mechanism.

PETITION FILED UNDER SECTION 62 OF EA 2003 AND AS PER REGULATION 5 OF 2005 ISSUED BY APERC

In the matter of:

TRANSMISSION CORPORATION OF ANDHRA PRADESH LIMITED

... Applicant

The Applicant respectfully submits as under: -

2. Pursuant to the applicable provisions of the Andhra Pradesh Electricity Reform Act, 1998, the Government of Andhra Pradesh undertook the reforms and restructuring of the erstwhile Andhra Pradesh State Electricity Board ('APSEB'). APTRANSCO was formed as a successor entity of the erstwhile APSEB through the First statutory transfer scheme notified in the official gazette on February 1, 1999 to manage the Transmission and Distribution business of erstwhile APSEB. Subsequently, the State Government notified the Second Transfer Scheme on March 31, 2000 ('the Second Transfer Scheme') wherein APTRANSCO retained the Transmission, SLDC and Bulk Supply business of the state with itself, while transferring the Distribution and Retail supply of the state to the four Distribution Companies formed. Pursuant to obtaining independent licensees by the DISCOMs in December 2000, APTRANSCO has relinquished its Distribution & Retail Supply License. Subsequently on June 7, 2005, the State Government notified the Third

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Transfer Scheme in its official gazette wherein the Bulk Supply business and undertaking of APTRANSCO is vested to the DISCOMs with effect from June 9, 2005. As a result, APTRANSCO is presently carrying out solely the Transmission business as the State Transmission Utility (STU) in the State.

3. The National Electricity Policy (NEP) issued by the Government of India, mandates transmission prices to be the distance and direction sensitive and must capture the utilization of the network by each network user. In line with the said mandate the Central Electricity Regulatory Commission (CERC), has issued Sharing of Interstate Transmission Charges and Losses, 2010 and it came into force with effect from 01.7.2011. Three amendments to the said Sharing Regulations were notified on 25.11.2011, 29.03.2012 and 01.05.2015.

4. The erstwhile Andhra Pradesh state is reorganized into the Andhra Pradesh state and Telangana state on 2nd June, 2014.As per A.P. Reorganization Act and by the effect of the bifurcation of erstwhile Andhra Pradesh, it is resulted in to number of Inter-State lines between the divided Andhra Pradesh and Telangana state. This has resulted in 38 lines that are partly/wholly owned by AP (As per section 2(36) (i) of the Act). Further there were 4 lines connecting with Tamilnadu, Karnataka and Pondicherry. Since, the transmission lines are inter-state in nature of connecting two states, APTRANSCO has filed petition before CERC for determination of tariff of the 42 transmission lines so that, the assets can be included in the PoC Mechanism.

5. There are a number of transmission lines which are intra-state, but are incidental to the power flow of Inter-state power. As per the CERC sharing regulations, these intra-state transmission lines also can be included in the PoC Mechanism subject to if individual YTC for lines are available.

6. The Hon'ble APERC has issued Multi-year Tariff Order on 9th May 2014 for the Control period FY 2014-15 to FY 2018-19. The DISCOMs under APTRANSCO i.e. APSPDCL and APEPDCL has a total energy share of 46.11% in-line with G.O.MS. No. 20 of Government of Andhra Pradesh dated 08.05.2014 (G.O of Erstwhile Andhra Pradesh). The ARR of

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divided APTRANSCO is considered as 46.11% of the overall ARR of the state in line with the ratio of energy consumption of the two DISCOMs. The overall ARR for the State of divided AP for FY 2018-19**is INR 1,451.99Crs.** (46.11% of INR 3148.98Crs.). The copy of the approved ARR is attached as **Annexure-A.**

7. The aforesaid sharing regulation as amended by the third amendment are as below "Yearly Transmission Charge (YTC) means the Annual Transmission Charges for existing lines determined by the Commission in accordance with the Terms and Conditions of Tariff Regulations or adopted in the case of tariff based competitive bidding in accordance with the Transmission License Regulations as specified by the Commission and as in force from time to time and for new lines based on benchmarked capital costs.

   i. Provided that in case of STU lines which are physically inter-State lines and whose tariff is approved by the Commission, such tariff shall be considered for computation of PoC charges

   ii. **Provided further that in case of non-ISTS lines (lines owned by STUs but being used for carrying inter-State power as certified by respective RPCs), the asset-wise tariff as approved by the respective State Commission shall be considered.** Where asset-wise tariff is not available, the tariff as computed by the Commission based on the ARR of the STUs (as approved by respective State Commissions) by adopting the methodology similar to the methodology used for ISTS transmission licensees shall be considered. The transmission charges received by the concerned STU on this account shall be adjusted in its approved Annual Revenue Requirement." The copy of the CERC Regulation 2010 is attached as **Annexure-B.**

8. SRPC has issued certification of Non-ISTS Lines carrying inter-state power with other states having more than 50% utilization during the year 2017-18vide letter No. SRPC/SE-I/2018/1723-49, dt.20.03.2018 for 36 lines. The copy of the SRPC certification is attached as **Annexure-C.**

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9. The list of Non-ISTS lines carrying ISTS power as per SRPC certification is as below.

Sl.no.	Line	Voltage Level	Configuration	Length in CKm
1	CHITOOR-SDSTPS:1	400	D/C QM	187.7
2	CHITOOR-SDSTPS:2	400	D/C QM	187.7
3	GAZUWAKA1-KALPAKKA1:1	400	D/C TM	3.39
4	GAZUWAKA1-KALPAKKA1:2	400	D/C TM	3.39
5	JAMALAMADUGU-URAVAKONDA:1	400	D/C QM	127.62
6	JAMALAMADUGU-URAVAKONDA:2	400	D/C QM	127.62
7	NUNNA2-STNPLLI1:1	400	S/C	107.98
8	NUNNA2-VEMAGIRI1:1	400	S/C	140
9	NUNNA2-VTS-IV:1	400	D/C TM	18.7
10	VEMAGIRI1-STNPLLI1:1	400	S/C	107.98
11	CHITTOOR4-CHITTOOR:1	220	D/C	17.1
12	CHITTOOR4-CHITTOOR:2	220	D/C	17.1
13	GOOTY-PG-DHONE:1	220	D/C	90.16
14	GOOTY-PG-DHONE:2	220	D/C	90.16
15	KONAPLLY-CHILALLU:1	220	D/C	59.7
16	KONAPLLY-CHILALLU:2	220	D/C	59.7
17	KONAPLLY-VTPS:1	220	D/C	6.5
18	KONAPLLY-VTPS:2	220	D/C	6.5
19	NPKUNTAPS-NPKUNTAPH1:1	220	S/C	3.1
20	NPKUNTAPS-NPKUNTAPH1:2	220	S/C	3.1
21	SOMYALLI-BELKALAGDUR:2	220	D/C	37.986
22	SOMYALLI-DHONE:2	220	D/C	42.11
23	SOMYALLI-DHONE:3	220	D/C	42.11
24	SRIAILAM-SOMYALLI:1	220	S/C	106
25	SRIAILAM-TALAPLLI:1	220	D/C	98.82
26	SRIAILAM-TALAPLLI:2	220	D/C	98.82
27	SULURETA-NLR42:1	220	S/C	85.8
28	SULURETA-NLR42:2	220	D/C	68.1
29	SULURETA-NLR42:3	220	D/C	68.1
30	TALAPLLI-VTPS:1	220	D/C	62.57
31	TALAPLLI-VTPS:2	220	D/C	62.57
32	TALAPLLI-VTPS:3	220	D/C	137.252
33	VTPS-CHILALLU:1	220	D/C	67.8
34	VTPS-CHILALLU:2	220	D/C	67.8
35	VTPS-NUNNA:1	220	S/C	17.204
36	VTPS-RENACALA:2	220	D/C	111.49

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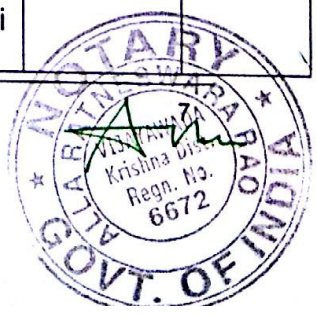
From the above 36 lines, 2 nos. lines namely NPKUNTAPS-NPKUNTAPH1:1 (Sl.No. 19) and NPKUNTAPS-NPKUNTAPH1:2 (Sl.No. 20) were not considered for calculation of YTC as these lines are under the ownership of Andhra Pradesh Solar Power Corporation Limited (APSPCL).

10. The individual capital cost/ Administrative approval cost, the actual repayment schedule and interest rates of the loans for most of the specified lines and substations are not available due to the fact that the lines are very old. However, for all the lines best estimated costs are provided by considering administrative approval costs.

Details of Lines:

Sl. No	Line Name	Voltage level	Configuration	Length in KM	D.O.C	Administrative Approval cost (Rs. Crs)	Repayment Schedule (No. of Installments)	Interest Rate (%)
1	CHITOOR-SDSTPS:1	400	D/C	187.7	17.07.2015	387.12	120	10.4
2	CHITOOR-SDSTPS:2	400	D/C	187.7	22.07.2015			
3	GAZUWAKA1-KALPAKKA1:1	400	D/C	3.39	10.12.2000	8.7	240	2.6
4	GAZUWAKA1-KALPAKKA1:2	400	D/C	3.39	27.01.2002			
5	JAMALAMADUGU-URAVAKONDA:1	400	D/C	255.244	15.07.2016	264	120	10.4
6	JAMALAMADUGU-URAVAKONDA:2	400	D/C					
7	NUNNA2-STNPLLI1:1	400	S/C	107.976	12.10.2015	55.56	120	10.4
8	NUNNA2-VEMAGIRI1:1	400	S/C	140.00	30.12.2005	45.83	240	2.6
9	NUNNA2-VTS-IV:1	400	D/C	18.7	27.07.2009	14.44	120	10.03
10	VEMAGIRI1-STNPLLI1:1	400	S/C	107.976	26.10.2015	55.56	120	10.4
11	CHITTOOR4-CHITTOOR:1	220	D/C	17.1	14.02.2006	13.90		
12	CHITTOOR4-CHITTOOR:2	220	D/C	17.1				
13	GOOTY-PG-DHONE:1	220	D/C	180.32	24.08.2011	122.72		
14	GOOTY-PG-DHONE:2	220	D/C					
15	KONAPLLY-CHILALLU:1	220	D/C	59.7	30.09.1989	29.59		
16	KONAPLLY-CHILALLU:2	220	D/C	59.7				
17	KONAPLLY-VTPS:2	220	D/C	6.5	27.04.2004	9.22	Loan Closed	
18	KONAPLLY-VTPS:1	220	D/C	6.5				
19	NPKUNTAPS-NPKUNTAPH1:1	220	S/C	3.1	29.04.2016	Pertains to AP Solar Corporation		
20	NPKUNTAPS-NPKUNTAPH1:2	220	S/C	3.1				



21	SOMYALLI-BELKALAGDUR:2	220	D/C	37.986	10.08.2011	27.19		
22	SOMYALLI-DHONE:2	220	D/C	84.22	28.07.2011	59.03		
23	SOMYALLI-DHONE:3	220	D/C					
24	SRIAILAM-SOMYALLI:1	220	S/C	106	1985	46.85		
25	SRIAILAM-TALAPLLI:1	220	D/C	197.64	1985	86.16		
26	SRIAILAM-TALAPLLI:2	220	D/C					
27	SULURETA-NLR42:1	220	S/C	85.8	26.12.2006	41.33		
28	SULURETA-NLR42:2	220	D/C	68.1	10.11.2014	50.65 (Actuals)	48 (Qrly)	10.75
29	SULURETA-NLR42:3	220	D/C	68.1				
30	TALAPLLI-VTPS:1	220	D/C	125.142	30.06.1984	55.06		
31	TALAPLLI-VTPS:2	220	D/C					
32	TALAPLLI-VTPS:3	220	D/C	137.252	17.10.2012	91.645		
33	VTPS-CHILALLU:1	220	D/C	67.8	12.03.1997	34.51		
34	VTPS-CHILALLU:2	220	D/C	67.8				
35	VTPS-NUNNA:1	220	S/C	17.204	20.01.1992	10.10		
36	VTPS-RENACALA:2	220	D/C	111.49	30.06.1984	49.21		

Assumptions:

a. As the audited capital costs are not available, administrative approval costs are submitted.

b. In case of 220 kV lines, Administrative approval costs were arrived by taking 2004, 2008, 2010 Administrative approval costs as base costs for arriving best cost estimate.

Details of Sub-Stations

Sl. No	List of Substations	Voltage Level (KV)	D.O.C	Capital cost/ Admn Approval cost (Crs)	Repayment Schedule	Interest Rate	Depreciation	No. of Bays		
								400 KV	220 KV	132 KV
1	CHITOOR	400	17.02.2006	**54.85**				04	06	-
2	SDSTPS	400	APGENCO Sub Station							
3	GAZUWAKA1	400	PGCIL Sub Station							
4	KALPAKKA1	400	27.01.2002	**68.87**				17	5	-
5	JAMALAMADUGU	400	12.12.2016	**145.88**	120	10.4		4	10	4
6	URAVAKONDA	400	15.07.2016	**104.71**	120	10.4		6	14	-
7	NUNNA (PGCIL) – 2 Nos. bays are utilized by APTRANSCO	400	30.12.2005	**7.90**	240	2.6		2	-	-
8	SATENAPALLI	400	31.03.2014	**70.35**	120	10.4		8	8	-

9	VEMAGIRI	400	11.09.2005	**42.47**	240	2.6		8	2	-
10	VTPS	400	APGENCO Sub Station							
11	NLR42	400	18.12.2005	**64.58**				02	10	
12	CHITOOR	220	21.06.1970	**14.17**						
13	GOOTY SWS	220	20.05.1991	**19.54**					11	
14	DHONE SWS	220	28.07.2011	**26.06**					06	
15	KONAPLLY	220	30.09.1989	**16.35**						
16	CHILALLU	220	12.03.1997	**17.44**						
17	VTPS	220	27.04.2004	**21.80**						
18	NPKUNTAPS	220	29.04.2016	**Pertains to AP Solar Corporation**						
19	NPKUNTAPH	220								
20	SOMAYAJULAPALLI	220	25.08.1995	**19.54**					08	
21	BELKALAGUDUR SWS	220	10.08.2011	**26.06**					03	
22	SRISAILAM	220	1985	**16.94**					03	03
23	TALAPALLI	220	01.08.1985	**16.94**					13	
24	SULURETA	220	01.05.1982	**15.26**						
25	NELLORE	220	11.12.1976	**13.40**					09	03
26	RENTACHINTALA	220	24.11.2008	**22.82 (Actuals)**					04	07

Assumptions:

a. As the audited capital costs are not available, administrative approval costs are submitted.

b. In case of 220 kV substations, Administrative approval costs were arrived by taking 2005, 2008, 2010 Administrative approval costs as base costs for arriving best cost estimate.

c. 200 KV substation consists of 2 Nos. 220 KV Bays, 4 Nos 132KV bays, 2 Nos. PTR bays, 2 HV bays and 2 LV bays.

11. There are so many gaps in the above data due to non-availability of the exact costs as some of the lines are very old and to fill those gaps, lot of data has to be assumed and these assumptions may not give the exact costs. Hence, the licensee is proposing the tariff on the basis of the Indicative cost levels available in the CERC document titled "Assumptions in Computation inPoCchargesandLossesfor2017-18 (Q4) that has been considered for the latest PoC charges computations. Copy of the Assumptions in Computation of PoC Charges and Losses for Q4 of 2017-2018 (Jan'18 – Mar'18) is attached as **Annexure-D**.

It is also to submit that, based on the above methodology APTRANSCO already filed a petition no. 40 of 2017 for determination of tariff for the 18 nos. transmission lines which are intrastate but are incidental to the power flow of interstate power for FY 2017-18 and APERC has issued an order dt. 06.01.2018 for an amount of Rs 81.01. Crs as YTC based on the same methodology proposed by APTRANSCO.

12. The overall ARR for the State of divided AP for FY 2018-19is INR 1,451.99Crs. (46.11% of INR 3148.98Crs.).

13. The overall voltage, configuration wise details of the assets of the licensee as on FY2018-19 are as below.

Voltage level	Conductor Type	Ckt Kms
400kV	D/C ACSR Quad Moose	1638.536
	D/C ACSR Twin Moose	3061.312
	S/C	595.5
220kV	D/C	6183.32
	S/C	5253.066
132kV	D/C	3813.17
	S/C	8336.028
Total		**28880.932**

14. Considering the indicative cost levels as per the Assumptions in Computation in PoC charges and Losses for 2017-18 (Q4), with 400 kV D/C quad as the base (a)

Type	Cost	Cost/Ckt	Coefficient	Ratio w.r.t. a	Cktkms	Weighted Ckt Km
(a)	(b)	(C)	(d)	(e)	(f)	(f) / (e)
400 KV D/C Quad Moose	215	107.5	a	1	1638.54	1638.54
400 KV D/C Twin Moose	167	83.5	b	1.29	3061.31	2377.86
400 KV S/C	89	89	c	1.21	595.5	493.02
220 KV D/C	51	25.5	d	4.22	6183.32	1466.74
220 KV S/C	32	32	e	3.36	5253.07	1563.70
132 KV D/C	38	19	f	5.66	3813.17	673.96
132 KV S/C	28	28	g	3.84	8336.03	2171.24
Total						10385.06

The YTC per Ckt Km for 400 kV D/C Quad Moose configuration derived from the divided Andhra Pradesh's ARR and Weighted Ckt Km is INR 13.98 Lakhs/Ckt Km. (1451.99 x100/10385.06).

The YTC per ckt km for FY 2018-19 for the different configurations are as under,

Configuration	YTC/Ckt Km	Calculations
400 KV D/C Quad Moose	13.98	13.98 / a
400 KV D/C Twin Moose	10.86	13.98/ b
400 KV S/C	11.58	13.98/ c
220 KV D/C	3.32	13.98/ d
220 KV S/C	4.16	13.98/ e
132 KV D/C	2.47	13.98/ f
132 KV S/C	3.64	13.98/ g

The YTC for the 34 Nos. intrastate lines computed on the above basis is as below. 2 nos. lines namely NPKUNTAPS-NPKUNTAPH1:1 and NPKUNTAPS-NPKUNTAPH1:2 were not considered for calculation of YTC as these lines are under the ownership of Andhra Pradesh Solar Power Corporation Limited (APSPCL).

Sl.no	Line	Configuration		Length	Lakhs /Ckt km	YTC in Lakhs
1	CHITOOR-SDSTPS:1	400	D/C QM	187.7	13.98	2624.34
2	CHITOOR-SDSTPS:2	400	D/C QM	187.7	13.98	2624.34
3	GAZUWAKA1-KALPAKKA1:1	400	D/C TM	3.39	10.86	36.82
4	GAZUWAKA1-KALPAKKA1:2	400	D/C TM	3.39	10.86	36.82
5	JAMALAMADUGU-URAVAKONDA:1	400	D/C QM	127.62	13.98	1784.33
6	JAMALAMADUGU-URAVAKONDA:2	400	D/C QM	127.62	13.98	1784.33
7	NUNNA2-STNPLLI1:1	400	S/C	107.976	11.58	1249.87
8	NUNNA2-VEMAGIRI1:1	400	S/C	140	11.58	1620.56
9	NUNNA2-VTS-IV:1	400	D/C TM	18.7	10.86	203.08
10	VEMAGIRI1-STNPLLI1:1	400	S/C	107.976	11.58	1249.87
11	CHITTOOR4-CHITTOOR:1	220	D/C	17.1	3.32	56.71
12	CHITTOOR4-CHITTOOR:2	220	D/C	17.1	3.32	56.71
13	GOOTY-PG-DHONE:1	220	D/C	90.16	3.32	299.02
14	GOOTY-PG-DHONE:2	220	D/C	90.16	3.32	299.02
15	KONAPLLY-CHILALLU:1	220	D/C	59.7	3.32	198.00
16	KONAPLLY-CHILALLU:2	220	D/C	59.7	3.32	198.00
17	KONAPLLY-VTPS:2	220	D/C	6.5	3.32	21.56

18	KONAPLLY-VTPS:1	220	D/C	6.5	3.32	21.56
19	SOMYALLI-BELKALAGDUR:2	220	D/C	37.986	3.32	125.98
20	SOMYALLI-DHONE:2	220	D/C	42.11	3.32	139.66
21	SOMYALLI-DHONE:3	220	D/C	42.11	3.32	139.66
22	SRIAILAM-SOMYALLI:1	220	S/C	106	4.16	441.17
23	SRIAILAM-TALAPLLI:1	220	D/C	98.82	3.32	327.74
24	SRIAILAM-TALAPLLI:2	220	D/C	98.82	3.32	327.74
25	SULURETA-NLR42:1	220	S/C	85.8	4.16	357.10
26	SULURETA-NLR42:2	220	D/C	68.1	3.32	225.86
27	SULURETA-NLR42:3	220	D/C	68.1	3.32	225.86
28	TALAPLLI-VTPS:1	220	D/C	62.57	3.32	207.52
29	TALAPLLI-VTPS:2	220	D/C	62.57	3.32	207.52
30	TALAPLLI-VTPS:3	220	D/C	137.252	3.32	455.20
31	VTPS-CHILALLU:1	220	D/C	67.8	3.32	224.86
32	VTPS-CHILALLU:2	220	D/C	67.8	3.32	224.86
33	VTPS-NUNNA:1	220	S/C	17.204	4.16	71.60
34	VTPS-RENACALA:2	220	D/C	111.49	3.32	369.76
Total						**18437.04**

PRAYER

In the above circumstances, the petitioner respectfully prays the Hon'ble Commission

i. to approve the annual fixed charges for the assets covered under this Petition;

ii. to determine the tariff of the Intra-State transmission lines of APTRANSCO and

iii. to pass any other order or relief as this Hon'ble Commission may deem fit and proper in the facts and circumstances of the case.

NOTARY ALLA RATNESWARA RAO VIJAYAWADA Krishna Dist. Regn. No. NOTARIAL GOVT. OF INDIA

14/06/2018
Alla Ratneswara Rao
B.Com., LL.B
ADVOCATE - NOTARY
Appointed by Central Govt.
VIJAYAWADA, Krishna Dt. A.P.

PETITIONER

EXECUTIVE DIRECTOR
HRD & Planning
APTRANSCO, Vidyut Soudha,
Gunadala, VIJAYAWADA-520 004.

Annexure – A

TRANSMISSION TARIFFS

FOR THE PERIOD FY2014-15 TO FY2018-19

ORDER

9th May, 2014

ANDHRA PRADESH

ELECTRICITY REGULATORY COMMISSION

#11-4-660, 4th & 5th Floors, Singareni Bhavan, Red Hills, Hyderabad 500 004

Phone Nos.(040)23397625/381/399 Fax No.(040)23397378/489 website www.aperc.gov.in

creation of such assets from the FY2010-11 to FY2012-13 to the extent of Rs.59.86 Cr (c) The supervision charges on the Lift Irrigation Schemes were received to the extent of Rs.122.05 Cr from FY 2010-11 to 2012-13 during the 2nd control period which were not anticipated/projected while filing the ARR for 2nd control period (d) Apart from these, all the elements of Other Income which were received in 2nd Control Period are projected/estimated in the 3rd Control Period based on the actuals.

Commission's View: While the Commission empathizes with the response made by the Licensee. It is of the considered view that despite the issues raised the non Tariff Income has been under projected given the number of irrigation works which still need to be taken up. Accordingly, the Commission partially accepts the views of the objectors and has revised upward the projected non tariff income for the 3rd Control Period.

Determination of Non tariff income:

58. As projected out above the Commission after carefully through considering the above facts and considering the views/suggestions of the objectors', has revised upwards the non tariff income projected for the third control period tune of Rs.245.46 Cr to Rs.711.27 Cr. The year wise non tariff income filed by the licensee and approved by the Commission is indicated in the below table.

Table No.6.11 - Year wise Non-tariff income filed and approved,(Rs. Cr)

Year	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Filed	43.64	67.52	36.44	62.60	35.26	245.46
Approved	128.92	135.28	141.93	148.88	156.26	711.27

Net Aggregate Revenue Requirement

59. The gross revenue requirement is the total of Depreciation cost, Return on capital employed, O&M Cost and Taxes on income & other costs less expenses capitalised. And the net Revenue requirement is the difference between the Gross revenue requirement and the non tariff income.

60. The net ARR for APTRANSCO is approved at Rs.12700.32 Cr as against Rs.17257.47 Cr filed by APTRANSCO for the entire Control Period. The details of net ARR filed and approved are given in the Table below.

Table No.6.12 - Net Aggregate Revenue Requirement,(Rs. Cr.)

Financial Year	Net ARR	
	Filing	APERC
1	2	3
2014-15	1833.73	1685.46
2015-16	2756.19	2201.37
2016-17	3751.36	2785.44
2017-18	4248.44	3043.07
2018-19	4667.75	3148.98
Total	17257.47	**12864.32**
Figures are rounded		

Annexure – B

भारत का राजपत्र
The Gazette of India

असाधारण
EXTRAORDINARY
भाग III-खण्ड 4
PART III-SECTION 4
प्राधिकार से प्रकाशित
PUBLISHED BY AUTHORITY

NO. 162 NEW DELHI, WEDNESDAY, JUNE 16, 2010

CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

No. L-1/44/2010-CERC Dated: 15th June, 2010

NOTIFICATION

In exercise of the powers conferred under Section 178 read with Part V of the Electricity Act, 2003 (36 of 2003), and all other powers enabling it in this behalf, and after previous publication, the Central Electricity Regulatory Commission hereby makes the following regulations:

CHAPTER-1

PRELIMINARY

1. Short title, extent and commencement

(1) These regulations may be called the Central Electricity Regulatory Commission

(Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010.

(2) These regulations shall apply to all Designated ISTS Customers, Inter State Transmission Licensees, NLDC, RLDC, SLDCs, and RPCs.

(3) These regulations shall come into force from [1.7.2011][1], and unless reviewed earlier or extended by the Commission, shall remain in force for a period of 5 years from the date of commencement specified above.

2. **Definitions**

(1) In these Regulations, unless the context otherwise requires:-

(a) **'Act'** means the Electricity Act, 2003 (36 of 2003);

[(b) **'Application Period'** means the period of application of the charges determined as per these regulations and shall be of 3 (three) months duration i.e. April to June, July to September, October to December, and January to March in a financial year:

Provided that in exceptional circumstances, the Commission may extend or curtail the duration of the application period for the reasons to be recorded in writing.][2];

[(c) **'Approved Injection'** means the injection in MW computed by the Implementing Agency for each Application Period on the basis of maximum injection made during the corresponding Application Periods of last three (3) years and validated by the Validation Committee for the DICs at the ex-bus of the generators or any other injection point of the DICs into the ISTS, and taking into account the generation data submitted by the DICs incorporating total injection into the grid:

Provided that the overload capability of a generating unit shall not be used for calculating the approved injection:

---

1 Came into force w.e.f. 1.7.2011 vide notification number L-1/44/2010-CERC dated 01.04.2011 in Gazette No. 70

2 Substituted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

Provided further that where long term access (LTA)[3] has been granted by the CTU, the LTA quantum, and where long term access has not been granted by the CTU, the installed capacity of the generating unit excluding the auxiliary power consumption, shall be considered for the purpose of computation of approved injection.]

(d) **'Approved Additional Medium Term Injection'** means the additional injection, as per the Medium Term Open Access approved by CTU after submission of data to NLDC by the Designated ISTS Customer over and above the Approved Injection for the Designated ISTS Customer for each representative block of months, [ ][4] at the ex-bus of the generator or any other injection point of the Designated ISTS Customer into the ISTS;

(e) **'Approved Short Term Injection'** means the injection, as per the Short Term Open Access approved by RLDC / NLDC such injection including all injections cleared on the power exchange;

[(f) **'Approved Withdrawal'** means the withdrawal in MW computed by the Implementing Agency for each application period on the basis of the actual peak met during the corresponding application periods of last three (3) years and validated by the Validation Committee for any DIC in a control area after taking into account the aggregated withdrawal from all nodes to which DIC is connected and which affect the flow in the ISTS, and the anticipated maximum demand to be met as submitted by the DIC:

Provided that the overload capability of a generating unit in which the DIC has an allocation or with which the DIC has signed an agreement, shall not be used for calculating the approved withdrawal under long term access (LTA).][5]

[(g) **'Approved Additional Medium Term Withdrawal'** means the additional withdrawal by a DIC as per the Medium Term Open Access approved by CTU after submission of data to the Implementing Agency

[3] Initially amended vide First Amendment Regulations, 2011 and later Substituted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

[4] Deleted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

[5] Initially amended vide First Amendment Regulations, 2011 and later Substituted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

by the concerned DIC.][6];

(h) **'Approved Short Term Withdrawl'** means withdrawl as per the Short Term Open Access approved by RLDC/NLDC and where such withdrawl includes all withdrawals cleared on the power exchange;

(i) **'Basic Network'** shall mean the power system of the country at voltage levels 132 kV and above and 110 kV where generators are connected, HVDC transmission network and all Generator and loads connected to it;

(j) **'Bulk Power Transmission Agreement (BPTA)'** means the agreements between the ISTS licensees and the Designated ISTS Customers of the ISTS under the pre-existing arrangements for ISTS development and operations;

(k) **'Deemed Inter State Transmission System (Deemed ISTS)'** means such transmission system which has regulatory approval of the Commission as being used for interstate transmission of power and qualified as ISTS for the purpose of these Regulations unless otherwise specified;

[(l) **'Designated ISTS Customer or DIC'** means the user of any segment(s) or element(s) of the ISTS and shall include generator, State Transmission Utility, State Electricity Board or load serving entity including Bulk Consumer and any other entity or person directly connected to the ISTS and shall further include any intra-State entity who has obtained Medium Term Open Access or Long Term Access to ISTS.][7]

[Provided that where the ISTS charges were being billed to the distribution companies or any designated agency in the State for purchasing power before implementation of these regulations, the distribution companies or the designated agency, as the case may be, shall be treated as Designated ISTS Customer in that State for the purpose of preparation of Regional Transmission Account (RTA) by Regional Power Committees and for the purpose of billing and collection by the CTU:

[6] Substituted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

[7] Substituted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

Provided further that after implementation of these regulations, the States may designate any agency as Designated ISTS Customer for the above purpose.][8]

[(l-i) **'HVDC Charge'** means the transmission charges shared for use of HVDC transmission systems as provided under Regulation 11 of these regulations.][9]

m) **'Hybrid Methodology'** shall mean the hybrid of the Marginal Participation Method and the Average Participation method detailed in Chapter-3 of these regulations and in Annexure-I hereto.

n) [**'Implementing Agency (IA)'** means the agency designated by the Commission to undertake the computation of allocation of transmission charges and transmission losses at various nodes/zones for the Application Period along with other functions mandated under these regulations or as may be assigned by the Commission from time to time.][10]

o) **'Loss Allocation Factor'** of a bus measures the losses attributed to that node and shall be computed as explained in the Annexure-I of these regulations.

[(o-ii) **'Merchant Power Plant'** means a generating station or unit thereof whose tariff either for the whole capacity or for the part capacity is not determined under Section 62 or Section 63 of the Act and which sells electricity in the open market corresponding to such capacity and the term 'merchant capacity' shall be construed accordingly.][11]

p) **'Monthly Transmission Charge'** means the transmission charges (inclusive of incentives) payable for each calendar month as given in the Terms and Conditions of Tariff Regulations in force;

q) **'Node'** shall mean a sub-station or a switchyard of a generator;

---

[8] Added vide First Amendment Regulations, 2011 w.e.f. 25.11.2011

[9] Inserted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

[10] Substituted vide Second Amendment Regulations, 2012 w.e.f. 29.03.2012

[11] Inserted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

r) **'Point of Connection (PoC) Charging Method'** shall mean the methodology of computation of sharing of ISTS charges and losses amongst Designated ISTS Customers, which depends on the location of the node in the grid and is calculated in accordance with Regulation 7(1(q)) and 7(1(s)) of chapter 4 of these regulations;

s) **'Point of Connection (PoC) transmission charges'** are the nodal / zonal charges determined using the Point of Connection charging method.

t) **'Participation Factor'** of a node in any transmission line means the percentage usage of that line by a node, whether a generator node or a demand node as explained in Annexure-I of these regulations.

[(t-i) **'Reliability Support Charge'** means the Charge for reliability benefits which accrue to the DICs by virtue of operating in an integrated grid.

(t-ii) **'Reliability Support Charges Sharing Methodology'** means the mechanism for determination and sharing of Reliability Support Charges as specified in sub-clause (q) clause (1) of Regulation 7 of these Regulations and para 2.8.1.b. of Annexure-I.][12]

[[(t-iii)][13] **Target Region** means the region to which a generator proposes to sell power after obtaining Long-term Access from the CTU and for which beneficiaries in the said region have not been identified.][14]

(u) **Transmission Service Agreement** (TSA) shall mean the agreement to be entered into between the Designated ISTS Customer(s) and ISTS Licensee(s) in terms of Chapter 6;

[(u-i) **'Validation Committee'** means the committee appointed by the Commission comprising officers from the Commission, the Implementing Agency, each of the RPCs, CTU, CEA, STUs for the purpose of discharging various functions vested under these regulations, and the meetings of the

[12] Inserted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

[13] Renumbered vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

[14] Inserted vide First Amendment Regulations, 2011 w.e.f. 25.11.2011

committee shall be chaired by a nominee of the Commission.][15]

[ ][16]

(y) ['**Yearly Transmission Charge (YTC)**' means the Annual Transmission Charges for the existing and new transmission assets of the inter-State transmission licensees, deemed ISTS Licensees, owners of inter-State transmission lines connecting two States and owners of non-ISTS lines certified by Regional Power Committees for inter-State transmission of power, determined by the Appropriate Commission under Section 62 of the Act or adopted by the Appropriate Commission under Section 63 of the Act or as otherwise provided in these Regulations.][17]

[Provided that in case of non-ISTS lines, the asset-wise tariff determined by the respective State Commissions or approved by the Central Commission based on the approved Annual Revenue Requirement of STU, shall be used:

Provided further that transmission charges received by the STU under these regulations shall be adjusted in the Annual Revenue Requirement of the concerned STU approved by the respective State Commission.][18]

(2) Words and expressions used in these Regulations and not defined herein but defined in the Act or regulations made by the Commission, shall have the meanings assigned to them respectively in the Act, and regulations made by the Commission from time to time.

[15] Inserted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

[16] Sub-clauses (v), (w) and (x) of clause (1) of Regulation 2 Deleted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

[17] Initially substituted vide First Amendment Regulations, 2011 w.e.f. 25.11.2011 and later substituted by the Second Amendment Regulations, 2012 dated 29.03.2012

[18] Inserted vide Third Amendment Regulations, 2015 w.e.f. 01.05.2015

Annexure-C

FAX / POST

भारत सरकार
केन्द्रीय विद्युत प्राधिकरण
दक्षिण क्षेत्रीय विद्युत समिति
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बेंगलूर :-560 009

Government of India
Central Electricity Authority
Southern Regional Power Committee
29, Race Course Cross Road
BANGALORE - 560 009

आई एस ओ : 9001-2000
ISO: 9001-2000

Phone : 080 -2228 2516 ; FAX : 080-2225 9343; e-mail: seccommlsrpc-ka@nic.in ; web site: www.srpc.kar.nic.in

सं. दक्षेविस /अअ.1/2018/
No. SRPC/SE-I/2018/ 1723 - 49

दिनांक/ Dated: 20th March, 2018

सेवा में / To

वितरण सूची के अनुसार/As per Distribution List

Subject: - Certification of Non-ISTS Lines carrying inter-state power with other states having more than 50% utilization during the Year 2017-18–reg.

Sir,

CERC Third Amendment of Sharing of inter-State Transmission Charges and Losses Regulations 2015, Clause 2.1.3 of Annexure –I stipulates as below:

"Certification of non-ISTS lines carrying inter-State power, which were not approved by the RPCs on the date of notification of the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2009, shall be done on the basis of load flow studies. For this purpose, STU shall put up proposal to the respective RPC Secretariat for approval. RPC Secretariat, in consultation with RLDC, using WebNet Software would examine the proposal. The results of the load flow studies and participation factor indicating flow of Inter State power on these lines shall be used to compute the percentage of usage of these lines as inter State transmission. The software in the considered scenario will give percentage of usage of these lines by home State and other than home State. For testing the usage, tariff of similar ISTS line may be used. The tariff of the line will also be allocated by software to the home State and other than home State. Based on percentage usage of ISTS in base case, RPC will approve whether the particular State line is being used as ISTS or not. ...".

In compliance with the regulations, 62 non ISTS lines, given at annexure hereto, are certified, in consultation with SRLDC, as lines carrying inter-State power. The data used for the study is taken from Quarter-1 to Quarter-4 of 2017-18, which is considered for POC computation as discussed in 33rd Meeting of Commercial Sub Committee held on 31st January 2017 and approved in 31st SRPC Meeting held on 25.02.2017.

भवदीय/Yours faithfully,

(असित सिंह/ASIT SINGH)

अधीक्षण अभियन्ता(वा)/Superintending Engineer (C)

संलग्नक:यथोपरि/ Encl: as above

ANNEXURE (1/2)

Sl.No.	Line Certified by SRPC	Voltage Level (KV)	State
1	CHITOOR-SDSTPS:1	400	AP
2	CHITOOR-SDSTPS:2	400	AP
3	CHITTOOR4-CHITTOOR:1	220	AP
4	CHITTOOR4-CHITTOOR:2	220	AP
5	GAZUWAKA1-KALPAKKA1:1	400	AP
6	GAZUWAKA1-KALPAKKA1:2	400	AP
7	GOOTY-PG-DHONE:1	220	AP
8	GOOTY-PG-DHONE:2	220	AP
9	JAMALAMADUGU-URAVAKONDA:1	400	AP
10	JAMALAMADUGU-URAVAKONDA:2	400	AP
11	KONAPLLY-CHILALLU:1	220	AP
12	KONAPLLY-CHILALLU:2	220	AP
13	KONAPLLY-VTPS:1	220	AP
14	KONAPLLY-VTPS:2	220	AP
15	NPKUNTAPS-NPKUNTAPH1:1	220	AP
16	NPKUNTAPS-NPKUNTAPH1:2	220	AP
17	NUNNA2-STNPLLI1:1	400	AP
18	NUNNA2-VEMAGIRI1:1	400	AP
19	NUNNA2-VTS-IV:1	400	AP
20	SOMYALLI-BELKALAGDUR:2	220	AP
21	SOMYALLI-DHONE:2	220	AP
22	SOMYALLI-DHONE:3	220	AP
23	SRIAILAM-SOMYALLI:1	220	AP
24	SRIAILAM-TALAPLLI:1	220	AP
25	SRIAILAM-TALAPLLI:2	220	AP
26	SULURETA-NLR42:1	220	AP
27	SULURETA-NLR42:2	220	AP
28	SULURETA-NLR42:3	220	AP
29	TALAPLLI-VTPS:1	220	AP
30	TALAPLLI-VTPS:2	220	AP
31	TALAPLLI-VTPS:3	220	AP
32	VEMAGIRI1-STNPLLI1:1	400	AP
33	VTPS-CHILALLU:1	220	AP
34	VTPS-CHILALLU:2	220	AP
35	VTPS-NUNNA:1	220	AP
36	VTPS-RENACALA:2	220	AP
37	JURLA-SS-LOWERJURALA:1	220	TS
38	JURLA-SS-LOWERJURALA:2	220	TS

ANNEXURE (2/2)

Sl.No.	Line Certified by SRPC	Voltage Level (KV)	State
39	JURLA-SS-LOWERJURALA:3	220	TS
40	TANDUR2-SHANKARPALLY:1	220	TS
41	VLT220BUS-JURLA-SS:1	220	TS
42	VLT220BUS-LOWERJURALA:1	220	TS
43	CHIKKODI-BELGAUM:1	220	KA
44	CHIKKODI-BELGAUM:2	220	KA
45	KANABRGI-NARNA-KP:1	220	KA
46	KANABRGI-NARNA-KP:2	220	KA
47	MAHLGPUR-KUDACHI1:1	220	KA
48	NRD-PG-GTPRBA:1	220	KA
49	NRD-PG-GTPRBA:2	220	KA
50	RTPS-RAICHUR1:1	220	KA
51	RTPS-RAICHUR1:2	220	KA
52	ABISEK42-KAYTHAR2:1	230	TN
53	ABISEK42-SANKNRI2:1	230	TN
54	ABISEK42-UDAYATR2:1	230	TN
55	ARASUR-KARAMADAI:1	400	TN
56	ARASUR-KARAMADAI:2	400	TN
57	HOSUR2-MTRAUTO:1	230	TN
58	SPET-VINAMAN2:1	230	TN
59	UDMLPT2-MYVADY42:1	230	TN
60	UDMLPT2-MYVADY42:2	230	TN
61	PONDY42-BHAHUR2:1	230	PY
62	PONDY42-VLIYANR2:1	230	PY

Annexure – D

Annexure I

Assumptions in Computation of

PoC Charges and Losses for Q4 of 2017-2018 (Jan'18 –Mar'18)

References

i. CERC (Sharing of Inter-State Transmission Charges & Losses) Regulations 2010 dated 15th June 2010.
ii. Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) (First Amendment) Regulations, 2011 dated 24th November 2011.
iii. CERC (Sharing of inter-State Transmission Charges and Losses) (Second Amendment) Regulations, 2012 dated 28th March 2012.
iv. Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) (Third Amendment) Regulations, 2015 dated 1st April 2015.
v. Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) (Fourth Amendment) Regulations, 2015 dated 03rd July 2015.
vi. Minutes of the 4th Validation Committee Meeting of 2017-18 for the period of Jan'18-Mar'18 (Q4) dated 13th Dec, 2017.

1. Modeling of the Basic Network

A. The All India network was modeled with the help of data furnished by DICs and network data already available at RLDCs/NLDC, wherever data has not been provided by DICs. Wherever technical parameters were not furnished, standard parameters as per CEA Manual on Transmission Planning Criteria have been used.

B. All India basic network upto 110kV level is considered. As per the principal regulations, basic network means power system of the country at voltage level 132kV and above and 110kV where generators are connected, HVDC transmission network and all generators and loads connected to it.

C. Interstate generating Stations (ISGS) connected at 220kV and below voltage level are clubbed in respective control areas as per their physical location.

D. 400 kV Singrauli considered as slack bus.

2. Load Generation balance for the representative case

A. Representative Injection by DICs for Jan'18-Mar'18

The Maximum injection of DICs in the last three years during January to March period (2014-15, 2015-16 and 2016-17) has been used for arriving at the average of maximum MW injection for the corresponding period of the year 2017-18 based on following criteria:

A.1. If there is an increasing trend and / or any unit has been added during the last year, then last year average of daily maximum generation has been considered.

A.2. In other cases, including hydro generating stations where no new unit has been commissioned (and there is abnormal increase in generation due to higher inflow), average of past three years average of daily maximum generation has been considered.

A.3. For arriving at Net Generation of states, wherever states have provided their maximum generation, same has been considered and in other cases, maximum generation of states have been taken as the difference between peak met and withdrawal from ISTS based on actual metered data (for the time block corresponding to the block in which peak met occurred).

A.4. For the new generating units which are to be in commercial operation by 31st Dec, 2017, the following assumptions have been considered in respect of the loading:

1. Thermal Units which are declared commercial operation by 31st Dec, 2017: 70 % load.
2. Hydro Units which are declared commercial operation by 31st Dec, 2017: 80 % load.
3. Gas Units which are declared commercial operation by 31st Dec, 2017: 30 % load.

A.5. The forecast generation in respect of each DIC has been normalized with respect to forecast All India Peak Demand met to create base case for load generation balance.

A.6. To avoid the loop flows problem in the network, direction of power flow in HVDC BNC-Agra has been changed (towards NR) with minimum possible set point i.e.300MW.

B. Representative Withdrawal by DICs for Jan 2018 – Mar 2018

B.1 Peak demand met of DICs in the last three years during the period January to March period (2014-15, 2015-16 and 2016-17) taken from CEA website to obtain the forecasted peak demand in 2016-17. Wherever data is provided by the DICs, then that data is considered as per decisions in the Validation Committee Meeting.

B.2 Similarly All India Peak Demand Met in the last three years during the period January to March period (2014-15, 2015-16 and 2016-17) as taken from CEA website is used to project the all India forecasted peak demand for January to March period of 2017-18.

B.3 The projected peak demand for each DIC is then normalized with the projected All-India peak demand met. The normalization factor for this application period is calculated to be 0.92.

3. **Commercial Data**

- Yearly Transmission Charges (YTC) based on approved / provisionally approved / adopted tariff has been submitted by the following ISTS Licensees:

Sl. No.	Name of ISTS Licensee
1	Powergrid Corporation of India Limited
2	Powergrid Vizag Transmission Limited
3	Reliance Power Transmission Limited
4	Torrent Power Limited
5	North Eastern Transmission Company Limited
6	East North Interconnection Company Limited
7	Adani Power Limited
8	Parbati Koldam Transmission Company Limited,
9	Bhopal Dhule Transmission Company Limited
10	Jindal Power Limited
11	Aravali Power Company Ltd.
12	Powerlinks Transmission Ltd.
13	Essar Power Transmission Company Ltd.
14	Jaypee Powergrid Ltd.
15	Raichur Sholapur Transmission Company Ltd.
16	Jabalpur Transmission Company Ltd
17	Kudgi Transmissiion Ltd.
18	Purulia Kharagpur Transmission company Ltd.
19	NRSS-XXIX Transmission Ltd.
20	NRSS-XXXI (B) Transmission Limited
21	Patran Transmission Company Limited
22	RAPP Transmission Company Ltd.

23	Darbhanga Motihari Transmission Company Limited
24	Teestavalley Power Transmission Ltd
25	Maheshwaram Transmission Ltd
26	Powergrid Unchahar Transmission Ltd
27	NRSS XXXVI Transmission Limited
28	POWERGRID Kala Amb Transmission Ltd

A. The data as submitted by the ISTS Licensees was considered for computation of PoC Charges for Jan 2018 – Mar 2018. Though some of ISTS licensees have submitted the YTC data but the same have been excluded from PoC computations for Q4 of 2017-18. It is understood that the completion of successful trial operation or actual power flow through the lines of such ISTS licensees are likely to get delayed.

B. Transmission Assets likely to be commissioned by 31st Jan, 2018 as furnished by ISTS licensees have been considered in the computation of monthly transmission charges.

C. Indicative cost level of different conductor configuration was provided by CTU and is as follows:

SL. NO.		LINE TYPE	COST (RS.LAKH/KM)		TERRAIN
1.	±	500 KV HVDC	156.00		Mixed
2.	±	800 KV HVDC	335.00		Mixed
3.		765 KV D/C	413.00		Plain
4.		765 KV S/C	170.00		Plain
5.		400 KV D/C	124.00		Plain
6.		400 KV D/C Twin-HTLS	167.00		Plain
7.		400 KV D/C Quad. Moose	215.00		Plain
8.		400 KV S/C	89.00		Plain
9.		220 KV D/C	51.00		Plain
10.		220 KV S/C	32.00		Plain
11.		132 KV D/C	38.00		Plain
12.		132 KV S/C	28.00		Plain

D. The indicative cost levels provided by CTU are for only selected configurations and voltage level. Hence, for the conductor configurations which are not mentioned in the above list, following assumptions have been made:

a. The indicative cost level of 765 kV lines (Quad Bersimis) charged at 400 kV has been considered to be same as cost of one circuit of 400 kV Quad Moose D/C.
b. The indicative cost level of 400 kV Quad Bersimis D/C has been considered to be same as 400 kV Quad Moose D/C.
c. The indicative cost levels of 400 kV ACKC, ACAR, AAAC, AAAC Quad, Lapwing have been considered to be same as 400 kV Twin Moose depending on the no. of circuits.
d. 400 kV lines (Twin Moose) charged at 220 kV are charged as per the rate of 220 kV D/C lines.

E. The RPC certified assets whose charges were being shared as on 15th June 2010 have been considered for computation of PoC Charges and Losses for 2017-2018 (Q4).

Natural Inter State Transmission assets of RRVPNL(Rajasthan), J&K, GETCO(Gujarat), MSETCL(Maharashtra), OPTCL(Orissa), WBSETCL (West Bengal), HVPNL(Haryana) KSEB(Kerala), TANTRANSCO(Tamilnadu), AEGCL(Assam), UPPTCL(Uttar Pradesh), MeTCL(Meghalaya), MPPTCL(Madhya Pradesh), CSPTCL(Chhattisgarh), DTL(Delhi), KPTCL(Karnataka), HPPTCL(Himachal Pradesh) and PTCUL(Uttrakhand) whose tariff have been approved by Hon'ble CERC are also considered.

4. Computation of nodal PoC charges and losses

A. The basic network also comprised of transmission elements belonging to STUs apart from the elements belonging to ISTS licensees. However, the Monthly Transmission Charges of ISTS licensees whose tariff has been approved, RPC certified non-ISTS lines and charges of STU owned Inter-state transmission lines connecting two states whose tariff have been approved were considered for apportionment and computation of Nodal PoC Charges through Hybrid Method.

B. Certain Transmission Lines included in the basic network were partly owned by ISTS Licensee and partly by STUs. These were the cases where the existing lines originally owned by one utility have been made LILO by other utility. In cases where the line originally owned by ISTS Licensee has been made LILO by STU, the Monthly Transmission Charge for the entire line has been considered (including the section owned by STU). In cases where the line originally owned by STU has been made LILO by ISTS Licensee, the Monthly Transmission Charge for the entire line has not been considered.

C. 10% of Total YTC including HVDC assets is used for calculation of Reliability support rate/ charges.

D. Treatment of HVDC systems has been done as per the 3rd amendment to the PoC regulations.

a. 90% of HVDC bipole YTC is used for calculation of HVDC rate/ charges.

b. 90% of YTC of HVDC back-to-back assets and YTC w.r.t. 1005 MW (i.e. Capacity 2500 MW – LTA of 1495 MW) of HVDC Mundra-Mahindergarh is included in YTC of ISTS system.

c. As per provisions of Regulations, YTC w.r.t. 1495MW of HVDC Mundra-Mahindergarh is payable by APL Mundra.

E. 90% of YTC of AC assets, HVDC back-to-back assets and YTC w.r.t 1005 MW of HVDC Mundra-Mahindergarh is used for calculation of PoC rate.

F. Analytical method has been used for the computation of nodal PoC Charges & Losses.

G. The PoC rates are calculated twice – 1. For LTA/MTOA billing in Rs./MW/Month. These rates are calculated only for withdrawal entities (withdrawal rates) and for generators having LTA to target region without identified beneficiaries.

2. For STOA billing in paise/kWh. These rates are calculated for all withdrawal and Injecting entities.

5. Zoning

A. As per the regulation, separate Generation and Demand Zone have been considered for each State/Union Territory.

B. Any Inter State Generating Station (ISGS) directly connected to the 400 kV Inter-State Transmission System has been treated as a separate zone for the purpose of calculation of PoC Injection Rate.

C. Any Inter-State Generating Station (ISGS) connected at 220kV and below is included in the Generation Zone as per its physical location.

6. Computation of applicable PoC charges for Demand and Generation Zones

6.1 For LTA/MTOA Billing

A. Zonal Injection / Withdrawal PoC Rate have been computed by dividing total PoC Zonal Charges with the LTA+MTOA and LTA quantum to target region without identified beneficiaries (after taking into account MTOA quantum if any) as applicable.

B. The PoC charges of DICs other than Merchant Generators are scaled up to the extent of charges attributable to merchant generators.

6.2 For STOA purpose

A. Zonal Injection / Withdrawal PoC Rate have been computed by dividing total PoC Zonal Charges with the LTA.

B. There were some entities which had a certain injection PoC charge but no corresponding injection LTA. In such cases injection PoC charge was divided by Injection in load flow case for computing injection PoC rate.

C. In case of merchant power plants connected to 400 kV inter-State Transmission System, with zero LTA or part LTA, injection considered in the Base Case or LTA, whichever is higher, has been considered to arrive at the PoC injection rate.

D. For zones whose injection rate could not be calculated due to 'Nil' generation, lowest slab rate is applied.

6.3 Overload capability has not been considered in the reference approved injection and reference approved withdrawal.

6.4 The aggregate charges obtained by the above were less than the total monthly charges to be recovered. The Zonal PoC rates were scaled to recover the total monthly charges.

6.5 Weighted average allocation for the month of November, 2017 has been considered to work out reference approved injection and approved withdrawal for each zone.

6.6 The Long Term Access (LTA) and Medium Term Open Access (MTOA) as approved and submitted by the CTU for Jan'18-Mar'18 period has been considered for the Computation of PoC Charges and Losses.