



**PUNJAB STATE TRANSMISSION CORPORATION LIMITED**  
Regd. Office: PSEB Head Office, The Mall Patiala-147001, Punjab, India.  
**Corporate Identity Number: U40109PB2010SGC033814 (www.pstcl.org)**  
(Office of Chief Accounts Officer (Finance & Audit), ARR Section  
3<sup>rd</sup> Floor, Shakti Sadan, Patiala)  
**Fax/Ph. No.0175-2970183 Email : fa@pstcl.org**

To

PSEB Engineers' Association,  
45, Ranjit Bagh, Near Modi Mandir  
Passey Road, Patiala.

Memo No. 541 /CAO(F&A)/MYT-IIA

Dated: 07/02/2020

**Subject:** Comments on PSTCL's Petition for True up for FY 2018-19, Review of FY 2019-20 and MYT for Control Period from FY 2020-21 to FY 2022-23.

**Ref:** Your office Letter no. EA-229 dated 03.02.2020.

In response to letter under reference please find enclosed herewith the reply of the Comments raised by your Association's on subject cited petition filed by PSTCL before PSERC.

DA/As Above

of CAO (Finance & Audit),  
PSTCL, Patiala.

CC:

The Dy. Registrar, PSERC w.r.t. their office memo no. PSERC/Reg/2653 dated 04.02.2020.

DA/As Above

### Objection No 3

Sub: Comments of PSEB Engineers' Association on PSTCL ARR/ Tariff Petition for 2020-21 to 2022-23, Review of 2019-20 and True up of 2018-19.

1. Employee cost is the largest component of annual Transco ARR as under:

	2018-19: Actuals Table-15, Page 35	2019-20: Review Table-30, Page 49
Employee Cost (Rs crore)	482.73	512.78
Total ARR	1333.57	1362.70

- 1.1 A comparison of Employee expenses with respect to the CERC norms is carried out as under:

- a) As per PSTCL, the total O&M expenditure for 2019-20 is the sum total of three components, employee expenses, R&M and A&G charges (Refer Table 30, page 49).
- b) As per CERC norms, the O&M charges as admissible for the tariff period 2019-2024 are specified separately for three categories of assets, substation bays, transmission lines and transformer capacity in MVA. The O&M charges admissible as per CERC norms are worked out as under:

- i) Bays:

		(Rs. Lacs per year)
400 KV	41 No. bays @ Rs 32.15 lacs per year per bay	1318
220 KV	725 No. bays @ Rs. 22.51 lacs per year per bay	16320
132 & 66 KV	876 Nos. bays @ Rs 1608 lacs per year per bay	14086
	Total of bays	31724

- ii) Transmission Lines

400 KV	The circuit km is 1600, double ckt line equivalent to 800 Km of line length, with Rs 0.881 lac per km per year	705
220 KV	2000 Km, D/C @ 0.377 lac per Km per year	754
	3141 S/C @ 0.252 lac per Km per year	794
132 KV	3136 Km S/C @ 0.252 lac per Km per year	790

Total	3043
-------	------

iii) Sub Station capacity:

Out of 36500 MVA substation capacity, 4500 MVA may be taken at 400 KV and 32000 MVA at 220 KV. The annual charges as per norms are:

At 400 KV	= 4500 × 0.358	= 1611 Rs lacs per year
At 200 KV	= 32000 × 0.245	= 7840 Rs lacs per year
Total for substation capacity		= 9451 Rs lacs per year

Summary of O&M charges as per CERC norms:

Bays:	317.24 crore per year
Lines:	30.43 crore per year
Substation capacity:	94.51 crore per year
Total:	442 crore per year (Approx.)

The O&M charges of PSTCL calculated on the basis of CERC norms are around Rs 442 crore per annum for 2019-20 system, out of which Rs 317 crore is for bays, Rs 30 crore are for lines and 94 crores are for transformer capacity.

By contrast, the O&M figures for 2019-20 for PSTCL as per ARR petition are as under:

Employee Expense	512.78 crore
R&M and A&G	51.21 crore
Total O&M expenses	564 crore (approx.)

It is seen that the O&M expenses as per PSTCL ARR are substantially higher than the amount as per CERC norms.

The employee expenses in PSTCL would appear to be on the higher side and the following aspects need to be examined.

- Whether manpower for construction works is being charged to O&M.
- Analysis of technical and non-technical manpower, particularly keeping in view that non-technical manpower could be reduced, without affecting the technical working of the grid and transmission system.
- An analysis of vacant posts with respect to the number of sanctioned posts for different technical and non-technical categories.

**Reply of PSTCL:-**

Employee Cost includes Rs 311.90 Cr on account of terminal benefits (which the commission allows on Pay as you go basis). The O&M charges of PSTCL without Terminal liability is Rs 252.09 Cr which is less than CERC norms.

2. Analysis of Employee strength (Refer petition table T-6, Page 135)

The employee data is taken from table T-6 which gives the working strength at the beginning of the year and the sanctioned strength. The figures for 2018-19 and 2019-20 in respect of technical manpower is as under:

	Beginning of 2018-19, manpower, actual	Sanctioned strength, 2018-19	Beginning of 2019-20, manpower, actual	Sanctioned strength, 2019-20
Class I	342	443	339	442
Class II	510	1100	556	1100
Class III	1431	2324	1357	2347
Class IV	91	0	72	0

In case of non-technical manpower, the summary for 2018-19 and 2019-20 is as under:

	2018-19	2019-20
Working strength Actual	637	479
Sanctioned strength	1267	1255

2.1 PSTCL may give proposals for reducing manpower expenses while ensuring that the transmission system and grid substations are adequately manned by trained technical manpower which is the over-riding requirement for the transmission system.

2.2 In case of construction of new grid substations and lines, the technical manpower required for operation and maintenance must be sanctioned in advance of the commissioning of substation or line and posted in a time frame matching with the commissioning of substation or line.

### Reply of PSTCL:

Employee costs are not higher if we include the terminal liability and is being approved on normative basis. PSTCL is trying its best to ensure that transmission system is manned by adequate and trained staff.

3. The IEGC (CERC) stipulates in section 5.1(H) as under regarding the manpower deployment:

*"The control rooms of NLDC, RLDC, all SLDCs, power plants and substations of 132 KV and above and any other control centers of all regional entities shall be manned round the clock by qualified and adequately trained persons".*

3.1 For implementing this important provision of IEGC, PSTCL should formulate a comprehensive manpower and training program so that the manpower deployment at grid substations and lines is ensured as per IEGC and further that the existing O&M technical staff must be adequately trained.

### Reply of PSTCL:

PSTCL is conducting training program for capacity building of its staffs and executives from time to time.

4. **True up of 2018-19** (Table 9, Page 26-27, Interest charges)

The details of loan as given in page 27, table 9 are as under:

	Rs. crore
Opening loan as on 1.4.2018	4015.23
Loan received	165.99
Loan repaid	344.99
Closing balance	3836.22
Interest charged	390.98

The summary of loan servicing done by PSTCL is as under:

i) Loan repaid	Rs. 344.99 crore
ii) Interest paid	Rs. 390.98 crore
iii) Total amount	Rs. 735.97 crore
iv) Loan taken	Rs. 165.99 crore

The overall impact on an outstanding loan of Rs 4015 crore is an outflow of Rs 736 crore with an additional loan taken of Rs 166 crore.

The normal concept is that loan is taken to execute a project and with the commissioning of the project, the revenue inflows achieved from that

project are utilized to repay the loan within the prescribed time frame. PSTCL may give details of utilization of loan and the plan for its repayment including the timeframe.

- 4.1 The Commission has correctly adopted the principle of disallowing capital expenditure through loans which are not of long-term nature.

**Reply of PSTCL:**

PSTCL in its Petition has submitted the details of year wise loan taken from Banks/FIs. The same loan has been taken against the capital expenditure incurred during the year. The repayment of such loan will be made as per repayment schedule. Such repayment is primarily funded through depreciation allowed on such capitalised assets. PSTCL does not agree on the principle of disallowing capital expenditure through loans which are not of long-term nature.

**5. Forecast of ARR for MYT period 2020-21 to 2022-23**

Vide table-32, page 52, the proposed transmission loss is stated as 3% whereas in 2018-19, the actual loss as per PSTCL was 2.86%. The proposed loss of 3% is on the higher side and not in order in view of the lower actuals of previous year i.e. 2.86%. With an attainment level of 2.86%, the losses in subsequent years should show a marginally reducing trend.

Vide PSTCL energy exchange statement for 2019-20, H-1 Actual Figures, the loss data as per PSTCL is as under:

Month	Percentage transmission loss
Apr-19	2.56
May-19	1.67
Jun-19	2.88
Jul-19	2.31
Aug-19	2.10
Sep-19	1.70

The transmission loss parameter for subsequent months/ years is required to be less than 2.86 as per the above data also.

**Reply of PSTCL:**

The transmission losses of PSTCL depend on the utilization of system which is mainly done by PSPCL. PSTCL has developed the 400 KV system in 2012 which was having an ideal capacity to meet future growth. Resulting into

higher transmission losses due to some ideal system at that time. With increase in loading of this system in past years the available system has got fully loaded & as such the transmission losses have come down to the lowest level. Now to meet the projected load of 2023 of Peak Demand of 15200 MVA & Stringent N-1 criteria laid by CEA and NRLDC while allowing ATC/TTC Limit, 400 KV system is required to be added which shall rather give rise to the transmission losses marginally and as such the losses have been kept to the initial position of 3% which is much better than the average transmission losses of Northern Region which are beyond 3.5% as presented in Capital Investment Plan.

6. Capital expenditure and capitalization vide table 33, page 53, the capitalization, year-wise is shown as under:

	2020-21	2021-22	2022-23
Capitalization, Rs crore	292.86	182.40	1305.97

The salient details of assets proposed to be capitalized after the commissioning in that year may be given year-wise for 2020-21, 2021-22 and 2022-23. In particular for 2022-23, the capitalization amount of Rs 1306 crore is substantially higher which implies that higher quantum of assets would be commissioned in the year 2022-23 for which the salient details may be supplied by PSTCL.

**Reply of PSTCL:**

The Capitalisation for Control period is proposed based on Capital Investment Plan Petition submitted before Hon'ble Commission. As against this, Hon'ble Commission vide its Order dated December 3, 2019 in Petition No. 19 of 2019 has approved capital expenditure and capitalisation for Control period after due prudence check. The scheme wise details of proposed capitalised works are given in the same Order.

7. Interest and finance charges (Table 38, page 60)

The table of interest and finance charges for 3 years period is consolidated and analyzed on the basis of the 3-year tariff block as under:

- i) Opening loan balance as on 1.4.2020 Rs 3744.45 crore

ii)	Additional loan during 3-year period	Rs 1479.83 crore
iii)	Repayment of loan during 3-year period	Rs 1369.83 crore
iv)	Closing loan as on 31.3.2023	Rs 3854.45 crore
v)	Interest and finance charges	Rs 1039.13 crore

The summary of loans taken, repaid and interest paid is as under:

a)	Net loan availed in 3 years is	Rs. 110 crores
b)	Interest paid	Rs 1039.13 crore

The burden of Rs 1039 crore interest would be put in the ARR of Transco over the 3-years period and it would be recovered from the consumers through tariff.

**Reply of PSTCL:**

PSTCL submits that Interest charges are part of Annual Transmission Charges as per provisions of Tariff Regulations. Any interest charges towards the loan taken for capital works are to be capitalizes during the construction period.

**8. New works – addition, augmentation**

The following new works/ proposed works over the 3-years block are summarized as per details contained in the ARR:

- a) Page 224, Sr.No.53: Procurement of emergency restoration system (ERS) with two sets of 10 towers each.  
This work is justified for restoring any 220 KV line under breakdown due to tower failure etc.
- b) Page 226, Sr.No.54: Proposal to install nitrogen filled fire protection system for 31 Nos. 220 KV transformers at a cost of Rs 6.24 crore.  
PSTCL may give the detailed justification.
- c) Page 226, Sr.No. 55: Providing additional 500 MVA transformer, 400/220 KV at Mukatsar for Rs 17 crore,  
PSTCL may clarify the justification since there has not been any addition of generation capacity at 400 KV.
- d) Page 226, Sr.No.62 – Providing additional 500 MVA transformer, 400/ 220 KV at Makhu for Rs 17 crore  
PSTCL may justify.



- e) Page 234, Sr.No.128-130: Providing new 400 KV substation at Dhanansu, near Doraha by loop in – loop out of 400 KV Rajpura Nakodar line. Substation to have 2 × 500 MVA transformers of 400/220 KV. PSTCL may give details of 220 KV lines and substations where this power is proposed to be transmitted.
- f) Page 237, Sr.No.242 – Replacement of Disc insulators of PSTCL lines with Polymer insulators, estimated cost Rs 92 crore. PSTCL may give details and justification, whether this work is to be done only for 400 KV lines or whether 220 KV lines also would be included.
- g) Providing of new 400 KV substation at GGSSTP Ropar for Rs 33.75 crore. PSTCL may indicate the basis on which the 400 KV substation has been proposed, particularly as two out of the six units of GGSSTP Ropar have been retired.

**Reply of PSTCL:**

The details of new works were submitted before Hon'ble Commission in Capital Investment Plan Petition No. 19 of 2019. The works have been approved by the Hon'ble Commission after finding them justified in their order dated 03.12.2019. The details of Petition and order of commission is available on PSTCL Website.

9. Drawl of Power bt PSTCL from Powergrid system-newlines  
Following is summary of new lines of Powergrid supplying power to Northern region from where the power is further delivered to Punjab.
- a) HVDC line from Western rgon to Northern Region:  
HVDCChampaKuruksheetra 800kV Bipole 1307 km Hexa Lapwing conductors.
- b) 400kV Kuruksheetra-Jalandhar ckt 1 267 km Quad Moose
- c) 400 kV Kuruksheetra-Nakodar Ckt1 234 km Quad Moose
- d) 400kV Kuruksheetra Malerkotla Double Ckt 139 km twin moose
- e) 400kV Malerkotla Amritsar Double Ckt 149 km twin Moose
- f) 765Moga Bhiwani single Ckt Quad Bersimis
- g) 765 kV Moga Meerut single Ckt Quad Bersimis

9.1 PSTCL has proposed new 500MVA transformers at Muktsar, Makhu and at new grid substation Dhanansu (near Doraha)2X500 of 400/220 kV class. The funding/ cost of these transformers may at Powergrid cost.

**Reply of PSTCL:**

The Transformers which are to be installed at PSTCL grid are to be installed by State Transmission utilities only and Power grid does not bear the cost of the same. Similarly any 400 KV station, if required for intra State Transmission System, is required to be funded by STU irrespective of the fact that the same is built by STU or Power Grid. In case the same is built by Power Grid, the same shall be built on Cost plus basis.