BEFORE THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION
LUCKNOW

August 5, 2019

IN THE MATTER OF

Proceedings on Truing-up for FY 2017-18, Annual Performance Review (APR) for FY 2018-19 and Tariff for FY 2019-20 and other matters for the State Discoms (namely DVVNL, PVVNL, MVVNL, PuVVNL & KESCO)

Submissions from Council on Energy, Environment and Water

The Hon'ble UPERC initiated proceedings on Truing-up for FY 2017-18, Annual Performance Review (APR) for FY 2018-19 and Tariff for FY 2019-20 and other matters for the State Discoms (namely DVVNL, PVVNL, MVVNL, PuVVNL & KESCO) and the Petitions were admitted vide Order dated July 1, 2019. The public hearing in this regard were held on July 17, 18, 25, 26 & 31' 2019 at Kanpur, Lucknow, Agra, Noida and Varanasi respectively. The submissions in the above matter is in response to Hon'ble UPERC public notice dated July 12, 2019, the comments are most respectfully set out below.

Objectives of Multi-Year Tariff regime

The main objectives of Multi-Year Tariff regime as has been envisaged under National Tariff Policy and by CERC, FOR and various ERCs is summarised as under:

- Provide regulatory certainty to the Utilities, investors and consumers by promoting transparency, consistency and predictability of regulatory approach, thereby minimizing the perception of regulatory risk.
- Address the risk sharing mechanism between Utilities and consumers based on controllable and uncontrollable factors.
- Ensure financial viability of the sector to attract investment, ensure growth and safeguard the interest of the consumers.
- Review operational norms for Generation, Transmission, Distribution and Supply businesses, related issues and recommend suitable measures to address such issues.
- Promote operational efficiency.
- Rationalise tariffs in the long-term through improvement in operational efficiency.

The current proceedings carry utmost importance as all the three Financial year of the 1st Control Period (i.e. FY 2017-18, FY 2018-19 & FY 2019-20) are being reviewed, and it provides an opportunity to gauge the performance and level of compliance with existing MYT Tariff regulations and it also sets the tone for improvements in Draft UPERC MYT Regulations, 2020 to ensure a well-designed MYT framework is in place for the 2nd Control Period (FY 2020-21 to FY 2024-25).

A. Forecasting and Planning – Sales and Power purchase

1. Projection of Billing Determinants (Consumer Nos., Connected Load and Sales)

UPPCL / State Discoms have filed the projections for Billing determinants for the 1st Control Period (FY 2017-18 to FY 2019-20) in their Business Plan dated June 21, 2017, which were later approved by the Commission's MYT Tariff Order dated November 30, 2017. Based on the approved billing determinants, other projections like power purchase requirement, O&M expenses, CAPEX for augmentation and upgradation of distribution network were approved. In totality, the Annual Revenue Requirement (ARR) was approved for the 1st Control period.

The tables below compare the Billing determinants for the 1st control period as approved in UPERC's MYT Tariff Order dated November 30, 2017 and as submitted in the current Petition, the variation / over projection has been highlighted in bold.

Table 1: Comparison of Billing Determinant for FY 2017-18

FY 2017-18									
Discoms	Consumer Nos.			Connected Load (kW)			Sales (MU)		
	MYT Order dated Nov 30, 2017	True - Up Filing	% Increase / Decrease	MYT Order dated Nov 30, 2017	True - Up Filing	% Increase / Decrease	MYT Order dated Nov 30, 2017	True - Up Filing	% Increase / Decrease
DVVNL	42,18,858	33,02,774	**-22%**	1,05,91,193	94,00,667	**-11%**	19,195	18,736	-2%
MVVNL	53,25,660	51,76,604	-3%	96,72,631	96,18,007	-1%	18,448	17,007	-8%
PVVNL	55,81,369	51,84,786	-7%	1,82,64,811	1,69,68,085	-7%	27,413	28,437	4%
PuVVNL	53,95,431	57,45,950	6%	1,13,98,492	1,06,34,630	-7%	23,273	20,758	-11%
KESCo.	6,08,948	5,91,563	-3%	19,68,690	20,11,821	2%	3,764	3,200	**-15%**
Consolidated	**2,11,30,266**	**2,00,01,677**	**-5%**	**5,18,95,817**	**4,86,33,211**	**-6%**	**92,094**	**88,139**	**-4%**

Source: CEEW Analysis on UPERC's MYT Tariff Order and UPPCL's MYT Petition
Note: Negative percentage indicates over projection

Table 2: Comparison of Billing Determinant for FY 2018-19

FY 2018-19									
Discoms	Consumer Nos.			Connected Load (kW)			Sales (MU)		
	MYT Order dated Nov 30, 2017	APR Filing	% Increase / Decrease	MYT Order dated Nov 30, 2017	APR Filing	% Increase / Decrease	MYT Order dated Nov 30, 2017	APR Filing	% Increase / Decrease
DVVNL	63,43,419	50,72,665	-20%	1,40,01,671	1,11,03,624	-21%	24,336	19,034	-22%
MVVNL	91,02,971	70,98,383	-22%	1,28,68,127	1,16,36,252	-10%	25,224	17,502	**-31%**
PVVNL	93,67,365	59,30,580	**-37%**	2,64,18,175	1,82,83,444	**-31%**	34,998	28,141	-20%
PuVVNL	66,38,511	81,49,835	23%	1,28,38,376	1,33,68,119	4%	29,411	20,950	-29%
KESCo.	6,55,257	6,12,940	-6%	20,92,619	19,50,638	-7%	4,194	3,023	-28%
Consolidated	**3,21,07,523**	**2,68,64,403**	**-16%**	**6,82,18,969**	**5,63,42,077**	**-17%**	**1,18,163**	**88,649**	**-25%**

Source: CEEW Analysis on UPERC's MYT Tariff Order and UPPCL's MYT Petition
Note: Negative percentage indicates over projection

Table 3: Comparison of Billing Determinant for FY 2019-20

FY 2019-20									
Discoms	Consumer Nos.			Connected Load (kW)			Sales (MU)		
	MYT Order dated Nov 30, 2017	Revised ARR Filing	% Increase / Decrease	MYT Order dated Nov 30, 2017	Revised ARR Filing	% Increase / Decrease	MYT Order dated Nov 30, 2017	Revised ARR Filing	% Increase / Decrease
DVVNL	80,15,513	55,41,910	-31%	1,68,03,129	1,21,27,795	-28%	29,708	20,351	-31%
MVVNL	1,21,18,118	77,63,591	-36%	1,56,76,810	1,30,80,009	-17%	33,224	19,132	**-42%**
PVVNL	1,23,45,884	64,64,743	**-48%**	3,30,51,753	2,01,59,176	**-39%**	42,061	30,518	-27%
PuVVNL	75,72,857	89,12,241	18%	1,44,45,011	1,49,06,154	3%	35,207	22,938	-35%
KESCo.	7,05,152	6,66,018	-6%	22,25,469	21,57,934	-3%	4,671	3,290	-30%
Consolidated	**4,07,57,524**	**2,93,48,504**	**-28%**	**8,22,02,172**	**6,24,31,069**	**-24%**	**1,44,872**	**96,229**	**-34%**

Source: CEEW Analysis on UPERC's MYT Tariff Order and UPPCL's MYT Petition
Note: Negative percentage indicates over projection

It can be observed from the above tables, there has been huge variation in projections made by the Discoms for the 1st Control Period and the actuals. Discom wise over - projections are as high as 48%, whereas the consolidated (of five discoms) over projections are closer to 34%. With such variations, the basic purpose of the MYT regime seems defeated.

It is an agreed principle that projection can never have absolute accuracy, however, the closer they are, the better it is for the entire power system chain. Over projection of the Billing determinants (i.e. No. of Consumers, connected load and sales have negative impact on the following (but not limited to):

i. Power Procurement Plan and Forecasting,
ii. RPO Planning and forecasting,
iii. Distribution loss Trajectory,
iv. Capital Investment Plan for Distribution network
v. Financing Plan, and others

2. Projection of Power Purchase requirement

Based on the projected Billing determinants, the power purchase requirement for the entire control period was submitted in the Business Plan dated June 21, 2017, which was later approved by the Commission's MYT Tariff Order dated November 30, 2017.

The tables below compare the power purchase requirement for the 1st control period as approved in UPERC's MYT Tariff Order dated November 30, 2017 and as submitted in the current Petition, the variation / over projection has been highlighted in bold.

Table 4: Comparison of Power purchase requirement for 1st Control Period

Financial Year	MYT Order dated Nov 30, 2017 (MUs)	Current Filing (MUs)	% Increase / Decrease
FY 2017-18	1,20,289	1,20,301	0%
FY 2018-19	1,48,146	1,15,369	**-22%**
FY 2019-20	1,73,006	1,16,084	**-33%**

Source: CEEW Analysis on UPERC's MYT Tariff Order and UPPCL's MYT Petition
Note: Negative percentage indicates over projection

For FY 2018-19 & FY 2019-20, it can be seen that the numbers are over projected by a margin of 20 to 30%. Over projections have led to surplus tied up capacity and thereby increased fixed cost outlay for the state and ultimately the burden on consumer.

3. Possible Reasons for Over projections?

The reasons for over projections could possibly a combination of the points discussed below:

a) Approach for demand forecasting based on Electric Power Survey

A national-level exercise for long-term electricity demand estimation is carried out by Central Electricity Authority (CEA), the Electric Power Survey (EPS), published every five years by CEA, projects state-wise long-term peak demand using partial end use method, which is supplemented with econometric estimates. The Centre for Energy Regulation (CER), IIT Kanpur has analysed the projections made under EPS and observed that there is a deviation of up to 25 percent between the electricity demand projections in the EPS Report and the actual demand of electricity. This mismatch was attributed to quality of data as well as methodological shortcomings, application of a standardised approach across states which vary in terms of economic development, consumption profile, agroclimatic conditions, etc. may also explain the range of deviations in demand projections across states.

The variation in actual vs EPS projections for peak electricity demand and electrical energy requirements for India and three States (Andhra Pradesh, Punjab and Uttar Pradesh) have been shown below in the snippets: -

All India Comparison of EPS Demand projections

Figure 1: Variation in Peak Electricity Demand

Table 2: Comparison of electricity demand projections in 18th and 19th EPS Reports

Year	Peak Electricity Demand					
	Actual Demand (MW)	18th EPS Projections (MW)	Overestimated Demand in 18th EPS (MW)	19th EPS Projections (MW)	Overestimated Demand in 19th EPS (MW)	Difference between 18th and 19th EPS (MW)
(1)	(2)	(3)	(4) = (2) – (3)	(5)	(6) = (2) – (5)	(7) = (3) – (5)
2010-11	1,22,287	1,22,287	0			
2011-12	1,30,006	1,32,685	2,679			
2012-13	1,35,453	1,43,967	8,514			
2013-14	1,35,918	1,56,208	20,290			
2014-15	1,48,166	1,69,491	21,325			
2015-16	1,53,366	1,83,902	30,536			
2016-17	1,59,542	1,99,540	39,998	1,61,834	2,292	37,706
2017-18	1,64,066	2,14,093	50,027	1,76,897	12,831	37,196
2021-22		2,83,470		2,25,751		57,719
2026-27		4,00,705		2,98,774		1,01,931

Source: 18th and 19th Electric Power Survey of India, CEA [4-5]

Source: CER Monograph, IIT Kanpur, report provided on CER, IIT Kanpur website

Figure 2: Variation in Electricity Energy Requirement

Table 3: Comparison of electrical energy consumption projections in 18th and 19th EPS Reports

Year	Electrical Energy Requirement					
	Actual Consumption (MU)	18th EPS Projections (MU)	Overestimated Consumption in 18th EPS (MU)	19th EPS Projections (MU)	Overestimated Consumption in 19th EPS (MU)	Difference between 18th and 19th EPS (MU)
(1)	(2)	(3)	(4) = (3) – (2)	(5)	(6) = (5) – (2)	(7) = (3) – (5)
2010-11	8,61,591	8,70,831	9,240			
2011-12	9,37,199	9,36,589	-610			
2012-13	9,95,557	1,007,694	12,137			
2013-14	1,002,257	1,084,610	82,353			
2014-15	1068,943	1,167,731	98,788			
2015-16	1,114,408	1,257,589	1,43,181			
2016-17	1,142,928	1,354,874	2,11,946	1,160,429	17,50	1,94,445
2017-18	1,212,134	1,450,982	2,38,848	1,240,760	28,626	2,10,222
2021-22		1,904,861		1,566,023		3,38,838
2026-27		2,710,058		2,047,434		6,62,624

Source: 18th and 19th Electric Power Survey of India, CEA [4-5]

Source: CER Monograph, IIT Kanpur

Figure 3: Historical variation based on EPS and LGBR

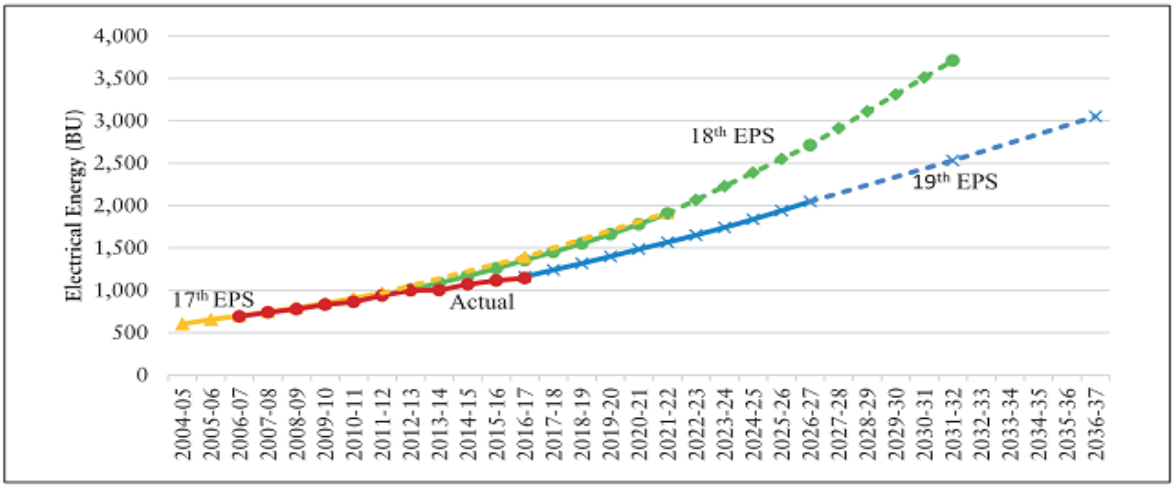


Figure 6: Historical projection of annual electrical energy requirement (all India)

(Source: 17th, 18th and 19th Electric Power Survey of India, CEA [3-5]; Load Generation Balance Reports (LGBR), CEA [6-15])

Source: CER Monograph, IIT Kanpur

State - wise Comparison of EPS Demand projections

Andhra Pradesh - The demand estimates made in the EPS Reports for Andhra Pradesh were significantly different from the actuals. However, the state projections were highly realistic.

Figure 4: Variation in Peak demand projections for Andhra Pradesh

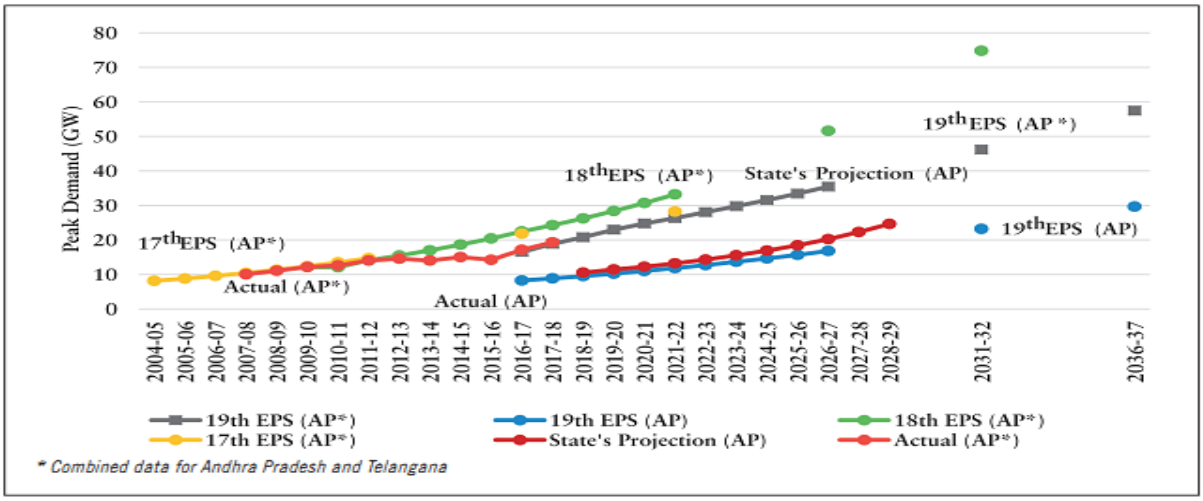


Figure 8: Actual peak demand vs. projections for Andhra Pradesh

(Source: 17th, 18th and 19th Electric Power Survey of India, CEA [3-5]; Load Generation Balance Reports (LGBR), CEA [6-15] Energy Statistics, Ministry of Statistics and Programme Implementation (MOSPI); The State Electricity Plan (SEP), APTRANSCO; Resource Plan (FY 2020-2029), APTRANSCO)

Source: CER Monograph, IIT Kanpur

Punjab - There is a narrow range of deviation in the electricity demand presented in 17th, 18th and 19th EPS Reports for Punjab.

Figure 5: Variation in Peak demand projections for Punjab

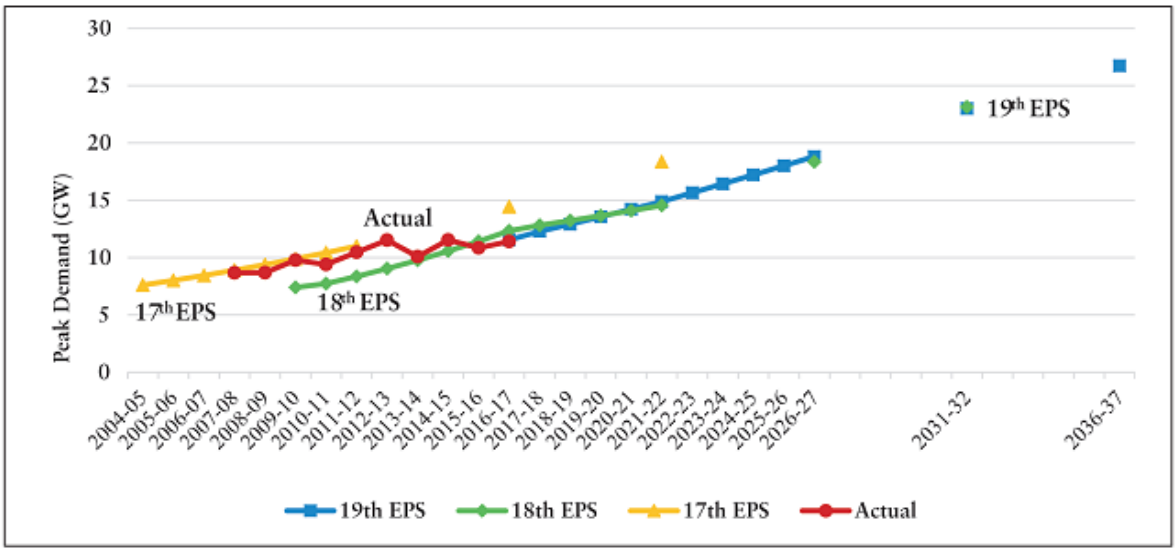


Figure 22: Actual peak demand vs. projections for Punjab

(Source: 17th, 18th and 19th Electric Power Survey of India, CEA [3-5];
Load Generation Balance Reports (LGBR), CEA [6-15];
Energy Statistics, Ministry of Statistics and Programme Implementation)

Source: CER Monograph, IIT Kanpur

Uttar Pradesh - The demand projections presented for Uttar Pradesh in the 17th, 18th and 19th EPS Reports have a narrow range of deviation. The state projections depict a growth rate higher than that envisaged in the EPS Reports.

Figure 6: Variation in Peak demand projections for Uttar Pradesh

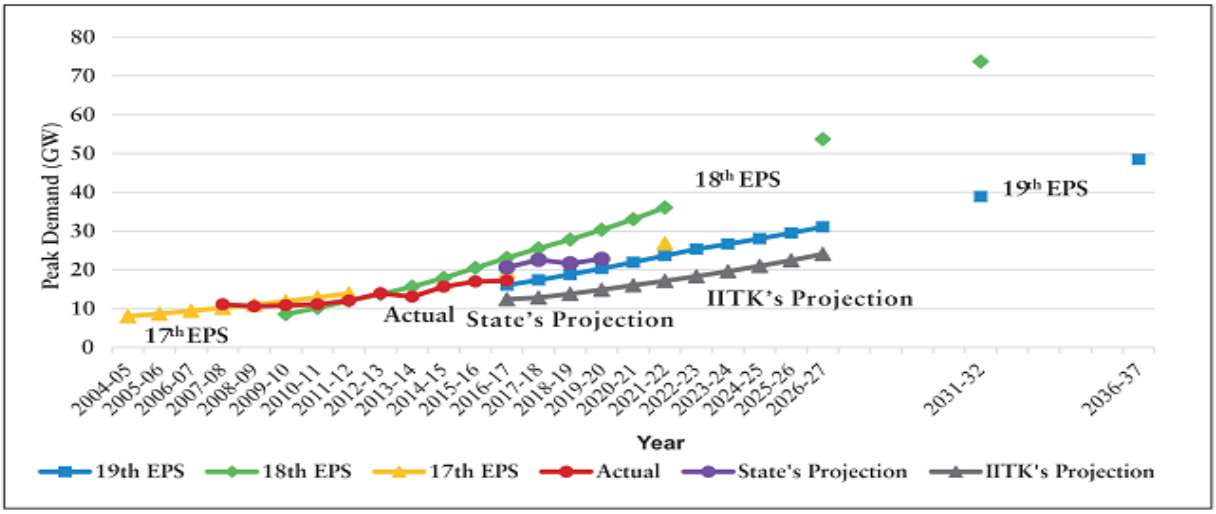


Figure 24: Actual peak demand vs. projections for Uttar Pradesh

(Source: 17th, 18th and 19th Electric Power Survey of India, CEA [3-5];
Load Generation Balance Reports (LGBR), CEA [6-15];
Energy Statistics, MOSPI;
Tariff Order of respective DISCOMs of Uttar Pradesh)

Source: CER Monograph, IIT Kanpur

It is being observed from the CER monograph report, that for States like Maharashtra and Gujarat, EPS projections have been more or less accurate, however for other States (Punjab, Andhra Pradesh and Uttar Pradesh), there have been deviations.

UPPCL/State Discoms have been projecting based on the Electric Power Survey (EPS) and Load Generation Balance Report (LGBR) released by CEA for their demand forecasting and power procurement planning. Thereby, resulting into a mismatch between projections and actual figures. Over-forecasts have led the distribution utilities ending up signing power procurement contracts much above their actual requirements[1].

b) Non - filing of Business Plan and MYT ARR Petition as per stipulated timelines in Regulation, 2014

For the 1st Control period, Discoms have filed their Business Plan and ARR Petitions together, instead of filing them as per the Regulations. As per the provisions stipulated in Uttar Pradesh Electricity Regulatory Commission (Multi Year Distribution Tariff) Regulations, 2014, the Discoms under Regulation 12.1 were required to file before UPERC a Petition for approval of Business Plan for the first control period i.e. FY 2017-18 to FY 2019-20 complete in all respect on or before June 1, 2016. Further, as per the provisions stipulated in Regulation 12.2 the Discoms were required to file before UPERC a Petition for approval of Aggregate Revenue Requirement (ARR) and Multi Year Tariff for the first control period i.e. Financial Year 2017-18 to Financial Year 2019-20 and for Annual Performance Review and Truing Up, complete in all respect on or before November 1, 2016.

It was envisaged in the MYT Regulations, that adequate time of 3-4 months and efforts will be dedicated for prudence check of all the proposed projections in the Business Plan. Thereon, ARR Petition based on the approved Business Plan was supposed to be filed. However, this could not be achieved as Business plan was filed together with the Multi Year ARR Petition, leaving little time and scope for proper scrutiny by the stakeholders

c) Lack of preparedness at the UPPCL / Discoms end for filing

It is evident from the Commission's noting in various Orders, that repeated reminders were sent to Discoms for filing of petitions, despite Discoms have missed the timelines for filing of Business Plan and MYT petition and have filed an incomplete submission with little thought given to projections.

[1] CER Monograph

4. How the issue can be addressed?

The Discoms need to understand that over projection threatens their financial viability in the longer run, pushing them to book more and more losses in their books of accounts.

The Hon'ble Commission can initiate a Suo- moto proceeding and form an expert level committee comprising of officials of Discoms, Energy Dept. GoUP, Sector Experts, Consumer Representative and Think Tanks to deliberate upon the issue of methodology of projections of various parameters and submit a recommendations report within 90 days' time (from the date of formulation). The recommendations of the Committee can then be incorporated in the Draft MYT Tariff Regulations, 2020 which is still under consideration by the Hon'ble Commission. This will definitely assist discoms in getting more accurate & reliable projections and efficient 2nd MYT regime.

B. Optimization of Power Purchase Cost – Way forward

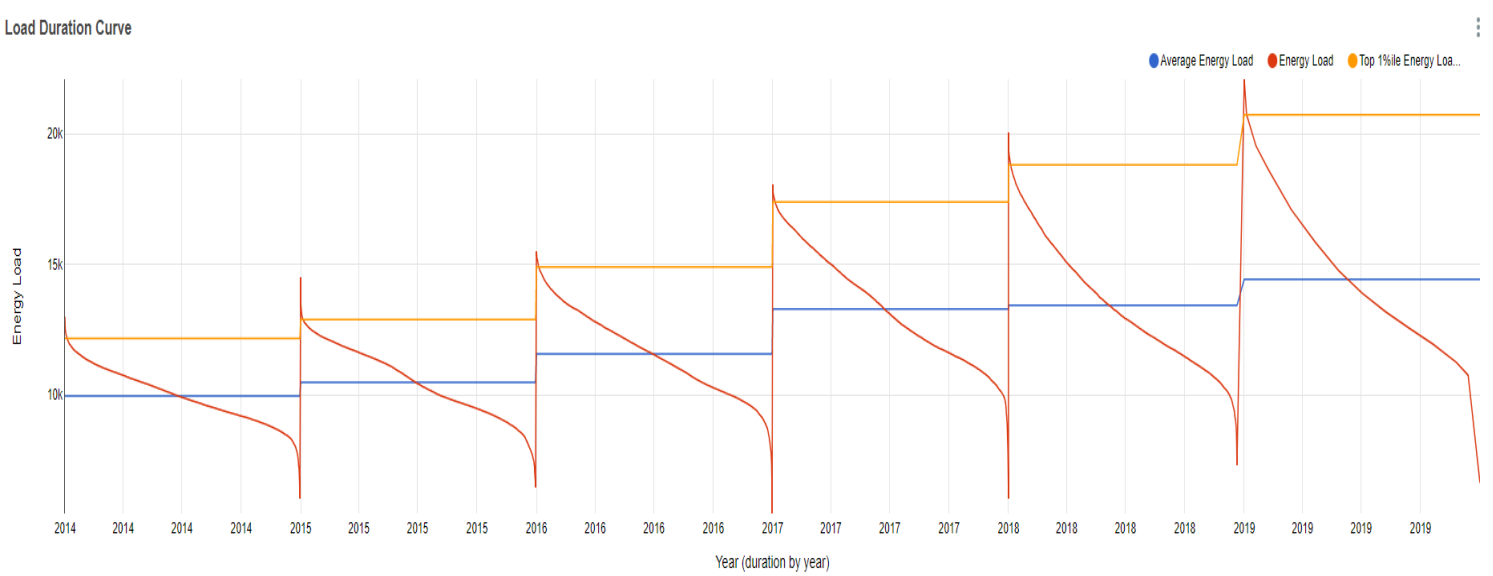
1. High APPC (Average Power Procurement Cost)

Power purchase costs is the single largest contributor (approx. 75 to 80%) to the cost of supply for the Discoms and can have significant impact on the end tariff. It is therefore necessary to weed out inefficiencies in the procurement process to address the issue of revenue gap for the discoms.

In Uttar Pradesh, like in a few other states in the northern region, there is a significant difference between the summer and winter load. The summer load goes up to 21800 MW[2], whereas in winters it is only around 15500 MW[3]. Given that discoms are meeting their 95% power requirement through long term PPA, they have to bear the fixed charges for winter months (3 – 5 months), without requisitioning some of the generators. **In FY 2018-19, the fixed cost burden on account of low utilisation of IPPs (Rosa, Lalitpur and Bajaj Energy) was to the tune of Rs. 4950 Crore (approx. 8% of the total cost of power procurement**) The backdown of capacity in states is anywhere in the range of 15% to 30% of the contracted capacity[4].

[2] UPSLDC Data
[3] CEA's Load Generation Balance Report FY 2018-19, Annex – IV (A) (2/14)
[4] Prayas (Energy Group). (2017, March). The Price of Plenty: Insights from 'surplus' power in Indian States, p.1.

Figure 7: Peak Requirement for Uttar Pradesh growing faster



Source: CEEW Analysis

At present, many of the existing PPAs did not necessarily reflect the best available price (even when they were signed) and certainly do not make economic sense, given the stock of efficient and lower cost thermal-generation assets. The APPC of FY 2018-20 (Rs. 4.74 / kWh) and FY 2019-29 (Rs. 4.74 / kWh) is a reflection of the way current high cost PPAs are structured and the rigidity they impose on procurement.

Given the pipeline of thermal generation projects that are already contracted and under construction will make financial investments unviable and create even more stress / stranded assets in an already crippled sector.

Based on our understanding of the issue of High APPC, we would like to put forward the following suggestions before the Hon'ble Commission, to reduce the overall power purchase cost:

I. The short-term solution to the issue is to ensure that procurement must be prioritised from stations where the variable cost is low.

II. Merit order must be respected in its entirety and issues such as transmission constraints and coal availability must not reduce the ability to procure from these low-cost generation sources.

III. Current low utilization and stranded assets needs to be dealt with in a more comprehensive manner.

IV. Newer contracts for longer term requirements must evaluate the impact of low utilisation and needs to ensure flexibility in procurement without locking the discom into a high fixed cost burden. This can be achieved through by getting a greater visibility of generation sources in other parts of the country,

where the season demand variation is complementary to Uttar Pradesh or where there is spare capacity in summers.

V. The Hon'ble Commission shall initiate redrafting of standard PPAs. A feature that must be explored in these PPAs must suitable provisions should be made in the PPAs for exit from contracts, upon reasonably compensation being paid.

VI. The procurement of short term and medium - term power also needs to be encouraged as the rates discovered in short term and medium-term contract are much closer to the market prices.

VII. An emphasis on contingency procurement, through banking (non - cash transactions) must be placed. Tenders could be issued for banking of power to meet demand during summer and reduce surplus during winters. While these are interim measures, a longer-term transition to a market-based procurement scenario is a likely way out for the power sector in India as a whole.

VIII. Fixed costs and O &M payments to inefficient costly plants must continue and early retirement of these plants must be financially engineered.

2. Commission's Recent Order approving the Long-term power plan of UPPCL / State Discoms

Apropos to the Hon'ble Commission's Order dated July 9, 2019 in the matter of "Petition for seeking approval of long-term procurement plan of UP Discoms for FY 2019-20 to FY 2029-30", the following issues are brought in the knowledge of the Hon'ble Commission: -

Projection based on CEA's EPS report (Point No.9, p.4) – It is mentioned that UPPCL had made the peak electricity demand forecast based on EPS projections for FY 2019-20 to FY 2029-30, subjected to adjustments on actuals.

- In view of the over projections of demand for the 1st Control Period (as discussed above), it is requested to the Hon'ble Commission, that the same methodology of solely EPS based forecast shall not be adopted again, that demand forecast for FY 2020-21 to FY 2029-30 shall be re-looked into. This would avoid any denting implications on the discoms finance and operations.

Stranded Capacity Charge Liability (Point No.5, p.3) - It is mentioned that there is a problem of underutilization of existing thermal capacity and there is a consequential burden of fixed charges of around Rs. 4,797 Crore in FY 2019-20 with rising trend and peaking to Rs. 10,750 Crore in FY 2022-23.

- It is submitted to the Hon'ble Commission that when UPPCL / Discoms are pre-aware of huge burden of stranded capacity, then the decision of going ahead with

long term procurement plan is beyond understanding. It is requested to the Hon'ble Commission that the Order dated July 9, 2019 shall be re-looked and the cost associated with each generating station need to be evaluated.

- Possibility of surrender of current contracted capacity shall also be evaluated.

- Administering the status of generating station in the pipeline to assess impact of costs due to delay in commissioning and deferment due to not getting statutory clearances and are unlikely to come up in the near future.

Estimated Consumption for Saubhagya consumer (Point No.9 (iii), p.4) - It is mentioned that UPPCL has considered 144 kWh/kW/month as estimated consumption.

- It is submitted to the Hon'ble Commission that assumption of 144 kWh /kW/month seems to be the norm for booking unmetered consumption / assessment based (previously approved by the Commission). It is further submitted that the Discoms in the Tariff proposal for FY 2019-20 has proposed a new category as Rural metered Lifeline (LMV 1 3a, p. 15 of pdf), and it appears from the billing determinants, that all the Saubhagya connection (approx. 8 million) have been added under the Rural category (i.e. Consumers getting supply as per 'Rural Schedule') and these connections will be booked under the Tariff schedule for Rural Lifeline category (as per definition, their consumption will be limited to 50 kWh/month).

- From the above para, it can be observed that the two estimates (144/kW/month and 50 kWh/month) are contradictory in themselves, and would lead to over estimations.

- It is requested to the Hon'ble Commission, that State Discoms shall be directed to provide in more clarity based on the sampled actual consumption by Saubhagya connections. Based on the report, the current estimates can be re-worked to reflect the true picture.

Taking into consideration the above points, it is requested to the Hon'ble Commission that long term power procurement plan of UPPCL/ State Discoms needs more comprehensive analysis and scrutiny, before final approval.

3. Ministry of Power's Order on introduction of Payment Security Mechanism for purchase of power by Discom

It is important to bring in the knowledge of the Hon'ble Commission that MOP in its recent Order dated July 17, 2019 had defined the 'Procedure for Scheduling of Power of Distribution Company in the event of Non-compliance of Letter of Credit' (copy of Order has been provided as Annexure I). The crux of the Centre directions to Discoms, is that Discoms will be required to maintain Letter of Credit for purchase of power from Central and IPP / Private generating stations, otherwise the power will not be

scheduled by Load Dispatch Centre. However, for purchase of power from State owned generating Station and their payments, it can be decided by State Govt. The implementation of the procedure is in process from August 1, 2019.

UP Discoms are already reeling under severe financial crunch wherein payment dues to some generating companies are upto 422 days (as per PRAAPTI portal), the implementation of the procedure will make the financial situation tighter for them, as this will increase their working capital and short-term loans requirements to meet the advance payments.

Now, it is pertinent to note, that Discoms have projected 24 hrs of supply for all category of consumers, and based on the projections, the Tariff for FY 2019-20 is being decided under the present Petition. In line with the above, there has been information coming from various news articles that UP Discom will have to resort to rostering / load shedding of 6-12 hours in 40 districts, to tackle the procedure of advance payment (Payment security mechanism / LC) and low collection from such districts (News cutting provided as Annexure II)

It is submitted to the Hon'ble Commission, that the Tariffs for FY 2019-20 needs special attention, as a disruptive (though promising) payment mechanism is in place and Discoms have declared that rostering would be done, so determination of Tariffs / Tariff hike on committed 24 hrs supply, while actual supply being less, would be non-compliance of the Electricity Act, 2003 and the State Regulation. The following measures are suggested to tackle the current situation:

a. The already cash strapped discoms, would have a cash deficit of 2 cycles, i.e. pay upfront (of LC) for power purchases, however, they will get payment from consumers after consumption, i.e. next cycle. It is suggested a new billing and collection mechanism shall be put up in place, wherein Discoms collect upfront payment from the consumers on the basis of estimated payments / assessment rather than billing them after the consumption, (the actual can be adjusted in the next billing cycle). Further, in the current Tariff Schedule, there is a similar provision of "Scheme for Advance Deposit for Future Monthly Energy Bills", although a voluntary provision, but Commission and UPPCL can earnestly promote this mechanism to meet the advance cash requirements.

   or

b. The high demand situation is going to prevail in Aug'2019 and some portion of Sep'2019. The revised Tariff are made to be applicable from 1st October'2019 onwards, as the rising demand would get lower. Discoms would be in a better situation then.

   Or

c. The Working capital for the DISCOMS should be increased and covered in the ARR then.

C. Aggregate Technical and Commercial Losses (AT &C Losses)

1. Unsustainable Aggregate Technical and Commercial Losses (AT &C Losses)

AT &C losses have eroded the financial sustainability of the Distribution Utilities and also has major ramifications for retail tariffs.

Status of Collection Efficiency, Distribution loss and AT & C loss across Discoms

The **top ten** high loss-making Electricity Distribution Circles (EDCs) in each of the four discoms (PVVNL, DVVNL, MVVNL & PuVVNL) and two in KESCO are extracted from Form P2 of the current Petition. The table below highlights the dynamics across the State.

Table 5: Status of AT & C Loss across various EDCs

Discom	Year	Circle	Collection Efficiency %	Distribution Loss %	AT & C loss %
DVVNL	FY 2017-18	**Overall**	**86.73**	**25.47**	**35.35**
		EDC Etawah	65.04	47.08	65.58
		EDC Kannauj	60.81	34.74	60.31
		EDC Chitrkoot	61.20	34.87	60.14
		EDC Orai	65.68	31.95	55.30
		EDC Mainpuri	75.16	40.11	54.99
		EDC II Mathura	71.65	31.73	51.08
		EDC Hathras	77.90	32.58	47.48
		EDC I Mathura	77.62	22.83	40.11
		EDC Agra	87.83	28.33	37.05
		EDC Fatehabad	89.96	28.82	35.96
MVVNL	FY 2018-19 (upto Dec'2018)	**Overall**	**89.42**	**21.73**	**30.01**
		EDC Gonda	51.89	21.28	59.15
		EDC Bahraich	62.04	21.36	51.21
		EDC II Sultanpur	94.01	47.96	51.08
		EDC Akbarpur	67.37	26.37	50.40
		EDC Balrampur	65.63	21.00	48.15
		EDC Lakhimpur	75.45	30.96	47.91
		EDC I Sultanpur	76.95	23.62	41.22
		EDC II Raibarelli	72.24	16.71	39.83
		EDC Gola	82.82	25.47	38.27
		EDC IV LESA	92.65	25.27	30.77
PVVNL	FY 2018-19	**Overall**	**87.14**	**16.07**	**26.86**
		EDC I Saharanpur	41.25	22.00	67.82

Discom	Year	Circle	Collection Efficiency %	Distribution Loss %	AT & C loss %
		EDC II Muzzafarnagar	48.08	31.52	67.07
		EDC II Saharanpur	47.71	26.89	65.12
		EDC Shamli	60.77	25.87	54.95
		EDC Sambhal	65.45	28.05	52.91
		EDC Amroha	61.96	23.44	52.57
		EDC Bhagpat	69.37	23.41	46.87
		EDC III Bulandsehar	75.88	19.53	38.93
		EDC Rampur	79.65	22.10	37.95
		EDC II Meerut	79.21	17.13	34.36
PuVVNL	FY 2018-19	**Overall**	**76.00**	**20.74**	**39.92**
		EDC Balia	65.38	24.49	50.64
		EDC Azamgarh	67.54	23.16	48.10
		EDC Basti	76.20	24.58	42.52
		EDC Ghazipur	76.23	21.38	40.07
		EDC I Varanasi	72.33	17.47	40.30
		EDC I Bhadohi	74.62	18.58	39.24
		EDC I Allahabad	80.08	22.78	38.17
		EDC Kaushambi	81.42	23.95	38.09
		EDC Deoria	76.54	18.04	37.27
		EDC Kushinagar	79.90	19.01	35.29
KESCO	FY 2017-18	**Overall**	**99.13**	**13.71**	**14.47**
		Circle – 1	96.22	21.47	24.44
		Circle – 2	93.05	16.09	21.92

Source: UPPCL / Discoms Petition for FY 2019-20

It can be seen from Form P2, that there are areas with AT&C losses above 60% and, areas with losses lower than or close to 15%, in the same discom supply area. This difference in losses within same discom area makes a case for planning for area specific interventions. It shows that discom operations pertaining to metering, billing and collection are not uniform across their service area. Equally, this also suggests widespread non-compliance on part of consumers.

CEEW's - Electricity Consumer's and Compliance Survey Report' 2019

CEEW has completed a survey on perception of electricity theft and, socio-economic drivers of consumer compliance in the power sector. The survey was conducted in the month of April to June'2018 across 10 districts (namely Aligarh, Banda, Ambedkar Nagar, Budaun, Sultanpur, Ballia, Kaushambi, Mau, Moradabad and Muzaffarnagar).

Based on the survey findings, it was considered necessary to bring to the Hon'ble Commission's notice that only 54% of the consumers are metered, billed and pay their bills. This figure, for rural UP, drops to 19%, if we consider the share of households

that are metered, billed frequently and pay their bills in full. Also, this is in line with the most recent Letter from UPPCL[5] that suggests that only 20% of the overall rural consumer base has paid up its entire dues for the first 6 months of this financial year, by the end of October'2018. It is interesting to note that nearly 80% of the consumers pay their bills in entirety (either in one go or in instalments) when they are billed frequently (monthly or bimonthly). This is an important outcome for the discom and suggests that their focus must shift to improving their billing rates and improving the perception among the consumers that bills reflect their metered consumption.

Based on our understanding, we would like to put forward the following action points before the Hon'ble Commission:

- **Renewed focus on improving MBC**: Monthly monitoring of improvement in Metering, Billing & Collection via 'MBC Turnaround Cell' established jointly by UPERC & UPPCL's office.

    i. Metering - Mission mode approach to have universal metering of all electricity consumers (including approx. 8 million Saubhagya connections) Current focus is on new connections and the challenge of reaching out to those already connected has been recognised by utilities.

    ii. Billing - Electricity Distribution Division wise monitoring of % of the consumer not billed and % of consumers billed on NA/NR/IDF/ADF or RDF basis, ensuring that defective meters are replaced promptly.

    iii. Collection - Electricity Distribution Division wise monitoring of enforcement of procedure prescribed for recovery of dues, prompt issuance of recovery certificates and appropriate action for timely recovery of outstanding dues and regular pursuance to the consumer for payment of dues.

Further, a joint effort by officials of distribution utility and consumers could help reduce the AT&C losses of discoms, the action points to reduce losses are discussed below.

Action Points for Distribution Utility

Addressing metering and billing issue

- Faster redressal of billing related consumer complaints. A large share of grievances that reaches the CGRF relates to billing.

- Billing frequency must be maintained constant and set an expectation with consumers of regular need for payment

[5] Letter No. 829 dated October 31, 2018

- Collection mechanisms with limited manual intervention and facilitating e-payments directly or through kiosks must be encouraged.

- Defaulting consumers list must be generated on monthly basis and sent to respective section officers to attend and report back within 15 days.

Addressing Electricity Theft

- Procedure for Regularisation of connections are quite tedious. There is a need to minimise procedure for regularization of consumers.
- Division wise anti-theft police stations must be set up to curb electricity theft and provide suitable reinforcements to ant-theft squads that are deployed by the discoms

- All HT-metered services must be periodically inspected by a special-wing formed for theft detection. There have been significant instances where such large consumers have indulged in malpractices.

Action Points for Consumers

- The importance of periodic and timely payments of bills is an important responsibility of consumers.

- When bills don't arrive in a timely manner, consumers must be proactive in following up with the discom and lodging a documented complaint in the manner so that they are shielded from any future issues that arise from lapses on part of the discom.

- It is important to Involve village level SHGs for collection resolving open issues pertaining to bill payment.

- Awareness of Theft and the impact on discom finances is also important from a consumer perspective and will provide the right impetus to act when they are witnesses to acts of theft. They could report theft to Discoms officials – data informers

- In equal measure consumers must also hold discom staff accountable and must report to the discom's management, should they find their field staff indulging in malpractices

It is requested to the Hon'ble Commission, considering the above suggestion, a monitoring framework must be chalked out and line of action shall be deliberated. CEEW is already working in the State of Uttar Pradesh, and we would be happy to assist the Hon'ble Commission in developing the monitoring framework and also implement some of the above discussed action items.

D. Tariff Design and Tariff Rationalisation for Various Categories

1. Saubhagya Consumers vis a vis Rural Lifeline consumer

It is submitted that Discoms in the Tariff proposal for FY 2019-20 has proposed a new category as Rural metered Lifeline (LMV 1 3a, p. 15 of pdf), it appears from the billing determinants, that all the Saubhagya connection (approx. 8 million) have been added under the Rural category (i.e. Consumers getting supply as per 'Rural Schedule') and these connections will be further booked under the Tariff schedule for Rural Lifeline category. This category is both cross subsidised (by consumers) and subsidised (by GoUP).

With increased electrification under Saubhagya Scheme, it is important to ensure affordability of supply for low income consumers, however, the discoms are experiencing a challenge in metering and billing of such huge consumer base, thereby billing them on NA/NR/IDF/ADF or RDF basis. Bills are based on a normative consumption of 108 units, thereby making it unaffordable for low-income sections consumers. As immediate relief to tackle the menace of such high bills (based on 108 units, category shift), the consumers are left with option of stealing the electricity.

It is requested to the Hon'ble Commission that in consultation with Discoms, a proper monitoring mechanism must be put in place, so that MU bases bills are provided to Saubhagya consumers.

2. Tariff Design for Lifeline Consumers - Introducing Annual consumption limit for low consuming lifeline consumers

With increased electrification under Saubhagya Scheme in the State, it is important to ensure affordability of supply for low income consumers. In the current tariff proposal for FY 2019-20 (p.15 & 17 of pdf), Lifeline consumers with sanctioned load upto 1kW (LMV 1 3a & LMV 1 3c(i)) are permitted a monthly consumption limit of 50 units, with energy charge of Rs. 3.00/kWh and fixed charge of Rs. 75/kW/month.

If their consumption increases in a month to more than 50 units, the consumer would not be eligible for concessionary tariffs and would be subjected to energy & fixed charge of next higher category with a telescopic increase in tariffs.

It is submitted that the consumers in lifeline category tend to have low income levels, and it would give them more flexibility and ensure affordability, if consumption limits were not monthly but annual. Giving a consumption limit of 600 units a year, it would give an option to the consumers to adjust their consumption level based on annual requirement and this change in definition of such consumer category will provide significant relief to many poor consumers. The States of Andhra Pradesh, Chhattisgarh and Maharashtra follow similar tariff structure. As their consumption is low, the revenue impact on the DISCOMs need not be substantial[6].

[6] Some learnings are drawn from Prayas Energy Group Submission in MPERC

3. Commercial tariffs higher than Industrial Tariff – Need for rationalisation

The proposed tariff for LMV-2 (non-domestic consumers) is higher than that of HV industrial (LMV-6 and HV-2), based on various loads and consumption patterns, the per unit rate are varying from Rs 12 to 24 / kWh (show below). Further, due to categorisation of consumers based on type of use (e.g. – domestic, commercial and industrial) many small shops/enterprises which run out of homes tend to engage in unauthorised use of electricity (as defined in Section 126 of the Electricity Act, 2003) as the Tariffs are quite high and unaffordable. This problem is prevalent in many parts of Uttar Pradesh, thereby leading to large no. of litigations and harassment cases.

Table 6: Sensitivity Analysis on impact of proposed Tariff for LMV-2 consumer

Proposed Tariff Structure for LMV - 2 category								
Fixed Charge	400	Rs./kW/month						
Energy Charge	7.55	(Rs./kWh for upto 300 units)						
Sensitivity Analysis: Monthly Bill of a Typical LMV- 2 consumer (Rs.) and per unit charge (Rs./ kWh) for consumption upto 300 units a month.								
Units	**1 kW**		**2 kW**		**3 kW**		**4 kW**	
	Monthly Amount	**Per unit Charge**	**Monthly Amount**	**Per unit Charge**	**Monthly Amount**	**Per unit Charge**	**Monthly Amount**	**Per unit Charge**
100	1212.75	12.13	1632.75	16.33	2052.75	20.53	2472.75	24.73
200	2005.50	10.03	2425.50	12.13	2845.50	14.23	3265.50	16.33
300	2798.25	9.33	3218.25	10.73	3638.25	12.13	4058.25	13.53

Source: CEEW Analysis on UPERC's MYT Tariff Order and UPPCL's MYT Petition

It is submitted that in order to ensure affordable power for such small shopkeepers and to prevent the unauthorised use of electricity, while ensuring revenue neutrality for the Discoms, the Hon'ble Commission can ask Discoms to submit an analysis on the billing parameters, revenues from such small LMV- 2 consumers and also the no. of litigation cases in such matters (also resources deployed by Discoms).

Based on the data, a revenue neutrality exercise can be done, keeping in mind that overall revenue from LMV- 2 category would increase as a motivational 'lesser' Tariff (as compared to the proposed), would push the consumer to take separate connections for domestic and non- domestic purpose.

It is requested to the Hon'ble Commission a new Tariff structure say Non-domestic Lifeline of 100 units a month (similar to Domestic lifeline) can be experimented for FY 2019-20.

E. General Comments / Suggestions

1. Incomplete Data in the uploaded MYT formats

It is submitted that most of the MYT formats in the MYT Petition has been left blank and has been mentioned as provided in the Power Purchase Model, Sales model and Revenue Model. However, the same has not been uploaded along with the Petition.

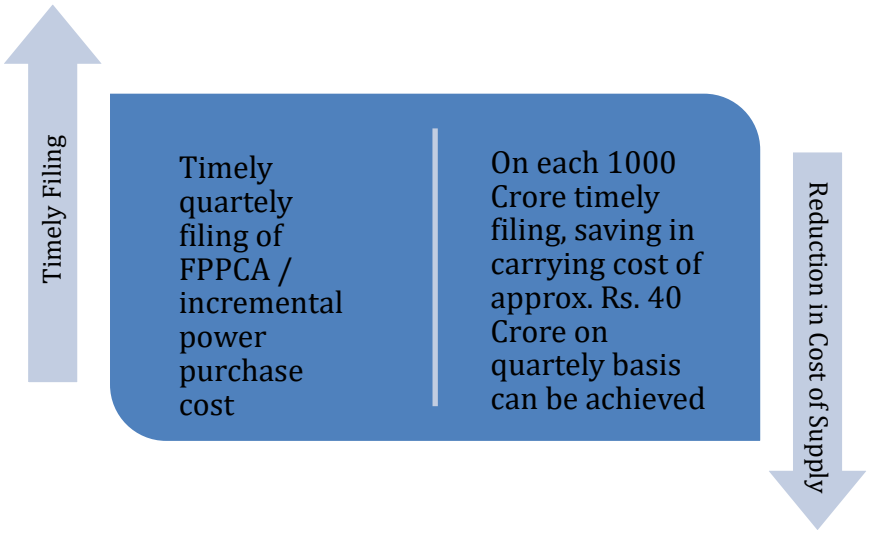
It is requested to the Hon'ble Commission that the discoms must be directed to upload the Power Purchase Model, Sales model and Revenue Model on their website for proper analysis of the Petition, also all the MYT formats shall be duly filled, as this would ensure proper scrutiny.

2. Non – filing of FPPCA for FY 2018-19 - its impacts on end consumers

The Hon'ble Commission analyses all the elements of actual expenses (including power purchase cost, O & M, depreciation, interest charges, etc) and revenue (on account of sale of electricity, misc. charges, etc.) as per the audited accounts for that particular year and thereon decide on the actual expense and revenue. The truing up exercise is often taken up after a gap of 1.5 to 2 years, due to delayed filings by discoms. The time lag in recovery of the variation between projected and actual power purchase cost adversely affects the cash flow of the discom and is an additional burden on the discom. This results in the need for borrowing to manage working capital requirements. The impact of this delay, in turn, is passed on to the consumers, in the form of carrying cost. This amount (usually in hundreds of crores) is being paid by the consumers (incorporated in the Tariff) from the date of truing-up.

In Uttar Pradesh, filing of Fuel & Power Purchase Cost Adjustment Surcharge (FPPCA) has been tardy and the discoms have not been able to file the FPPCA as per the prescribed timelines This has resulted in accumulation of carrying cost, to be paid by consumers. Despite of huge increase in APPC for FY 2018-19, discoms did not file the FPPCA, it is likely that these will presented in the true-ups for FY 2018-19, by this time the carrying cost would have also become significant.

Figure 8: Cost Saving on timely filing



Source: CEEW analysis on State Discoms Tariff filing

It is requested to the Hon'ble Commission that Discoms be held accountable to ensure timely filings. The Hon'ble Commission may consider dis–allowing the amount due to untimely filing and losses on this account shall be managed by discoms via improvement in operational & financial parameters. Alternatively, costs claimed under fuel surcharge should not be subject to carrying costs, unless delay is due to exigent circumstances / delay in action by the SERC.

Also, it is requested that there is a need for public participation to ensure vigilance in passing the costs incurred by discoms and recovery of fuel surcharge.

3. Non submission of DPR for the CAPEX and Physical verification of capital works

Submission of Detailed Project Report (DPR)

It is submitted that UPPCL / State Discoms have not submitted the DPR of any the proposed investment for the 1st Control Period. This restricts the scrutiny of the cost benefit analysis of any of the proposed investment.

In light of the increasing cost of supply, it is requested to the Hon'ble Commission, that UPPCL/ Discoms shall be directed to submit the DPR for the past investments and future CAPEX proposals for proper scrutiny.

Physical Verification of Assets

In order to ensure the infrastructure development, reduction in AT & C losses, reliability improvement and the load growth, the Discoms are required to undertake major investments in the Distribution System. However, it is also important to verify that whether various equipment & materials for execution of capex schemes have been procured through fair, transparent & competitive means and also the veracity of payments made against the set Purchase Orders need to be verified.

To address the above concern, it is submitted that provision for Physical verification of Assets shall be developed by the Commission which shall include the physical audit of the assets capitalized on quarterly or semi - annual basis. Adoption of technology to ease the process of physical verification of assets shall also be evaluated.

Further, the provisions for Geographical Information System (GIS) mapping of the assets by the Licensees also need to be framed as this will lead to physical verification of the assets linked with their Fixed Asset Register. Such an approach has been adopted by Delhi Electricity Regulatory Commission.

4. **Ensuring maximum participation in the Tariff proceedings:**

Drop boxes should be made available for people at different places in the State so as to ensure maximum participation during the tariff proceedings. One suggestion could be to ensure that suggestion boxes are available at all the Sub-Stations of Discoms. The concerned SDO of the sub-station should ensure sending all the comments /suggestions on the tariff Petition received in the drop boxes to the Commission's office every month.

Similar approach has been adopted by the Uttarakhand Electricity Regulatory Commission.

Our endeavour via this submission is to share ideas to improve performance and efficiency of the Discoms of Uttar Pradesh.

We request an opportunity of personal hearing be provided in order to further clarify/explain our submission in the aforesaid proceedings. The above submission is provided for kind perusal of the Hon'ble Commission.

Thanking You,

Yours faithfully,
For Council on Energy, Environment and Water

Prateek Aggarwal

Enclosure:

Annexure I - Ministry of Power's Order on introduction of Payment Security Mechanism for purchase of power by Discom
Annexure II – News Paper cutting on load shedding by UPPCL