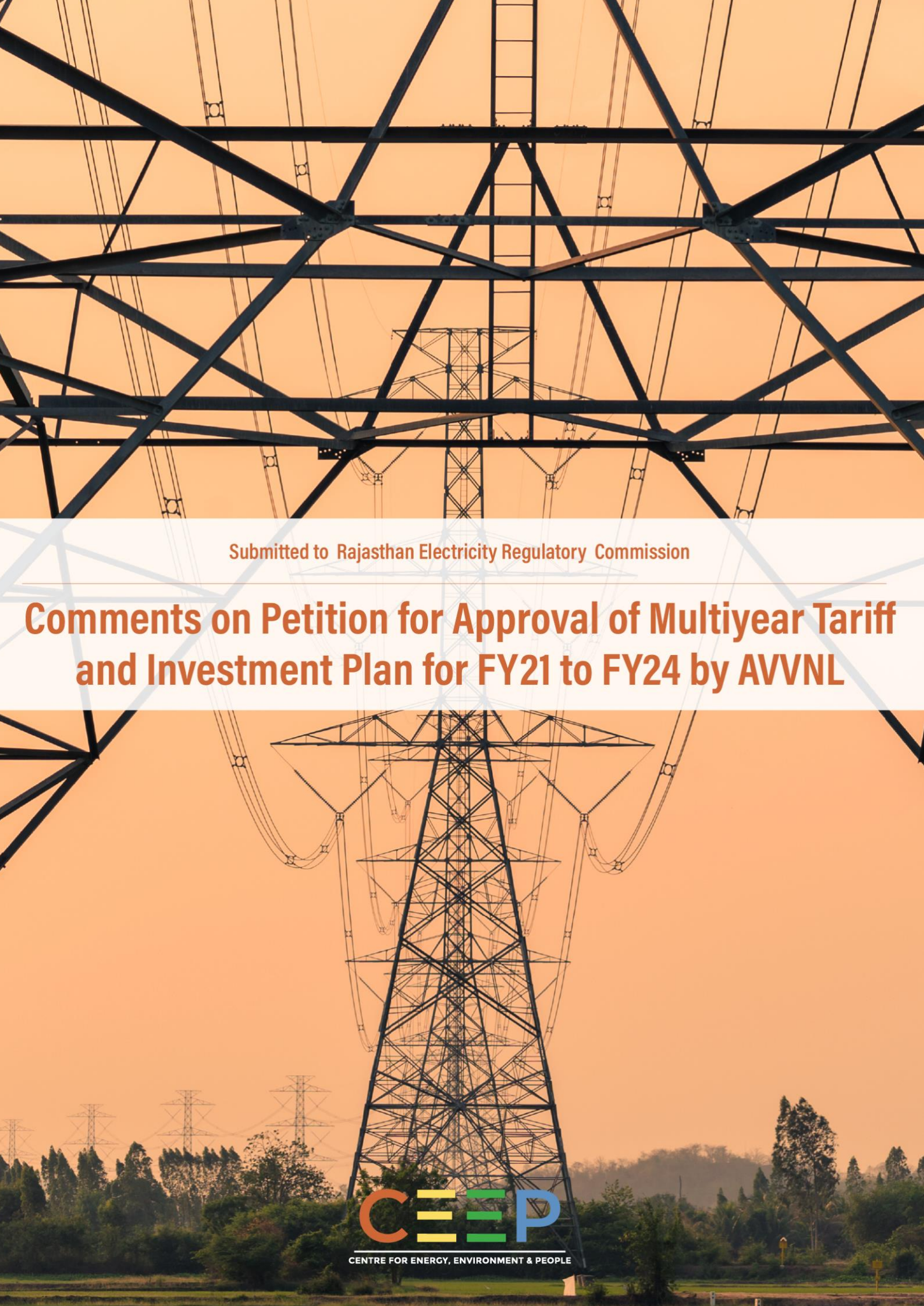


Submitted to Rajasthan Electricity Regulatory Commission

Comments on Petition for Approval of Multiyear Tariff and Investment Plan for FY21 to FY24 by AVVNL

CENTRE FOR ENERGY, ENVIRONMENT & PEOPLE

Rajasthan Electricity Regulatory Commission (RERC) has uploaded the petition filed by the Ajmer Vidyut Vitran Nigam Ltd. for determination of Multiyear Tariff and Investment Plan for FY 2020-2021 to 2023-2024. The present submission is in response to the petition published on the commission's website. We request the Commission to accept this submission on record.

GENERAL COMMENTS

- Due to Covid-19 pandemic and the subsequent lockdown, the financial and operational position of the Discom was under unprecedented crisis. We appreciate the measures taken by the petitioner to reduce the burden on the consumers. However, absence of an action plan to deal with such an unexpected crisis was evident. Readiness to manage a situation of crisis which may be in the form of a natural disaster, major technical failure or accident or disruptions caused by external forces such as hacking is extremely important for essential services such as supply of electricity. We request the commission to mandate the petitioner to put forth a 'Crisis Management Plan' within a period of one year.
- In the previous tariff orders, the commission allotted Rs. 50 Lakh for consumer awareness. But in the current MYT petition, the petitioner has not considered any allocation of the consumer education and awareness in the petition. The attitude of the petitioner towards the consumer awareness capacity building to enhance the efficiency of the regulatory process is of serious concern. We request the commission to take serious cognisance of the issue while allocation funds for consumer awareness.
- The petitioner did not fulfill the RPO compliance for the past 3-years. We submit that the commission shall issue a directive to the petitioner to ensure 100% realisation of the RPO targets.

Table 1: RPO compliance for the state of Rajasthan

Financial Year	RPO Target	Achievement
2017-18	14.25%	10.62%
2018-19	13.35%	12.26%
2019-20	15.00%	13.75%
2020-21 (upto Oct 20)	16.65%	14.91%

Source: Draft RERC Order on installation of solar power systems at schools of the State Government

SECTION WISE COMMENTS

Impact of Covid-19 on MYT Projections

Our Comments

The petitioner submitted that the Covid-19 crisis has caused the distress situation affecting the Distribution Loss, Bad Debts, Increase in O&M expenses, Accrued Debt Burden, Working Capital Loans, Increased ACS-ARR gap due to change in sales mix.

We submit that three quarters have already passed. Hence, it is requested that the commission direct the petitioner to compute the impact of COVID 19 based on provisional data of accounts, finance, sales, and purchase. Consumer category-wise electricity sales forecast shall also be done after taking into account trends until December 31, 2020.

The petitioner in section 2.6 claimed "Consumers can view, download duplicate copies and pay their bills through 'Urja Mitra' app available for Android and Apple devices as well as computers." We would like to remind the petitioner that the app they developed is "Bijli Mitra" and the app Urja Mitra is developed by Ministry of Power for alerting about the outage to the registered consumers. We submit that the petitioner shall exercise due diligence in filing the petition.

The petitioner submitted that the bills were notified through email and SMS for the consumers who have registered their email-ids and phone numbers. We request the petitioner to submit a report on the current status of updating of consumer details – Mobile Numbers and Email IDs. We also request the commission to issue directives to the petitioner to undertake pro-active, time bound, target-based exercise to completely update the KYC details for the connections.

Projection of Electricity Sales

Our Comments

The petitioner considered Domestic Sales growth at a CAGR 7% from FY 12-13 to FY19-20 as the basis for projecting the BAU sales. The CAGR for the 3-, 5- and 7-year period presents a contrasting growth rate for the sales across different categories. Same is presented in Table 2 below.

Table 2: Category-wise CAGR computed for the past 3-, 5- and 7-years.

	Compound Annual Growth Rate (CAGR)		
Category	**3-years**	**5-years**	**7-years**
Domestic	4.96%	5.15%	5.84%

Non-Domestic	4.17%	5.71%	7.17%
Public streetlight	5.14%	0.96%	5.03%
Agriculture (Metered)	5.46%	6.74%	5.71%
Agriculture (Flat)	-13.62%	-13.10%	-11.36%
Small Industry	-0.84%	-0.78%	-0.10%
Medium Industry	0.43%	1.31%	3.44%
Large industry	6.38%	11.69%	6.66%
Public Water Work (S)	4.25%	7.60%	7.57%
Public Water Work (M)	-11.47%	-3.68%	-1.58%
Public Water Work (L)	6.95%	10.12%	8.21%
Mixed Load	1.58%	0.00%	1.83%
Total	4.07%	5.56%	4.70%

Table 3 below presents year-on-year growth assumed by the petitioner for the MYT control period. It can be clearly deduced that the projections of the petitioner do not align with trends of 3-year and 5-year CAGR. Especially, projections for domestic, street lighting and public water works need to be noted and evaluated.

Table 3: Category wise YoY growth rate considered by AVVNL for the MYT period

	YoY growth considered by AVVNL			
Category	**FY 21**	**FY 22**	**FY 23**	**FY 24**
Domestic	11.89%	5.93%	5.93%	5.91%
Non-Domestic	-18.49%	20.00%	10.03%	7.99%
Public street Light	4.65%	6.67%	6.25%	3.92%

Agriculture (Metered)	4.54%	8.32%	7.21%	4.63%
Agriculture (Flat)	-14.52%	-29.94%	-36.06%	-55.92%
Small Industry	-18.25%	19.64%	5.22%	4.96%
Medium Industry	-17.72%	19.97%	4.01%	4.09%
Large industry	-18.66%	20.01%	7.14%	7.14%
Public Water Work (S)	2.40%	2.34%	9.92%	9.72%
Public Water Work (M)	2.94%	2.86%	2.78%	5.41%
Public Water Work (L)	8.07%	9.09%	8.04%	9.09%
Mixed Load	0.92%	2.73%	2.65%	2.59%
Total	-3.03%	10.11%	6.14%	5.25%

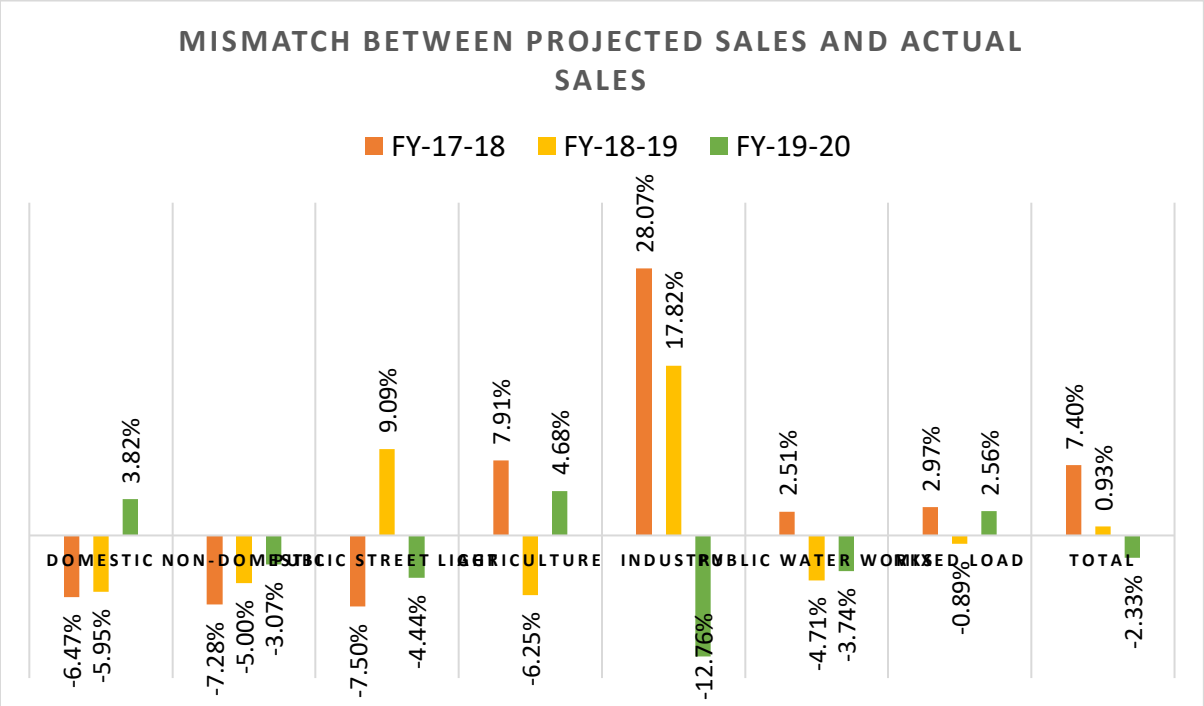
Further, the sales growth is likely to be significantly impacted because of the lockdown and decreased economic activity. The impact of Covid is also likely to extend to FY22 and 23 based on forecasts of many expert agencies. Hence, the projections need to be prudently made based on recent trends and economic forecasts for the state of Rajasthan.

The petitioner has considered an additional sale of 5% over and above the projected BAU 7% growth in domestic category for FY20-21. The petitioner has also not submitted category wise provisional sales for the three Q1- Q3 (April 2020-December 2020) the period during which impact of Covid was significant. We submit that the petitioner shall file the petition with the provisional sales based on actual values instead of the estimated sales projected.

Our analysis in the Figure 1 from the data of the previous tariff and true up petitions for the past 3-years shows there is significant mismatch between the projected sales proposed by the petitioner in the tariff petition and the actual sale reported in the true up petition across all categories. The projections also do not take into account sales migrations because of rooftop solar across different categories.

Such discrepancies in estimation of electricity sales have a significant impact on the overall performance and planning of the Discom, adding unnecessary additional burden on the consumers.

Figure 1: Mismatch between the projected and actual sales between FY18 and FY20 of different category consumers



We further submit that the petitioner shall review the current practice projecting the sales on the basis of historical data, using category wise CAGR. We further submit that the commission shall direct the petitioner to take into account the rapidly changing socio-economic, demographic and technological changes with the help of econometric models and resubmit projected sales for the overall MYT period and revise the projections in Table 7. The petitioner is also requested to provide category-wise data of solar rooftop capacity installed in the last 5-years.

Traction Load and EV Charging Stations

Our Comments

It may be noted that a considerable number of sales of Electric Vehicles have been happening in Rajasthan in FY 20-21. These sales are spread across two, three and four-wheeler categories. An EV cell has already been incorporated within AVVNL as per the mandate of the Commission. We request the petitioner submit details of the progress/status of the EV Cell and the activities undertaken in the FY 20-21 along with the detailed activities proposed for the MYT period.

We also request the petitioner to clarify why the supply to the Indian Railways is not categorised as the traction.

SALES PROJECTIONS FOR AGRICULTURE CATEGORY

Conversion of Agriculture (Flat) To Agriculture (Metered)

Our Comments

The petitioner in section 3.23 proposed the conversion of the flat category consumers to metered over the MYT period with majority expected to be converted by FY 2023-24. Our analysis of the tariff petitions between FY 2014-15 to FY 2019-20, indicate that the petitioner has time and again made similar claims over the past 6-years.

Table 4: Details of the proposed conversion of Agriculture flat metered consumers to Agriculture metered consumers between FY15 and FY20

Year	Number of Consumers at beginning of Year	Proposed Conversion in the Year	Number of Consumers at the end of Year
2014-15	58481	10000	48481
2015-16	58051	15000	58051
2016-17	47691	10000	37691
2017-18	37691	15000	22691
2018-19	36785	5000	31785
2019-20	28066	5000	23066

From Table 4 it is evident that targets of the conversion proposed by the petitioner in tariff petitions were consistently not achieved, and the deviation in trends also indicate possible manipulation of actual numbers.

Hence, we submit that the commission shall have serious cognisance of the issue and mandate 100% meter agriculture connections by the end of FY 21-22.

Specific Consumption of Agriculture (Flat) Consumers

Our Comments

The commission has consistently approved the specific energy consumption (SEC) of 1945 kWh/kW/year for flat rate agriculture consumers in the last six tariff petitions. The petitioner claimed the same for the MYT period.

We would like to bring to the notice of the Commission the report of Working Group for Agriculture Consumption Study in Maharashtra (Working Group) undertaken for Maharashtra

Electricity Regulatory Commission. A brief synopsis of the report and our analysis for Rajasthan is attached in Annexure I for the consideration of the Commission.

It may be noted the SEC for unmetered consumers is considered as highest in Rajasthan amongst the states of Gujarat, Maharashtra and Punjab, despite water intensive cropping being uncommon in Rajasthan. While high average connected load per consumer may be attributed to lower water levels, the same does not necessarily apply for SEC. The Working Group in Maharashtra found various discrepancies in reporting of electricity sales data for agriculture feeders and estimation of agriculture sales. Such discrepancies are also highly likely in Rajasthan also.

Hence, it is our submission that SEC shall be capped at 1,093kWh/Hp/annum or 1,466 kWh/kW/annum. It is also requested that the Commission institutes an independent study to ascertain the same.

Distribution Loss

Our Comments

The petitioner claims in the Section 3.29 that the actual distribution loss for FY 2019-20 stood at 17.21%. While in the Sub-Section 10 of Section 29 35.19 of the Notes forming part of the Financial Statements year ended on 31st March 2020 of the Annual Report 19-20, the petitioner declared the AT&C loss of 21.99%

As per the tripartite MOU signed by the petitioner under the UDAY scheme, the petitioner agreed to reduce the AT&C losses to 15% by the end of FY18-19. Despite receiving UDAY's benefits as per the MOU, the petitioner failed to achieve the targets.

The distribution loss as a parameter does not take into account the commercial losses due to the inefficiencies in the working of the petitioner and thus transferring it onto the consumers.

The RERC (Terms and Conditions for Determination of Tariff) Regulations, 2019, sub regulation 75 (3) and 75 (4) mandate the Distribution Licensee to propose a target for loss reduction and improvement in collection efficiency for the ensuing year as well as for the subsequent years of Control Period and give details of the measures proposed to be taken for achieving the targets proposed. Accordingly, the Commission shall fix a target for reduction of distribution losses and improvement in collection efficiency for the ensuing years of the Control Period.

The petitioner submitted the targets of collection efficiency as 100% for the MYT period which has been the practice even in the previous tariff petitions. But the data from the audited accounts of FY19 submitted by the petitioner in F7.2 of MYT formats annexure indicate a collection efficiency of 93.55%.

We recommend the commission to fix achievable targets for the collection efficiency and mandatory penalise the petitioner for not achieving during the truing up of accounts for the corresponding year.

We request the commission to take serious note of this parameter. We suggest the commission while approving the petition should prescribe the AT&C loss trajectory along with the distribution loss trajectory, collection efficiency on similar lines with the other state regulatory commissions. We suggest the commission to incorporate the methodology prescribed by the CEA & Ministry of Power to compute the AT&C of the petitioner. This shall bring the operational performance metric of the petitioner in line with the rest of the industry.

The petitioner submitted a list of measures taken by the petitioner for reduction of Distribution losses. We submit that the petitioner shall provide the quantified details of each of the measures undertaken and the outcomes of such measures in detail along with the trajectory and target-based measures for improving collection efficiency as mandated by the regulations.

Transmission Loss

Our Comments

We would also like to highlight that the inter-state transmission losses are technical in nature. The transmission companies have been making investments in the sector to the tune of thousands of Crores every year and it is expected to have effect on the losses. But the petitioner considered a losses and transmission charges as constant for the MYT period. The projections need to be revised accordingly.

The inter-state transmission losses claimed by the petitioner at 3.15% for the entire MYT is high considering the industry standards. In comparison, MSEDCL -reported inter-state losses of 3.07% (FY 18-19 to FY 24-25) and Delhi reported 2% (FY 20-21).

The Commission may also note that transmission losses in Rajasthan are far above the global standards. For instance, the United States reports losses of less than 2% for the National Grid, and the United Kingdom reports losses of 1.7%. Even in the neighbouring countries of China and Bangladesh, reported overall transmission and distribution loss are 5.9% and 10.3 %, respectively. We request that the Commission mandates a trajectory for bringing the transmission losses to less than 2% within the MYT control period, and additional losses shall not be passed on to the distribution company and consumers.

Energy Balance Calculation

Our Comments

We believe calculations for the provided Table 13: Energy Balance of Discom for MYT period in the petition are erroneous. The calculations made for Energy Required at Discom

Periphery, Energy Required at State Periphery and Net Energy Requirement do not match the computed values as per our calculations in Table 5. We submit that the Discom shall clarify the same based on our below calculation.

Table 5: Calculations for the Energy balance for the MYT period based on data submitted by the petitioner

Particulars	**Calculation**	**FY20**	**FY21**	**FY22**	**FY23**	**FY24**
Estimated Sales*	A	17,244	16,722	18,413	19,543	20,569
Distribution Loss (%)*	B	15.55%	16.00%	15.00%	14.50%	14.00%
Energy Required at Discom Periphery	C = A/(1-B)	20419	19907	21662	22857	23917
Intra-State Transmission Loss (%)*	D	3.33%	3.35%	3.31%	3.30%	3.30%
Energy Required at State Periphery	E= C/(1-D)	21123	20597	22404	23637	24734
Energy available from state source*	F	14,721	14,406	15,933	16,911	17,579
Inter-State Transmission Loss (%)*	G	3.15%	3.15%	3.15%	3.15%	3.15%
Energy to be procured from outside state	H = (E-F)/(1-G)	6610	6393	6681	6945	7387
Net Energy Requirement	I = H+F	21331	20799	22614	23856	24966
Net Energy Requirement as reported by AVVNL		21,779	21,381	22,929	24,108	25,262

**values from the petition*
Energy in MUs

We submit the petitioner shall revise the calculation to appropriately account the intra-state and inter-state losses on overall power procured and power procured from outside the state respectively.

Power Purchase Cost

Our Comments

The petitioner in section 4.9, the petitioner submitted that "the state already has sufficient tied up capacity." The petitioner is requested to the submit the details and progress of the currently contracted capacity from Centre/State/Private Sector plants which are under construction.

We suggest the commission direct the petitioner to undertake a study to assess the quantum of stranded capacity and analyse the plants with no reliable/efficient fuel linkages (gas/coal) and recommend an action plan to address the issues to reduce the burden of the capacity charges.

Fixed and Variable Charges

Our Comments

The petitioner has claimed that the energy procurement is done on the basis of the Merit Order Dispatch (MoD). We have analysed the publicly available data from the Merit India portal of the Ministry of Power for the period of 09.02.2021 to 16.02.2021.

Table 6: Deviation in the Energy Scheduled against the Merit Order Dispatch Principle.

Deviation between Declared Capability of the day and Scheduled									
Plant	**Variable Cost (Rs/Unit)**	**09/02/21**	**10/02/21**	**11/02/21**	**12/02/21**	**13/02/21**	**14/02/21**	**15/02/21**	**16/02/21**
MAHI	0.3	0.14%	0.63%	0.14%	29.51%	1.07%	2.30%	5.62%	0.10%
CGPL MUNDRA UMPP	1.66	7.37%	16.67%	0.00%	20.30%	0.00%	1.04%	0.00%	8.15%
CSTPP UNITS	2.23	20.88%	24.44%	26.12%	21.48%	21.92%	4.21%	4.64%	3.35%
KOTESHWAR	2.4	16.75%	25.12%	25.60%	26.16%	19.70%	9.50%	0.29%	2.82%

TANDA-II	2.61	14.47%	16.00 %	17.00 %	21.84 %	14.89 %	19.37 %	15.95 %	17.79 %
SSCTPS	2.73	27.31%	27.78 %	27.31 %	37.33 %	20.50 %	25.51 %	7.61%	8.35%
UNCHAHAR IV	2.81	19.68%	18.90 %	18.61 %	23.38 %	15.83 %	18.57 %	16.17 %	17.13 %
MEJA	2.82	16.36%	23.91 %	5.75%	18.25 %	15.69 %	18.32 %	15.29 %	15.89 %
SEWA-II HEP	2.94	29.39%	24.12 %	40.02 %	31.03 %	30.15 %	27.63 %		
UNCHAHAR I TPS	2.98	27.29%	19.86 %	35.57 %	28.14 %	26.43 %	24.57 %	20.71 %	61.86 %
UNCHAHAR-III TPS	2.98							23.36 %	27.41 %
UNCHAHAR-II TPS	3.01	28.26%	21.59 %	42.45 %	29.22 %	31.87 %	25.62 %	22.25 %	25.38 %
DADRI-II TPS	3.07	28.01%	19.87 %	41.53 %	27.80 %	35.88 %	25.03 %	22.42 %	24.05 %
Min Procurement Cost from Exchange (Rs/unit)		2.58	2.67	2.60	2.29	2.43	2.50	2.71	2.70
Avg Procurement Cost from Exchange (Rs/Unit)		3.77	3.91	3.90	3.97	3.92	3.18	4.08	3.90
Max Procurement Cost from exchange (Rs/unit)		5.70	5.71	6.00	6.05	6.05%	4.43	6.00	6.00

It is observed that despite the Merit Order rules, the energy from power plants with least variable cost are not scheduled to their fullest declared capability for the day. In the cases highlighted in Table 6, this deviation is to the tune of more than 15%. The reasons for such deviation are also not provided. At the same time, power is procured from the exchange at comparatively higher cost during each day.

The petitioner is requested to provide a clarification for defiance of MOD principles and procurement of expensive power from exchange despite availability of excess contracted capacity. The Commission is requested to deny all additional costs that are incurred due to non-compliance of Merit Order Dispatch.

Transmission & SLDC Charges

Our Comments

The petitioner submitted constant transmission charges for the entire MYT period in Table 15 of the petition, despite the increase in the amount of projected sales. We submit that the petitioner shall take due note of this, make changes to reflect the growth in sales and revise the transmission charges for the entire MYT period.

Total Power Purchase Cost

Our Comments

We request the Commission to direct the petitioner to improve its power procurement practices. The Commission is requested to issues necessary orders to ensure accountability by the petitioner and Rajasthan Urja Vikas Nigam. A detailed study shall be undertaken to optimise the power procurement portfolio based on base load, intra-day, and seasonal variations in electricity demand.

Operation and Maintenance Expenses

Our Comments

The petitioner in the Annexure: MYT Formats, sheet F2.1 FY19 indicated that the Distribution Franchisee (DF) is provided bulk energy at an average rate of Rs. 6.44/kwh. The entire operational and maintenance activities for the area served by the DF are undertaken by the DF while the petitioner holds no responsibilities for the work in the same region. Hence, we submit to reject the following prayer made by the petitioner.

6.5 Discom prays to the Hon'ble Commission to kindly include the sales in the distribution franchisee area, while approving the O&M expenses.

We submit to the Commission that all per unit norm expenses - Employee Expenses/ A&G Expenses/ R&M Expenses of the O&M shall be approved with reference to the energy sales excluding the sales made to the DF.

The petitioner has prayed for additional O&M expenses due to COVID in the petition. We submit that the petitioner shall furnish the details of the pay-cuts enforced for the personnel during the same period along with reduction in operating fixed costs of the petitioner due to reduced workforce for the period of lockdown enforced.

Further, the petitioner is also requested to provide details of savings incurred during lockdown because of deductions in salary of employees, reduced intensity of operations and fuel cost reduction for generation.

Terminal Benefits

Our Comments

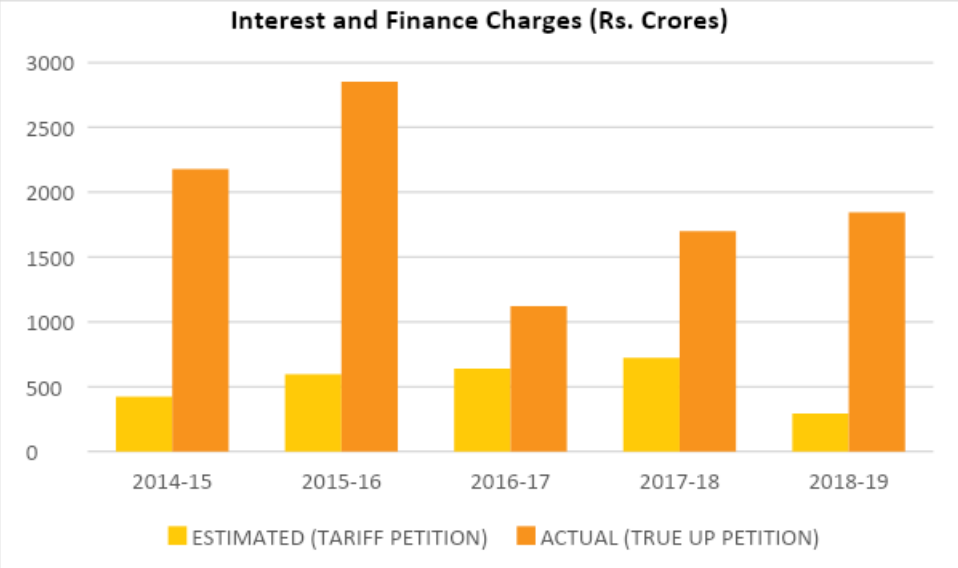
The petitioner in Table 2 claimed a constant terminal benefit of Rs. 630.83 Crores for the entire MYT period. We request the petitioner to explain why there was no escalation of the Terminal Benefits over the MYT period, despite the expenses are subjected to inflation and has seen an increasing trend in the past years.

Interest and Finance Charges

Our Comments

From our analysis of previous tariff and true up petitions, it is evident from Figure 2 that there has been a significant increase in the interest finance charges when truing up.

Figure 2: The details of the estimated and actual costs incurred under the heads Interests and Finance Charges



Hence, the petitioner is requested to quote realistic charges for interest and finance costs for the MYT control period. Alternatively, the petitioner may provide an appropriate justification for the charges considered in the petition with assurance that such significant deviation shall not be entertained during truing-up.

Bad Debts

Our Comments

The petitioner has requested the commission to exercise the Regulation 95 of RERC Tariff Regulation to increase the allowable bad debts norms by 20 times from 0.25% to 5%. We submit that the commission shall exercise the "regulation 95 - power to remove difficulties" judiciously and in the rarest of the cases when it is absolutely necessary. We submit that the current proposal by the petitioner does not fall into those criteria and hence we request the commission to reject the proposal as it shall increase the (increase in) burden on the consumers caused by inefficiency of the petitioner to recover the dues. It can also set a poor precedent, leading to poor practices in future...

Non-Tariff Income and Other Income

Our Comments

For the MYT control period, the estimates for the wheeling charges, cross subsidy surcharge and additional surcharge are taken as constant and equal to the actual values of FY20. The petitioner fails to accommodate the increasing trends of migration to Open Access along with increase in captive solar for industries into estimates. We submit that the petitioner shall revise the estimates for non-tariff income by including the aforementioned issues.

Subsidy from State Government

Our Comments

With reference to the Table 40 – the subsidy support from State Government for MYT period, the petitioner is requested to clarify what constitutes the "Subsidy against compounding charges."

Tariff Realisation

Our Comments

It is observed that cross-subsidy in domestic categories is quite inefficiently distributed, where the economically poor are receiving inadequate benefits, while the affluent are receiving benefits even when they don't need it.

We proposed a tariff structure in our submission to the MYT petition filed by JVVNL for FY 21-24. We request the commission to consider a tariff structure on similar lines for the AVVNL. The tariff structure proposed by CEEP ensures equitable allocation of subsidies and does not subsidies the economically privileged and shall serve the following purposes

1. Ensuring benefits of cross-subsidy to the under-privileged
2. Improving affordability, and hence possibly reducing incidents of electricity theft
3. Reducing overall cross subsidy burden for industrial and other categories
4. Making energy efficiency attractive for high consumption categories
5. Demand based billing shall provide signals for optimisation of power procurement portfolio

Change In Eligibility Of Dharamshalas Under Domestic Category

Our Comments

We request to the Commission that Dharamshalas, whether outside or within temple premises, typically do not need the benefit of lower electricity tariffs. Hence, we appeal to the Commission, that dharamshalas with connected load less than 5kW shall only receive the benefit of lower category tariff.

Capital Investment Plan Petition

Our Comments

The petitioner is requested to revise the petition and submit in the format as per the Rajasthan Electricity Regulatory Commission (Investment Approval) Regulations, 2006. This includes:

- Submission of Cost benefit analysis for all schemes of distribution licensee.
- Details of Capital expenditure on Institutional strengthening, consumer services and Preliminary works shall not require cost benefit analysis
- The petitioner is requested to file the compliance of the proposed investment plan to the below regulations.
    - Regulation 4 specifies that “the overall size of the investment proposed in a year, except deposit works, shall be based on growth of business, reduction in losses and inflation rate.”
    - Regulation 9 “the size of the annual investment plan (including deposit works of the other agency) and consumer/user’s contribution) shall not exceed the ceiling limit determined based on growth of load/sales and annual inflation rate.
- Regulation 4 defines the ceiling limits for schemes under various heads along with their

order of priority. The petitioner is requested to submit the capital investment as the breakup in Table 7 as specified in the regulation.

Table 7: Order of priority and ceiling limit of capital expenditure for the implementation of the annual plan for Distribution licensee:

S.no	Particular	Ceiling
1	Ongoing schemes and carried over liability	5%
2	(a) Schemes for power evacuation	5%
	(b) Schemes for defense /strategic importance and water supply	5%
3	Rural Electrification	12.5%
4	Other schemes based on cost benefit analysis	
	(a) Reduction of system losses:	12.5%
	(b) System Strengthening:	12.5%
	(c) System Augmentation:	12.5%
	(d) System Improvement:	12.5%
5	(a) Capacitor Installation	7.5%
	(b) Load dispatch & Metering	7.5%
	(c) Consumer Servicing	5%
	(d) Institutional Strengthening.	1%
6	Project preparation and preliminary works including Survey and investigation, statutory clearances, and consultancy	3%
7	Supply to Consumers	10%

Smart Metering/ AP Supply (2 Block Regime)

Our Comments

The petitioner is requested to submit the details of the works proposed to be executed in the MYT Period under the Smart Metering scheme - Rs. 140 Crores, and AP Supply (2 Block Regime)- Rs. 180 Crores with their physical targets

Feeder Segregation

Our Comments

The petitioner proposed an investment of Rs. 1550 Crores for feeder segregation. We request the petitioner to submit the output achieved through the feeder segregation in the previous years and the benefits accrued due to the investments. Along with details of the proposed works undertaken under the scheme in the MYT period.

Additional Surcharge

In the petition, section 12.20 the petitioner submitted the calculations for the additional Surcharge for the FY 2020-21 based on data of FY 2019-20.

Our Comments

In the below calculation of the stranded power due to Open Access submitted by the petitioner, the box up capacity is also taken to compute the net stranded capacity for each time block of each day of the month (Column 4). The issue of box up capacity arises due to the reasons not attributable to the open access consumers. The reasons range from MoD or lack of fuel supply or others. Hence, we submit that this component shall not be used to compute the net stranded capacity for each time block of each day of the month for the additional Surcharge calculations.

Month	Backdown Aggregated over 96 Time Blocks	Boxup Aggregated over 96 Time Block	Boxup + Backdown aggregated over 96 time blocks	Open Access Aggregated over 96 Time Blocks	Backdown due to Open Access Aggregated over 96 Time Blocks
	MW	MW	MW	MW	MW
	(1)	(2)	(4)	(5)	(6)
April	3448562	3420385	6868947	1264093	1257041
May	2415860	1504250	3920110	757089	650219
June	2383093	533500	2916593	624178	503269
July	3885254	3733525	7618779	826729	811988
August	4696485	4516645	9213130	1190429	1173129
September	2759821	1775490	4535311	572845	530473
October	4455757	2054120	6509877	423384	423384
November	4238753	2108680	6347433	615074	598225
December	3332132	2589930	5922062	1017782	879707
January	3855801	2446170	6301971	1213683	971566
February	2807994	2196830	5004824	800368	558614
March	4260230	6481215	10741445	397471	355171
Total	**42539743**	**33360740**	**75900483**	**9703125**	**8712786**

Column 1, 2 & 3 represent sum of back-down, boxup and bilateral respectively for each time block of each day of the month in MW. Column 4 represents sum of net stranded capacity for each time block of each day of the month in MW. Column 5 represents sum of net open access respectively for each time block of each day of the month in MW. For Column 6, lower of net stranded capacity and open access has been considered for each time block separately

Annexure -I

Synopsis of the report of Working Group for Agriculture Consumption Study in Maharashtra (Working Group) undertaken for Maharashtra Electricity Regulatory Commission.

The field survey of nearly 1.33 lakh consumers spread across the state of Maharashtra by the working group was undertaken to analyse Agriculture metering status. Below are some of the findings of the WCG, which present the discrepancies in the estimation of the average number of hours for using agriculture pumps per connection in Maharashtra.

1. Nearly 70% of surveyed consumers use pumps between 50 and 150 days a year. 90% of consumers use pumps for less than 200 days a year, and just about 1.5 % of consumers use pumps for more than 250 days a year.
2. Of the 502 feeders surveyed, 307 feeders have registered actual load more than 100% of the total connected load, with 28 of them recording more than 300% of the total connected load. This implies a rampant prevalence of unauthorised use of electricity.
3. Out of these 70 feeders considered for full-year data analysis, 42 feeders (60%) have registered excess load (more than the total connected load on the feeder) for at least 10 hours, while 31 feeders (44%) have registered more than 125% of the connected load for at least 10 hrs.
4. For 34% of the feeders, more than 25% of annual feeder input was during excess loading.
5. Based on the consumption calculated for 386 feeders, the working group recommended an estimated agricultural consumption norm as 1,093 kWh/HP/yr. or 1,465 hrs. /annum.

The state of Maharashtra, with water-intensive agriculture crops like Sugarcane and with lift irrigation practices, considers 1448 kWh/HP/annum for estimating unmetered agriculture consumption. In comparison, the Rajasthan Electricity Regulatory Commission (RERC) considered the specific consumption of 1945 kWh/kW/year (1450 kWh/HP/annum) for estimating the consumption by unmetered connections.

According to the analysis by Maharashtra Veej Grahak Sanghatana, for regions where water-intensive crops, especially Sugarcane, is grown, the annual hours of pump operation for lift irrigation schemes, which get 16 hours per day supply, are 1875 hrs. This implies a specific consumption of 1,398.75 kWh/annum/Hp. Despite the water Table being lower in Rajasthan than the other states, since Discoms in the state supply electricity for irrigation needs for about 6 hours per day, it clearly indicates that the specific consumption assumption of 1,450 kWh/annum/Hp in Rajasthan is a significantly exaggerated Figure.

The estimate arrived at by the working group is also supported by the study conducted by Maharashtra State Electricity Board (MSEBHCL) through IIT-B, which estimated AG Index for Maharashtra as 1063 hours per annum for FY 15-16.

Since the cropping of water-intensive crops in Rajasthan is relatively limited, it may be considered that the majority of the agriculture consumers in Rajasthan are using pumps for less than 150 days a year. This shall correspond to a maximum annual average pump usage of 900 hrs or a maximum SEC of 671.4 kWh/annum/Hp.

Analysis Of Data Reported By Rajasthan Discom

For the computation of the agriculture sale in the tariff and true-up petition, the Commission considered the same specific consumption across the three Discoms in the state. However, a brief analysis of the data in Discom's tariff petitions indicates that each Discom has a different mix of the metered and unmetered connection. The same is presented in Table 8.

Table 8: Agriculture connection data across three Discoms in Rajasthan

Agriculture (FR) Sales for FY 18-19	**JVVNL**	**AVVNL**	**JdVVNL**	**Total**
Agriculture Metered Supply (MU)	6956	4952	9799	21707
Agriculture Flat Rate Supply (MU)	259	868	1224	2350
% of Flat Rate Sales in Agriculture	3.58%	14.91%	11.10%	9.76%
No of flat-rate consumers	10506	31785	30588	72879

Given the diversity in cropping patterns, water availability, and climatic zones, the specific consumption for each Discoms shall be determined separately. This shall also prevent the transfer of the inefficiencies of one Discom to another and avoid cross-subsidisation amongst the Discoms.

Recommendations for estimations of un-metered electricity sales to agriculture consumers in Rajasthan:

It is highly unlikely that Rajasthan, with comparatively less water-intensive agriculture practices than Maharashtra, has higher specific consumption for agriculture connections. There is a high likelihood of over-estimating unmetered agriculture consumption of electricity in Rajasthan, possibly due to the incorrect estimation of the overall agriculture load, improper consumer indexing, theft/unauthorised use of agriculture feeder, defective metering.

We strongly recommend that a detailed study is conducted in Rajasthan. In the meanwhile, the following measures may be adopted for Rajasthan to improve the accounting of unmetered agriculture sales.

1. Maximum specific consumption to be allowed for estimation of unmetered electricity sales shall be capped at 1,093 kWh/Hp/annum or 1,466 kWh/kW/annum.

2. The specific consumption shall be computed for each Discom separately to account for cropping and ecological diversities.

3. Launch a drive to provide curtail theft in agriculture feeders and improve energy efficiency.

4. Develop a strict framework for monitoring and reporting of actual hours of supply to agriculture consumers, especially unmetered consumers.

5. Initiate a detailed feeder study by independent organisations to quantify SEC for unmetered connections.

Reference:

Prayas (Energy Group) (2020) Working Group for Agricultural Consumption Study – Final Report. Maharashtra Electricity Regulatory Commission
https://www.prayaspune.org/peg/publications/item/457-working-group-for-agricultural-consumption-study-final-report.html