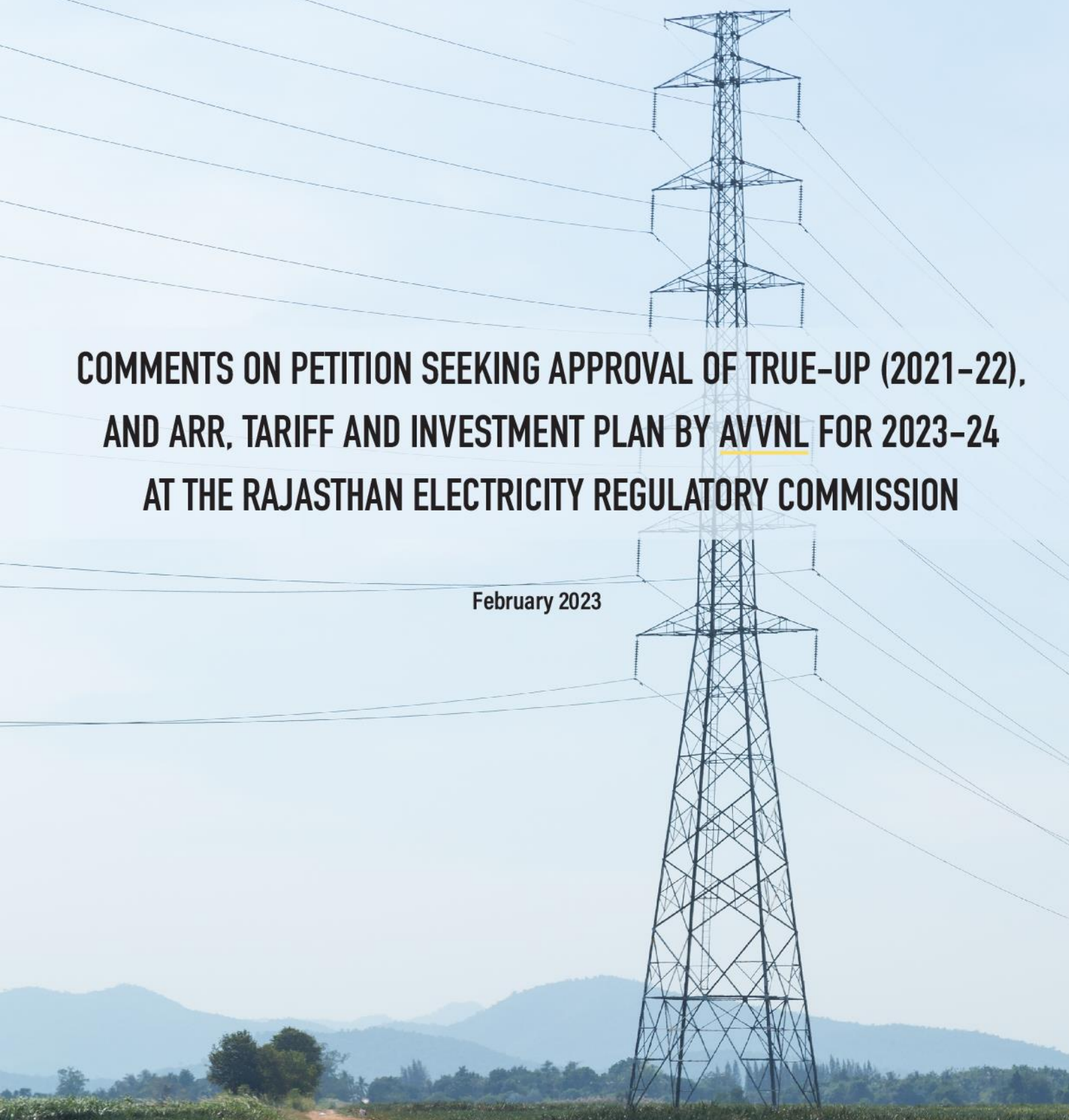
Submitted to Rajasthan Electricity Regulatory Commission



COMMENTS ON PETITION SEEKING APPROVAL OF TRUE-UP (2021-22), AND ARR, TARIFF AND INVESTMENT PLAN BY AVVNL FOR 2023-24 AT THE RAJASTHAN ELECTRICITY REGULATORY COMMISSION

February 2023

CENTRE FOR ENERGY, ENVIRONMENT & PEOPLE

Ajmer Vidhyut Vitran Nigam Ltd. ("AVVNL") filed the True-Up Petition for FY 2021-2022 and ARR, Tariff, and Investment Plan for 2023-24 for approval before the Rajasthan Electricity Regulatory Commission ("RERC'') as per the provisions of the RERC (Terms and conditions for Determination of Tariff) Regulations, 2019.

Following comments are submitted by CEEP with regards to the above petition.

A. Comments on True-up Petition For 2021-22

1. Specific Consumption For Agriculture (Flat Rate) Consumers

The specific consumption for Agriculture Consumers (FR) approved by the Commission for FY 2021-2022 is 1707 kWh/KW/annum. However, the Discom in its true-up petition considered it 1945 kWh/KW/annum. It is requested that the Hon'ble Commission make serious note of the same and consider the actual units (MU) sold as recalculated below based on specific consumption at 1707 kWh/KW/annum:

Table 1: Calculation of actual total units (MUs) sold on the basis of approved specific consumption

Particulars	**Amount**
Total units sold (MUs) (actuals)	19,987.54
Flat Rate sales (MUs) (actuals)	321.88
Total Connected Load (kW) – Flat Rate	1,65,491.00
Specific consumption (kWh/KW/annum) (actuals)	1945.00
Specific consumption (approved)	1,707.00
Updated Flat Rate category units as per our calculations (MUs)	282.49
Updated Total units sold as per our calculations (MUs)	19,948.15

2. Energy Input and Transmission Losses

In reference to the above point, the total sales to the Agriculture Consumers (FR) needs to be adjusted to the specific consumption of flat rate agriculture consumers approved by the commission which is 1707 (kWh/kW/year) and not 1945 (kWh/kW/year) which is used by AVVNL in computing the total sales. The energy balance is recalculated herein below based on actual Specific Energy Consumption approved by the commission for Agriculture Consumers (FR):

Table 2: Computation of energy balance and power purchase to be disallowed by the Commission based on data from true-up petition for FY 2022

Energy Balance	**Amount**
Updated Total Sales (MUs)	19,948.15
Distribution Loss %	12.73%

Distribution Loss (MUs)	2,909.82
Energy required at Discom Periphery (MUs)	22,857.97
Intra state Transmission loss %	3.31%
Intra-state Transmission Losses (MUs)	782.50
Gross Energy Required at State periphery (MUs)	23,640.47
Energy sourced within state (MUs)	**16,704.16**[1]
Energy required at state Periphery from inter-state sources (MUs)	6,936.31
Inter-state Transmission Losses (%)	2.79%
Inter-state Transmission Losses (MUs)	199.08
Energy sourced outside state (MUs)	**7,135.39**
Gross energy required to be purchased (MUs) (as per our calculations)	23,839.55
Gross energy purchased by Discoms (MUs)	25,571.41
Purchase to be disallowed (MUs)	1,731.86
Short term power purchased (MU)	1087.53
Short term power to be disallowed (MU)	1087.53
Price of short-term power purchased (Rs. Per unit)	4.64
Cost of short-term power to be disallowed (Rs. Crores)	504.61
Quantum of disallowed power purchase from *approved* sources (MU)	644.33
Price of other power purchased (Rs. /unit)	4.08
Cost of other disallowed power purchase (Rs. Crores)	262.88
Total cost of disallowed power (Rs. Crores)	767.49

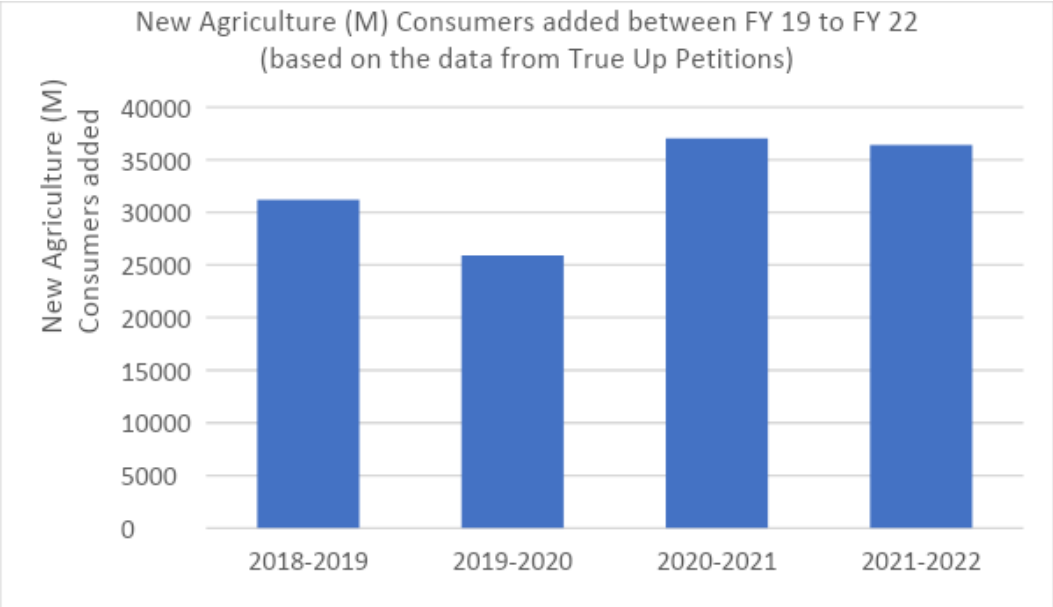
Based on our calculations, 1731.86 MUs of power purchase is to be disallowed by the Commission, where the entire quantum of unapproved (short-term) power purchase of 1087.53 MUs for Rs. 504.61 Crores is to be disallowed: additionally, 644.33 MUs of power purchase from approved sources amounting to Rs. 262.88 Crores is to be disallowed. It is submitted that the commission may accept our submissions to approve the costs as per our suggested methodology. Further, it is submitted that the intra and inter-state transmission losses be segregated and specified separately.

3. Trends Of Adding New Agriculture (Metered) Consumers

[1] Includes ANTA GTPS, NTPS Bhadha II (Solar), Neyveli Lignite Corporation Ltd., NPCIL, RAPS, RVUN, GLTPP, Rajwest Power Ltd., NCES (Wind forms and Solar) and Biomass.

While it is appreciated the consistency in the trends in addition to agriculture (metered) consumers. It is humbly submitted that the Hon'ble Commission direct the petitioner to provide the zone-wise current pendency of the agriculture connection (metered) and action plan for its completion. It is further submitted that the Hon'ble Commission may pass appropriate directions to enable the completion of 100% access within a stipulated timeline.

Figure 1: New Agriculture (M) Consumers added between 2018-19 and 2021-22 (based on data from True-up Petitions)



4. Collection Efficiency and Details of Receivables

While the collection efficiency of AVVNL is reported as 100%, information regarding total receivables from different consumer categories is not provided. This information is required to understand a holistic picture of the collection efficiency of Discoms with a breakdown of total collection in the amount collected towards the dues from previous years, and that for the current year. Thus, we recommend that the petitioner furnish details regarding the status of receivables due and collected from consumers in the current year and the previous year.

5. Details of Late Payment Surcharge

It is humbly submitted that the Hon'ble commission may direct the Petitioner to provide month-wise details of the late payment surcharge paid by the Petitioner in the control period, as while the late payment surcharge is not a pass-through, the same shall provide an insight into the operational efficiency of the petitioner.

6. Feeder Segregation Status

feeder segregation is important for better load management including peak load, and reduction of losses and theft. Various central and state-level schemes floated in this regard are described in the petition, however, the data provided does not inform the status implementation of the schemes and the percentage of feeder segregation achieved by AVVNL. It is recommended that the petitioner provide details of feeder segregation achieved, and the status of implementation of schemes in this regard.

7. Construction Of High Voltage Distribution System

The Petitioner notes the execution of a High Voltage Distribution System on a priority basis as a loss reduction measure. It is requested that the Petitioner may provide details of the areas identified for the implementation of HVDS, along with the timeline, and details of whether any priority areas are identified for implementation.

8. BEE Accounting Standards

The Ministry of Power mandated periodic energy accounting for distribution companies on 11.10.2021. Pursuant to this, the BEE issued regulations for quarterly periodic energy accounting standards for distribution companies as per the Energy (Conservation) Act, 2002. The submissions made by AVVNL pursuant to these regulations are analysed, and key inconsistencies are found in terms of T&D losses and quality of data published in the public domain.

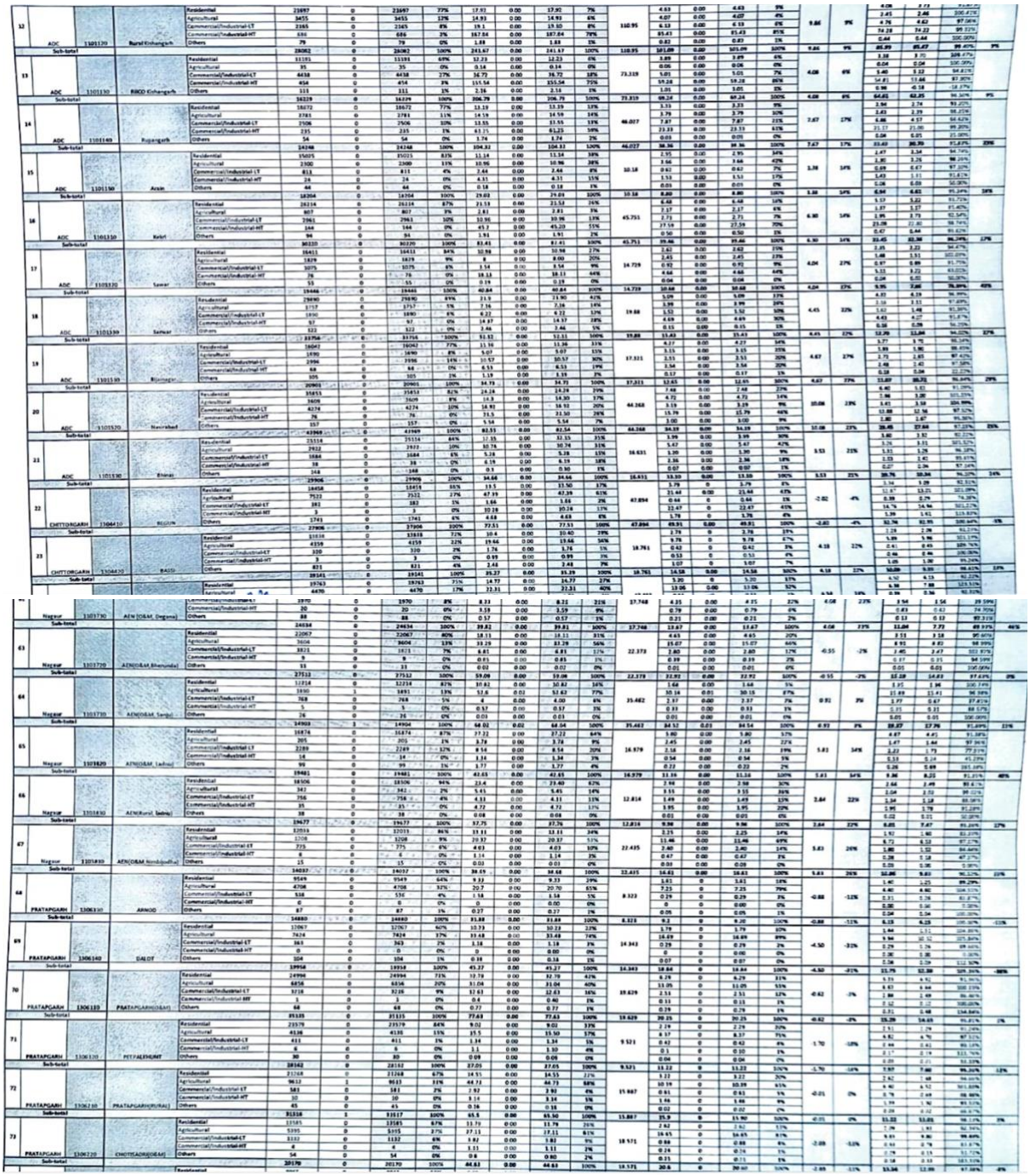
First, the petitioner has reported *negative* T&D losses in some circles (Chittorgarh, Pratapgarh and Bhilwara) during the FY 2021-2022, leading to an unclear picture of the zone-wise losses, and outcomes of loss reduction plans.

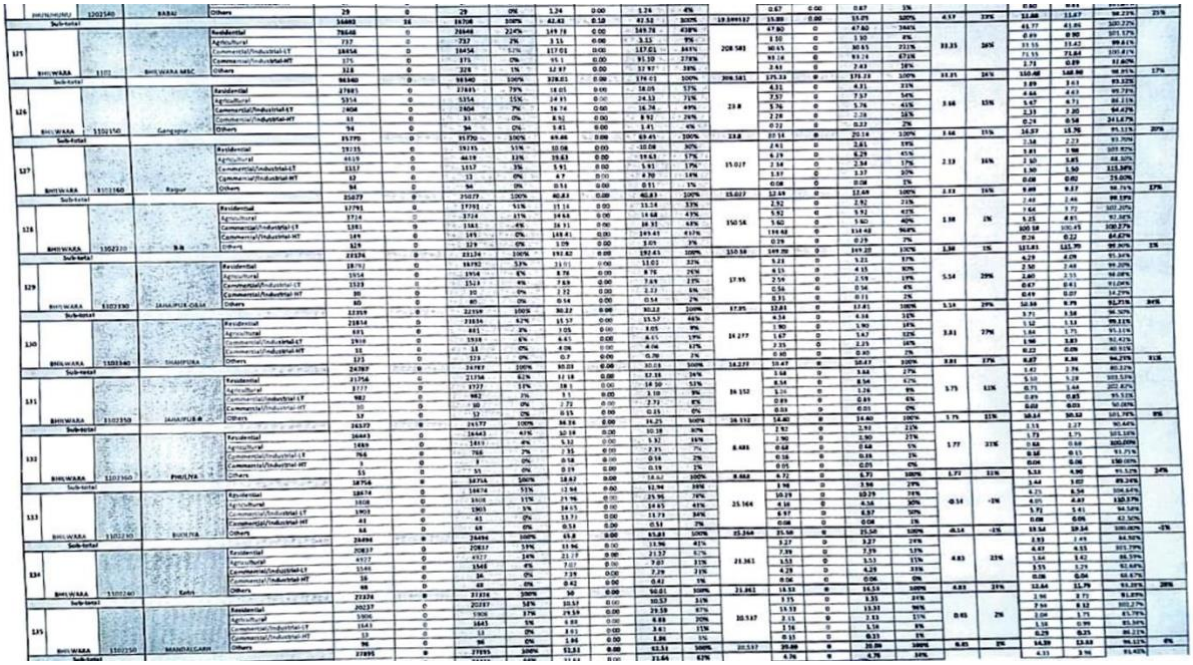
Table 3: Circle wise T&D loss as reported by AVVNL to BEE in the quarter ending June 2022

Name of Circle	T&D loss %
Chittorgarh	-4%
Pratapgarh	-3.2 %
Bhilwara	-2%

Second, the data reported to BEE and made available in the public domain is not in a user-friendly, machine-readable format. An illustration is provided below:

Figures 2, 3 and 4: Division wise losses reported by AVVNL to the BEE in the quarter ending June 2022





Subsequently, it is recommended that the petitioner address the inaccuracies resulting in negative estimates of T&D losses in certain circles and provide consistent data on zone-wise details of losses, and loss reduction action plans with outcomes in a user-friendly, machine-readable format for a comprehensive assessment of distribution losses and efficacy of the loss reduction interventions.

9. Significant Deviation from Approved Power Purchase

The comparative analysis of approved and actual power purchase costs reported the highest deviation for the sources given in the Table below.[2] It is submitted that the Hon'ble Commission may direct the petitioner to provide the reasons for such a significant escalation in the cost of power purchase from approved sources.

Table 4: Deviations from approved power purchase, based on data from true up petition

Source	Percentage deviation
GLTPP	136.60 %
Others	192.71%

10. Significant Deviation in O&M Cost

The O&M cost approved by the commission is Rs. 1603 Crores, whereas the actual O&M incurred by the Discoms stands at Rs. 1895.92 Crores It is submitted that the

[2] Based on the True Up Petition filed for approval for FY 2021-2022.

Hon'ble Commission may direct the Discom to state the detailed reason for such a high increase in O&M cost.

11. Consumer Awareness Expense

The petitioner in its True Up petition reported consumer awareness expense as 0.00%. It is submitted that the Hon'ble Commission may take serious note of the same and direct the petitioner to provide a detailed explanation for not complying with its mandate pertaining to consumer awareness.

12. Significant Deviation In R&M Expense

The approved gross R&M expense is Rs. 197 Crores, whereas the actual gross R&M is stated at Rs. 408.77 Crores It is submitted that the Hon'ble Commission takes serious note of the substantial increase in R&M costs and seeks a detailed list of the R&M initiatives undertaken for the control period and the outcomes of the same in terms of improvement in reliability or other similar metrics.

13. Significant Deviation In Administrative and General Costs

The approved Administrative and General Costs are stated at Rs. 128 Crores, whereas the actual Administrative and General Costs are reported at Rs. 170.46 Crores It is submitted that the Hon'ble Commission may direct the petitioner to provide an explanation for such a substantial increase in Administrative and General Costs.

14. Interest In Unfunded Gaps and Short-Term Borrowing/Interest In Working Capital

The approved Interest on unfunded gaps is Rs. 1300 Crores and Short Term Borrowing/Interest on Working Capital (including LPS paid to generators) is Rs. 87 Crores However, the bifurcation for actual Interest on unfunded gaps and Short Term Borrowings/Interest on Working Capital (including LPS paid to generators) is not provided. It is submitted that the Hon'ble Commission may direct the Discom to provide both bifurcated amounts. Further, it is submitted that the Hon'ble Commission may direct the Petitioner to provide a time-bound plan to liquidate the unfunded gap. It further humbly submitted the commission to create any new regulatory assets while truing up of accounts.

B. Comments on ARR, Tariff, and Investment Plan For 2023-24

1. Projection of Energy Sales For AVVNL Consumers and Distribution Franchisee (DF) Consumers

The Petitioner provides combined sales projections for the areas served by AVVNL and its distribution franchises. However, sales projections by Petitioner in paragraph 11.8

merges the sales to consumers in AVVNL's area with that of the DF areas. Consequently, the sales projections do not account for the distribution losses incurred by the DF and instead, focus only on sales to various categories of consumers in the DF area. It is requested that the Petitioner project sales for AVVNL's area separately from that of the DF, by considering the power sold to DF as a single sale. Escalations in the sales to DF can be computed based on trends of previous years. We further request the Commission to order a detailed performance review of distribution franchises.

Based on the available data, we computed the expected growth rate of the DF as below:

Table 1: Total Unit Sold (MUs) by AVVNL to TPADL (DF) from FY 18 to FY 22 and projected total units sale for FY 23 and FY 24.

Financial Year	Total Unit Sold (MUs)
2017-2018	356.5
2018-2019	528.43
2019-2020	540.46
2020-2021	513.25
2021-2022	536.67
CAGR	10.77%
Projected Unit sales (MUs) for FY 23	594.46
Projected Unit sales (MUs) for FY 24	658.46

2. Projected Sales For FY23 and FY24

The petitioner has filed the CAGR for FY 2023 and FY 2024 in para 11.52 of the petition. According to the petition, the total energy sales for FY 2023 and FY 2024 is stated as 23,083 MUs and 25,322 respectively. The petitioner submitted that

"Furthermore, energy sales in the domestic category of consumers have been on an increasing trend since FY 2015-16; this category of consumers has recorded a 7-year CAGR of 6%. To account for the waning effect of the COVID-19 pandemic, the resultant phenomenon of people working from home and the higher base effect, energy sales for the domestic category of consumers have been conservatively estimated for FY 2022-23 and FY 2023-24."

"The Petitioner has accounted for this increase in estimating the category-wise sales in FY 2022-23. However, energy sales during FY 2023-24 have been estimated conservatively on account of higher base effect."

We request the petitioner clearly state the methodology and assumptions considered for the modification of the sales projections.

Our computations based on different CAGR are tabulated in Table 2. Our calculations indicate that the petitioner's projections exceed our highest CAGR estimates (even after accounting for the rooftop generations).

Table 2: Computation of Projected Energy Sales for FY 23 and FY 24

Category	FY16	FY17	FY18	FY19	FY20	FY21	FY22	CAGR (FY16 to FY 22)	Projected sales for FY23	Projected sales for FY24
Domestic	3,133	3,389	3,483	3,653	4,027	4,280	4,406	5.85%	4,c	4,936
Non-Domestic	1,004	1,088	1,172	1,254	1,325	1,046	1,237	3.54%	1,281	1,326
Public Street Light	82	75	74	84	86	84	88	1.18%	89	90
Agriculture (metered)	3,817	4,151	4,509	4,866	5,288	5,977	6,135	8.23%	6,640	7,186
Agriculture (Flat Rate)	1,112	969	855	590	551	541	322	-18.66%	262	213
S.I.P	285	278	281	273	274	268	271	-0.84%	269	266
M.I.P	804	781	847	854	858	756	871	1.34%	883	895
L.I.P	2,319	2,390	3,348	4,373	4,031	3,935	5,758	16.37%	6,700	7,797
PWW (Small)	260	283	331	359	375	379	367	5.91%	389	412

PWW (Medium)	41	70	49	36	34	36	33	-3.55%	32	31
PWW (Large)	176	201	233	264	285	323	351	12.19%	394	442
Bulk Supply	109	101	104	111	109	82	97	-1.93%	95	93
Traction	0	0	0	0	0	0	2	0.00%	2	2
EV	0	0	0	0	0	0	0	0.00%	0	0
Sum total	**13,142**	**13,776**	**15,286**	**16,717**	**17,243**	**17,707**	**19,938**	**7.19%**	**21,699**	**23,690**

We request the Commission to review the present approach of using CAGR to project energy sales, as the same does not capture a range of factors which may affect demand across categories - for instance, shift of agricultural consumption from night to daytime, consumer migration due to open access, and rooftop solar. We further submit that a more scientific approach should be considered using granular data accounting for advancements in technology – EV, electric cooking, cooling needs and also changing consumption patterns due to climate change and other issues.

0. Solar Rooftop Targets

The petitioner has provided the circle-wise status of the implementation of the grid-connected solar programme as of September 2022 in paragraph 11.48 of the petition. We request the Petitioner to provide the methodology for accounting the projected generation from solar rooftop installations against category-wise consumer sales projections. Further, we request the Petitioner to provide circle-wise targets for rooftop solar installations and provide details of studies conducted to analyse the impact of solar rooftops on grid management.

0. Projection of Sales In The Agriculture Category

It is humbly submitted that the Hon'ble Commission directs the petitioner to provide the details on the impact of the daytime agriculture supply on the peak load and on the grid. Further, it is requested that the Hon'ble Commission direct the petitioner to clarify if daytime irrigation has resulted in an increased requirement of running the motor for a longer duration and consequently increased energy sales. Additionally, it

is requested that the petitioner specify the infrastructure improvements made to facilitate daytime agriculture and clarify if there is an increase in transmission losses, any action plan and study for the same if any.

1. Projection of Conversion From Agriculture Flat Rate To Metered Consumers.

The projections for conversion of total pending agriculture flat rate consumers to metered consumers for FY 23 and FY 24 are mentioned in paragraph 11.23 and Table 30 of the petition. The petitioner's projections in conversion of total pending agriculture flat rate i.e.,2,128 to metered consumers for FY23 and zero pendency for FY24 is highly appreciated.

2, Kusum Component (Pump Level Solarisation)

It is humbly requested that the petitioner specify the circle-wise progress and targets for the installation of pump-level solarisation. Further, it is requested that the Petitioner provide granular data on the adjustment of the projected generation from solar rooftop installations against sales projections for the agriculture category.

3. Projection of Energy Sales (MUs)

The projections for solar energy generation from rooftop solar systems for FY 2022-23 and FY 2023-24 are stated in paragraph 11.50 of the petition. However, the projected energy sales for FY 2022-23 and FY 2023-24 stated in paragraph 11.52 of the petition don't provide details on adjustments for solar energy generation from rooftop solar systems for FY 2022-23 and FY 2023-24. It is submitted that the Hon'ble Commission directs the petitioner to provide details on adjustments for solar energy generation from rooftop solar systems.

4. Distribution and A&T Losses

It is pertinent to note that the petitioner has reported the actual distribution loss for FY 2021-22 as 12.73%, less than the normative loss approved by the Commission i.e., 15%. It is therefore requested that the Hon'ble Commission review the approach of following the targets set in the RDSS target of 14.40% for 2023-24 and approve a more ambitious Figure for loss reduction. Further, it is requested that the Hon'ble Commission directs the Petitioner to submit circle-wise details of loss reduction initiatives undertaken, with a detailed progress report of the initiatives linked to objective outcomes and their implementation timeline.

5. Agriculture Feeder Segregation

Feeder segregation is important for better load management including peak load, and reduction of losses and theft. Various central and state-level schemes floated in this regard are described in the petition, however, the data provided does not inform the

status implementation of the schemes and the percentage of feeder segregation achieved by AVVNL. The petition does not provide the circle-wise status of the segregation of agriculture feeders. It is submitted that the Hon'ble Commission directs the petitioner to provide the said details.

6. Smart Metering

The petitioner in paragraph 11.80 of the petition stated that the DPR of various activities to be carried out under the scheme is prepared to achieve the targeted loss reduction. The same includes targets for the installation of smart meters. It is humbly submitted that the Commission directs the petitioner to provide circle-wise status of the installation of smart meters, especially in the high losses area and the action plan for the next year thereof. Additionally, the currently installed smart meters are generating a lot of data which may be useful to understand consumption patterns, consumer behaviour and be helpful in various O&M activities. Therefore, it is requested that the petitioner provide details on data assessment and governance for smart meters, any study done on impact of smart meters and operational challenges in their implementation if any.

7. Power Purchase Planning

The electricity consumers have witnessed outages recently due to non-supply of electricity by several Generation Companies to the Discoms due to shortage of coal and non-maintenance of adequate coal stock by the generation companies. It is pertinent to note that the electricity exchanges also witnessed high prices during these periods and the consumers had to bear the burden with higher tariffs due to power purchases from the exchange. Accordingly, it is requested that the Petitioner furnish details of relevant action taken by them to hold the generation companies accountable due to non-performance of their supply obligations under the Power Purchase Agreements. Further, the petitioner is also requested to provide measures to be instituted against the generation companies for not maintaining adequate stocks of coal, necessitating power purchases from the exchange, in order to avoid the repetition of the same in future.

Further, it may also be noted that the Petitioner has decided to supply electricity to agricultural consumers during the daytime instead of the erstwhile supply hours of 24 hours, which will shift the agricultural demand to the daytime leading to rise in peak demand during daytime. Thus, the Petitioner needs to take adequate steps to manage supply of electricity in peak hours. This shall involve developing capacities for load forecasting, scheduling and dispatch management, demand side management initiatives etc. Therefore, the Petitioner is requested to provide information regarding the plans for peak load management.

8. O&M Expenses For Distribution Franchises

The petitioner in paragraph 14.5 of the petition has requested to include sales to the distribution franchises in the O&M expenses. However, it is pertinent to note that the petitioner does not undertake O&M in the distribution franchise area, and it only supplies electricity to the DF at predetermined prices. It is therefore requested that the Hon'ble Commission disallow the inclusion of sales to the distribution franchises in the O&M expenses.

9. Enterprise Resource Planning (ERP)

It is submitted that the Hon'ble Commission directs the petitioner to submit the status of the implementation of Enterprise Resource Planning, considering it is long overdue.

10. Plans For Demand Management

The petitioner in its petition paragraph 12.33 (c) has submitted that Rajasthan faces huge variations in average and peak demand. It is submitted that the Hon'ble Commission directs the petitioner to specify the plans for demand management if any.

11. Schedule For Recovery of Regulatory Assets

The Petitioner has computed the interest liability on the unfunded gap for FY 2023 and 2024 in Table 69 of the present petition as Rs. 1,534 Crores and Rs. 1,466 Crores respectively. It is humbly submitted that the Hon'ble Commission directs the petitioner to file the schedule for the recovery of the regulatory assets.

12. Reduction of Interest Costs

The Petitioner has described a four-step approach in paragraph 14.32 of the petition for the reduction of interest costs. It is humbly submitted that the Hon'ble Commission directs the petitioner to file details pertaining to the impact or expected impact of these measures and provide quantified results of savings on interest costs.

13. Higher Transmission Loss and Distribution Losses In Energy Balance

It is pertinent to note that the intra-state losses considered by the petitioner are based on the RERC ARR order for RVPN and the same are much higher than the normative loss projected and approved in the last 5-years. It increased from 3.31% to 3.80% and this 15% increase is being attributed to the state government's policy decision of daytime supply of electricity to agriculture consumers.

Our calculations indicate the inflated projection of these losses shall increase the overall required energy purchase by 0.52% for both FY 2022-23 and FY 2023-24. The resultant increase in the total cost will be Rs. 57.04 Crores for FY 2022-23 and Rs. 60.99

Crores FY 2023-24 respectively. Socialising the cost across all categories through ARR goes against the principles of equity as the agriculture supply tariff is already least amongst the categories. This shall also have an impact on the tariff and overall sustainability of the sector and reflect poorly on the ease of doing business with increased burden on industrial and non-domestic consumers.

It is therefore humbly submitted that the Hon'ble Commission to not transfer this cost to the consumers. Further, it is requested that the Hon'ble Commission to order the petitioner to discuss with the state government about the additional cost of the policy decision and demand the same to be provided as a direct support to the Discom.

Table 3: Recalculation of energy input based on normative distribution loss (15%) and intra-state transmission losses in the previous year and the financial impact of the state government's policy decision for daytime supply to agriculture

	FY23		**FY24**	
Energy Balance	**By Petitioner**	**Our Submission**	**By Petitioner**	**Our Submission**
Energy Sales projected	23,083.00	23,083.00	25,322.00	25,322.00
Distribution loss %	12.73%	12.73%	12.73%	12.73%
Energy Required at Discom Periphery (MUs)	26,450.10	26,450.10	29,015.70	29,015.70
Intra-State Transmission Loss (%)	3.80%	3.31%	3.80%	3.31%
Energy Required at State Periphery (MUs)	27,494.90	27,355.57	30,161.85	30,009.00
Energy available from state sources (MUs)	18,963.00	18,963.00	20,536.00	20,536.00
Energy procured from outside the state sources (MUs)	8,531.90	8,392.57	9,625.85	9,473.00
Inter-State Transmission Loss (%)	3.51%	3.51%	3.51%	3.51%
Energy purchased from outside sources	8,842.27	8,697.86	9,976.01	9,817.59
Total energy purchase	27,805.27	27,660.86	30,512.01	30,353.59
Difference (MU)		144.41		158.41
Additional purchases made due to higher Transmission loss (due to daytime agriculture supply)		0.52%		0.52%
Average variable cost of procurement (Rs. per unit)		3.95		3.85

Cost of additional purchase (Rs. Crores)		57.04		60.99