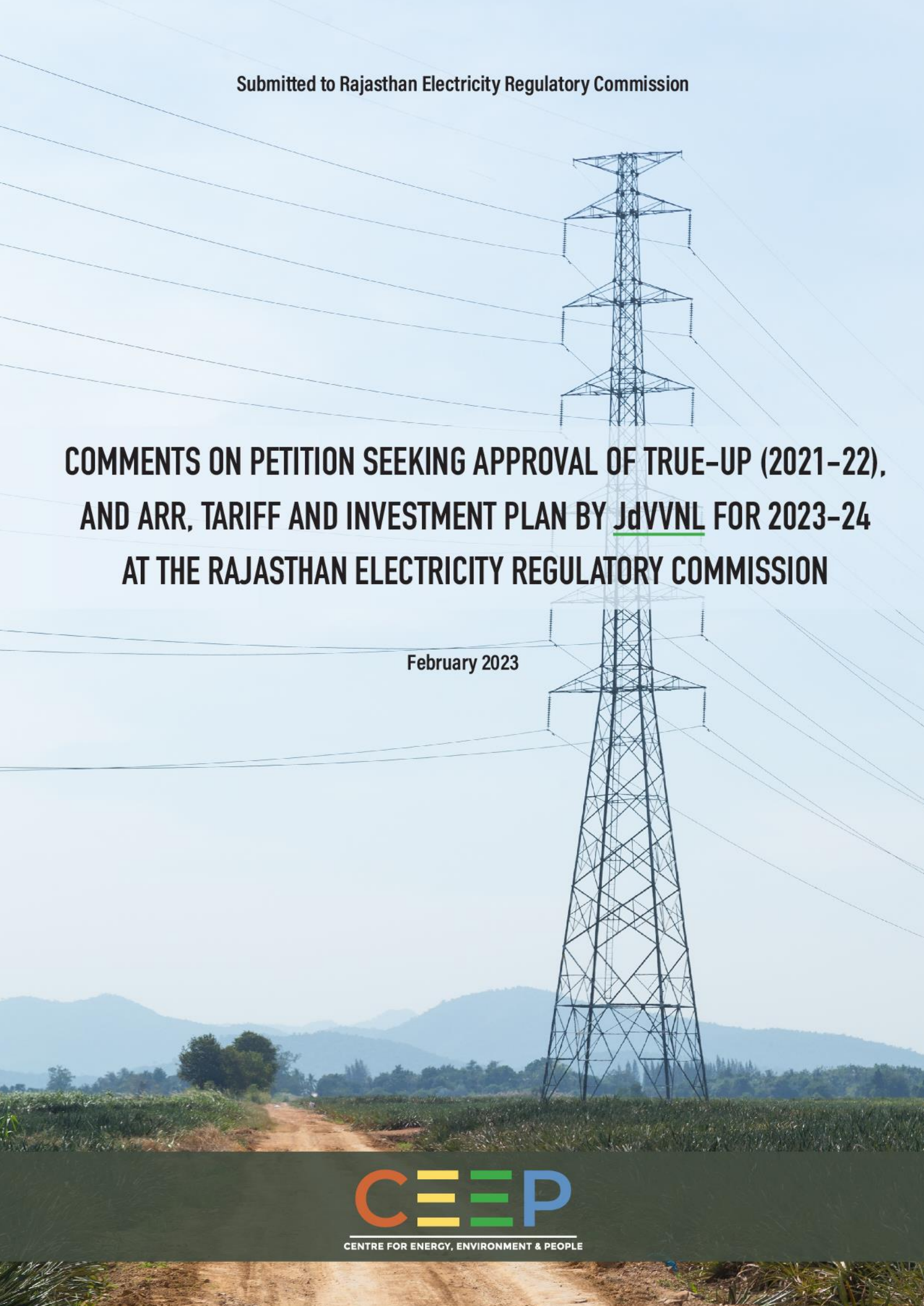
Submitted to Rajasthan Electricity Regulatory Commission



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

February 2023

CENTRE FOR ENERGY, ENVIRONMENT & PEOPLE

TRUE-UP PETITION FOR FY 2021-22

Jodhpur Vidyut Vitran Nigam Limited ("JdVVNL") has filed a petition in the Rajasthan Electricity Regulatory Commission ("RERC") for True Up of FY 2021-22 and Aggregate Revenue Requirement ("ARR") of FY 2023-24 as per the provisions of the RERC (Terms and Conditions for Determination of Tariff) Regulations, 2019.

Following comments are submitted by the CEEP in this regard.

1. Conversion Of Flat Rate Agriculture Consumers To Metered Connection

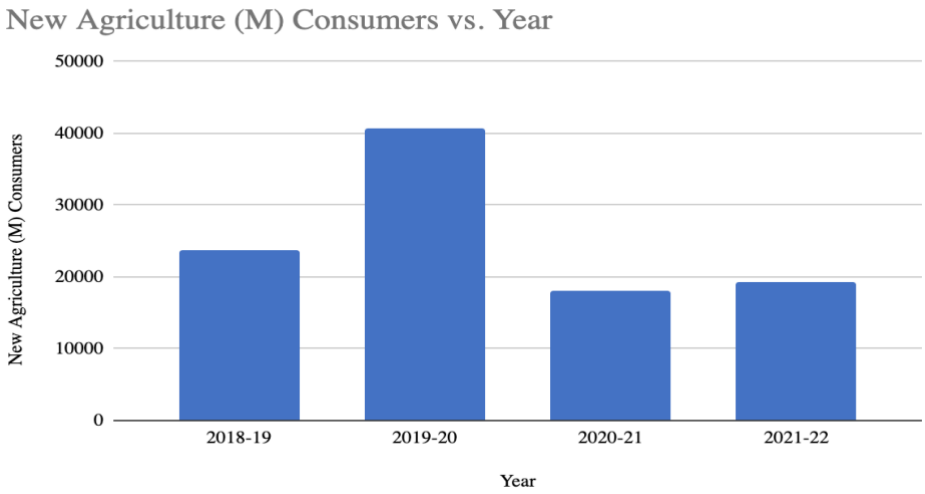
488 flat rate agriculture consumers have been converted to metered connection by the Petitioner against the projection of 4000 consumers for the FY 2021-22. The percentage of consumers that were not converted as projected is 87.8%. The Petitioner is requested to provide reasons as to why this conversion rate is lagging the projected figures. It is also submitted that the petitioner should specify an action plan on conversion of remaining flat-rate agriculture connections to metered connections.

2. Trends In The Number Of New Metered Connections Added In The Agricultural Category

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

Year	New Agriculture (M) Consumers (based on data from True-up petitions)
2018-19	23747
2019-20	40708
2020-21	18078
2021-22	19209

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



JdVVNL is requested to specify the number of pending connections in this category and the action plan for releasing these pending connections.

3. Collection Efficiency And Details Of Receivables From Consumers

While the collection efficiency of JdVVNL is reported as 100%, information regarding total receivables from different consumers categories is not provided. This information is required to paint a holistic picture of the collection efficiency of Petitioner with a breakdown of total collection in amount collected towards the dues from previous years, and that for the current year. Thus, we request the Petitioner to furnish details regarding the status of receivables due and collected from consumers in the current year and the previous year. We request the petitioner to also provide month wise data of collection efficiency.

4. Status Of Segregation Of Agriculture And Non-Agriculture Feeders:

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 regarding the status implementation of the schemes and percentage of feeder segregation achieved by JdVVNL. We request JdVVNL to provide details of feeder segregation achieved, and the status of implementation of schemes in this regard.

5. 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 in paragraph 4.5(A) and 11.49 (A) of the present Petition. We request the Petitioner to provide granular details on the action plan for implementation of HVDS, the timeline of implementation, and details of whether any priority areas are identified for implementation.

6. 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 JdVVNL pursuant to these regulations are analysed, and inconsistencies are found in terms of T&D losses and quality of data published in the public domain.

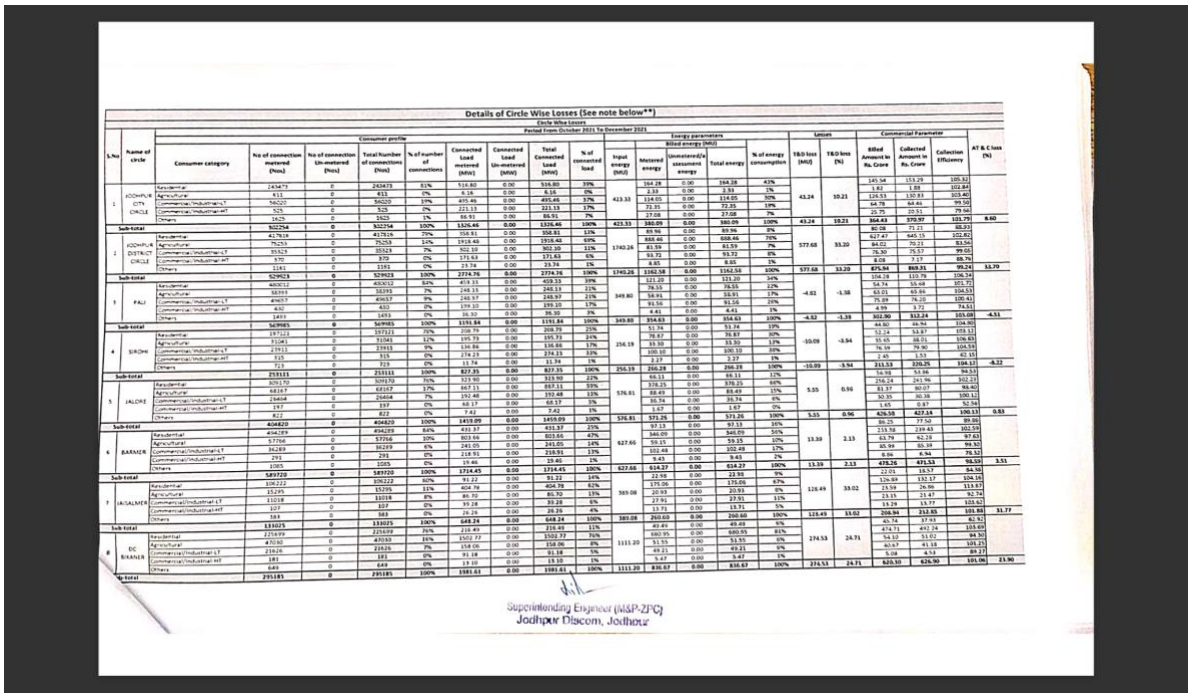
First, the Petitioner has reported negative T&D losses in some circles (Pali, Sirohi, Hanumangarh, Sriganganagar etc.) during FY 2021-22, leading to an unclear picture of the zone-wise losses, and outcomes of loss reduction plans.

Table 2: Circle wise T&D loss as reported by JdVVNL to BEE in the quarter ending December 2021

Name of Circle	T&D % loss
Sirohi	-1.38
Pali	-3.94
Hanumangarh	-23.44
Sriganganagar	-10.27

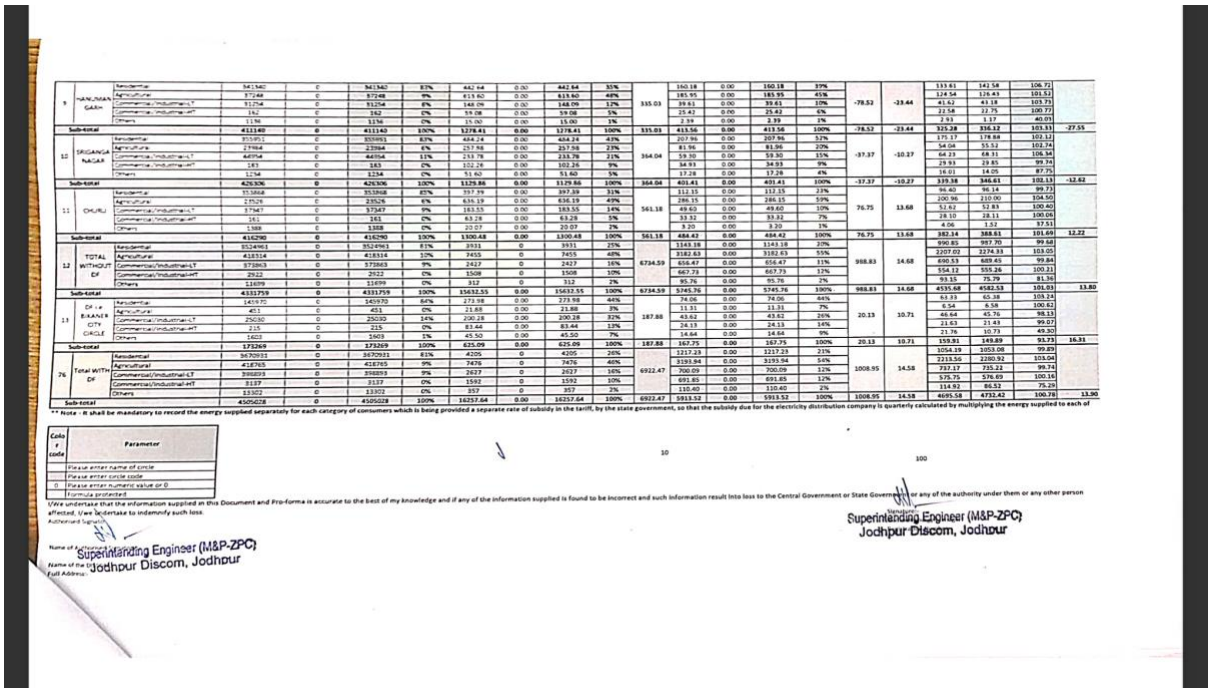
Second, the data reported to BEE and made available in the public domain is not in a user-friendly, machine-readable format. An illustration is provided below:

Figures 2 and 3: Division wise losses reported by JdVVNL to the BEE in the quarter ending December 2021



Details of Circle Wise Losses (See note below**)

Superintending Engineer (M&P-ZPC)
Jodhpur Discom, Jodhpur



Superintending Engineer (M&P-ZPC)
Jodhpur Discom, Jodhpur

Superintending Engineer (M&P-ZPC)
Jodhpur Discom, Jodhpur

Subsequently, we recommend that JdVVNL should correct the 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.

7. Specific Consumption For Agriculture (FR) Consumers

The specific consumption for Agriculture (FR) Consumers approved by the Commission for FY 2021-2022 is 1741 kWh/KW/year. However, the Petitioner in its true up petition considered it 1945 kWh/KW/year. We request the Commission to make serious note of the same and consider the actual MU sold as recalculated below based on 1741 kWh/KW/year:

Table 3: Calculation of actual total MU sold based on approved specific consumption

Particulars	**Amount**
Total units sold (MUs) (actuals)	23174.86
FR sales (MU) (actuals)	1273
Total Connected Load (kW) - FR	6,54,366.00
Specific consumption (actual)	1945.00
Specific consumption (approved by the commission) (kWh/kW/hour)	1,741.00
Updated FR category (MU)	1139.25
Updated Total units sold (MU)	23041.11

8. Energy Balance For FY 2021-22

To calculate the energy balance for 2021-22, the total sales to agriculture should be adjusted to the specific consumption of flat rate agriculture consumers set by the RERC which is 1741 kWh/kW/year and not 1945 which has been used by JdVVNL to compute the total sales. Following the Commission's specific consumption, the energy balance can be computed as follows:

Table 4: Computation of energy balance and power purchase to be disallowed by the Commission based on data from true-up petition for FY 2022

Updated Total Sales (MUs)	23,041.11
Distribution Loss %	15%
Distribution Loss (MUs)	4,066.08
Energy Required at Discom Periphery MUs	27,107.19

Intra state Transmission loss %	3.31%
Intra-state Transmission Losses (MUs)	927.96
Gross Energy Required at State periphery (MUs)	28,035.15
Energy sourced within state[1] (MUs)	**20,005.63**
Energy required at state Periphery from inter-state sources (MUs)	8,029.52
Inter-state Transmission Losses (%)	2.79%
Inter-state Transmission Losses (MUs)	230.45
Energy sourced outside state (MUs)	**8,259.98**
Gross energy required to be purchased (MUs)	28,265.61
Gross energy purchased by Discom (MUs)	31,726.00
Purchase to be disallowed (MUs)	3,460.39
Short term power purchased (MUs)	1306
price of short-term power purchased (Rs. Per unit)	4.64
Short term power to be disallowed (MU)	1,306.00
Cost Short term power to be disallowed (Rs. Crores)	605.98
Quantum of disallowed power purchase from *approved* sources (MU)	2,154.39
Price of disallowed power purchase from approved sources (Rs. Per unit)	4.05
Cost of disallowed power purchase from approved sources (Rs. Crores)	872.53
Total cost of disallowed power purchase (Rs. Crores)	1478.51

Based on our calculations, 3460.39 MUs of power purchase is to be disallowed by the Commission, where the entire quantum of short-term power purchase of 1306 MUs for Rs. 605.98 Crores is to be disallowed: additionally, 2154.39 MUs of power purchase amounting to Rs. 872.53 Crores is to be disallowed.

We also submit that intra and inter-state transmission losses should be segregated and specified separately.

[1] Note: NCES energy has been considered as energy sourced within state

9. Deviations from approved power purchase

The percentage of deviation from approved power purchase cost from the sources indicated in Table 5 is high. JdVVNL is requested to provide granular reasons for the deviations.

Table 5: Highest deviations from approved power purchase, based on data from true up petition

Source	**Percentage of Deviation between approved and actual power purchase price**
NTPC	7.13%
SJVNL and Rampur	13.04%
PTC (DB)	11.59%
Shared Projects	18.08%

Further, the deviation in case of 'other sources' of energy has not been computed. Based on the given actual per unit cost of Rs 3.46 and the approved per unit cost of Rs. 1.57, the deviation is calculated as 120.38%. We request the Petitioner to provide reasons for this significant deviation in case of 'other sources.'

10. Late Payment Surcharge (LPSC)

The Petitioner is requested to specify the month-wise details of the amount paid to generation companies as late payment surcharge. We request the Commission to ensure that the LPSC amount is not passed on to the consumers as it is a consequence of the collection inefficiency of the Petitioner.

11. Underutilisation Of Operation And Maintenance (O&M) Budget

Paragraph 6.10 of the true up petition mentions that Rs. 1721 Crores has been approved for the operation and maintenance of JdVVNL, against which only Rs. 1546 Crores has been used in FY 2021-22. We request the Petitioner to provide detailed reasons as to why the O&M budget is being underutilised.

12. Inflated Repair And Maintenance (R&M) Expenditure

The approved gross R&M expense is Rs. 138 Crores, whereas the actual gross R&M is stated at Rs. 218 Crores. Thus, the R&M expenditure saw an increase by 57.9% of the approved expenditure. We submit that the Commission takes serious note of the significant increase in R&M costs and seeks a detailed explanation from the Petitioner.

We also request the Petitioner to provide a detailed list of R&M initiatives undertaken for the control period and the outcomes of the same.

13. Consumer Awareness Expenses

The true up petition is silent on whether any quantum of administrative and general expenses has been spent on consumer awareness. We request the Petitioner to provide a list of activities undertaken for improving consumer awareness with associated costs, and details of impact analysis conducted to assess the improvement of consumer awareness.

14. Bifurcation Of Interest

The approved Interest on unfunded gaps is Rs. 1926 Crores and Short-Term Borrowing/Interest on Working Capital (including LPS paid to generators) is Rs. 167 Crores. However, the actual interest on unfunded gaps and the short-term borrowing/Interest on work has not been bifurcated and instead, one single amount for the two have been provided. We submit to the Commission to direct the Petitioner to provide the said bifurcated amount. We further submit that the Commission does not allow creation of any new regulatory assets.

Aggregate Revenue Requirement for FY 2023-24

1. Sales projection for Discom area and Distribution Franchisee (DF) area

The Petitioner is requested to provide separate sales projection for the area of its operation and the area in which the Bikaner Distribution Franchisee is operating in. The DF operates as an independent entity in the Discom area and purchases directly from the Discom. Hence, the DF sales projection should be made separately based on the trends and expected growth of consumer mix in the DF area.

The sales data (exclusive of DF sales) is also essential to compute the normative O&M expenses (employee expenses, A&G expenses, and R&M expenses) of the Discom as the commission has been approving the O&M expenses in the true up based on sales made consumers exclusive of DF area.

2. Inefficiency in Projecting the Energy Sales

The CAGR of the energy sales of the Petitioner when calculated from FY 2013-14 to FY 2021-22 taking 14587 MU as the total sales for FY 2013-14 and 23065 MU as the total sales for FY 2021-22 equals 5.89%. However, the Petitioner has submitted that 7.5% is the CAGR. **We request the petitioner to clearly state the methodology and assumptions considered for the modification of the sales projections.**

The corrected projections are as follows:

Table 6: CAGR based on category-wise sales (MUs) between 2013-14 to 2021-22, based on data submitted by the Petitioner in the present petition

	Category-wise sales (actual) between FY 2017 to FY 2022 (MUs)									
Category	**FY14**	**FY15**	**FY16**	**FY17**	**FY18**	**FY19**	**FY20**	**FY21**	**FY22**	**8-year CAGR**
Domestic	2,542	2,793	3,002	3,270	3,344	3,450	3,472	3,754	4,108	6.18%
Non-Domestic	838	904	986	1,068	1,142	1,212	1,196	1,042	1,258	5.21%
Public St. Lights	185	142	137	101	99	97	77	73	97	-7.75%
Agri (metered)	6,443	7,472	7,964	8,843	9,127	9,465	10,474	11,430	12,011	8.10%
Agri (Flat-rate)	1685	1335	1310	1287	1300	1287	1280	1301	1274	-3.43%
Small Industry	223	235	234	232	224	216	203	194	219	-0.23%
Medium Industry	580	615	612	607	646	675	624	583	725	2.83%
Large Industry	1,077	1,258	1,183	1,129	1,397	1,633	1,478	1,347	1,938	7.62%
PWW (Small)	229	240	259	264	278	287	316	314	329	4.63%
PWW (Medium)	104	104	106	100	95	99	89	84	98	-0.74%
PWW (Large)	356	395	432	459	473	512	579	617	635	7.50%
Mixed Load	324	350	351	371	379	392	337	298	373	1.78%
Sum Total	14,586	15,843	16,576	17,731	18,504	19,325	20,125	21,037	23,065	
Total	**14,587**	**15,845**	**16,574**	**17,732**	**18,505**	**19,325**	**20,125**	**21,037**	**23,065**	**5.89%**

Accordingly, the category-wise sales are projected in Table 3 for FY 2023 and 2024 based on the recalculated CAGR for each category in Table 6. Our calculations indicate that the petitioner's projections exceed our highest CAGR estimates (even after accounting for the rooftop generations)

Table 7: Projected Energy Sales for FY 23 and FY 24 based on our calculation of CAGR

Category	Projected sales for FY 2022-23 (MUs)	Projected sales for FY 2023-24 (MUs)
Domestic	4362	4631.7
Non-Domestic	1324	1392.5
Public St. Lights	89	82.5
Agri (metered)	12983	14034.7
Agri (Flat rate)	1230	1188.0
Small Industry	219	218.0
Medium Industry	746	766.6
Large Industry	2086	2244.6
PWW (Small)	344	360.2
PWW (Medium)	97	96.6
PWW (Large)	683	733.8
Mixed Load	380	386.4
Total	**24425**	**26135.6**

We request the Commission to take a serious note of this error in calculating CAGR%, as this leads to an 'inflated' projection of future sales, leading to an increased burden on the consumers. Further, 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 changing consumption patterns due to climate change.

3. Status And Impact Of Rooftop Solar

The Petitioner is requested to provide the capacity of rooftop solar installed which is contributing to the reduction in energy sales of JdVVNL. We also request that circle wise targets for rooftop solar installations be specified by the Petitioner. Further, the Petitioner is requested to elaborate if any study on the impact of rooftop solar on grid management.

4. Projection Of Sales For Agriculture Category

We request that the Petitioner provide the details on the impact of the daytime agriculture supply on the peak load and on the grid. Further, we request the Petitioner to clarify if daytime irrigation has resulted in an increased requirement of running the motor for a longer duration and consequently increased the energy sales. Additionally, we request the Petitioner to 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.

5. Specific Consumption Of Agriculture Metered Consumers

Paragraph 11.17 of the present Petition states that the projected specific consumption of agriculture metered consumers for FY 2022-23 and FY 2023-24 is 1759 and 1776 kWh/kW/year respectively. However, paragraph 3.2 of the Petition itself states that the actual specific consumption of agriculture metered consumers for FY 2021-22 is 1388 kWh/kW/year. The Petitioner is requested to provide reasons for this dissonance.

6. Conversion of Agriculture Flat Rate Consumer to Metered Connection.

The Petitioner has set a target of converting 4000 flat rate agriculture consumers to metered connection for FY 2022-23 and 2023-24. However, the actual number of converted consumers was 488 for the FY as 2021-22 as stated in para 3.2 of the Petition. We request the Petitioner to provide reasons for having a substantially higher conversion estimate than the previously recorded trend.

Further, paragraph 11.18 of the Petition shows 390,670 for agriculture metered category at the opening of FY 2022-23. But para 3.2 has stated the count of agriculture metered category consumers for FY 2021-22 as 390,235. The Petitioner is requested to acknowledge this discrepancy and rectify the same or provide reasons. Lastly, Table 29 in the para 19 of the Petition states that the effective sales from agriculture metered consumers is 13,487 MUs in FY 2022-23. However, the existing sales in the same table for the FY 2023-24 have been stated as 15,234. The net difference of 1747 MUs is unaccounted for in the Petition. We request the Commission to enquire into the same.

Figure 8: Table 29 of the Petition; Agriculture metered Sales for FY 2022-23 and FY 2023-24

11.19 Based on the above calculations, the sales for agriculture metered category for FY 23 and FY 24 is as follows:

Table 29: Agriculture(M) Sales computation*

Year	Existing Sales	Addition	Conversion from unmetered to metered	Effective sales for Agriculture Consumers
FY 2022-23	12,011	1,413	63	13,487
FY 2023-24	15,234	1,537	64	16,835

At consumer level (including DF)

7. Kusum Component (Pump Level Solarisation)

Para 11.32 of the Petition mentions that 21 solar pumps have been installed by JdVVNL under the Kusum Component. We request that the Petitioner to further specify the circle wise progress and targets for installation of pump level solarisation.

8. Projection Of Solar Energy Generation (MUs) From The Rooftop Solar Systems

The projections for solar energy generation from rooftop solar systems for FY 2022-23 and FY 2023-24 is stated in paragraph 11.44 of the Petition. The projected energy sales for FY 2022-23 and FY 2023-24 is stated in paragraph 11.46. However, the projected energy sales for FY 2022-23 and FY 2023-24 in the Petition doesn't account for the projections for solar energy generation from rooftop solar systems for FY 2022-23 and FY 2023-24. We request that the Commission direct the Petitioner to provide an explanation for the same.

9. Distribution And AT&C Loss

In para 11.48, the Petitioner has stated its distribution loss and AT&C loss both stand at 21.88%. The duplication in the figures of these two different losses indicate misquoting and miscalculation by the Petitioner. Therefore, we submit that the Commission clearly states targets for Distribution losses and AT&C losses.

10. Initiatives For Technical Loss Reduction

We submit that the Commission directs the Petitioner to submit the circle wise initiatives undertaken for technical loss reduction, especially for circles having high losses. It is also requested that the Petitioner provide the detailed cost benefit analyses for each initiative therein, along with the time bound clear objectives to be achieved of the outputs and outcomes.

11. Revamped Distribution Sector Scheme (RDSS)

The distribution loss target set for the Petitioner under RDSS for FY 2021-22 was 19.20%. However, the actual distribution loss has been computed as 21.88%. The Commission is requested to hold the Petitioner accountable for the said non-compliance.

12. Enterprise Resource Planning (ERP)

The Petitioner is requested to submit the status of the implementation of Enterprise Resource Planning as it is long overdue.

13. Smart Metering

The Petitioner in paragraph 11.54 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 installation of smart meters. We submit 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, it is requested that the Petitioner provide details on the impacts of smart meters and operational challenges in its implementation, if any.

14. Energy Availability

We submit that consumers bear the burden of inadequacy of coal stocks at thermal power plants with higher tariffs due to power purchase from the exchange. Accordingly, we request the Petitioner to furnish details of whether any accountability measures are instituted against the generation companies for not maintaining adequate stocks of coal necessitating power purchases from the exchange. Further, given the added burden of daytime agricultural supply contributing to the peak demand, we request the Petitioner to provide information regarding the plans for peak load management for the upcoming seasonal peak demand in the summer.

15. Plans For Demand Management

The Petitioner has submitted that Rajasthan faces distinct variation in average and peak demand and hence we request the Petitioner to specify plans for Demand Management (if any).

16. Schedule For Recovery Of Regulatory Assets

The Petitioner has computed the interest liability on unfunded gap for FY 2023 and 2024 in Table 56 of the present Petition as Rs. 2,522.55 Crores and Rs. 2,582.83 Crores respectively. We request the Petitioner to submit the schedule for recovery of the regulatory assets and not allow creation of new regulatory assets.

17. Reduction Of Interest costs

A four-step approach is described by the Petitioner in paragraph 14.31 of the Petition for the reduction of interest costs. We request the Petitioner to provide details of the impact (or expected impact) of these measures and provide quantified results of savings on interest costs.

18. Disallow O&M expenses For Distribution Franchises

The Petitioner requests to provide O&M expenses by including sales to the distribution franchises in paragraph 14.5. However, since JdVVNL does not undertake O&M in the distribution franchise area, we request the Commission to deny the same, and not allow O&M expenses for overall sales including the sales made to the distribution franchise area.

19. Agriculture Feeder Segregation

We request the Petitioner to provide circle-wise status of the segregation of agriculture feeders as provided in paragraph 13.37 of the present Petition.

20. Energy Balance

Issue of Higher Intra-state Transmission Losses due to day-time supply to agriculture

The Petitioner provides for an escalation in intra-state transmission losses from 3.31% to 3.80%, pursuant to the Commission's orders on a petition filed by RVPN requesting escalation of losses due to day-time supply to agriculture. Since higher losses are a consequence of a policy decision by the state Government for day-time supply to agriculture, we submit that the State Government bears the burden of the financial impact of their policy decision, and not be allowed to socialise the financial burden across all consumer categories. Socialising the costs across all categories through ARR is 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. We submit that the Commission should not transfer this cost to consumers and direct the Petitioner to take up the issue of additional cost with the State Government.

Recalculation of the Energy Balance based on lower distribution and intra-state transmission losses

Pursuant to the recommendations in point 6 of this submission, the energy input for the Petitioner is recalculated based on the normative distribution loss level (15%) instead of the loss levels of 18.20% for FY 2023 and 17.50% for FY 2024 claimed by the Petitioner and the intra-state transmission loss in the previous years (3.31%) in Table 2. Higher intra-state transmission loss (3.80%) and distribution losses at (18.20% for FY 2023 and 17.50% for FY 2024) has resulted in the requirement of additional 1456.57 MUs in FY 2023, and 1352.43 MUs in FY 2024. This leads to the escalation of power purchase cost to the tune of Rs. 587 Cr. in FY 2023, and Rs. 526.10 Cr. in FY 2024, as computed in Table 8.

Table 9: recalculation of energy input based on normative distribution loss (15%) and intra-state transmission losses in the previous year and the financial impact of state government's policy decision for daytime supply to agriculture

	FY 2022-23		FY 2023-24	
	By petitioner	**Our submission**	**By petitioner**	**Our submission**
Energy Sales projected (MUs)	26,008.00	26,008.00	30,168.00	30,168.00
Distribution loss (%)	18.20%	15%	17.50%	15%
Energy Required at Discom Periphery (MUs)	31,794.62	30,597.65	36,567.27	35,491.76
Intra-State Transmission Loss (%)	3.80%	3.31%	3.80%	3.31%
Energy Required at State Periphery (MUs)	33,050.54	31,645.10	38,011.72	36,706.76
Energy available from state sources (MUs)	24,292.00	24,292.00	26,295.00	26,295.00
Energy procured from outside the state sources (MUs)	8,758.54	7,353.10	11,716.72	10,411.76
Inter-State Transmission Loss (%)	3.51%	3.51%	3.51%	3.51%
Energy purchased from outside sources (MUs)	9,077.15	7,620.58	12,142.94	10,790.51
Total energy purchase (MUs)	33,369.15	31,912.58	38,437.94	37,085.51
Difference (MUs)		**1,456.57**		**1,352.43**
Additional purchase made due to higher Transmission loss (due to daytime agriculture supply)		**4.56%**		**3.65%**
Average variable cost of procurement (Rs. per unit)		4.03		3.89
Cost of additional purchase (Rs. Crores)		**587.00**		**526.10**