

## BEFORE THE UTTAR PRADESH ELECTRICITY REGULATORY COMMISSION

Vidyut Niyamak Bhawan, Vibhuti Khand, Gomti Nagar, Lucknow-226010

In the matter of:

Comments and Suggestions on Determination of ARR and Tariff Petition for FY23, Annual Performance Review for FY22 and True-up of FY21 for Uttar Pradesh DISCOMs

### **Submission from Prayas (Energy Group), Pune**

The DISCOMs in Uttar Pradesh have filed petitions under the multi-year tariff framework for the approval of ARR & Tariff petition for FY 2022-23 of the control period from FY 2020-21 to FY 2024-25. Despite increase in costs, DISCOMs have not proposed any tariff hike for FY23. This is similar to the proposals in previous years. Given the financial distress before the DISCOMs, the present tariff process could be seen as an opportunity to bring in changes to bring in certainty in charges and processes, revision of ToD tariffs and increased accountability for DISCOM performance and investments. Our submissions in this context are detailed below:

#### 1 Steps taken by DISCOMs to avail benefits under FRBM scheme by central government

Uttar Pradesh has availed relaxation in the borrowing limit specified in the FRBM scheme subject to commitment to power sector reforms<sup>1</sup>. These include takeover of losses of the utilities by the state government, implementation of DBT for subsidy provision etc. As uptake of these reforms has significant impact on DISCOM losses and potentially consumer ARR (depending on whether the debt takeover is through loans or grants) it is important that the status of compliance is shared. Appropriate directions could be issued by the Commission in this regard.

#### 2 Need for comprehensive Metering and Billing Audit

Despite multiple directives of the Commission, a systematic metering and billing audit has not been conducted by the DISCOMs. Given the issues with the sales reported by the DISCOMs and the on-ground issues reported of metering and billing in the state, it is suggested that a third-party metering and billing audit be conducted to assess status of metering and billing systems efficacy in the state.

Based on the data submitted by the DISCOMs, average connected load and average monthly consumption have been computed and provided below in Table 1 and Table 2 respectively.

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<sup>1</sup> <https://pib.gov.in/PressReleasePage.aspx?PRID=1814437>

Table 1: Average connected load for select residential consumer categories

Average connected load (kW/consumer)	2016-17	2017-18	2018-19	2019-20	2020-21	2022-23
Life Line Consumers (Rural+Urban)	1.11	1.01	1.11	0.96	1.05	0.99
Dom: Rural Schedule (unmetered)	1.47	1.35	1.31	1.66	1.20	1.16
Dom: Rural Schedule (metered) other than BPL	1.24	1.11	1.12	1.21	1.14	1.50

Table 2: Average connected load for select residential consumer categories

Average monthly consumption per consumer (kWh/month/consumer)	2016-17	2017-18	2018-19	2019-20	2020-21	2022-23
Life Line Consumers (both Rural and Urban)	107	145	126	69	88	83
Dom: Rural Schedule (unmetered)	170	199	202	206	173	251
Dom: Rural Schedule (metered) other than BPL	132	119	80	102	95	119

Rural unmetered consumers have higher consumption than rural metered and over the years, the difference has only been increasing. This is also reflected in the projections by the DISCOMs for FY23. **This calls for immediate revision of the 2016 norms<sup>2</sup> for unmetered consumption based on metered data and based on on-ground assessments.** Over the next three years, steps need to be taken to ensure no domestic consumer is unmetered.

In addition, despite, most RGGVY, DDUGJY and SAUBHAGYA connections being either 250W or 500W connections, rural poor consumers in UP have average connected load greater than 1 kW. With the large addition of newly electrified consumers under the national programmes in this time-frame one would expect the average connected load to be lowered substantially over time, especially for the lifeline segment.

The above evidence is indicative of larger issues with metering and billing in the state. Considering the inconsistency in data over the years, the Commission should direct a time-bound, comprehensive, third party meter and billing audit for all DISCOMs.

### 3 Need for rigorous, data-based restatement of agricultural norms

As per DISCOM submissions, about 77% of agricultural sales in the state is unmetered. Further, just like the norms for domestic unmetered consumption, the norms for unmetered agricultural consumption should also be revised. This is particularly critical as immediate metering of such consumers will be impractical. The assessment can be based on survey data and readings from AMR/AMI readings from sample feeders as well as sample consumer readings.

<sup>2</sup> [http://www.uperc.org/app\\_file/orderdated9-12-16fnl-pdf129201661325pm.pdf](http://www.uperc.org/app_file/orderdated9-12-16fnl-pdf129201661325pm.pdf)

#### 4 Regulatory Approval for RDSS action plan approval

Given the outlay and scope of works of RDSS and the significant investment planned, there should be regulatory scrutiny of the rollout plan as well as the investment plan. As the scheme rollout will impact consumer tariffs (for non-grant component) as well as supply and service scrutiny, the regulatory approval should take place through a public process. The action plan, targets and commitments under the scheme should also be submitted for regulatory approval.

#### 5 Smart metering roll-out and framework for regulatory oversight

As per the data submitted by the DISCOMs, there are more than 10 lakh smart meters installed in the state under EESL scheme under OPEX model. With RDSS, a much larger rollout is expected under TOTEX model. In fact, as shown in Table 3 below, the number of consumers with smart meters is set to increase to 77 lakhs by 31<sup>st</sup> March 2023. Such a roll-out would imply that by the end of the year, about a third of consumers in Uttar Pradesh would have smart meters installed, most of which would, perhaps be pre-paid.

Table 3: Estimated smart meter installations by FY23 (in lakhs)

DISCOM	Smart Meters installed till March 2022	Smart meters installation proposed for FY 2022-23 under RDSS	Smart meters installation proposed for FY 2022-23 under EESL Scheme	Smart Meters to be installed till March 2023
PVVNL	1.98	11.3	6.8	18.1
PuVVNL	3.2	15.9	7.3	23.2
MVVNL	3.8	15.3	6.4	21.7
DVVNL	1.5	10.4	3.9	14.2
<b>Total</b>	<b>10.4</b>	<b>52.8</b>	<b>24.4</b>	<b>77.2</b>

Thus, regulatory scrutiny of investments, benefits of smart metering, passthrough of costs and safeguarding supply and service quality of consumers is of paramount importance before such a large-scale rollout.

##### 5.1 Emphasis to be on interface metering to ensure better energy accounting

It is urged that significant emphasis be provided to interface metering as well as significant funds are allocated within RDSS for feeder and DT AMI/AMR along with consumer smart metering. This will aid better disaggregated energy accounting in an accelerated manner in the state even if pre-payment meters are for example, bypassed. This will help ensure there are multiple checks and balances towards better energy accounting.

In the past, the Commission has set an example for regulatory frameworks for smart metering by ensuring approval of rollout plan, by placing emphasis on estimation of benefits before approval of investments and by disallowing additional OPEX based on regulatory scrutiny.

##### 5.2 Need for regulator reporting of status as well as benefits/ impacts of scheme

As per Commissions directive in the previous tariff order,

The Licensee is directed to submit the status of completion of the rollout and also submit the technical/financial impact of such rollout on their system.

In response the licensees have stated that a quarterly status report is being submitted to the Commission. It is unclear if the status report includes assessment of the technical and financial impact of smart meter rollout. It is requested that the status reports submitted be available in the public domain. In addition, it is suggested that the following information (in Table 4) be reported by the DISCOMs periodically to inform the Commission of progress and to assess cost passthrough for smart metering.

Table 4: Suggested format for reporting progress under consumer smart metering

Parameter	DISCOM 1	DISCOM 2	...DISCOM n
<b>About meter replacement program:</b>			
Name of area for scheme implementation			
Consumer categories covered in meter replacement scheme			
No. of consumer meters per consumer category			
Target no. of days for replacement			
Replacement start date			
Replacement end date			
Reason for replacement (high loss area/ DSM measure, etc.)			
Financial benefit estimation per meter:			
– Savings in power purchase cost due to loss reduction			
– Savings in cost due to O&M cost reduction			
– Savings due to increase in collection efficiency			
– Savings due to any other reason			
Lessons from cost benefit analysis			
Implementation agency(s)			
Responsibilities of implementation agency(s)			
Payment option in smart meter (prepaid/post-paid)			
Technology used in smart meter (GPRS/RF, etc.)			
Cost of implementation (in ₹)			
Cost borne by DISCOM (in ₹)			
Cost borne by implementation agency (in ₹)			
Cost shared with consumers (in ₹)			
Mechanism of cost sharing with consumers (charged for meter/ cost recovered through tariff, etc) number of years			
Plan for rollout provided? (Y/N)			
<b>Lessons from pilot project:</b>			
Duration of pilot project			
Meters installed			
Technology used			
Payment option in smart meter (prepaid/post-paid)			
Cost incurred (in ₹)			
Benefits incurred for each category (in ₹)			
Major concerns			
No. of complains related to metering issues (annual)			

As a significant chunk of these meters will be pre-payment meters, the Commission should specify processes for remote disconnection as well as reconnection to ensure consumers get reliable supply. As mentioned in the previous tariff submission, we also urge the Commission to amend the Standards of Performance (SoP) Regulations to ensure smart meter and pre-paid meter specific SoPs are included.

## 6 Redesigning the Time of Day (ToD) tariff

UP is one of the few states in the country, which has ToD reflective of daily as well as seasonal variation of power demand in the state. However, towards better RE integration in the future and to incentive load shift ToD tariff should be designed keeping in mind, RE availability, change in load due to solarisation of agriculture and significant change in demand patterns due to open access and captive use. Without dynamic ToD tariffs, the system costs incurred by the DISCOMs would be significant. This is especially relevant as we are seeing summer peak prices touch the market ceiling price of Rs. 12/unit. In order to enable this, it is essential that:

- ToD tariffs are applicable to all consumers with connected load greater than 50 kW from FY23. By FY25, the applicability can be reduced to consumers with load greater than 10 kW.
- ToD tariffs should be mandatory for eligible consumers, not optional.
- ToD tariffs should actively encourage consumption during solar hours, monsoon high wind periods and actively discourage consumption during evening/ morning peaks.

The exact design can be based on data submitted by the DISCOMs on their load curves, capacity in the pipeline and RPO targets. Since it takes consumers a couple of years to change their load patterns based on ToD signals, it is essential that the changes are made today rather than when the system costs are high. It is requested that the Commission requisition such information from DISCOMs and redesign ToD tariffs. Such changes can be made even without analysis of smart meter data and can be given effect immediately. Once smart meter rollout stabilises and the implementation issues are addressed, the information from smart meters could be used to move towards more dynamic tariffs.

## 7 Virtual net metering to address build up dues from public bodies

The delay in bill payments by public institutions like government offices, govt. hospitals, panchayat buildings, etc. is prominent in the state. As these institutions provide essential services, disconnection due to delay in bill payment would not be possible. In order to ensure reliable supply for public bodies without deterioration in DISCOM's collection efficiency, it is suggested that the DISCOMs are allowed to sign Virtual Net Metering agreements with public bodies. This facility should only be limited to select public bodies with significant dues. In turn, the state government sets up a 100 to 500 MW of solar capacity to cater to the demand of these institutions. The DISCOM purchases power (via a long term PPA) from this dedicated capacity and adjusts the purchase with the consumption of the designated public bodies with dues. While the arrangement won't address pending dues, it will help prevent build-up of future dues. In addition, the power purchased can be used to meet DISCOMs RPO. The Commission should explore such options with the DISCOMs to address the issue of revenue collection from public bodies. More details of the proposed approach are available here:

<https://energy.prayaspune.org/power-perspectives/virtual-net-metering-for-public-bodies-an-innovative-solution-for-improving-payment-discipline>

## 8 Energy Audit of the DISCOMs

The Commission has laid significant emphasis on proper energy accounting and loss reduction. In fact, in the previous tariff order, the Commission's directive even sought compliance to energy audit report and the cost audit report (prepared in accordance with Companies (Cost Records and Audit) Rules 2014) to be submitted with the ARR petitions of the DISCOMs. In compliance, the energy audit report submitted is only for urban feeders of UP DISCOMs.

The DISCOMs are currently in the process of complying with the Bureau of Energy Efficiency (Manner and Intervals for Conduct of Energy Audit in Electricity Distribution Companies) Regulations notified on 6<sup>th</sup> October 2021. The regulations have detailed formats capturing status of feeder and consumer metering, circle-wise losses and feeder-level input data on a quarterly and annual basis. UPERC should ask detailed information in the same format as part of the scrutiny of energy audits and loss estimation process for the DISCOM.

## 9 Publishing Tariff petition and related documents on the DISCOMs' website

While we appreciate the timely publishing of tariff petition and related documents on the website by DISCOMs, there is still some additional measures which can be taken to improve the accessibility of the documents for the consumers of the state. Some observations in this regard are as follows:

- PuVVNL has still uploaded scanned, unsearchable tariff petition on the website.
- The Annexures to the Tariff Petition are scanned documents, making it difficult to gather information from them effectively.
- Reply to data gaps are uploaded by all DISCOMs, but not in the format that are easily text searchable.

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