

Reply to Data Gaps on ARR Petition for FY 2016-17 and FY 2017-18 for JVVNL

Commission's Observation:

1. Regulation 11(5) (f) of RERC Tariff Regulations, 2014 provides that distribution licensee, shall provide detailed calculations of voltage-wise cost of supply, exclusive of external subsidies and cross subsidies in respect of each category of consumer. Voltage wise cost of supply is required to be furnished as per orders of Hon'ble APTEL in Appeal no 102 of 2010.

Petitioner's Reply:

The Discom would like to submit that as per the Commission's directive, Discom is required to furnish details of Voltage wise Cost of Supply in accordance to Hon'ble APTEL judgment in Appeal No 102 of 2010.

In the judgment referred above, the Tribunal had recognized the difficulty in determination of cost of supply to different categories of consumers. However, instead of waiting indefinitely for availability of the entire data, the Tribunal had suggested a simple method which would take into account the major cost element. The Tribunal had suggested determination of voltage-wise cost of supply taking into account the major cost element which would be applicable to all the consumers connected at a particular voltage level.

According to the said judgment, in the absence of segregated network costs, it would be prudent to work out voltage-wise cost of supply taking into account the distribution losses at different voltage levels. As power purchase cost is a major component of tariff, the power purchase cost can be apportioned at different voltage levels taking into account the distribution losses at the relevant voltage level and the upstream system.

The system study to determine voltage wise technical losses is under process and hence voltage wise technical losses for FY 2014-15 and FY 2015-16 are currently not available. In the absence of voltage wise technical losses, the petitioner has considered the technical distribution losses in the distribution network approved by the Hon'ble Commission for 2006-07 in the order on determination of wheeling charges and cross subsidy surcharge for the year 2006-07 dated 19th September 2006 and has worked out voltage wise power purchase cost for 2006-07. As the total loss including some commercial loss will be more than the assessed technical loss, the difference between the two has been apportioned to different voltage levels in proportion to the sales plus technical losses at the respective voltage level which is accordance to the Tribunal's judgement.

In this manner the total losses have been apportioned at different voltage levels and the Power purchase cost has been apportioned for different voltage levels taking into

account the total loss apportioned to the consumer categories connected to respective voltage levels. The following table gives the details of apportionment of total losses and power purchase cost for FY 2006-07:

Voltage wise Energy Input for FY 2006-07								
Voltage Level	Sales (MU)	Voltage wise Tech Loss (%)	Transmission Loss	Sales + Tech Loss (MU)	Tech. Losses (MU)	Comm Losses (MU)	Total Loss (MU)	Energy Input (MU)
132 KV	537.01	0%	5.60%	568.86	31.86	101.39	133.25	670.25
33 KV	613.72	3.80%	5.60%	675.81	62.09	120.45	182.54	796.26
11 KV	1,150.73	8.80%	5.60%	1,389.41	238.68	247.64	486.32	1,637.05
LT	5,370.07	16.55%	5.60%	7,769.83	2,399.76	1,384.83	3,784.59	9,154.67
Total	7,671.53			10,403.92	2,732.39	1,854.31	4,586.70	12,258.23

To compute voltage wise power purchase cost, average power purchase cost per unit has been computed by taking the total power purchase quantum and cost.

Average Power Purchase Cost FY 2006-07		
Total Power Purchase Quantum	MU	12,258.23
Total Power Purchase Cost (Excluding transmission cost)	Rs. Cr.	2,451.55
Average Power Purchase Cost per Unit	Rs./kWh	2.00

Based on the above values, voltage wise power purchase cost for FY 2006-07 has been computed and shown in the table below

Voltage wise Power Purchase Cost FY 2006-07				
Voltage Level	Energy Input (MU)	Average Power Purchase Cost (Rs./kWh)	Total Power Purchase Cost (Rs. Cr.)	% of Power Purchase Cost
132 KV	670.25	2.00	134.05	5.47%
33 KV	796.26	2.00	159.25	6.50%
11 KV	1,637.05	2.00	327.40	13.35%
LT	9,154.67	2.00	1,830.86	74.68%
Total	12,258.23	2.00	2,451.55	100.00%

The consumer mix in FY 2006-07 predominantly had LT consumers which is the case in FY 2016-17 and FY 2017-18. Also, the technical losses in LT category will remain the highest and technical losses in 132 KV will be negligible, therefore the petitioner has assumed that the proportion of voltage wise power purchase cost will remain the same for FY 2016-17 and 2017-18. Based on this assumption total power purchase cost has been apportioned at different voltage levels for the three years and shown in the tables below

FY 2016-17	132 KV	33 KV	11 KV	LT	Total
Sales	1,051.86	2,103.72	2,103.72	14,044.26	19,303.55
Power Purchase Cost	167.03	415.89	474.86	9,593.39	10,651.18
Power purchase Cost per Unit Sold	1.59	1.98	2.26	6.83	5.52

FY 2017-18	132 KV	33 KV	11 KV	LT	Total
Sales	1,027.11	2,054.23	2,054.23	16,209.89	21,345.47
Power Purchase Cost	185.49	461.86	527.34	10,653.65	11,828.34
Power purchase Cost per Unit Sold	1.81	2.25	2.57	6.57	5.54

According to the Hon'ble Tribunal's Judgment, in absence of segregated network costs, all the other costs such as Return on Equity, Interest on loan, Depreciation, interest on working capital and O&M costs can be pooled and apportioned equitably to all categories to determine the cost of supply.

Various elements and computation of network cost per unit has been presented in the table below

Elements	Unit	FY 2017-18	FY 2017-18
O&M Cost	Rs. Cr.	1,520.21	1,658.63
Depreciation	Rs. Cr.	772.69	877.96
Interest and Finance Charges	Rs. Cr.	2,417.43	2,503.46
Interest on Working Capital	Rs. Cr.		
RoE	Rs. Cr.	0.00	0.00
Transmission Cost	Rs. Cr.	1,473.10	1,665.29
Contribution to Contingency Reserve	Rs. Cr.	0.00	0.00
Other Expenses	Rs. Cr.	0.00	0.00
Less: NTI	Rs. Cr.	317.10	332.95
Less: Income from wheeling charges	Rs. Cr.	141.67	223.67
Less: Income from Trading Activity	Rs. Cr.	515.84	970.27
Total Cost	Rs. Cr.	5,208.82	5,178.45
Units Sold	MU	19,303.55	21,345.47
Network Cost per Unit	Rs./kWh	2.70	2.43

Based on the methodology suggested by the Hon'ble Tribunal and details provided above, the voltage wise cost of supply for FY 2016-17 and 2017-18 has been computed and shown in the following tables

FY 2016-17	132 KV	33 KV	11 KV	LT	Total
Sales	1,051.86	2,103.72	2,103.72	14,044.26	19,303.55
Power purchase Cost per Unit Sold	1.59	1.98	2.26	6.83	5.52
Network Cost per Unit	2.70	2.70	2.70	2.70	2.70
Total Cost of Supply	4.29	4.68	4.96	9.53	8.22

FY 2017-18	132 KV	33 KV	11 KV	LT	Total
Sales	1,027.11	2,054.23	2,054.23	16,209.89	21,345.47
Power purchase Cost per Unit Sold	1.81	2.25	2.57	6.57	5.54
Network Cost per Unit	2.43	2.43	2.43	2.43	2.43
Total Cost of Supply	4.23	4.67	4.99	9.00	7.97

Commission's Observation:

- As per Regulation 11(5) (g) of RERC Tariff Regulations, 2014 please provide that statement showing calculations of the amount of cross subsidy in the existing tariff.

Petitioner's Reply:

The Discom submits that the statement showing calculations of the amount of cross subsidy in the existing tariff is as below:-

Table: Amount of Cross Subsidy in Existing Tariff:

Category of Consumers	FY 17	FY 18
Domestic	-20.31%	-14.09%
Non-Domestic	9.18%	20.49%
Public Street Light	-19.29%	-12.90%
Agriculture (Metered)	-40.39%	-37.17%
Agriculture (Flat)	-34.67%	-31.08%
Small Industry	-16.14%	-10.96%
Medium Industry	-7.87%	-1.64%
Large Industry	-5.66%	1.50%
Public Water Works (S)	-22.87%	-16.82%
Public Water Works (M)	-12.76%	-6.39%
Public Water Works (L)	-11.65%	-4.92%
Mixed Load / Bulk Supply	-10.49%	-3.99%
Electric Traction	9.75%	N/A
Total	-19.22%	-13.31%

Commission's Observation:

- Please furnish the basis of considering the availability shown in respect of RVUN, NTPC, NHPC, IPP/UMPP & other sources as mentioned in format 3.1. Reasons for showing lower availability from various plants as compared to previous year may also be indicated.

Petitioner's Reply:

It is submitted that the Discom would be in a power surplus scenario in the upcoming years. Considering the power market scenario and prevailing conditions it would not be economically viable to sell off the surplus power at the rates discovered in the exchange. These rates are found to be at a lower side and the average rate at which

power is sold off in the exchange tends to be around 2.50 Rs/unit in the previous years. This is even less than the rate of 4.00 Rs/unit as approved by the Hon'ble Commission in its previous tariff order for sale of surplus power through exchange. Thus in order to minimize the financial impact of the same and optimize the power purchase cost, the Petitioner has taken a prudent call and accordingly proposed to scheduled power from the various sources as mentioned in Form 3.1.

The Discom however would also like to submit that the normative generation based on the capacity allotted to Rajasthan, normative availability and auxiliary consumption for the various sources mentioned in format 3.1 attached as **Annexure A** for the kind consideration of Hon'ble Commission.

Commission's Observation:

4. Furnish the details of loan and interest amount for FY 2016-17 and FY 2017-18 in Format 3.7 along with the basis of computation for average interest rate. Further, the interest rate as furnished for FY 2015-16 in the ARR petition is stated as 12.40% in format 3.7 whereas interest rate in true up petition for FY 2015-16 in format 3.10 is shown as 14.81%. Please clarify the same.

Petitioner's Reply:

The Discom submits that projections for long term loans and interest amount for FY 2016-17 and 2017-18 have been done on normative basis considering the average rate of interest as per the rate observed in previous year. The average rate of interest in Format 3.7 is the weighted average rate of interest as per actual loans of FY 2014-15. The Petitioner submits that in order to compute the interest on long term loans for FY 2016-17, the closing balance of term loans of FY 2015-16 is considered as the opening balance of loans in FY 2016-17. However the loans pertaining to additional power purchase in FY 2015-16 as shown in the true up formats for FY 2015-16 have not been considered for computation. Hence the difference in rate of interest. It is also submitted that the term loans and interest amount is computed on normative basis for FY 2016-17 and FY 2017-18 and details pertaining to same are as mentioned in the Format.

Commission's Observation:

5. Furnish the plant wise power purchase in terms of energy and cost for 10 months of FY 2016-17.

Petitioner's Reply:

The Discom submits the plant wise power purchase in terms of energy and cost for FY 2016-17 attached as **Annexure B** along with this reply for the kind consideration of Hon'ble Commission.

Commission's Observation:

6. Furnish the energy sales for different categories for 10 months of FY 2016-17 and details of new connection released during first 10 months under domestic category and number of domestic connections expected to be released in remaining period of FY 2016-17 and FY 2017-18.

Petitioner's Reply:

The Discom submits that the energy sale for different categories for FY 2016-17 is attached as **Annexure C** for the kind consideration of Hon'ble Commission. The Discom also submits that 217831 new domestic connections have been released during FY 2016-17 and approximately same number of connections is expected to be released in FY 2017-18 also.

Commission's Observation:

7. Please furnish the detailed information of loans/debts takeover under UDAY, effective rate of interest after takeover of loans/debts and also furnish the measures taken by the Discom for restructuring of remaining loans/debts after takeover to reduce the interest burden if any.

Petitioner's Reply:

The Discom would like to submit that under the UDAY scheme 75% of debt was to be taken over by GoR. The GoR has taken over the 75% debt/loans, the detailed information on which is submitted as **Annexure D (I) & (II)** for the kind consideration of Hon'ble Commission. For the remaining 25% debt a merchant banker has been appointed by the Discom for restructuring of remaining loans after takeover and conversion into bonds to reduce the interest burden.

Also, as per clause 21 (5) of Regulation 2014:

"The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the regulated business of the Generating Company or Licensee as the case may be:

Provided that the weighted average interest rate allowed by the Commission for normative loans shall continue to be applicable to the outstanding normative loans:

Provided further that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the regulated business of the Generating Company or Licensee, as the case may be, does not have actual loan, then the weighted average rate of interest of the Generating Company or Licensee as a whole shall be considered."

Thus, in lieu of the above the average rate of interest is taken as 12.40% for FY16-17 and FY17-18

Commission's Observation:

8. It has been observed that there is difference between Loss targets stated in UDAY MoU and distribution loss targets submitted by the Discom in their ARR petition for FY 2016-17 and FY 2017-18. Reasons for same may be explained.

Petitioner's Reply:

The Discom would like to submit that the loss targets under UDAY for FY 2015-16 and FY 2016-17 was 27.5% and 22% respectively. However, the actual distribution loss achieved in FY 2015-16 was 31.90%. Thus, to keep a realistic trajectory, the Discom has revised the target in their taskforce meeting to 25% for FY 16-17.

In order to achieve envisaged operational efficiency and bring around improvements, various measures are being taken. These steps include restricting power supply in areas with high AT&C losses, performance monitoring and management system, 100% feeder and DT metering, AMR metering for high value consumers, energy audit & accounting at feeder level, feeder segregation, Mukhyamantri Vidhyut Sudhar Yojana, etc. Loss reduction targets have been prepared at the division/circle/zonal level and concerned officials have been made responsible for achieving the loss reduction targets. At the same time, efforts are also being made to reduce theft and other illegal activities by undertaking name and shame campaign and aggressive vigilance drives. Further, the capital investment plans are also on-going to achieve the distribution loss trajectory set forth by the Commission.

Also, as per the MoU signed between Jaipur Discom, GoR and MoP, the Discom shall strive to achieve the target of 15% by FY18-19. The respective clause of the MoU has been reproduced again for the kind consideration of Hon'ble Commission.

"The DISCOM shall endeavor to reduce AT&C losses from 32.00% in FY 2014-15 to 15% by FY 2018-19 as per the following trajectory:

Year	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
AT&C loss	28%	22%	18.5%	15%

However, if the target in a particular year is not met, then the DISCOM shall strive to achieve the targets in the subsequent years so as to achieve the desired target of 15% AT&C losses by FY 2018-19."

Commission's Observation:

9. In format 2.1 for FY 2017-18, the petitioner has shown 10 number of consumers under Electric Traction category, whereas corresponding sales and connected load have been shown as NIL. Clarify the same.

Petitioner's Reply:

The Discom submits that 10 number of consumers mentioned under Electric Traction category in Format 2.1 is due to typographical error and there would not be any consumers under this category for FY 2017-18.

Commission's Observation:

10. In format 2.1, Basis of calculation of fixed charges in cases of HT consumers may be furnished.

Petitioner's Reply:

The Discom would like to submit that in order to arrive at the revenue from fixed charges in HT category, it has considered a power factor of 0.85 to convert the connected load into kVA and then accordingly multiplied it by the Commission approved fixed charges.

However the average load factor tends to below 75% and it may be a more practical approach to consider the minimum billing demand of 75% to compute the revenue from fixed charges.

Commission's Observation:

11. Reasons for decrease in connected load in small Industry (LT-5) and Medium Industry (LT-6 & HT-3) categories in spite of increase in number of consumers as per data submitted in Format 2.1 be furnished.

Petitioner's Reply:

It is submitted that the connected load for the above mentioned categories is as shown in the table below. The typographical error in the earlier submitted petition is highly regretted.

Category	FY 2016-17	FY 2017-18
Small Industry (LT-5)	415,328	437,164
Medium Industry (LT-6)	525,175	535,232
Medium Industry (HT-3)	132,216	134,748

Commission's Observation:

12. In format 2.5 for FY 2015-16, details of domestic consumers may be furnished.

Petitioner's Reply:

The Discom submits that details of domestic consumers have been furnished and is being resubmitted as **Annexure E** attached along with this reply for the kind consideration of Hon'ble Commission

Commission's Observation:

13. In Format 3.1 please furnish the details of variable cost per unit and annual fixed charges.

Petitioner's Reply:

The Discom submits that the variable cost per unit and annual fixed charges in Form 3.1 is being submitted as **Annexure F (I) & (II)** attached along with this reply for the kind consideration of Hon'ble Commission

Commission's Observation:

14. In Format 3.4 and 3.5 please indicate contracted capacity and tariff details.

Petitioner's Reply:

The Discom would like to submit that the Format 3.4 and 3.5 is completed and submitted as **Annexure G** for the kind consideration of Hon'ble Commission.

Commission's Observation:

15. Depreciation rates stated in Format 3.6 are not matching with the rates prescribed. Provide the reason for same.

Petitioner's Reply:

The Discom would like to submit that the rates prescribed are applicable for assets life up to 12 years whereas the composition of assets considered while calculating the depreciation in Format 3.6 consists of assets which are older than 12 years, thus the depreciation rate reduces for those assets in subsequent years. Hence there is a difference between rates mentioned in Format 3.6 as compared to those prescribed. The clause from the Regulations 2014 is reproduced again for the kind reference of the Hon'ble Commission:

“Depreciation shall be calculated annually based on Straight Line Method (SLM) and at rates specified in Annexure-I to these Regulations for the assets of the generating station, transmission system and distribution system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.”

Commission's Observation:

16. Complete information in format 3.8 may be furnished with reconciliation of same with audited accounts for FY 2015-16.

Petitioner's Reply:

The Discom submits that the Format 3.8 has been furnished and is being resubmitted as **Annexure H** attached along with this reply for the kind consideration of Hon'ble Commission.

Commission's Observation:

17. Information in form 6.1 may be submitted based on Commission's observation on the submission of voltage wise cost of supply.

Petitioner's Reply:

Owing to the difficulties pointed earlier in these replies under reply to point no. 1 of data gaps in respect of ARR and Tariff petition for FY 2016-17 and FY 2017-18 – JVVNL, Discom requests the Hon'ble Commission to consider the submission made in reply to point number 1.

Commission's Observation:

18. In format 6.2, figures for distribution loss and system availability be furnished. Targets for stopped/defective meters and replacement of defective meters for FY 2016-17 and 2017-18 be furnished.

Petitioner's Reply:

The Discom submits that the revised format 6.2 has been attached as **Annexure I** along with the replies and the required information has been filled to the best possible extent. The Discom requests to the Hon'ble Commission to kindly consider the details as submitted in the revised format.

Commission's Observation:

19. Information in Form 6.3 may be furnished on the basis of billing data/feeder metering data. In format 7.2 please furnish the technical and commercial losses.

Petitioner's Reply:

The Discom requests the Hon'ble Commission to consider the details pertaining to voltage wise cost of supply as submitted in the reply to point number 1 for Form 6.3 also. It is further submitted that the Discom has made available the information pertaining to Form 7.2 which is being maintained by the Discoms to the Hon'ble Commission and requests it to consider the same.