RAJASTHAN ELECTRICITY REGULATORY COMMISSION, JAIPUR

Petition No. RERC 1294/17, 1295/17, 1296/17

In the matter of approval of Aggregate Revenue Requirement and Tariff Petition of Jaipur Vidyut Vitran Nigam Ltd (JVVNL), Ajmer Vidyut Vitran Nigam Ltd (AVVNL) and Jodhpur Vidyut Vitran Nigam Ltd (JdVVNL) for FY 2018-19.

Coram: **Shri Vishvanath Hiremath, Chairman**
Shri R.P.Barwar, Member
Shri S.C. Dinkar, Member

Petitioners**:** Jaipur Vidyut Vitran Nigam Ltd. Jaipur (**1294/17**)
Ajmer Vidyut Vitran Nigam Ltd. Ajmer (**1295/17**)
Jodhpur Vidyut Vitran Nigam Ltd. Jodhpur (**1296/17**)

Date of hearing: 15.05.2018

Date of Order: 28.05.2018

ORDER

Section-1: Background

1.1 The three distribution companies namely, Jaipur Vidyut Vitran Nigam Ltd. (JVVNL), Ajmer Vidyut Vitran Nigam Ltd. (AVVNL) and Jodhpur Vidyut Vitran Nigam Ltd. (JdVVNL), collectively called Discoms or Petitioners had filed petitions for approval of Aggregate Revenue Requirement (ARR) for FY 2018-19 under section 62 & 64 of Electricity Act, 2003 read with RERC (Terms and Conditions for Determination of Tariff) Regulations, 2014.

1.2 JVVNL, AVVNL & JDVVNL filed the petitions on 30.11.2017 for FY 2018-19.

1.3 JVVNL filed the additional information on 24.01.2018, AVVNL on 22.01.2018 and JdVVNL on 30.01.2018 relating to approval of ARR for FY 2018-19.

1.4 As per Section 64(2) of the EA, 2003 which requires that applicant should publish application filed in such abridged form and manner as may be specified by the Appropriate Commission, the Commission on dated 21.02.2018 allowed Discoms to publish the notice in the newspapers.

1.5 Accordingly, public notices with salient features of the petitions, inviting comments/suggestions, were published in the following newspapers on the dates shown against each of the petitions and were also placed on the websites of the Commission and Discoms. The last date for submission of comments/ suggestions was notified as 09.04.2018 for JVVNL, AVVNL & JdVVNL:

Sr. No.	Name of Newspapers	JVVNL	AVVNL	JdVVNL
(i)	Dainik Bhaskar	09.03.2018	-	01.03.2018
(ii)	Times of India	10.03.2018	08.03.2018	-
(iii)	Rashtradoot	09.03.2018	07.03.2018	-
(iv)	Navjyoti	-	07.03.2018	01.03.2018
(v)	Hindustan Times	-	-	04.03.2018

1.6 In all, 18 numbers of comments/suggestions were received on JVVNL petitions and 14 numbers on AVVNL and 17 numbers on JDVVNL petition from the stakeholders for 2018-19. The list of stakeholders is enclosed at **Annexure-A.**

1.7 The Commission forwarded the suggestions/comments submitted by the Stakeholders to the respective Discoms for furnishing the reply.

1.8 The public hearing in the matter was held on 15.05.2018. The list of stakeholders who have made oral submissions during the hearing is enclosed at **Annexure-B**.

1.9 Post hearing, the Discoms on 18.05.2018 have filed clarification in respect of issues raised by the stakeholders during the hearing.

1.10 The Commission has carefully considered the petitions filed by Discoms, objection and suggestion filed by stakeholders thereon, reply given by the Discoms in respect of stakeholder's objections/ suggestions and oral submissions made by the Stakeholders during the hearing and also perused all the relevant records while finalizing this order.

1.11 As issues arising in all the petitions are common for all three Discoms and the Stakeholders have also made common submissions on all the petitions and a common hearing was held in the matter, the Commission therefore has decided to consider all the petitions together for FY 2018-19 and dispose them through this common order.

1.12 In this Order Commission has considered ARR for FY 2018-19 of all the Discoms including the various proposals made keeping in view the RERC (Terms and Conditions for determination of Tariff) Regulations, 2014 and norms prescribed therein, the earlier orders of the Commission, orders of the Hon'ble Supreme Court and Appellate Tribunal for Electricity.

1.13 The projections approved in this order for Generation and Transmission are for the purpose of estimating the aggregate revenue requirements of the petitioners. It shall not be construed as formal approval of the Commission for any investment or tariff for transmission or generating plant etc.

1.14 For ready reference, a list of abbreviations used in this order is placed at **Annexure – C** of this order.

1.15 All energy figures used in this order, unless stated otherwise, are in Million Units (MU).

1.16 For the purpose of representation, figures given in the tables are shown as rounded off. However, for calculation purpose, actual figures have been considered.

1.17 This order has been structured in five sections as given under.

a) Section 1 – Background discussed in this part.

b) Section2 - Comments/suggestions of Stakeholders, Petitioners' response and the Commission's observations/views thereon.

In this section the Commission has considered comments/suggestions made by stakeholders on the General and specific issues related to proposals of ARR determination and tariff of three Discoms.

c) **Section 3 - ARR for FY 2018-19 of the three Discoms.**

In section 3 the Commission has looked into performance of Discoms, Distribution losses, effect of UDAY, various steps taken by Discoms for efficiency improvement and individually dealt various cost parameters viz power purchase cost, O&M, interest cost, depreciation etc. and decided the ARR of FY 2018-19 and also calculated the estimated sales and revenue for various categories of consumers in accordance with RERC (Terms and Conditions for Determination of Tariff) Regulations, 2014.

d) **Section 4 – Tariff Proposals and approved Tariff**

Discoms have not made any proposal for revision in tariff which has been accepted. However, Discoms have proposed certain rationalization measures in order to facilitate better utilization of resources, economic pricing and better revenue management which have been dealt in the order.

e) **Section 5- Way Forward**

In this section the Commission has considered compliance of its previous order and has made observations and advises for improvement of the sector as a whole and Discoms in particular.

Section – 2 Stakeholders comments, Petitioners' response and the Commission's views:

Part I – General issues/comments related to Aggregate Revenue Requirement (ARR) of FY 2018-19

2.1. Filing of petition

2.1.1. Stakeholders' Suggestions/Comments:

1. It was submitted that Discoms have not filed annual statement of account and annual reports and statistics, along with an account of its activities during the current year. These documents are required as per Regulation (5) (d) of RERC Tariff Regulation, 2014. Discoms may furnish the same.

2. It was submitted that Discoms in their petitions have informed that they have revised the figures for FY 2017-18, the ARR for FY 2017-18 is already determined, therefore the same cannot be changed now.

2.1.2. Petitioners' Response:

1. The Discoms submitted that they have submitted the Audited Annual Accounts for FY 2016-17.

2. The Discoms submitted that the figures of FY 2017-18 are based on 6 month actual for FY 2017-18. It is further submitted that the figures for FY 2017-18 have been filed for accurate projection of FY 2018-19 figures.

2.1.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto.

2.2. Meters

2.2.1. Stakeholders' Suggestions/Comments:

1. It was submitted that whether the meter reading of LPR (Low Power Range) meters are being carried out regularly.

2. It was submitted that Discoms may intimate the information of number of meters/metering equipments/transformers burnt/ became defective and

replaced in place of above burnt and defective meters/ metering equipments/ Transformers.

3. It was sought that whether all the 33 kV feeders have been metered.

2.2.2. Petitioners' Response:

1. The Discoms submitted that regular meter readings of the LPR meters are being taken.

2. The Discoms submitted that data required for the determination of Annual Revenue Requirement has been provided as per the RERC Tariff Regulations, 2014.

3. The Discoms submitted that all the 33 kV feeders have been metered.

2.2.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto.

2.3. Theft of Electricity

2.3.1. Stakeholders' Suggestions/Comments:

1. It was submitted that Discoms may furnish the information regarding number of checking done, theft detection, amount assessed, amount realized, number of complaint received, FIR lodged, arrest made and persons convicted for the last 3 years.

2. It was submitted that JVVNL should ensure that there is no theft of electricity at the police stations, police chowkies, police line, temples and road lights in cities/towns besides residential colonies /quarters situated at substations including offices of Discoms. It was further submitted that no proper metering exists at road light.

2.3.2. Petitioners' Response:

1. The Discoms submitted that the details pertaining to the theft detected, FIR's lodged, amount realised, arrests made etc have been submitted to the Commission.

2. JVVNL submitted that over the recent times Discom has been stringent and relentless in its vigilance activities. Special vigilance campaign has been launched in recent times considering the theft of electricity. Proper metering is being done on temples situated in public parks, police stations etc. Instructions have already been given and implemented at most of the places. Due to the constant endeavours of the Discom in the field to curb and control the activities of theft and other misdoings, there has been a major increase in the number of such activities being caught and reported.

2.3.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto.

2.4. Sales and Revenue

2.4.1. Stakeholders' Suggestions/Comments:

1. It was submitted in respect of JVVNL that the sales indicated for FY 2016-17 in true up petition and ARR petition are not reconciled.

2. It was submitted that the Discoms may furnish the category wise sales projections for FY 2018-19 duly indicating the sales by franchisee. Further, to ascertain the distribution losses of franchisee area, the Discoms may also furnish the information of sale of energy to distribution franchisee and sale by franchisee to consumers.

3. It was submitted that as per annual accounts of JVVNL average revenue from the area other than franchisee work out as Rs. 6.86/ kWh while in respect of franchisee the revenue received worked out as Rs. 5.81/ kWh only. JVVNL may clarify the reason for lower realization.

4. It was submitted that in case of JVVNL, sales projection for large industry consumers for FY 2018-19 is about 34% higher than the actual sales during FY 2016-17. Such higher projection in this cross- subsidizing category is good but appears to be on higher side.

5. It was submitted that Discoms in their petitions have indicated that "wherever the trend has seemed unreasonable, the forecast has been

appropriately adjusted after taking into consideration the latest available data" in this regard each Discom may indicate category wise consumers in whose cases the trend has seemed unreasonable and their forecast has been appropriately adjusted. The basis and the manner adopted and the extent of adjustment made may also be furnished. Further, the data available for making adjustment in respect of each category of consumer was also sought.

2.4.2. Petitioners' Response:

1. JVVNL submitted that the variation in the sales for FY 2016-17 as observed by the stakeholder in the True Up Petition for FY 2016-17 and ARR Petition for FY 2018-19 is due to the fact that the sales as shown in the True Up petition is for the consumers of Discom only and the sales of the consumers of the Distribution Franchisee area is not included in the same. However, the table depicting the past year sales for JVVNL in the ARR Petition comprises the sales of all the consumers of the Discom including that of the consumers falling under the Distribution Franchisee areas.

2. The Discoms submitted that the projections made under the ARR Petition filed are for the entire area under the Discoms jurisdiction including the areas of Distribution Franchisee.

3. JVVNL submitted that the per unit rate as pointed out by the stakeholder is on a lower side due to the fact that energy is being provided to the franchisee at a single input point and hence there is no impact of losses on the same. Had the same been calculated on the consumer end it would have been more due to impact of losses. Hence, no question of loss as mentioned by the stakeholder arises.

4. JVVNL submitted that the sale to large industrial consumers is expected to be on an increasing side due to increase in open access charges like cross subsidy surcharge, additional surcharge etc.

5. The Discoms submitted that required explanation regarding the projection of sales to various consumer categories is specified in the Petition and no further explanation is required.

2.4.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto. Commission has dealt with the issue of sale and revenue in ARR section of this order.

2.5. Distribution Losses

2.5.1. Stakeholders' Suggestions/Comments:

1. It was submitted whether the work of segregation of technical and commercial losses have been completed by Discoms, if yes, the information about the results and analysis on segregation was sought.

2. It was submitted that the Discoms may intimate results of energy audit along with copy of energy audit report.

3. It was submitted that Discoms may furnish the information of losses of urban area/ town where RAPDRP program have been implemented.

4. It was submitted that Discoms may furnish information whether all 33/11 kV sub-station are having suitable metering equipment. If yes, then why Discoms do not calculate voltage wise losses & cost of Supply. Discom may furnish the details.

5. It was submitted that Discoms may furnish Information of feeders with more than 25% losses and less than 15% losses.

6. It was submitted that the distribution losses may be considered as 15% as per UDAY scheme.

2.5.2. Petitioners' Response:

1. The Discoms submitted that the work of segregation of technical and commercial losses is under progress.
2. The Discoms submitted that the energy audit for FY 2015-16 has been completed and the draft report is under verification. The work for FY 2016-17 has been started and is under progress.

3. The Discoms furnished the list of towns where RAPDRP program is being undertaken along with their loss level.

4. The Discoms submitted that all the 33kV feeders have been metered and the metering of 11 kV feeders is under progress. In the mean while the Discoms have submitted the voltage wise cost of supply in accordance to Hon'ble APTEL judgment in Appeal No 102 of 2010.

5. Discoms submitted that once the Feeder Monitoring System is fully implemented, feeder wise data would be available. The implementation is still in its early stages.

6. The Discoms submitted that Distribution loss for FY 2018-19 has been considered as per the UDAY target.

2.5.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto. The Discoms should focus on reduction of theft and commercial losses. The Commission has dealt with the issue of Distribution losses in ARR section of this order.

2.6. Distribution Franchisee

2.6.1. Stakeholders' Suggestions/Comments:

1. Information was sought in respect of energy supplied to franchises of Discoms during FY 2016-17 and FY 2017-18.

2. Information was sought in respect of any other franchises, if any appointed, the exact date from which the franchises have started functions, full name and postal address of the franchises and the energy supplied to the franchises during FY 2017-18.

3. Detailed information was sought in respect of gross value of assets transferred to each franchisee.

4. Information was sought in respect of no. of current transformers/ meters/ equipments on which Discoms were receiving rent before transfer to

franchises. After transfer whether rent received shall be kept by Discoms of franchisee please Intimate.

2.6.2. Petitioners' Response:

1. Discoms submitted that the details pertaining to Distribution Franchisee have been furnished with the additional information.

2. Discoms submitted that no other franchisee is operational in the Discoms' areas other than the appointed ones.

3. The Discoms submitted that the copy of the agreement between the appointed Distribution Franchisee and the same has been provided to the stakeholder. All the relevant information can be found in the same. Any other information required for the determination for ARR and Tariff for FY 2018-19 has been submitted to the Commission along with the Petition and the Additional information. The same was also available on the Discoms website for reference.

4. The Discoms submitted that they have not transferred any assets or any part of the utility to the Distribution Franchisee. The Distribution Franchisee only gets right to use of assets and the ownership remains with the Discoms only.

2.6.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto.

2.7. Inventory Management

2.7.1. Stakeholders' Suggestions/Comments:

It was submitted in respect of JVVNL that control over the procurement of material and unwarranted stock inventories are required.

2.7.2. Petitioners' Response:

The JVVNL submitted that for improving inventory management the regular meetings with all concerned officials of Nigam is being organized by SE(MM) every month wherein regular discussion held on management of inventory and SE(I&S) is regularly watching the inventory of various material and accordingly the diversion of material from one store where excess material lying to another store where shortage/ urgent requirement exists is being carried out. Also deferment on various material suppliers was imposed time to time. The Discom officials keep a proper check on the inventory and the materials and equipment procured. The equipments are procured only after properly assessing the requirement and identifying the areas of need. The internal audit team also ensures that proper accounting of all the material is being done. The monitoring of the materials is a very crucial for any business and Discoms are leaving no stone unturned to ensure that there is no negligence in this matter. A reference of news published in various newspapers has been made by the objector. These are related with theft of materials, lying of materials at site/sub-stations, material issued but not installed and other irregularities. In case of theft, FIR is lodged and further action is taken. In case of materials lying at sites, field officers have been directed to look into the matter and deposit such material in the store failing which they would face severe action. In case of irregularity in issuance of materials, the matter is investigated and defaulters are dealt with accordingly.

2.7.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discom thereto.

Part II – Issues/comments related to Aggregate Revenue Requirement (ARR) of FY 2018-19

2.8. Power Purchase

2.8.1. Stakeholders' Suggestions/Comments:

1. It was submitted that power purchase cost should be allowed as per RERC order for RVUN and CERC order for central stations for FY 2018-19.

2. It was submitted that during FY 2016-17, Discoms have fulfilled RPO target of about 9% against target of 11.40%. Whereas for FY 2018-19 Discoms have projected the RE purchase as per RPO Trajectory, which seems to be on higher side.

3. It was submitted that in case of JVVNL and JdVVNL, the purchase projection for FY 2018-19 from RVUN stations has been drastically reduced as compared to FY 2017-18. Such projection shall increase the per unit power purchase cost. Discoms may clarify the same. Similar, may be situation for AVVNL, who has not furnished the information of RVUN, stations, which may also be furnished.

4. It was submitted that Discoms have projected to sell surplus power through power exchange at Rs 2.50 per unit, whereas after meeting transmission charges and losses, the per unit purchase cost to Discoms work out to about Rs. 4.60 per unit. In view of this, it was suggested that the Discom should make all efforts to increase the consumption (excluding agriculture consumption). For this Discount /incentive to the consumer for consumption above 50% load factor for large industries may be considered.

2.8.2. Petitioners' Response:

1. The Discoms requested to consider the power purchase cost as submitted in the ARR and Tariff Petition for FY 2018-19.

2. The Discoms submitted that while projecting the power purchase from Renewable sources they have considered the RPO trajectory as set by the Commission and would be striving to meet up target as set.

3. The Discoms submitted that they are expected to 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 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 Discoms have taken a prudent call and accordingly proposed to schedule power from the various sources as mentioned in Form 3.1 based on merit order principles.

4. The Discoms submitted that they would be facing the problem of surplus energy. This is after taking a prudent call of scheduling lower quantum of power from the state generating sources. The Discoms would put in its best efforts to increase its sales to consumers so as to minimize this impact of surplus power to the best extent possible. The incentive scheme for consumption above 50 % load factor to for large industrial consumers was proposed in the previous year's tariff petitions and was accordingly implemented by the Discoms post issuance of the tariff order dated 2nd November 2017.

2.8.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue of power purchase in ARR section of this order.

2.9. <u>Transmission losses & Charges</u>

2.9.1. Stakeholders' Suggestions/Comments:

It was submitted that the Discoms have indicated the intra-state losses as 3.89%, whereas as per RVPN true up petition, these have been shown as 3.35%, the Commission may allow the intra-state transmission losses of 3.35% only. It was submitted that transmission & SLDC charges should be considered as per RVPN Order for FY 2018-19

2.9.2. Petitioners' Response:

The Discoms submitted at the time of filing of ARR and Tariff Petition, the True Up Petition for FY 2016-17 was not filed by RVPN. The transmission losses as considered by the Discoms are as per the previous RERC order for RVPN and transmission charges projected are based on information available at the time of filing of ARR petition.

2.9.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in ARR section of this order.

2.10.<u>O&M Expenses and insurance charges</u>

2.10.1. Stakeholders' Suggestions/Comments:

1. It was submitted that O&M expenses may be allowed in respect of sales to be made by the Discoms in their own area only i.e. excluding the sales of consumer falling within the area of franchisees

2. It was submitted that insurance charges should only be allowed in respect of Discoms assets excluding the Assets transferred to DF.

2.10.2. Petitioners' Response:

1. The Discoms submitted that O&M expenses have been computed as per the norms of the RERC Tariff Regulations, 2014 on the total sales including the sale by Distribution Franchisee.

2. The Discoms submitted that the Insurance charges have been computed as per the norms of the RERC Tariff Regulations, 2014, as the ownership of the assets is still with the Discoms the insurance charges have been claimed on total assets including the assets under Distribution franchisee area.

2.10.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in ARR section of this order.

2.11. <u>**Terminal Benefit**</u>

2.11.1. Stakeholders' Suggestions/Comments:

It was submitted that terminal benefit should not be allowed in respect of Discom's employee working with distribution franchisee.

2.11.2. Petitioners' Response:

The Discoms submitted that the Terminal Benefits have been projected on the basis of the actuarial valuation reports.

2.11.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with the issue in ARR section of this order.

2.12. <u>**Depreciation**</u>

2.12.1. Stakeholders' Suggestions/Comments

1. It was submitted that Discoms have not provided details of the Gross Assets which have completed their 12 years of useful life.

2. It was submitted that Discoms may furnish the details of assets transferred to franchisees and no depreciation should be allowed in respect of assets transferred to franchisee.

3. It was submitted that Discoms have not computed the depreciation in accordance with Regulation 22 of RERC Tariff Regulations 2014.
4. For the purpose of computation of depreciation the GFA approved in the true up order should be considered instead of GFA as per Audited Accounts.

2.12.2. Petitioners' Response:

1. The Discoms submitted that GFA and depreciation from FY 2016-17 had been calculated as per the provision for depreciation prescribed in the RERC Tariff Regulation 2014 and consequently the useful life of the assets

up to 31.3.2016 had been recalculated. Also, the asset mix already comprises of certain assets whose useful life is more than 12 years. Variation in values is because the Commission while approving the GFA also considers assets financed by consumer contribution and grants. Accordingly, the Depreciation for upcoming years has been projected by the Discoms.

2. The Discoms submitted that they have not transferred assets to the Distribution franchisee, it has only given right to use the asset to the DF, therefore the Depreciation expenses are to be borne by the Discom and not by the DF. Since the Discom shall bear the Depreciation expenses, the Discom should be allowed to claim depreciation as per RERC norms.

3. The Discoms submitted that the rates prescribed are applicable for the complete useful life of the assets whereas the Discoms have recalculated the rates so that the balance depreciable amount is charged over the revised remaining useful life of the assets. Thus the depreciation rates have been reduced for those assets which were depreciated on higher rates as compare to current rates. Similarly, in case of assets of distribution system, remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation, is spread over the balance useful life of the assets. Hence there is a difference between rates mentioned in Format 3.6 as compared to those prescribed.

4. The depreciation for FY 2017-18 and FY 2018-19 has been calculated as per Straight Line Method (SLM) at rates specified in Annexure-1 of the RERC Tariff Regulations 2014 in accordance with Regulation 22 of the said Regulations.

2.12.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue of depreciation in ARR section of this order.

2.13. Interest and Finance charges

2.13.1. Stakeholders' Suggestions/Comments

1. It was submitted that Discoms have also claimed the interest on late payment payable by them to the generator/transmission utility to whom they have not made the Regular payments. No interest on such loans should be allowed.

2. It was submitted that during FY 2017-18, the Discoms have computed the revised gap and this gap has been added to the FY 2018-19 and carrying cost has been claimed on such gap. The same may not allowed.

3. It was submitted that Discoms have not adjusted the security deposit due against permanent disconnected consumers and this has increased the interest cost, which may not be allowed.

4. It was submitted that no interest should be allowed in respect of capital investment made in the area of franchisee.

5. Interest on working capital should be computed as per RERC Tariff Regulations, 2014.

2.13.2. Petitioners' Response:

1. The Discoms submitted that interest has been claimed as per methodology explained in the petition. No other interest amount has been considered as a part of the interest and finance charges.

2. The Discoms submitted that the revised projections made for FY 2017-18 are based on the actual' six months data that was available at the time of preparing the petition. The same was done to arrive at more realistic numbers for FY 2018-19.

3. The Discoms submitted that the capital investment considered is only for the area of the Discoms excluding the area of Distribution Franchisee.

4. The Discoms submitted that the interest on term loan and interest on working capital is computed as per the norms specified in the RERC Tariff Regulations 2014.

2.13.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in ARR section of this order.

2.14.<u>Sales Projection</u>

2.14.1. Stakeholders' Suggestions/Comments

It was submitted that Energy sales projections for some categories of consumers for FY2018-19 have been very high as compared to previous years.

2.14.2. Petitioners' Response:

The Discoms submitted that energy sales for FY 2018-19 are projected on the basis of historical sales data using the category wise CAGR as per the methodology approved by the Commission in the previous year tariff orders. For all consumer categories except the agriculture category, past trends have been used while estimating sales. Wherever, the trend has seemed unreasonable, the forecast has been appropriately adjusted after taking into consideration the latest available data. Energy sales for FY 2017-18 in this petition have been revised from the earlier projections made as part of the Discom's ARR petition for FY 2017-18 based on the trends observed in the first six months of FY 2017-18.

Various factors also have been kept in mind while making the energy sales projections. The increase in consumers in rural areas consequent to intensification efforts under RGGVY scheme (subsumed under DDUGJY) and increase in specific consumption of the existing consumers due to increasing supply hours and improving living standards. This factor plays a major role while making the projections. Also the 24*7 power for all scheme of the Government will see a major number of domestic connections being released, which would again contribute in the increased sales. The extensive electrification of the un-electrified households of the state will again see a growth in sales in coming years. Rapid urbanisation and increase in commercial activities in the recent past will contribute to the growth in commercial category. In the large industrial category the recently amended open access regulations and the revision in additional surcharge and cross subsidy surcharge is expected to bring back the open access consumers to the Discoms fold and hence increase the consumption this category.

2.14.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in ARR section of this order.

2.15.<u>Delayed Payment Surcharge</u>

2.15.1. Stakeholders' Suggestions/Comments

It was submitted that Discoms have worked out principal amount of Delayed Payment surcharge as realisation of delayed payment surcharges divided by 24% (the rate of DPS per annum) .The delayed payment surcharge of 24% is applicable on all categories of consumers except large industrial service for which late payment surcharge @ 0.1% per day (i.e. 36.5% p.a) is applicable. As such considering rate of 24% has resulted in wrong assessment of principal amount of delayed payment and hence interest charges for its funding on higher side.

2.15.2. Petitioners' Response:

The Discoms submitted that Delayed Payment Surcharge (DPS) is levied on the outstanding receivables of the consumers and considered in the books of accounts on accrual basis. Considering the DPS as a part of Non Tariff Income (NTI) does not reflect the actual amount of DPS being realized by the Petitioner. If the accrued DPS is considered to form part of NTI, it is important that the financing cost for corresponding receivables must also be considered. The Petitioner is allowed only 1.5 months receivable in allowance of working capital and for period beyond that period DPS is applicable. Thus the financing cost of such receivables must be allowed. Also the security deposit is deducted from the two months receivable while calculating the working capital interest.

2.15.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in section 3 of this order.

2.16. <u>Voltage Rebate</u>

2.16.1. Stakeholders' Suggestions/Comments

It was submitted that the Commission in its order dated 2nd November 2017 has directed the Discoms to provide voltage rebate only on energy charges instead of providing rebate on both energy and fixed charges. On the same analogy, Discoms have proposed to modify the applicability of rebate(s) to a consumer under LT Tariff Schedule who is provided with High Tension Supply on energy charges only instead of fixed and energy charges. It is submitted that when a LT supply category consumer is provided supply at HT, Discoms besides transformation losses also save either on the cost of installation of HT transformer or save equivalent HT transformer capacity which is available for effecting supply to other LT consumers. Thus fixed cost of Discom is saved and hence rebate should therefore be also on fixed charges.

2.16.2. Petitioners' Response:

The Discoms submitted that they have furnished the justification and advantages of tariff rationalization measures in the ARR Petition.

2.16.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in section 4 of this order.

2.17. <u>Open Access and Wheeling Charges</u>

2.17.1. Stakeholders' Suggestions/Comments

It was submitted that on one hand Discoms have projected the higher sales for large industrial consumers and on other hand they have also increased the revenue projection from wheeling charges, cross subsidy surcharge and additional surcharges, Discoms may clarify the same.

2.17.2. Petitioners' Response:

Discoms submitted that they have projected the revenue from wheeling charges, additional surcharge and cross subsidy surcharge based on the actual consumption through open access observed during the first six months of FY 2017-18 and accordingly projected for the entire year. No increase in the consumption through open access has been considered. The figures are based on certain assumptions and the same can be trued up once the actuals are available.

2.17.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in section 4 of this order.

2.18.Agriculture category

2.18.1. Stakeholders' Suggestions/Comments

1. It was submitted that Discoms may furnish the information of flat rate agriculture consumer separately for urban area and rural area as on 31/3/2016, 31/10/2017 and as on 31/12/2017.

2. It was submitted that the sales projection for agriculture metered category should be based on the past consumption basis and not on connected load basis.

3. It was submitted that Discoms may furnish the information of the number of agriculture metered connection released in FY 2017-18.

4. It was submitted that Discoms may furnish the number of flat rate connection converted to metered category supply in FY 2017-18.

5. It was submitted that JVVNL may provide the information of consumers and connected load to examine the sale projection of flat rate category.

2.18.2. Petitioners' Response:

1. The Discoms submitted that the information of number of flat rate consumers have been furnished to the stakeholders.

2. The Discoms submitted that to project the sales for Agriculture category, they have followed the methodology adopted by the Commission in its previous tariff orders.

3. The Discoms submitted that the information of number of agriculture metered connections released in FY 2017-18 have been furnished to stakeholders.

4. The Discoms submitted that the information of numbers of agriculture flat rate consumers which were converted to the metered category in FY 2017-18 have been furnished to stakeholders.

5. The JVVNL submitted that persistent efforts are being made to convert the flat rate consumers to metered category over the past years. This is very much evident from the decreasing number of flat rate consumers of the Discom over the past years. Also if the flat rate consumer is disconnected due to non-payment of bills, it will be reconnected under metered category only.

2.18.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto.

2.19. <u>Prompt Payment</u>

2.19.1. Stakeholders' Suggestions/Comments

It was submitted that Discoms have proposed the prompt payment rebate of 0.15% on energy and fixed charges if payment is received before seven (7) days instead of 7 working days from the due date of the bill and proposed to continue 0.35% on energy and fixed charges if payment is received before ten (10) days from the due date of the bill. It is submitted that due date of bill (vide clause 35 of the supply code) is 12 days from issue. Time available to effect payment after receipt of bill but before 10 days, will be quite short and large number of consumers, specially LT consumers, may not be able to avail this rebate. Further, If payment is made before 10 days from due date of the bill, then incentive will be 0.35%. this will be equivalent to interest rate of 0.35%x365/10= 12.775% which is more than that (11.80%) considered for interest on receivables considered in working capital. It will be appropriate to link this rebate to interest rate applicable to working capital and reduce it to say 0.32%).

2.19.2. Petitioners' Response:

The Discoms submitted that they have made their proposals in the ARR and Tariff Petition.

2.19.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in section 4 of this order.

2.20. <u>Industry Definition</u>

2.20.1. Stakeholders' Suggestions/Comments

1. It was submitted that though proposal for industry definition is appropriate but even in this definition some industries like woollen industry, salt industry, scrape / waste paper recycling industry, etc will get excluded.

2. It was submitted that the State Power committee should be authorized for any addition or changes in the definition of industrial consumers.

2.20.2. Petitioners' Response:

The Discoms submitted that they have made their proposals in the ARR and Tariff Petition.

2.20.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in section 4 of this order.

2.21.Hostel Definition

2.21.1. Stakeholders' Suggestions/Comments

It was submitted that commission may modify the definition of Hostel based on all comments and Discom's reply or the State Power committee should be authorized to approve changes/ classifically applicable uniformly to all Discoms.

2.21.2. Petitioners' Response:

The Discoms submitted that they have made their proposals in the ARR and Tariff Petition.

2.21.3. Commission's View:

The Commission has taken note of the comments of the Stakeholders and reply of Discoms thereto and has dealt with this issue in section 4 of this order.

2.22.Other tariff related issues

2.22.1. Stakeholders' Suggestions/Comments

1. It was submitted that in the Jodhpur Discom area consumer have taken electric connection for pumping back of "Seepage Water" from agriculture land and JdVVNL is charging on SIP/NDS category, whereas this water is not sold to anybody, this is done to save the Crops. Therefore, these connections be charged on agriculture category tariff only.

2. It was submitted that on the international border of Rajasthan, lighting on Border is provided by JdVVNL for that Border Security Force bear the expenditure of Rs. 185 Lacs/Year for R & M of lInes and sub-station. It has pointed out that bill raised by JdVVNL are as per normal tariff-applicable, whereas BSF is bearing all R& M expenditure of lines. Accordingly, BSF should be given suitable rebate and fixed charged be fully waived off.

2.22.2. Petitioners' Response:

1. JdVVNL submitted that it has no objection in applying the agriculture tariff on those consumers who have taken electric connection for pumping back of "Seepage Water" from agriculture land. JdVVNL requested the Commission to take the appropriate view.

2. JdVVNL submitted that O & M expenses of lines and sub-stations are born by the Border Security Force are in line with agreement signed with them in this regard. Further, JdVVNL has deployed the adequate technical officials and vehicles for O & M of such line and sub stations. Therefore, proposal of Border Security Force cannot be accepted.

2.22.3. Commission's View:

1. With regard to proposal of stakeholders for consumers who have taken electric connection for pumping back of "Seepage Water" from agriculture land. The Commission observes that the existing tariff provisions clearly define the applicability of agriculture tariff, thus the proposal need not to be considered.

2. With regard to O & M expenses of lines and sub-stations of border area, the Commission accepts the submission of Discoms.

Section-3: Annual Revenue Requirement

3. Annual Revenue Requirement for FY 2018-19:

3.1 Determination of ARR requires assessment of energy sales as well as cost of various elements like power purchase cost, O&M expenses, interest cost and depreciation, etc. Projection of the Petitioners with respect to various components of ARR, the Commission's analysis thereon after consideration of views expressed by the Stakeholders and decision with respect to items given below are discussed in the following paras:

(1) Energy sales

(2) Losses, both transmission and distribution

(3) Power purchase cost, including transmission charges and SLDC charges

(4) Operation and maintenance expenses

(5) Interest and finance charges and interest on working capital

(6) Depreciation

(7) Revenue from existing tariff

(8) Non-tariff and other income

(9) Revenue deficit based on existing tariff

Energy Sales

3.2 Discoms have worked out the energy sales for FY 2018-19 on the basis of past growth in consumers, connected load and energy sales. The consumer category wise sales projected by the three Discoms and the energy sales being approved now by the Commission have been discussed in the following sub-paras.

3.3 The Discoms have projected the energy sales for FY 2018-19 for the following consumer categories:

(1) All consumer categories, except agriculture
(2) Agriculture consumers (Metered)
(3) Agriculture consumers (Flat Rate)

Petitioners' Submission

Energy Sales for Metered Categories (except Agriculture)

3.4 The Discoms have submitted that energy sales for FY 2018-19 are projected on the basis of past growth in consumers, connected load and energy sales using the category wise CAGR as per the methodology approved by the Commission in the previous year tariff orders. For all consumer categories except the agriculture category, past trends have been used while estimating sales. Wherever the trend has seemed unreasonable, the forecast has been appropriately adjusted after taking into consideration the latest available data to arrive at more realistic projections.

3.5 For Domestic category, an increasing trend in the energy sales has been observed in the previous years. The increase in sales is largely attributable to increase in consumers in rural areas consequent to intensification efforts under RGGVY scheme (subsumed under DDUGJY) and increase in specific consumption of the existing consumers due to increasing supply hours and improving living standards. The Petitioner expects the same trend in growth of sales to continue in the future.

3.6 Apart from above, Discoms have also kept in view the joint initiative of Government of India and Government of Rajasthan to provide 24 x 7 power in the State to all its consumers (except agriculture consumers) which ensures uninterrupted supply of quality power to existing consumers and providing access to electricity to all unconnected consumers in the next five years. As per this initiative, six lakh domestic consumers in the state of Rajasthan are envisaged to be added during FY 2018-19.

3.7 For Non-Domestic category, Discoms stated that there has been increasing trend in last five years which is attributable to rapid urbanisation and increase in commercial activities in the recent past. The Petitioner expects the same trend in growth to continue in the future.

3.8 For Industrial consumers, the Discoms stated that there has been growth in sales in small, medium and large industrial categories in the past, however, due to industrial consumers opting for open access, low growth of industrial sales was witnessed during the previous years.

3.9 For Public Water Works (PWW) category, Discoms stated that this category has shown substantial growth, however as all connections have now been metered and there are no new connections pending. However shifting of connections of Public Water Works (M) to Public Water Works (L) has also been observed. Therefore, while projecting sales for this category, the trend has been appropriately adjusted.

3.10 With regard to mixed load category, Discoms stated that a decreasing trend has been observed in the previous years which can be attributed to the shift in certain consumer groups such as mobile tower consumers and private institutions to non-domestic consumer category and others. However, after migration of such consumers, the sales has demonstrated marginally increasing trends. The Petitioner expects this trend to continue.

3.11 With regard to Railways, JVVNL stated that Railways has been given the status of distribution licensee and has started procuring power for its requirement from sources other than the JVVNL. As such no sales has been projected under the category of Electric Traction.

Energy sales to Agriculture Metered (M) Consumers

3.12 The energy sales for agriculture metered category have been estimated on the basis of the following factors:

a) Existing cconsumers at the start of the Financial Year
b) Addition in the consumers during the Financial Year.
c) Consumers converted from 'Agriculture Flat' to 'Agriculture Metered' category.
d) Connected load per consumer.
e) Estimated specific energy consumption.

3.13 The connected load per consumer has been forecasted on the basis of the trend observed in previous years and the growth anticipated in connected load per consumer due to decrease in the water table. Therefore, for estimating the connected load per consumer, the Petitioner has considered a nominal increase.

3.14 The Discoms submitted that, they have considered the specific consumption of 1921 kWh/kW/year for JVVNL, 1644 kWh/kW/year for AVVNL and 1779 kWh/kW/year for JdVVNL.

3.15 The Discoms have furnished the following information regarding number of metered consumers, connected load and specific consumption in their petition:

Table 1: Agriculture (M) sales for FY 2018-19-JVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	4,47,754	7.86	35,19,179	1921	6,761
New Consumers	15,000	7.86	1,17,894	1921	113
Add: converted from flat rate	10,000	8.58	85,828	1945	82
Total	4,72,754		37,22,901		7,152

Table 2: Agriculture (M) sales for FY 2018-19- AVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	409501	7.12	2,915,440	1644	4,793
New Consumers	18,000	7.12	128,151	1644	105
Add: converted from flat rate	5,000	13.01	65,067	1945	53
Total	432,501		3,108,657		5,111

Table 3: Agriculture (M) sales for FY 2018-19- JdVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	280,968	18.80	5,282,088	1,779	9,395

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
New Consumers	20,000	18.80	375,992	1,779	334
Add: converted from flat rate	4,000	19.31	77,228	1945	69
Total	304,968		5,735,308		10,202

Energy Sales for Agriculture Flat Rate (FR) Consumers

3.16 The energy sales for agriculture Flat rate category have been estimated on the basis of the following factors:

a) Existing consumers at the start of the Financial Year
b) Consumers converted from 'Agriculture Flat' to 'Agriculture Metered' category.
c) Connected load per consumer.
d) Approved specific energy consumption

3.17 For forecasting the connected load per consumer for FY 2018-19, the connected load of previous years has been considered for JVVNL, AVVNL and JdVVNL.

3.18 For projecting the sales for agriculture (flat) category for FY 2018-19, Discoms have considered the specific consumption of 1945 kWh/kW/year as approved earlier by the Commission.

3.19 Discoms indicated the following sale to the agriculture Flat Rate category :

Table 4: Agriculture (FR) Sales for FY 2018-19 – JVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	20,506	8.58	175,996	1,945	342
Less: converted to meter	10,000	8.58	85,828	1,945	82
Total	10,506		90,168		175

Table 5: Agriculture (FR) Sales for FY 2018-19– AVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	36785	13.01	478,695	1,945	931
Less: converted to meter	5,000	13.01	65,067	1,945	63
Total	31,785		413,628		805

Table 6: Agriculture (FR) Sales for FY 2018-19– JdVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	34,588	19.31	667,788	1,945	1,299
Less: converted to meter	4,000	19.31	77,228	1,945	75
Total	30,588		590,561		1,149

Total energy sales projected by Discoms:

3.20 The projection of energy sales of different consumer categories discussed in preceding sub-paras is given in the following table:

Table 7: Total Energy Sales for FY 2018-19- Discoms' Projection (MU)

Particular	JVVNL	AVVNL	JdVVNL	Total
	Submission			
	FY 2018-19			
Domestic Service	5,791	4,131	3,740	13,662
Non-Domestic Service	2,479	1,328	1,234	5,041
Public Street Light	208	79	104	391
Agriculture Metered Supply	7,152	5,111	10,202	22,464
Agriculture Flat Rate Supply	175	805	1,149	2,129
Small Industrial Service	325	297	239	861
Medium Industrial Service	772	857	644	2,274
Large Industrial Service	5,253	3,300	1,361	9,914
P.W.W. & S. Pumping –Small	264	366	272	903
P.W.W. & S. Pumping –Medium	42	76	104	222
P.W.W. & S. Pumping –Large	444	266	526	1,235
Mixed Load / Bulk Supply	244	109	383	736

Particular	JVVNL	AVVNL	JdVVNL	Total
	Submission			
	FY 2018-19			
Total	**23,149**	**16,724**	**19,958**	**59,832**

Commission's Analysis

Energy Sales for Metered Categories (except Agriculture Flat Rate Category)

3.21 Considering the approach followed in order dated 02.11.2017, the Commission has considered the 5 year CAGR (from FY 2012-13 to FY 2017-18) for all categories (except Agriculture and large Industry in three Discoms, mixed load in AVVNL and Public street light & Public Water Works(M) in JdVVNL).

3.22 While computing the aforesaid 5 year CAGR, the Commission has considered the actual sale From April' 17 to February' 18 for FY 2017-18, which is further extrapolated for 12 months for projecting the sale for FY 2018-19.

3.23 The Commission observed that 5 year CAGR for large industrial consumers is 7.52%, 5.93% and 7.94% in case of JVVNL, AVVNL and JdVVNL respectively. It has been submitted that the Discoms have projected the sale for large industry on higher side as compared to previous year as due to cross subsidy surcharge and additional surcharge large industrial consumers are opting out from open access. The Commission has also observed that as per data furnished by Discoms, there is substantial increase in sale to large industrial consumer during FY 2017-18 as compared to 2016-17 i.e. 36%, 39% and 28% in JVVNL, AVVNL and JdVVNL respectively. However, CAGR calculated on the basis of such increase in one particular year cannot form basis for further projections. Thus the Commission has adopted the 5% increase in sales projection instead of 5 year CAGR for large industry consumers.

3.24 Due to shift of large number of consumers from mixed load category to non domestic category over the years, 5 year CAGR for mixed load category is reflecting negative growth for AVVNL. Therefore, for mixed load category in AVVNL, the Commission has considered an increase of 5% over the extrapolated sale of FY 2017-18 to project the sale for FY 2018-19.

3.25 Further, in case of JdVVNL, 5 year CAGR for Public Street light & Public water works(M) have shown the negative growth. Thus, the Commission has considered increase of 5% over the extrapolated sale of FY 2017-18 for projecting the sale for FY 2018-19.

3.26 The category wise growth rate and energy sales for FY 2018-19 (except agriculture) are as given in the tables below:

Table 8: Growth Rate and Energy Sale for FY 2018-19 - JVVNL

Particular	Energy Sale (MU) Extrapolated (Actual) FY 2017-18	3-Year CAGR	5-Year CAGR	7-Year CAGR	Growth Rate Adopted by Commission	Energy Sale (MU) Approved
Domestic	5,382	9.78%	9.05%	8.54%	9.05%	5,869
Non-Domestic	2,345	9.13%	8.63%	13.01%	8.63%	2,547
Public Street Light	176	1.41%	6.28%	9.75%	6.28%	187
Small Industry	301	-3.46%	1.70%	1.10%	1.70%	306
Medium Industry	769	0.00%	2.99%	3.16%	2.99%	792
Large Industry	5,348	7.60%	7.52%	6.16%	5.00%	5,616
Public Water Works (S)	306	11.87%	8.97%	4.69%	8.97%	333
Public Water Works (M)	38	0.73%	6.73%	5.49%	6.73%	40
Public Water Works (L)	329	14.71%	11.72%	17.41%	11.72%	368
Mixed Load / Bulk Supply	197	0.97%	2.92%	-10.55%	2.92%	203
Total	**15,192**					**16,262**

Table 9: Growth Rate and Energy Sale for FY 2018-19 - AVVNL

Particular	Energy Sale (MU) Extrapolated (Actual) FY 2017-18	3-Year CAGR	5-Year CAGR	7-Year CAGR	Growth Rate Adopted by Commission	Energy Sale (MU) Approved
Domestic	3587	7.03%	8.28%	9.56%	8.28%	3,884
Non-Domestic	1192	9.80%	10.71%	15.23%	10.71%	1,320
Public Street Light	73	0.16%	5.37%	6.59%	5.37%	77
Small Industry	284	-0.25%	1.81%	2.86%	1.81%	289

Particular	Energy Sale (MU) Extrapolated (Actual) FY 2017-18	3-Year CAGR	5-Year CAGR	7-Year CAGR	Growth Rate Adopted by Commission	Energy Sale (MU) Approved
Medium Industry	848	2.86%	5.53%	5.97%	5.53%	895
Large Industry	3318	8.04%	5.93%	4.34%	5.00%	3,484
Public Water Works (S)	331	11.73%	9.98%	7.84%	9.98%	364
Public Water Works (M)	50	9.79%	8.96%	6.97%	8.96%	55
Public Water Works (L)	234	13.39%	9.46%	8.97%	9.46%	256
Mixed Load / Bulk Supply	106	-0.13%	-0.48%	-13.01%	5.00%	112
Total	**10023**					**10,734**

Table 10: Growth Rate and Energy Sale for FY 2018-19 - JdVVNL

Particular	Energy Sale (MU) Extrapolated (Actual) FY 2017-18	3-Year CAGR	5-Year CAGR	7-Year CAGR	Growth Rate Adopted by Commission	Energy Sale (MU) Approved
Domestic	3,770	10.51%	10.82%	11.04%	10.82%	4,178
Non-Domestic	1,274	12.10%	10.32%	15.81%	10.32%	1,406
Public Street Light	118	-5.77%	-0.73%	0.22%	5.00%	124
Small Industry	244	1.23%	2.38%	2.60%	2.38%	250
Medium Industry	704	4.62%	4.54%	7.16%	4.54%	736
Large Industry	1,450	4.86%	7.94%	4.33%	5.00%	1,523
Public Water Works (S)	284	5.76%	4.91%	3.17%	4.91%	298
Public Water Works (M)	101	-1.16%	-1.04%	-1.76%	5.00%	106
Public Water Works (L)	505	8.56%	7.94%	6.78%	7.94%	545
Mixed Load / Bulk Supply	438	7.70%	5.48%	-2.77%	5.48%	462
Total	**8,889**					**9,628**

Agriculture Metered (M) consumers

3.27 The Commission has accepted Discoms' submissions in respect of number of existing consumers, new consumers and consumers to be converted from flat rate to metered category.

3.28 For projecting the sale to metered agriculture consumers connected load and specific consumption as applicable for metered category have been considered for 6 months in case of new consumers and those converted from flat rate for working out their sales.

3.29 Accordingly, using the connected load, consumers and specific consumption as filed by Discoms the Commission worked out the sale to agriculture metered category for FY 2018-19 as follows:

Table 11: Agriculture (M) sales for FY 2018-19-JVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	447,754	7.86	3,519,180	1,921	6,761
New Consumers	15,000	7.86	117,894	1,921	113
Add: converted from flat rate	10,000	8.58	85,828	1,921	82
Total	472,754				6,956

Table 12: Agriculture (M) sales for FY 2018-19-AVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	409501	7.12	2,915,440	1,644	4,793
New Consumers	18,000	7.12	128,151	1,644	105
Add: converted from flat rate	5,000	13.01	65,067	1,644	53
Total	432,501				4,952

Table 13: Agriculture (M) sales for FY 2018-19-JdVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	280,968	18.80	5,282,088	1,779	9,395
New Consumers	20,000	18.80	375,992	1,779	334
Add: converted from flat rate	4,000	19.31	77,228	1,779	69
Total	304,968				9,799

Energy Sales for Agriculture Flat Rate (FR) Consumers

Connected Load per Consumer & Specific Consumption for Flat Rate Consumers.

3.30 The Commission has observed that the Discoms have considered the connected load per consumer of 8.58 KW for JVVNL, 13.01 KW for AVVNL and 19.31 KW for JdVVNL. The Commission has accepted connected load and number of consumers as filed by Discoms.

3.31 Further, the Commission has found that Discoms have filed the specific consumption for flat rate consumers as approved by Commission in the earlier order which is accepted by the Commission for FY 2018-19 .

3.32 It is observed that while computing the sale for flat rate category, Discoms have considered the sale to converted consumer for the full year, instead of that consumers converted on the average could be taken to be in the metered category for 6 months and flat rate for 6 months.

3.33 Accordingly, the connected load, specific consumption and estimated sales for FY 2018-19 have been approved by the Commission.

Table 14: Agriculture (FR) Sales for FY 2018-19 – JVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	20506	8.58	175996	1945	342
Less: converted to meter	10000	8.58	85828	1945	83

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Total	10506				259

Table 15: Agriculture (FR) Sales for FY 2018-19 – AVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	36,785	13.01	4,78,695	1,945	931
Less: converted to meter	5,000	13.01	65,067	1,945	63
Total	31,785				868

Table 16: Agriculture (FR) Sales for FY 2018-19 – JDVVNL

Particulars	Consumers (Nos.)	Connected Load per consumer (kW)	Total Connected Load (kW)	Specific consumption (kWh/kW/year)	Consumption (Sales) MU
Existing consumers	34,588	19.31	6,67,788	1,945	1,299
Less: converted to meter	4,000	19.31	77,228	1,945	75
Total	30,588				1,224

Energy Sales as approved by the Commission for all categories

3.34 Based on the approach as discussed in the preceding paragraphs and agriculture flat rate sales, as worked out on the basis of connected load and accepted specific consumption, the energy sales for Discoms are being approved as under:

Table 17: Energy Sales approved by the Commission for FY 2018-19 (MU)

Particular	JVVNL	AVVNL	JdVVNL	Total
Domestic	5,869	3,884	4,178	13,931
Non-Domestic	2,547	1,320	1,406	5,273
Public Street Light	187	77	124	388
Agriculture (Metered)	6,956	4,952	9,799	21,707

Particular	JVVNL	AVVNL	JdVVNL	Total
Agriculture (Flat)	259	868	1,224	2,350
Small Industry	306	289	250	845
Medium Industry	792	895	736	2,424
Large Industry	5,616	3,484	1,523	10,622
Public Water Works (S)	333	364	298	995
Public Water Works (M)	40	55	106	201
Public Water Works (L)	368	256	545	1,169
Mixed Load / Bulk Supply	203	112	462	776
Total	**23,478**	**16,554**	**20,651**	**60,682**

Transmission and Distribution losses

Distribution Losses

Petitioners' Submission

3.35 The Discoms have submitted that they are focusing on loss reduction programs initiated in previous years and also increasingly use technology to target erring consumers and reduce the losses during the projection period. The investments being made under schemes like R-APDRP, FIP, SIP etc. are also expected to aid in the reduction of distribution loss .

3.36 Discoms have submitted that they have been able to reduce losses by more than 5% from the previous year. This is a result of the various measures undertaken in the previous years. The Discom is committed towards further reducing the losses and achieving the targets envisaged under the tripartite MoU signed under UDAY scheme.

3.37 In order to achieve operational efficiency and bring improvements, other steps like loss based load management, performance monitoring and management system, AMR metering for high value consumers, energy audit & accounting at feeder level, feeder segregation, etc. have already been initiated.

3.38 Further, Discoms submitted that 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.

3.39 Considering the focus and all round efforts being made to reduce the

AT&C losses, the commitments made under the UDAY scheme. The Discoms have proposed the Distribution losses in line with UDAY of 15% for FY 2018-19, which includes technical as well as commercial losses.

Commission's Analysis

3.40 It is observed that the Government of India, with an objective to bring in financial discipline and improvement of Discom's efficiency, has formulated a financial restructuring plan namely "UDAY Scheme" subject to fulfilment of conditions. This scheme while restructuring the finances of the Discoms, has imposed several stringent conditions for improvement in efficiency and target distribution loss of 15% upto FY 2018-19. The "UDAY Scheme" has been accepted by the State of Rajasthan as well as the Discoms by signing of Memorandum of Understanding. Therefore, the Commission accepts the Discoms proposal of Distribution losses of 15% for FY 2018-19 as already considered in its order dated 02.11.2017.

Collection Efficiency

3.41 As Discoms have projected 100% collection efficiency for FY 2018-19. The Commission accepts the submission of Discoms as adoption of lower collection efficiency will increase the revenue gap of Discoms which will indirectly burden the consumers of the State.

Transmission Losses

3.42 The Discoms have filed the intra state and inter-state transmission loss of 3.89% and 3.15% respectively.

3.43 Whereas, the Commission has considered the intra state and inter-state transmission loss of 3.35% and 3.15% based on the RVPN Tariff Order dated 03.05.2018 being actual transmission losses achieved during FY 2016-17 and losses for the inter-state grid filed by the Discoms respectively.

3.44 The levels of transmission losses as proposed by the Discoms and considered by the Commission for FY 2018-19 have been shown in the following table:

Table 18: Levels of Transmission Loss (%)

Particulars	Proposed for FY 2018-19	Approved by Commission for FY 2018-19
Intra-State Transmission Losses-Discoms	3.89%	3.35%

Particulars	Proposed for FY 2018-19	Approved by Commission for FY 2018-19
Inter-State Transmission Losses- Discoms	3.15%	3.15%

Energy Requirement as approved vis-à-vis Petitioners' submission

3.45 On the basis of the sales and distribution & transmission losses discussed above, the energy requirement proposed by Discoms and approved by the Commission for FY 2018-19 is given in the following table:

Table 19: Energy Requirement for FY 2018-19 (MU)

	JVVNL		AVVNL		JdVVNL		Total	
Particulars	**Proposed**	**Approved**	**Proposed**	**Approved**	**Proposed**	**Approved**	**Proposed**	**Approved**
Energy Sales to Consumers (MU)	23,149	23,478	16,724	16,554	19,958	20,651	59,831	60,682
Distribution Loss (%)	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%		
Add: Distribution Loss (MU)	4,086	4,143	2,952	2,921	3,522	3,644	10,560	10,709
Energy Required at Discoms periphery (MUs)	27,235	27,621	19,676	19,475	23,480	24,295	70,391	71,391
Intra-State Transmission Losses (%)	3.89%	3.35%	3.89%	3.35%	3.89%	3.35%		
Add: Intra-State Transmission Losses (MU)	1102	957	795	675	950	842	2,848	2474
Energy Requirement at Transco periphery	28,337	28578	20,472	20150	24,430	25137	73,239	73866
Inter-State Transmission Losses (%)	3.15%	3.15%	3.15%	3.15%	3.15%	3.15%		
Add: Inter-States Transmission Loss	269	397	205	278	262	317	736	992
Gross Energy Requirement (MU)	**28606**	**28975**	**20677**	**20428**	**24692**	**25454**	73,976	**74857**

Power Purchase Cost

Petitioners' Submission

3.46 Discoms have projected energy availability for FY 2018-19 on the basis of estimated generation from existing stations and projected generation from new stations. For existing stations, the Discoms submitted that the power purchase quantum has been considered as per the actual energy received in previous years. The Discoms analyzed the existing power scenario and the power purchase has been accordingly projected considering the energy requirement and the merit order principles. The power purchase from stations which were commissioned or are likely to be commissioned in FY 2017-18 and will be available for part of the year has been computed based on capacity, PLF and Auxiliary consumption.

3.47 The power purchased from new station has been considered as per the percentage share allocated to/ contracted by the Rajasthan State. For PLF and Auxiliary consumption historical trends has been considered.

3.48 Discoms submitted that power purchase from renewable energy sources has been projected as per the Commission's proposed RPO trajectory.

3.49 Summary of the power purchase quantum and cost as submitted by Discoms in their petitions are as under:

Table 20: Power Purchase (MU) and Cost (Rs. Cr.) for FY 2018-19 – submitted by Discoms

Energy Availability (MUs) and Cost for FY 2018-19- Submission								
Stations	JVVNL		AVVNL		JdVVNL		Total	
	Units	Cost	Units	Cost	Units	Cost	Units	Cost
NTPC (Including NSM)	4232	1144	2963	801	3386	915	10581	2859
NHPC	662	244	463	171	529	195	1654	609
RVUN	5786	2793	4050	1955	4629	2234	14465	6982
Rajwest	2596	1001	1817	701	2076	801	6489	2503
NPCIL	1116	338	781	236	893	270	2791	844
SHARE PROJECTS	1288	91	816	30	933	34	3037	154
TEHRI	98	51	69	35	78	41	245	127
KOTESHWAR	43	17	30	12	34	13	106	42
Tala	19	4	14	3	16	3	49	10
SJVNL-NATHPA-JHAKRI	222	67	156	47	178	54	555	167
Rampur	62	23	44	16	50	18	156	57
Neyveli Lignite Corporation Ltd	578	215	405	151	463	172	1445	538
Aravali Power Co. Pvt. Ltd.	3	4	2	3	3	3	9	10
Coastal Gujarat	971	238	680	167	777	191	2428	596
Adani Power Rajasthan Ltd.	3342	1210	2339	847	2673	968	8354	3026
Sasan Power Ltd.	1034	177	724	124	827	141	2585	442
Karcham Wangtoo	165	89	115	62	132	71	412	222
DB POWER	280	99	196	69	224	79	701	247

Energy Availability (MUs) and Cost for FY 2018-19- Submission								
Stations	**JVVNL**		**AVVNL**		**JdVVNL**		**Total**	
	Units	**Cost**	**Units**	**Cost**	**Units**	**Cost**	**Units**	**Cost**
MARUTI	89	24	63	16	71	19	223	59
NVVN Bundled	517	274	362	192	413	219	1292	685
NCES	4364	2217	3180	1616	3815	1938	11360	5772
New Stations	3887	1803	2721	1262	3110	1442	9719	4507
Total	**31356**	**12121**	**21989**	**8515**	**25311**	**9823**	**78657**	**30459**
Sale/purchase of surplus/(deficit) energy	2750	687	1312	328	619	155	4680	1170
Net power purchase cost	**28606**	**11434**	**20677**	**8187**	**24692**	**9668**	**73976**	**29288**

Commission's Analysis

3.50 While estimating energy availability and power purchase cost for FY 2018-19, the Commission has considered the generation from State and Central generating units based on the eleven months actual data for FY 2017-18 as submitted by the Discoms, which is further extrapolated for projection of FY 2018-19. Likewise, the position as per latest tariff orders (order/interim order) has also been considered in working out power purchase cost, as discussed later in the order.

3.51 For estimating the power purchase cost, the Commission has considered availability from various sources for the State as a whole. For working out Discom wise availability and cost, the allocation of power to JVVNL, AVVNL and JdVVNL from all generating stations has been considered in the ratio of 40%, 28% and 32% respectively, except that 100% allocation of RFF share has been considered for JVVNL.

Energy Availability and Cost for FY 2018-19

RVUN Stations

3.52 For RVUN generating stations, including KTPS (Unit 1-7) & STPS (Unit 1-6), DCCPP, RGTPS (Stage I, II & III), Mahi, MMH, Chhabra (Unit 1-4) & Kalisindh (Unit 1&2), the Commission has considered the energy availability as per actual purchase from April 17 to February' 18, i.e. 11 Month of FY 2017-18, which is further extrapolated for 12 months to project the availability for FY 2018-19.

3.53 The fixed and energy charges for the aforesaid RVUN plants are as per RVUN Tariff order dated 18.05.2018 and 03.05.2018 for FY 2018-19.

3.54 Tariff of Mini/Micro (MMH) plants have been considered as per Regulation 58 of RERC Tariff Regulations, 2014.

3.55 The energy availability and cost of RVUN's generating stations as considered by the Commission have been shown in the table below:

Table 21: Energy Availability (MU) and Cost (Rs. Cr.)- RVUN Stations for FY 2018-19

Station	Energy Availability	Cost
KTPS(1 to 7)	6289	2117
STPS(1 to 6)	4411	1887
DCCPP	239	140
CTPP (1&2)	2756	1009
CTPP (3)	1135	467
CTPP (4)	1567	609
RGTP(1&2)	368	107
KaTPP#1	3110	1442
KaTPP#2	2952	1332
RGTP 3	1010	441
MAHI	170	50
MAHI MMH	1	0
MANGROL	6	2
STPS MMH	4	1
Total	**24016**	**9606**

Lignite based projects

3.56 The lignite based projects include Giral Lignite Power Limited, Rajwest Limited and Neyveli Lignite Corporation Limited. For Giral Unit 1 & 2, Commission is not considering any generation for FY 2018-19 as these Units are not functioning for long period of time. The availability for Rajwest and Neyveli has also been considered based on the 11 months actual for FY 2017-18, which is further extrapolated for 12 months for projection of FY 2018-19. The per unit charge for FY 2018-19 for Rajwest have been considered as per the Commission's interim Tariff order dated 10.05.2018.

3.57 The fixed charges for Neyveli has been considered as per actual purchase for 11 months for FY 2017-18, which is further extrapolated for 12 months for projection of FY 2018-19 and variable charges of FY 2017-18 have been escalated by 2% for FY 2018-19.

3.58 The energy availability and total power purchase cost for Lignite based projects have been summarized in the table below:

Table 22: Energy Availability (MU) and Cost (Rs. Cr.)- Lignite Plants for FY 2018-19

Station	Energy Availability	Total Cost
Rajwest	6060	2333
Neyveli Lignite Corporation Ltd	1450	519
Total	**7510**	**2852**

Nuclear Power Corporation of India Ltd. (NPCIL)

3.59 The energy availability of NPCIL has been considered as per actual purchase for 11 months for FY 2017-18, which is further extrapolated for 12 months for projection of FY 2018-19 and variable charges of FY 2017-18 have been escalated by 2% for FY 2018-19.

3.60 The energy availability and total power purchase cost for NPCIL plants have been summarized in the table below:

Table 23: Energy Availability (MU) and Cost (Rs. Cr.)- NPCIL for FY 2018-19

Station	Energy Availability	Total Cost
NPCIL	3456	1050

Partnership Projects (PP) and RFF

3.61 The energy availability of partnership projects and RFF has been considered as per actual purchase for 11 months for FY 2017-18, which is further extrapolated for 12 months for projection of FY 2018-19 and variable charges of FY 2017-18 have been escalated by 2% for FY 2018-19.

3.62 Energy availability and total power purchase cost for partnership projects have been summarized in the table below:

Table 24: Energy Availability (MU) and Cost (Rs. Cr.)- Partnership Projects for FY 2018-19

Station	Energy Availability	Total Cost
Partnership Project	3324	142

NTPC, NHPC & Others

3.63 The energy availability and fixed charges of NTPC & NHPC has been considered as per actual purchase for 11 months for FY 2017-18, which is further extrapolated for 12 months for projection of FY 2018-19 and variable charges of FY 2017-18 have been escalated by 2% for FY 2018-19.

3.64 The energy availability and charges of Tehri, Koteshwar, Tala, Rampur, SJVNL, Aravali, Adani, Sasan, NVVN, Coastal Gujarat, Karcham Wangtoo, DB power and Maruti have been considered as per actual purchase for 11 months for FY 2017-18, which is further extrapolated for 12 months for projection of FY 2018-19.

3.65 The energy availability and charges of new projects have been considered as per Discoms projection for FY 2018-19.

3.66 The energy availability and total power purchase cost for NTPC, NHPC and other plants have been summarized in the table below:

Table 25: Energy Availability (MU) and Cost (Rs. Cr.)- NTPC & NHPC and Other Generating Stations for FY 2018-19

Plants	Energy Availability	Total Cost
NTPC Stations	8461	2563
NHPC Stations	1765	599
SJVNL-NATHPA-JHAKRI	578	136
Rampur	164	56
Tehri Hydro	236	124
Koteshwar	104	40
Tala	46	10
NVVN BUNDLED	2260	1020
Aravali Power Co. Pvt. Ltd.	4	4
Coastal Gujarat	2361	590
Adani Power Rajasthan Ltd.	5289	1885
Sasan Power Ltd.	2681	405
Karcham Wangtoo	495	225
DB POWER	1850	899
MARUTI	1820	667
Total	**28113**	**9222**

Non-Conventional Energy Sources

3.67 The Commission has taken the availability from non-conventional energy sources to the extent of RPO requirement, i.e., 8.75% for wind, 6.75% for Solar and 1.50% for Bio-mass as per RERC (Renewable Energy Certificate and Renewable Purchase Obligation Compliance Framework) Regulation, 2010.

3.68 The availability has been considered as per RPO and the per unit cost has been considered as per actual.

Table 26: Energy Availability (MU) and Cost (Rs. Cr.)- Wind, Solar & Biomass for FY 2018-19

Plants	Energy Availability	Total Cost
Wind farms	5963	2939
Solar	4600	2242
Biomass	1022	697
Total	**11585**	**5878**

Short term Sources

3.69 After considering the energy available to Discoms based on their respective allocated shares, the Commission has estimated a surplus in energy availability.

3.70 Discoms have proposed to sell the surplus power at the rate of Rs. 2.50 per unit. In this context, the Commission agrees with the Stakeholders' concern that the Discoms must try to sell the surplus power atleast equivalent to or higher than the variable charges of thermal generation, for example, STPS variable charges of Rs. 3.44 per unit. In light of above fact, the Commission has considered the sale price of surplus power at Rs. 3.44 per unit.

3.71 However, there may have been a situation when Discoms may have resorted to short term power purchase. In that situation, the Regulation 79(6) provides that the Commission shall indicate a tariff for procurement of short term power. Accordingly, the Commission deems it proper to continue with the rate of Rs. 4 per unit considered for this purpose in last year tariff order.

New Stations

3.72 The Commission has considered the generation and cost of New Stations as projected by the Discoms, except STPS Unit 7 &8 and CTPP Unit 5&6. Discoms have submitted that commercial operation of STPS unit 7&8 might be delayed and no energy would be sourced from these units in FY2018-19 and same may not be considered for the FY 2018-19. Thus the same has not been considered for FY 2018-19.

Further with regard to CTPP Unit 5&6, the Per Unit cost has been considered as per Commission order 04.04.2018.

Total Power Purchase Cost

3.73 Based on the above, the summary of source wise and Discom wise breakup of power purchase quantum and cost for 2018-19 as considered by the Commission for the three Discoms is given in the table below:

Table 27: Energy Availability (MU) and Cost (Rs. Cr.) for FY 2018-19

Stations	JVVNL		AVVNL		JdVVNL		Total	
	Units	Cost	Units	Cost	Units	Cost	Units	Cost
NTPC	3384	1025	2369	718	2707	820	8461	2563
NHPC	706	239	494	168	565	192	1765	599
NPCIL	1382	420	968	294	1106	336	3456	1050
Tehri+Koteshwar+Tala	154	70	108	49	123	56	386	174
RVUN/ State Generation	12030	4776	8421	3343	9624	3820	30076	11939
Shared Projects	1439	79	880	29	1005	34	3324	142
NCES	4634	2351	3244	1646	3707	1881	11585	5878
SJVN and Rampur	297	77	208	54	237	61	741	192
New Stations	3887	1392	2721	974	3110	1113	9719	3479
Other Stations	6380	2078	4466	1454	5104	1662	15950	5194
NVVN Bundled	904	408	633	285	723	326	2260	1020
TOTAL	**35198**	**12914**	**24511**	**9014**	**28013**	**10301**	**87722**	**32229**
Less: Short Term	**-6223**	**-2141**	**-4083**	**-1405**	**-2558**	**-880**	**-12865**	**-4425**
Net power Purchase	28975	10773	20428	7609	25454	9421	74857	27804

Transmission Charges

Petitioners 'Submission

3.74 For estimation of the RVPN transmission charges and SLDC charges for FY 2018-19, no further escalation has been assumed as in FY 2017-18 transmission charges have been computed by applying 10% escalation over actual transmission charges of FY 2016-17. The details of the transmission and SLDC charges submitted by Discoms have been summarized in the table below:

Table 28: Transmission Charges & SLDC Charges for 2018-19 (Rs. Crore)

Particulars	Discoms' submission			
	JVVNL	AVVNL	JdVVNL	Total
PGCIL Charges	687	481	550	1718
RVPN Charges	898	628	718	2245

Particulars	Discoms' submission			
	JVVNL	AVVNL	JdVVNL	Total
RLDC Charges	1	1	1	3
SLDC Charges	8	5	6	19
Total Transmission Charges	**1594**	**1116**	**1275**	**3984**

Commission's Analysis

3.75 The Commission has considered the RVPN and SLDC charges for FY 2018-19 as per the RVPN tariff order dated 03.05.2018 for FY 2018-19 and others as per submission of Discoms.

3.76 The Commission has considered the other transmission, PGCIL and RLDC charges as proposed by Discoms for FY 2018-19.

3.77 The transmission & SLDC charges accordingly approved by the Commission for FY 2018-19 are as under:

Table 29: Transmission Charges approved by the Commission for FY 2018-19 (Rs. Crore)

Particulars	JVVNL	AVVNL	JdVVNL	Total
PGCIL Charges	687	481	550	1718
RVPN and Other Charges	956	669	765	2391
RLDC Charges	1	1	1	3
SLDC Charges	6	4	5	15
Total Transmission Charges	**1650**	**1155**	**1320**	**4126**

Operation and maintenance Expenses

Petitioners' Submission

3.78 Discoms have estimated O&M expenses based on the O&M norms specified in RERC Tariff Regulations, 2014.

3.79 The O&M expenses projected by Discoms for FY 2018-19 have been summarized below:

Table 30: Operation and Maintenance Expenses for FY 2018-19 (Rs. Crore)

Particulars	JVVNL's submission	AVVNL's submission	JdVVNL's submission	Total
Employee Costs	1104	798	867	2769
Administrative & General Costs	116	84	100	300
Repairs & Maintenance Costs	232	168	200	601

Particulars	JVVNL's submission	AVVNL's submission	JdVVNL's submission	Total
Total O&M Costs	**1453**	**1050**	**1168**	**3670**
Less: Expenses to be Capitalized	*377*	*272*	*226*	875
Net O&M Costs charged to revenue	**1076**	**777**	**941**	**2795**

Commission's Analysis

3.80 Commission has allowed O&M expenses in accordance with Regulation 83 of RERC Tariff Regulations, 2014.

3.81 The per unit norms for each component for first year of the control period FY 2014-15 are as follows:

- Employee expenses-Rs. 0.38/per unit of sale
- A&G expenses-Rs. 0.04/ per unit of sale
- R&M Expenses –Rs. 0.08/ per unit of sale

3.82 As per regulation 24(3), the Commission has escalated the O&M expenses at the rate of 5.85% per annum for FY 2018-19.

3.83 Commission has considered the sales (inclusive of sale by DF) allowed for FY 2018-19 for projecting normative O&M expenses as the Commission has not made any separate projection for DF sale and while calculating revenue, category wise sales and consumer and full applicable tariff as per Commission's order has been considered. Capitalized O&M expenses have been considered in the same ratio as projected by Discoms.

3.84 O&M expenses approved by the Commission for Discoms for FY 2018-19 have been summarized below:

Table 31: Operation and Maintenance Expenses approved for FY 2018-19 (Rs. Crore)

Particulars	Approved JVVNL	Approved AVVNL	Approved JdVVNL	Total
Employee Costs	1120	790	985	2895
Administrative & General Costs	118	83	104	305
Repairs & Maintenance Costs	236	166	207	609
Total O&M Costs	**1474**	**1039**	**1296**	**3809**
Expenses to be Capitalized	382	269	251	903
Net O&M Costs charged to revenue	**1091**	**770**	**1045**	**2906**

Terminal Benefit Expenses

Petitioners' Submission

3.85 The Discoms have considered the terminal benefits for FY 2018-19 as per guidelines specified under AS-15 (Employee benefit). In accordance with the provisions of the AS-15 the company has provided for the shortfall in the terminal benefits in respect to pension and gratuity each year.

3.86 The terminall benefit liability submitted by the Discoms for FY 2018-19 has been tabulated below:

Table 32: Terminal Benefit Expenses for FY 2018-19 (Rs. crore)

Particulars	JVVNL's submission	AVVNL's submission	JdVVNL's submission	Total
Terminal benefit Expenses	550	620	325	1495

Commission's Analysis

3.87 The Commission has considered terminal benefit expenses for FY 2018-19 as submitted by Discoms. However, the Commission shall allow the payment made towards actuarial valuation liability in the true up of FY 2018-19 only to the extent of funds actually transferred to the designated Fund.

Table 33:Terminal Benefit Expenses for FY 2018-19 (Rs. crore)

Particulars	Approved JVVNL	Approved AVVNL	Approved JdVVNL	Total
Terminal benefit Expenses	550	620	325	1495

Capitalization

Petitioners' Submission

3.88 The capital investment and capitalization proposed by Discoms are shown in the table below:

Table 34: Capital Expenditure and Capitalization proposed for FY 2018-19 (Rs. crores)

Particulars	JVVNL	AVVNL	JdVVNL
Capital Expenditure	1673	1500	2106
Capitalization	1718	1730	2116

Commission's Analysis

3.89 Following the methodology adopted in ARR order for FY 2017-18, the Commission has considered 80% of the proposed capitalization in this ARR order as under.

Table 35: Projected Capitalization approved by the Commission for FY 2018-19 (Rs. Crore)

Particulars	JVVNL	AVVNL	JdVVNL	TOTAL
Capitalization	1374	1384	1693	4452

Interest on Loans and Finance Charges & Lease rental

Petitioners' Submission

3.90 To compute the interest on loan, Discoms have considered the opening normative loan for FY 2017-18 equivalent to closing balance of long term loans for FY 2016-17 as per audited accounts for the year. Further, total capitalisation during the year has been reduced by the amount of capitalisation done through consumer contribution projected to be received during the year. Discoms mentioned that the addition in consumer contribution results in addition to both CWIP and GFA. As such proportionate consumer contribution has been used while computing capitalisation through consumer contribution. 30% of the remaining capitalisation has been considered to be funded through equity and the balance amount has been considered as addition to long term loans during the year. The loan repayment has been considered in accordance with Regulation 21 of the RERC Tariff Regulations, 2014 which caps deemed repayments to the extent of depreciation charged for the year. The closing normative loan is considered after aforesaid addition to loan and deducting normative repayment for FY 2017-18 and then similar approach as specified above has been adopted to compute additions to normative loan during FY 2018-19.

3.91 The interest on long term loans is estimated on the basis of actual weighted average interest rate for long term loans and applied on the average of normative loans (average of opening and closing normative loan).

3.92 The Discoms have projected interest on security deposit on the basis of average of actual security deposit per consumer in the previous two years as per audited accounts of FY 2016-17 and 2015-16 and the projected growth in number of consumers. The interest rate has been considered as per the applicable RBI bank rate as on 1st April, 2017 i.e. 6.75% in accordance with the RERC Supply Code.

3.93 Discoms have projected the finance charges and other borrowing cost to be increased by 5% per annum from audited accounts for FY 2016-17.

3.94 With regard to unfunded gap, Discoms stated that it has considered unfunded gap as per Commission order dated 02.11.2017 and revenue deficit for FY 2016-17 has been added to it compute the carrying cost.

3.95 Accordingly, the interest charges and finance charges for FY 2018-19 have been summarized in the table below:

Table 36: Interest and Financing Charges for FY 2018-19 (Rs. Crore)

Particulars	JVVNL	AVVNL	JdVVNL	Total
Opening balance of LTL	3010	3899	3345	10254
Capitalisation	1718	1730	2116	5565
Capital expenditure financed by Equity	448	456	504	1409
Capital expenditure financed by Consumer Contribution and grants	223	209	437	870
Receipt of LTL for Capital expenditure	1046	1065	1185	3296
Principal Repayment	933	652	722	2307
Closing balance of LTL	3124	4316	3808	11248
Average LTL	3067	4107	3577	10751
Average Interest rate of LTL (%)	9.77%	10.05%	10.68%	
Interest Charges on LTL	300	413	382	1094
Interest on Security Deposit	74	59	41	174
Finance Charges & Lease Rental	92	76	80	249
Gross Interest Charges	**465**	**548**	**504**	**1517**
Interest Expenses Capitalized	99	203	32	334
Total Interest & Financing Charges	**367**	**346**	**472**	**1184**
Unfunded Gap	13801	11983	13790	39573
Average Interest rate of LTL (%)	9.77%	10.05%	10.68%	
Interest liability on unfunded gap	**1348**	**1204**	**1473**	**4025**
Total Interest & Financing Charges	**1715**	**1550**	**1944**	**5209**

Commission's Analysis

3.96 The interest and finance charges have been calculated by the Commission considering the following:

a) The closing balance of long-term loans for FY 2016-17 allowed in the true-up order of FY 2016-17, has been considered by the Commission as the opening balance of FY 2017-18.

b) For the capitalization, capital expenditure financed by equity, capital expenditure financed by consumer contribution and grants, receipt of long term loan for capital expenditure and principal repayment for FY 2017-18 have been considered as per order dated 02.11.2017 to arrive at the opening balance of loan of FY 2018-19.

c) For Capitalization for FY 2018-19 has been considered as discussed in foregoing paragraphs. Since only 80% capitalization has been allowed by the Commission, the equity, consumer contribution and grants have also been taken to the extent of 80% of the total projection by the Discoms.

d) The long-term loans required for capitalization during the FY 2018-19 have been reduced by the amount of consumer contribution, capital grants and equity received during the year.

e) Repayment for FY 2018-19 has been considered equal to the depreciation allowed by the Commission for FY 2018-19.

f) Unfunded Gap- For computing the carrying cost, the unfunded gap of the true up order of FY 2016-17 plus FY 2017-18 gap as per order dated 02.11.2017 have been considered.

g) The weighted average interest rate has been considered at 9.77%, 10.05% and 10.68% as claimed by the Discoms.

h) Finance charges and interest on security deposit has been considered as submitted by Discoms.

3.97 Based on the above, the approved interest and finance charges (with respect to the assets capitalized) approved for FY 2018-19 for the three Discoms have been summarized in the tables below:

Table 37: Interest and Finance Charges approved by the Commission for FY 2018-19 (Rs. Crore)

Particulars	JVVNL	AVVNL	JdVVNL	Total
Opening balance of LTL (A)	5876	3073	3174	12123
Capitalization (B)	1374	1384	1693	4452
Capital expenditure financed by Equity (C)	359	365	403	1127
Capital expenditure financed by Consumer Contribution and grants (D)	179	167	350	696
Receipt of LTL for Capital expenditure E=(B-C-D)	837	852	940	2629
Principal Repayment(F)	732	466	494	1693
Closing balance of LTL, G=(A+E-F)	5980	3459	3620	13059
Average LTL, H=(A+G)/2	5928	3266	3397	12591
Average Interest rate of LTL (%)(I)	9.77%	10.05%	10.68%	
Interest Charges on LTL, J=(HXI)	579	328	363	1270
Interest on Security Deposit (K)	74	59	41	174
Finance Charges & Lease Rental (L)	92	76	80	249
Gross Interest Charges, M=(J+K+L)	**745**	**464**	**484**	**1693**
Interest Expenses Capitalized (N)	158	172	31	360
Total Interest & Financing Charges (O)	**587**	**292**	**454**	**1333**
unfunded Gap upto 2017-18 (P)	**13560**	**12232**	**14324**	**40116**
Interest on Carry Forward Revenue Gap, Q=(PXI)	**1325**	**1229**	**1530**	**4084**
Total Interest & Financing Charges after interest on carry forward Gap (O+Q)	**1912**	**1521**	**1983**	**5417**

Interest on Working Capital

Petitioners' Submission

3.98 Discoms estimated their working capital requirement for FY 2018-19 as per Regulation 27 of the RERC Tariff Regulations, 2014 and the same has been tabulated below:

Table 38: Interest on Working Capital for FY 2018-19 (Rs. Crore)

Description	JVVNL	AVVNL	JdVVNL	Total
O&M expenses (as per norms)	90	65	78	233
Maintenance Spare (as per norms)	161	117	141	419
Receivables (as per norms)	2185	1594	1836	5615
Less:				
Security deposit of Consumers	1091	879	610	2580

Description	JVVNL	AVVNL	JdVVNL	Total
Total Working Capital	1346	897	1445	3688
Interest Rate (%)	11.80%	11.80%	11.80%	
Interest on Working Capital	**159**	**106**	**171**	**435**

3.99 The Petitioner has further submitted that it has considered the latest base rate of State Bank of India of FY 2018-19 plus 250 basis points.

Commission's Analysis

The normative working capital requirement along with interest thereon has been calculated as per regulation 27 of RERC Tariff Regulations, 2014, by the Commission as under:

a) Operation and Maintenance expenses for one month; plus

b) Maintenance spares @15% of O&M expenses as per Regulation 83 of the RERC Tariff Regulations 2014; plus

c) Receivables equivalent to one and a half-months billing of consumers;
Less

d) The security deposits as submitted by the Discoms have been considered;

e) For the purpose of calculating interest on working capital, the Commission has considered weighted average SBI base rate prevalent during first six months of the previous year plus 250 basis points as per RERC Tariff Regulations, 2014. The rate of interest thus works out to 11.55%.

3.100 Accordingly, the interest on working capital considered by the Commission is as under:

Table 39: Interest on Working Capital approved by the Commission for FY 2018-19 (Rs. Crore)

Description	JVVNL	AVVNL	JdVVNL	Total
O&M expenses (as per norms)	91	64	87	242
Maintenance Spare (as per norms)	164	115	157	436
Receivables (as per norms)	2046	1484	1794	5325
Less:				

Security deposit of Consumers	1091	879	610	2580
Total Working Capital	1210	785	1428	3423
Interest Rate (%)	11.55%	11.55%	11.55%	
Interest on Working Capital	**140**	**91**	**165**	**395**

Depreciation

Petitioners' Submission

3.101 The Discoms have submitted that for computation of depreciation they have considered the specified rates as provided in the RERC Tariff Regulations, 2014 in Appendix-I based on Straight Line Method (SLM)

3.102 The submission of the three Discoms with respect to depreciation has been tabulated below:

Table 40: Depreciation for FY 2018-19 (Rs. crore)

Particulars	JVVNL	AVVNL	JdVVNL	Total
Depreciation	933	652	722	2307

Commission's Analysis

3.103 Commission has considered depreciation based on the following consideration:

- The closing balance of depreciable assets allowed in the true up order for FY 2016-17 has been considered by the Commission as the opening balance for FY 2017-18.
- The capitalization during the year, capital expenditure financed by consumer contribution & grants and depreciable assets added during the Year for FY 2017-18 has been considered as per order dated 02.11.2017 to arrive at the opening balance of loan of FY 2018-19.
- Capitalization, consumer contribution and grants for FY 2018-19 has been considered as discussed earlier.
- Depreciable assets for FY 2018-19 have been reduced by the amount of consumer contribution and capital grants projected for the year.

- Average depreciation rate has been considered as per true up order for FY 2016-17.

3.104 Deprecation allowed by the Commission for each of the three Discoms has been tabulated below:

Table 41: Depreciation allowed by the Commission for FY 2018-19 (Rs. Crore)

Particulars	JVVNL	AVVNL	JdVVNL	Total
Depreciable Assets at the beginning of the Year (A)	14097	9366	9378	32840
Capitalization during the year (B)	1374	1384	1693	4452
less: Consumer Contribution and Capital Grants during the year (C)	179	167	350	696
Depreciable Assets added during the Year D=(B-C)	1196	1217	1343	3756
Depreciable Assets at the end of the Year (E= (A+D))	15292	10583	10721	36596
Average Depreciable Assets during the Year (F=(A+E)/2)	14694	9974	10050	34718
Average Depreciation Rate (G)	4.98%	4.68%	4.92%	
Depreciation (FXG)	**732**	**466**	**494**	**1693**

Insurance Expenses

<u>Petitioners' Submission</u>

3.105 Discoms have estimated the Insurance expenses for FY 2018-19 on the basis of net fixed assets subject to the ceiling specified in Regulation 25 of the RERC Tariff Regulations, 2014.

Table 42: Insurance Expenses- Discoms submission for FY 2018-19 (Rs. in Crore)

Particulars	JVVNL's submission	AVVNL's submission	JdVVNL's submission	Total
Insurance charges	27	20	21	67

<u>Commission's Analysis</u>

3.106 Commission has allowed Insurance expenses in accordance with Regulation 25 of RERC Tariff Regulations, 2014.

3.107 To compute the insurance expenses on average Net Fixed Assets (NFA) as per aforesaid regulation, the Commission has considered the following:

a) The closing Net Fixed Assets for FY 2017-18 is considered as opening balance as 1.04.2018.

b) The capitalization as discussed in above Para's have been added and depreciation during the year has been deducted from the above opening balance to arrive at closing balance.

3.108 Accordingly, the following insurance expenses have been computed on the average NFA.

Table 43: Insurance Expenses Approved for FY 2018-19 (Rs. in Crore)

Particulars	JVVNL's Approved	AVVNL's Approved	JdVVNL's Approved	Total
Insurance charges	29	20	20	68

Return on Equity

<u>Petitioners' Submission</u>

3.109 Discoms have not claimed return on equity for FY 2018-19.

<u>Commission's Observation</u>

3.110 As Discoms have not sought Return on Equity, the Commission has also not considered Return on Equity.

Interest on Delayed Payment Surcharge

<u>Petitioners' Submission</u>

3.111 Discoms in their petition for FY 2018-19 have claimed the interest on principle amount of Delayed Payment Surcharge (DPS) stating that the consideration of DPS from books of accounts adversely affects the revenue gap of the Discoms. If the accrued DPS is considered to form part of Non Tariff Income, the financing cost for corresponding receivables must also be considered.

<u>Commission's Observation</u>

3.112 This matter of interest on DPS can be examined based on actual and audited data, as ARR petitions for FY 2018-19 are based on projections and un-audited data, therefore, the Commission is not inclined to examine this matter in the current petition and direct the Discoms to take up this matter while filing the petition for true-up for FY 2018-19 wherein Discoms should furnish detailed calculations along with actual data of amount on which DPS is realised.

Non-Tariff Income and Wheeling Charges

Petitioners' Submission

3.113 Discoms have projected Non-Tariff Income for FY 2018-19 using the escalation of 5% per annum on the figures of FY 2017-18. The income from wheeling charges and reactive energy charge for FY 2017-18 have been revised by extrapolating the six month commercial data of FY 2017-18. The same has been considered as income for FY 2018-19.

3.114 Further, income from cross subsidy surcharge and additional surcharge for FY 2017-18 has been extrapolated based on six month commercial data of FY 2017-18 and rates approved by the Commission, the same has been considered as income for FY 2018-19 as given below:

Table 44: Non-Tariff Income for FY 2018-19 (Rs. Crore)

Particulars	JVVNL	AVVNL	JdVVNL	Total
Non-Tariff Income	426	310	436	1172
Income from Wheeling Charges, Cross Subsidy Surcharge and Additional Surcharge	267	293	98	657
Total	**693**	**603**	**534**	**1829**

Commission's Analysis

3.115 The Commission has considered the non-tariff income for FY 2018-19 excluding the reduction on account of interest on delayed payment surcharge and deferred revenue income.

3.116 With regard to wheeling charges, Cross Subsidy Surcharge and additional Surcharge the Discoms have projected the higher sale for the industrial consumers and at the same time projected the higher income from wheeling charges, Cross Subsidy Surcharge and Additional Surcharge, it has been informed that looking to market conditions there is a possibility of reduction in open access and consumer shifting back to Discom, Cross Subsidy Surcharge and Additional Surcharge. Looking at the high growth rate in large industry consumer the Commission has considered the income projection of wheeling charges, Cross Subsidy Surcharge and

Additional Surcharge to 50% of proposed by the Discoms.

Table 45: Non-Tariff Income for FY 2018-19 (Rs. Crore)

Particulars	JVVNL	AVVNL	JdVVNL	Total
Non-Tariff Income	377	232	370	979
Income from Wheeling Charges	133	146	49	329
Total	**510**	**379**	**419**	**1307**

Aggregate Revenue Requirement

<u>Petitioners' Submission</u>

3.117 The Annual Revenue Requirement for FY 2018-19 proposed by the three Discoms has been given in the table below:

Table 46: Summary of ARR for FY 2018-19 – Discoms' submission (Rs. Crore)

Sr. No.	Particulars	JVVNL	AVVNL	JdVVNL	Total
		Submission			
		FY 2018-19			
1	Power Purchase Cost	12121	8515	9823	30459
2	Transmission Charges				
	PGCIL	687	481	550	1718
	RVPN	898	628	718	2245
	SLDC/RLDC	9	6	7	22
3	Operation & Maintenance Expenses	1076	777	941	2795
4	Terminal Benefit	550	620	325	1495
5	Interest and Finance Charges	367	346	472	1184
6	Interest on unfunded gap	1348	1204	1473	4025
7	Interest on working Capital	159	106	171	435
8	Depreciation	933	652	722	2307
9	Insurance charges	27	20	21	67
9	**Aggregate Revenue Requirement**	**18174**	**13355**	**15222**	**46751**
11	Less: Non-Tariff Income	426	310	436	1172
11	Less: Cross Subsidy and Additional Surcharge	267	293	98	657
13	**Net Aggregate Revenue Requirement**	**17481**	**12753**	**14688**	**44922**

<u>Commission's Approval</u>

3.118 Commission has approved the ARR for FY 2018-19 based on the items of expenditure discussed in the preceding sections and the same has been summarized in the table below:

Table 47: Summary of ARR for all the three Discoms for FY 2018-19 – Approved by Commission (Rs. Crore)

Sr. No.	Particulars	JVVNL	AVVNL	JdVVNL	Total
		Approved			
		FY 2018-19			
1	Power Purchase Cost*	10773	7609	9421	27804
2	Transmission Charges				
	PGCIL	687	481	550	1718
	RVPN	956	669	765	2391
	SLDC/RLDC	7	5	6	18
3	Operation & Maintenance Expenses	1091	770	1045	2906
4	Terminal Benefit	550	620	325	1495
5	Interest and Finance Charges	587	292	454	1333
6	Interest on unfunded gap	1325	1229	1530	4084
7	Interest on working Capital	140	91	165	395
8	Depreciation	732	466	494	1693
9	Insurance charges	29	20	20	68
10	**Aggregate Revenue Requirement**	**16878**	**12252**	**14774**	**43904**
11	Less: Non-Tariff Income	377	232	370	979
12	Less: Cross Subsidy and Additional Surcharge	133	146	49	329
13	**Net Aggregate Revenue Requirement**	**16368**	**11873**	**14355**	**42597**

**Power purchase cost has been considered after adjustment of sale of surplus power*

Revenue and Revenue Deficit based on Existing Tariff

Revenue on Existing Tariff

Petitioners' Submission

3.119 Discoms have projected the revenue based on energy sales forecasts for the period and the applicable retail tariff as per the RERC's Tariff Orders.

3.120 The revenue in FY 2018-19 from existing tariff as per Discoms' submission is as under:

Table 48: Revenue from existing tariff for FY 2018-19– Discoms' submission (Rs. Crore)

Particular	JVVNL	AVVNL	JdVVNL	Total
	Submission			
	FY 2018-19			
Domestic Service	3,940	2,752	2,578	9,270
Non-Domestic Service	2,415	1,279	1,140	4,834
Public Street Light	139	54	70	264
Agriculture Metered Supply	3,534	2,532	4,953	11,018
Agriculture Flat Rate Supply	94	432	613	1,140
Small Industrial Service	248	228	183	660
Medium Industrial Service	642	713	535	1,890

Particular	JVVNL	AVVNL	JdVVNL	Total
	Submission			
	FY 2018-19			
Large Industrial Service	4,604	3,091	1,275	8,971
P.W.W. & S. Pumping –Small	180	249	180	609
P.W.W. & S. Pumping –Medium	32	58	79	170
P.W.W. & S. Pumping –Large	348	211	448	1,007
Mixed Load / Bulk Supply	190	86	290	566
Electric Traction				0
Total	**16,368**	**11,684**	**12,346**	**40,397**

Interest subvention, Electricity Duty and Subsidy

3.121 Discoms have shown Differential Interest Subvention on World Bank Loan, Subvention from State Govt against electricity duty, Subsidy against compounding charges for FY 2018-19 as under:

Table 49: Interest subvention, electricity duty and subsidy for FY 2018-19 (Rs. Crore)

Particular	JVVNL	AVVNL	JdVVNL	Total
	Submission			
	FY 2018-19			
Subvention from State Govt. against ED	662	433	389	1484
Subsidy against compounding charges	14	8	13	34
Total Subsidy Amount	**676**	**440**	**402**	**1519**

Revenue Deficit

3.122 The revenue deficits submitted by Discoms for FY 2018-19 at the existing tariff have been provided in the table below:-

Table 50: Revenue Deficit/Surplus at existing tariff for FY 2018-19 (Rs. Crore)

Particulars	JVVNL	AVVNL	JdVVNL	Total
	Submission			
	FY 2018-19			
Net Aggregate Revenue Requirement (A)	**17,481**	**12,753**	**14,688**	**44,922**
Revenue from Existing tariff (B)	**16,368**	**11,684**	**12,346**	**40,397**
Subvention from State Govt. against ED	662	433	389	1,484
Subsidy against compounding charges	14	8	13	34
Total of subvention and Subsidy (C)	676	440	402	1,519
Deficit including Carrying cost D= (A-B-C)	**(437)**	**(629)**	**(1,940)**	**(3,006)**
income from trading activity E	688	328	155	1,170
Deficit After Trading Activity F= (D+E)	**250**	**(300)**	**(1,785)**	
Revenue Deficit of last year G	**(182)**	**(439)**	**(1,838)**	**(2,459)**

Particulars	JVVNL	AVVNL	JdVVNL	Total
	Submission			
	FY 2018-19			
Carrying cost on revenue deficit H	(6)	(59)	(292)	(357)
Gap after last year Losses claimed By Discoms (F+G+H)	**62**	**(799)**	**(3,914)**	**(4,651)**

Commission's Analysis:

3.123 Commission has calculated the revenue from existing tariff on the basis of consumer category wise energy sales approved by the Commission in this order for FY 2018-19 and retail tariff order dated 02.11.2017. The estimated revenue at existing tariff for different consumer categories for all the three Discoms for FY 2018-19 has been summarized in the table below:

Table 51: Revenue from Existing Tariff for FY 2018-19- Approved by the Commission (Rs. Crore)

Particular	JVVNL	AVVNL	JdVVNL	Total
	Approved			
	FY 2018-19			
Domestic Service	4020	2631	2858	9,508
Non-Domestic Service	2448	1303	1345	5,096
Public Street Light	132	61	92	285
Agriculture Metered Supply	3440	2455	4809	10,704
Agriculture Flat Rate Supply	94	433	618	1,146
Small Industrial Service	236	223	190	650
Medium Industrial Service	662	727	595	1,984
Large Industrial Service	4645	3026	1311	8,982
P.W.W. & S. Pumping –Small	224	247	196	667
P.W.W. & S. Pumping –Medium	30	43	80	153
P.W.W. & S. Pumping –Large	290	201	453	943
Mixed Load / Bulk Supply	163	88	346	597
Total	**16,384**	**11,438**	**12,891**	**40,713**

ARR and Revenue

3.124 Considering the ARR and Revenue at existing tariff as determined by the Commission, subsidy & subvention as shown by Discoms in their petition and impact of RVUN true up order for FY 2016-17 dated 18.05.2018, the revenue gap for all the three Discoms for FY 2018-19 at the existing tariff has been worked out.

Table 52: Revenue Deficit/Surplus at existing tariff for FY 2018-19 – Approved by the Commission (Rs. Crore)

Particulars	JVVNL	AVVNL	JdVVNL	Total
	Approved			
	FY 2018-19			
Net Aggregate Revenue Requirement (A)	**16,368**	**11,873**	**14,355**	**42,597**
Revenue from Existing tariff (B)	**16,384**	**11,438**	**12,891**	**40,713**
Subvention from State Govt. against ED	662	433	389	**1,484**
Subsidy against compounding charges	14	8	13	**34**
Total of subvention and Subsidy (C)	676	440	402	**1,519**
Deficit including Carrying cost D= (A-B-C)	**692**	**5**	**-1,061**	**-365**
Add: Consumer Education	**0.50**	**0.50**	**0.50**	**1.50**
RVUN true up Order	**-41**	**-29**	**-33**	**-102**
Net Deficit including Carrying cost	**652**	**-23**	**-1,094**	**-466**

Section-4: Tariff Proposal and approved Tariff

Tariff proposal for FY 2018-19

4.1 Discoms have not made any proposal for revision in tariff which has been accepted, accordingly, the tariff determined vide order 02.11.2017 shall continue to prevail during FY 2018-19. The category wise tariff is enclosed at **Annexure - D.**

4.2 Discoms have proposed certain rationalization measures in order to facilitate better utilization of resources, economic pricing and better revenue management which have been dealt below:

Prompt Payment Rebate

4.3 Discoms have proposed to modify the existing methodology of computing the prompt payment rebate of 0.15% on energy and fixed charges in the next bill if payment is received before seven (7) working days from the due date of the bill. This provision of rebate takes into account working days. Therefore, Discom proposed that while computing the prompt payment rebate the word "working days" should be replaced with "days".

Commission's view

4.4 With regard to prompt payment rebate, it is observed that the exiting provision is already clear regarding the prompt payment rebate and does not require any change.

HT Supply to LT Consumers

4.5 Discoms have proposed to modify the existing applicable rebate to consumers under LT tariff schedule receiving HT supply such that the applicable rebate is provided only on energy charges. Discom proposed to redefined the relevant clause as provided below:

> *"If a consumer under LT Tariff Schedule is provided with High Tension Supply with metering provided on the HT side, a rebate of 7.5% on the energy charges under this schedule will be given. However, the Discom may at its discretion, provide metering equipment on Low Voltage side of consumer's transformer and in such cases 3% (three percent) of recorded consumption shall be added to cover transformation losses, thereafter rebate @ 7.5% on energy charges shall be allowed."*

Commission's view

4.6 In the last tariff order dated 02.11.2017, with regard to voltage rebate, the Commission has noted as under:

> *"The Hon'ble Supreme Court in the case of Hyderabad Engineering Vs APSEB (reported in 1988(2) Scc. 181 has recognized the right of the supplier to insist upon the high consuming consumers to avail power supply on higher voltage as higher the voltage lower the transmission losses.*
>
> *Commission has considered the proposal of Discoms as well as plea of industrial consumers. Commission observes that availing power at high voltage gives permanent benefit to the consumers in terms of quality of power and investment is done one time only, which will be recovered by them from end users of their products. Further, availing power supply at high voltage is in overall interest of the electricity consumers. Therefore, considering the interest of both Discoms and consumers, Commission find the proposal of Discoms fair and reasonable and hence decides to accept the same."*

4.7 The current proposal is similar to aforesaid proposal dealt by the Commission in last year Order. Therefore, considering the interest of both Discoms and consumers, Commission accepts the proposal of Discoms.

Definition of Industries

4.8 Discoms have proposed that in addition to the list of industries under industrial category tariff schedule, a generic definition of industry be provided. Discom have proposed the addition of the following definition without change in any other condition of the respective schedule.

> *"This tariff shall be applicable to <u>Industrial Consumers* and the following consumers but not limited XX.....XX</u>.*
> *<u>*Industrial consumers</u> are consumers engaged in the physical or chemical transformation of materials, substance or components into new products. The materials, substances or components transformed are raw materials that are products of agriculture, forestry, fishing, mining or quarrying as well as products of other manufacturing activities."*

Commission's view

4.9 With regard to definition of industry, the definition as existing is well settled and the Commission is of view, that it does not require any change. Therefore, the Commission has not accepted the proposal of Discoms.

Definition of Hostels:

4.10 In order to clarify the definition of Hostels, Discom proposed to add the following clause in the applicability of Non Domestic Tariff Schedule.

> *"Residential spaces with upto 3 rooms or 6 beds, whichever is less, being used as hostel will not be considered as hostel and Domestic Tariff will be applicable to such connections."*

Commission's view

4.11 With regard to definition of Hostel, the Commission is of view, the proposal will bring in subjectivity and arbitration in implementation. Hence, Commission has not accepted the proposal of Discoms.

Cross Subsidy

4.12 As per Regulation 89 of RERC (Terms and Conditions for Determination of Tariff) Regulations, 2014, the average cost of supply and realization from a category of consumers shall form the basis of estimating the extent of cross subsidy and determination of tariff for that consumer category.

4.13 Regulation 89 of RERC (Terms & Condition of Tariff) Regulations, 2014 read with National Tariff Policy makes it evident that average cost of supply has to be the benchmark in assessing cross-subsidy from any consumer category. The National Tariff Policy states that SERC shall notify a road map with a target that tariff are within +/- 20% of average cost of supply. The Commission has also specified in its Tariff Regulations that the Commission shall endeavour to determine the tariff in such a manner that it progressively reflects the average cost of supply and the extent of cross subsidy to any consumer category is within maximum range of +/- 20% of average cost of supply.

4.14 Average cost of supply for the three Discoms as per ARR and sales considered by the Commission earlier in this order for FY 2018-19 are as under:

Table 53:Average Cost of Supply for FY 2018-19

Particular	JVVNL	AVVNL	JdVVNL	Total
Net ARR (Rs. In crore)	16,368	11,873	14,355	42,597
Sales (MU)	23,478	16,554	20,651	60,682

Particular	JVVNL	AVVNL	JdVVNL	Total
AVG. COS (Rs./Unit)	6.97	7.17	6.95	7.02

4.15 The Average Cost of Supply as filed by Discoms is Rs 7.51 per unit. However it may be seen that average cost of supply is showing reducing trend as compared to previous order mainly because of consideration of high sales for Discom and reduced interest burden on account of UDAY and consideration of lower power purchase cost. However, the actual impact will be visible at the time of consideration of future petition.

4.16 The Discoms have not proposed any tariff revision. Therefore, cross subsidy for various consumer categories at existing tariff shall be as under:

Table 54:Cross Subsidy for FY 2018-19

Particular	JVVNL	AVVNL	JdVVNL	Total.
Domestic Service	-2%	-6%	-2%	-3%
Non- Domestic Service	38%	38%	38%	38%
Public Street Light	1%	11%	6%	5%
Agriculture Metered Supply	-29%	-31%	-29%	-30%
Agriculture Flat Rate Supply	-48%	-30%	-27%	-31%
Small Industrial Services	11%	8%	9%	10%
Medium Industrial Service	20%	13%	16%	17%
Large Industrial Service	19%	21%	24%	20%
P.W.W. & S. Pumping – Small	-4%	-5%	-6%	-5%
P.W.W. & S. Pumping – Medium	8%	9%	9%	9%
P.W.W. & S. Pumping – Large	13%	9%	19%	15%
Mixed Load/ Bulk Supply	15%	10%	8%	9%

Revenue Deficit/Gap

4.17 Discoms in their petition have shown a combined deficit of Rs 4651 Crores FY 2018-19 respectively and no tariff increase is proposed during FY 2018-19. The Discoms submitted that they have taken various initiatives to reduce the cumulative revenue gap and to improve overall efficiency such as Loss Reduction, Feeder Segregation, Billing efficiency, Network Strengthening, Cost Optimisation, Vigilance Drives, Private Sector Participation, Demand Side Management, Focus on customer service and other efficiency improvement measures.

4.18 Against the aforesaid deficit, after taking into account the loan taken over by Government under UDAY, Commission has approved the combined Deficit of Rs. 466 Crore, the Commission has approved the surplus of Rs. 652 Crore for JVVNL the same shall be adjusted against the accumulated revenue gap of previous years. Whereas in case of AVVNL and JdVVNL the Commission has worked out revenue gap of Rs. 23 Crore and Rs. 1094 Crore respectively. Discoms should attempt to bridge the accumulated gap by taking measures for loss reduction, efficiency improvement and Cost optimization.

4.19 Commission accepts the reasons for not proposing tariff revision for FY 2018-19. Accordingly decides to continue the tariff as determined vide order dated 02.11.2017 for FY 2018-19 and shall continue till the next tariff order of the Commission is passed. This Order shall be effective from 1st June 2018. All other existing provisions which are not modified by this order shall continue to be in force.

(S.C. Dinkar)	(R.P. Barwar)	(Vishvanath Hiremath)
Member	Member	Chairman

Section 5: Way Forward

5.1 Electricity sector is a vital sector of the State. If electricity sector is healthy State will have good economical health. Like sun electricity today is a prime mover of life of people. During Last five years the power sector in the State has witnessed many changes. Discoms which once were reeling under mounting losses are now slowly in the process of turning around. Last few years are a mixed bag for power sector. Demand has not increased in the manner it was envisaged leaving behind conventional generation stranded even though the State had made sufficient investment in anticipation of rapid demand growth. On Account of push of GOI and State Government, there is rapid growth in the Renewable generation. Due to several measures of State tariff for renewable has seen a steep fall and large scale capacities of renewable has come up. The rates in power exchanges have also remained on lower side. Due to allowing open access as a policy, the generation capacity already tied up by the Discoms remain stranded.

5.2 UDAY scheme is introduced by GOI and taken forward by State Government came as breather for cash starved Discoms though it has imposed several stringent conditions for improvement in efficiency which the Discoms are attempting to adhere to in the interest of consumers.

5.3 During the period January 2005 to August 2011 no tariffs were increased. However from Sept 2011 tariff was regularly increased. During last four years looking to the improvement in working efficiency of Discoms and UDAY Scheme tariff has been revised only twice once on 20.02.2015 and thereafter on 22.09.2016.

5.4 The Commission in addition has allowed recovery of Additional surcharge and Cross subsidy surcharge from open access consumer. RERC (Terms and Conditions for Open Access) Regulations, 2016 have been notified to bring in necessary discipline and balance in open access transactions. The Regulations while ensuring Grid Discipline as prime objective strike the right balance between interest of Open Access Consumers and the Discoms. The Hon'ble High Court of Rajasthan appreciating the object of Open Access Regulations has upheld them as legally valid.

5.5 The distribution loss levels of the JVVNL,AVVNL and JdVVNL at the end of FY 2016-17 stood at 25.48%.,22.10% ,21.69% as against a target of 22%,20% and 18% respectively despite sincere efforts made by Discoms to reduce them to the targeted level.

5.6 The Discoms in their present petition have submitted that they will pursue the loss reduction programs initiated in previous years. They have stated that they will increasingly use technology to target erring consumers and reduce the losses during the projection period. The investments being made under schemes like R-APDRP, FIP, SIP etc. are also expected to aid in the reduction of distribution loss. The Discoms are committed towards further reducing the losses and achieving the targets envisaged under the tripartite MoU signed under UDAY scheme and taking various steps including restricting power supply in areas with high AT&C losses, implementing a performance monitoring and management system, 100% feeder metering, AMR metering for high value consumers, energy audit & accounting at feeder level, feeder segregation, supply to single consumer from single DT for agriculture consumers, 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.

5.7 The capital investment plans are also on-going to achieve the distribution loss trajectory set forth by the Commission. Considering IT as a major enabler to improve the efficiency of the Discoms, number of IT initiatives have also been planned which will further assist the Discoms in achieving its envisaged targets. In order to achieve operational efficiency and bring around improvements, other steps like loss based load management, performance monitoring and management system, AMR metering for high value consumers, energy audit & accounting at feeder level, feeder segregation, etc. have already been initiated.

5.8 Discoms submitted that 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.

5.9 As regards revenue gap the Discoms submitted that necessary steps are being undertaken to reduce the cumulative revenue gap and to ensure improvement in the overall efficiency. Therefore they have not proposed any tariff hike for FY 2018-19.

5.10 In its last order the Commission asked Discoms to consider certain measures for revenue enhancement and expenditure control. Discoms have submitted their compliance on them. However, The Commission finds that the Discoms are yet to achieve the desired level of improvement to finally overcome financial crisis faced by them. The approach of making execution of plans in bits and pieces and non availability of reliable data is not letting Discoms to achieve the targeted efficiency level and Discoms should continue to focus on the following measures for effective improvement:

(1) <u>Renewable Energy</u>

1.1. In order to promote generation of electricity from renewable sources of energy mandated under Section 86(1)(e) of the Electricity Act,2003 for purchase of electricity from such sources, Commission has specified RPO Regulations requiring Discoms (including deemed licensee), Captive consumers (1 MW and above) and Open Access consumers to procure certain percentage of their electricity consumption from RE Sources. The National Electricity Policy ('NEP') provides that progressively the share of electricity from non-conventional sources would need to be increased as prescribed by SERCs. Such purchase by distribution companies shall be through competitive bidding process. The NEP considering the fact that it will take some time before non-conventional technologies compete, in terms of cost, with conventional sources, says that the Commission may determine an appropriate differential in prices to promote these technologies.

1.2. Commission specified RPO Regulations in the year 2007 and one of the pioneers to have brought captive consumers (1 MW and above) and open access consumers under the ambit of applicability of RPO (in addition to distribution licensee) as OEs. The Regulations mandated OEs such as Discoms (including deemed licensee), CPPs (1 MW and above) and OAs Consumers to procure certain percentage of their electricity consumption from RE Sources The RPO Regulations framed by the

Commission have also passed the judicial scrutiny as the validity of the above RPO Regulations was challenged by the captive and open access consumers before Hon'ble Rajasthan High Court, which vide its judgment dated 31.08.2012 upheld the validity of the Regulations framed by the Commission. The Order passed by the Hon'ble Rajasthan High Court was again challenged before Hon'ble Supreme Court of India. The validity of the RPO Regulations was confirmed affirmatively by the Hon'ble Supreme Court of India vide its judgment dated13.05.2015.

1.3. In order to further facilitate the practical implementation of RPO compliance, while making First Amendment (dated 15.03.2016) in the RERC (Renewable Energy Certificate and Renewable Purchase Obligation Compliance Framework) Regulations, 2010, the Commission has specified an elaborated compliance procedure along with time lines.

1.4. Commission while making Fourth Amendment in RPO Regulations has incorporated the long term growth trajectory of RPO prescribed by GoI under para 6.4(1)(i) of Tariff Policy 2016. So far the Discoms have shown commitment in complying with the RPO targets and they are committed to comply with the same in the years to come.

1.5. Initially the cost of generation of electricity from RE sources was very high and Discoms have been purchasing RE to meet their RPO targets. However, in recent times a reducing trend in cost of generation of electricity from wind and solar coupled with rapid pace of their deployment has been observed. To enable large scale integration of generation from RE sources into the grid Commission has issued the forecasting and scheduling Regulations for wind and solar power plants in the State. This has brought Rajasthan in pioneer States in India having issued such Regulations. This will not only ensure grid stability but facilitate integration of more RE into the grid and balances the interest of Discoms and RE generators. Taking leverage of such a situation, the Discoms may not only avail the opportunity to cater the regular day time load but may also explore the possibility of including such generation in their regular power purchase plan thereby displacing costlier conventional generation.

1.6. As per GoI plan about 40 GW of solar power is to come from Roof Top Solar. The Roof-Top Solar installations would increase further in future. In order to enable harnessing of the potential Roof Top Solar in the State, Commission as one of the first amongst the states to have framed Net Metering Regulations in 2015.The Regulations detail the comprehensive framework for installation of the Roof Top Solar PV systems in the State.

Based on experience gained over the time, the Discoms have the critical role to play in installation of such systems. Commission has specified application procedure for installation of Roof Top Solar PV systems, however, to make the installation faster to harness the available potential, the Discoms would need to process application received in a time bound manner. Further, demands are being made to remove the capacity capping of 1 MWp on installation of such systems provided under the Regulations. Discoms may examine this aspect and submit their suggestions, if any. In addition, the Discoms by taking advantage of their well established electricity billing and accounting system may explore the possibility of adopting different business model as a Roof Top Solar generator.

Waste to Energy

1.7. Carrying the clean energy initiatives further, Commission has determined the tariff for RDF based waste-to-energy power plants to be set up at Jaipur and Jodhpur and the Discoms have been directed to purchase 100% power generated from them. These plants would not only generate green power but would also encourage the efficient collection and disposal of MSW waste which is a major source of pollution and a potential public hazard. In addition these projects would also relieve pressure on landfills. Therefore, these projects while serving the larger public interest would contribute in achieving the objectives of the nationwide Swachh Bharat Mission.

Changing Nature of Grid

1.8. So far the focus of utilities was on centralized power generation. However, with falling prices of renewable energy a need to shift to distributed generation has arisen. With the advent of rooftop solar PV and installation of solar plants at consumer sites, consumers are becoming producer and a special class of "prosumers" is being evolved. The system is now experiencing bi-directional flow of electricity. With more research going on the energy storage solutions a time will soon come when utilities may have to give a thought to whether to invest in transmission or in storage by the Prosumers or the distributed generators.

1.9. Most important thing that is happening is change in nature of loads i.e. incandescent lamps to LEDs and inductive load to Digital Loads. Energy Efficiency levels of devices are continuously being improved with use of Digital technology. However, all this has also created a need for quality supply in terms of Voltage and frequency. With large scale integration of RE grid balancing has become a complex issue. All this has necessitated a need for Smart Grid which is nothing but an electricity grid with communication, automation and IT systems that enable real time monitoring and control of bi-directional power flows and information flows from points of generation to points of consumption at the appliances level.

Day Time Supply of Electricity to Rural Consumers

1.10. The Commission in its last order while putting emphasis on the Day time solar power noted that the solar PV generation, when deployed as a distributed generation, would not only reduce the power purchase cost of the Utilities but would also result in savings in T&D losses. In addition, this would allow them to defer their future investments in new generation capacity and up-gradation of the existing transmission and distribution system. The distributed solar PV generation would cater the day time power demands of the agriculture sector but would also make their power supply more reliable as the power is generated by many generators spread over a wide geographic area. This makes it harder for a large area to be without power and easier to maintain grid stability.

1.11. As regards Day time power the Discoms in their Petitions submitted that the inputs provided by the Hon'ble Commission are very much relevant and of great significance. Distributed generation and micro-grids working in tandem with the Grid supply is a great way to improve duration and reliability of supply. Such an endeavour needs detailed analysis and the petitioner requested for further time to put in efforts to carry out the same and present it along with the next tariff petition. Discoms also mentioned that considering the current power scenario, the Petitioner is already facing the burden of stranded capacity which is adversely impacting its financial condition.

1.12. In this regard the Commission would like to observe that Discoms should explore possibility of providing day time supply to agriculture consumers in a manner by effectively utilizing the potential of Day Time Solar power generation. Once a major chunk of load is shifted, the surplus power may be supplied to other categories of consumers such as industries at a lower Tariff.

1.13. It is observed that Jodhpur Discom is having highest agriculture consumption amongst three Discoms and it also has the highest installation of Solar power. Discom may consider to take a lead in this direction and explore possibility of use of day time solar power on an experimental basis.

Electrical vehicle (EV)

1.14. Indian transportation sector accounts for one-third of the total crude oil consumed in the country, where 80% is being consumed by road transportation alone. It also accounts for around 11% of total CO2 emissions from fuel combustion. The Indian Government under the FAME scheme is incentivizing the use of EVs and development of the required ecosystem. Electrical vehicle (EV) can reduce India's annual crude oil import. EVs will have unprecedented impacts on the distribution grid as it is not a stationary load for which the grid up-gradation can be made at any particular location. Investments may be required to setup charging stations city wide as well as to upgrade the capacity of transformers and cables to accommodate the new loads from EVs. EV batteries can act as an energy storage. The fate of solar power and electrical vehicles in India are likely to be closely interlinked, given that EVs have batteries that can offer a storage solution to India's clean energy push.

1.15. In long term the conventional generators have to meet demand created by the difference between the load and RE generation. As solar generation drops near sunset, dispatchable generators need to rapidly ramp up generation to satisfy demand. Smart charging of EVs can lower the cost of meeting evening demands and therefore, the overall RE integration cost.

1.16. Therefore to encourage opening of E.V. charging units, Commission on experimentation basis hereby direct Discoms to sell units at Domestic Tariff for a period till they file suitable proposals in their next tariff petiton.

(2) RERC (Terms & Condition for Open access) Regulation, 2016

2.1. Open Access in Rajasthan was implemented with the implementation of Rajasthan Electricity Regulatory Commission (Terms & Condition for Open access) Regulation 2004 which was notified on 26 May 2004. Thereafter in view of various development in the power sector new RERC (Terms & Condition for Open access) Regulation, 2016 was notified on 25.02.2016 was introduced. The new Regulation was introduced to balance the interest of Open Access consumers and distribution licensee who is serving to the general public. Salient features of these regulations are as under:-

1. The Regulations of 2004 provided for two categories of open access consumers. Whereas under the Regulations of 2016, open access consumers have been classified in three categories namely Short Term

Open Access (STOA- Upto one month at a time),Medium Term Open Access (MTOA- From 3 months to 3 years and Long Term Open Access (LTOA- 12 years and above)

2. The short term open access shall be granted by SLDC. Applications received up to 15th day of a month have to be decided up to 22nd day of the month. Limited period STOA up to 5 days has been newly introduced by submitting an application 2-3 days prior to availing.

3. Requirement of signing agreements is dispensed with for STOA. In its place only a undertaking is required to be given with the application. Bidding procedure is introduced in STOA if there is congestion in system for providing open access.

4. No power cut to be imposed on open access consumers if they are availing the same through independent feeder connected to 132 kV or above voltage GSS.

5. The open access to consumers will be admissible only if they have availed a demand of at least 1 MVA in the month preceding the month in which application is made.

6. The day ahead system for open access is continued subject to the terms and conditions in the Regulations of 2016, i.e., the short term open access consumer has to avail the open access for full 24 Hrs. of the day and shall have to submit confirmed schedule before 10 AM of the previous day. The schedule given shall be uniform for at least 8 Hours and minimum schedule during a day for open access shall not be less than 75% of the maximum schedule.

2.2. The Hon'ble High Court of Rajasthan while appreciating the object of Open Access Regulations has upheld them as legally valid. With receipt of timely and uniform schedule from these consumers Discoms can now predict their energy requirement with more certainty and may minimize the deviation charges applicable to them and make decisions for trading of surplus power, if any.

(3) <u>Safety Measures</u>

3.1. In its every order the Commission is directing Discoms to ensure effective safety measures as envisaged in CEA (Measures relating to Safety and Electricity Supply) Regulations, 2010 and CEA (Safety requirements for construction, operation and maintenance of electrical plants and electric lines) Regulations 2011. Discoms were asked to conduct necessary training/courses for all employees and launch consumer awareness campaign related to safety issues.

3.2. In response Discoms submitted that Labour unions are being provided with financial assistance for organising safety training and awareness programs for technical workers as well as public. Circle SEs have been directed to expedite pending enquiries to find out causes of accidents in the past and accordingly prepare action plans. The Discoms Co-ordination Forum in its meeting had already approved the specification of safety items and procedures for purchase thereof. Moreover it has also been decided to provide safety devices like insulated shoes, helmets and rubber hand gloves individually to each and every technical worker besides other safety devices like lineman safety belt, earthing chain, etc. which are being provided to technical workmen regularly. The workers have been given the right to refuse to do work in absence of availability of adequate safety devices. Committee of senior officers has been constituted at circle level to carry out regular inspection of 33/11 kV sub-stations and provide practical training to workers at work place, check availability of safety devices and ensure their use by workers while performing work and initiate action against defaulters. A safety and training cell has been created and technical officers have been nominated as safety officers in each circle.

3.3. Discoms further informed that Chairman Discoms has issued directions to the MDs of the three Discoms that 5 types of complaints received at the Consumer Grievance Redressal Centre are to be monitored by the respective O&M Circle SE which also included "delay in proper maintenance where there is possibility of accident due to loose wire, tilted poles, etc." Directions have also been given that status "closed" shall only be marked after tightening of such wires and straightening of such poles. Regular awareness session are carried out for its employees and public as well. The Discom also uses various other platforms like advertising and social media in order to create awareness about the system among the consumers and educate them about the do's and don'ts related to electricity in order to avoid any mishaps or accidents.

3.4. The Commission has noted the submission of Discoms and advise Discoms to ensure that safety tools/ devices are made available to each and every worker and training has been imparted to each and every technical worker/officer of the Discom. They should also provide a copy of safety manual in Hindi to each and every workmen and officer. Danger plates should be affixed everywhere, guarding/fencing should be provided wherever it is required and earthing and other protection should be checked /provided as per safety Regulations. Every circle officer should ensure that each line, plant or meter is checked from safety point of view as per the periodicity decided by the Discoms in accordance with safety Regulations. System of line patrolling must be followed vigorously and complaints related to safety must be given overriding priority. If need be, the Discoms may review their staffing pattern and recruit more employees at cutting age level i.e. the level requires to cater the need of consumers like lineman, helpers and supervisors etc.

3.5. Discoms should ensure compliance of CEA (Measures relating to Safety and Electricity Supply) Regulations, 2010 and CEA (Safety requirements for construction, operation and maintenance of electrical plants and electric lines) Regulations 2011.

3.6. The Commission would again like to point out that role of Chief Electrical Inspectors/Electrical Inspectors appointed by the State Government is paramount for ensuring compliance of safety Regulations and they shall ensure implementation by periodical checking of any violation of the Regulations and should also furnish reports to the Government indicating corrective measures. The Govt. of Rajasthan should periodically review the working of Electrical Inspectors and take stern action if need be for non-performance of their duties.

(4) <u>Release of pending Connections:</u>

It has been brought to the Commission's notice that in many areas theft is rampant because of non consideration of applications for release of connections for a long period specially in the agricultural and Domestic category. Discoms shall make all out efforts to release agriculture connections to possible extent. This will definitely help Discom to reduce their losses as well as to make use of surplus power besides helping agriculture consumers.

(5) <u>Saubhagya Scheme:</u>

5.1. Discoms should also focus on release of all pending domestic connections immediately so as to make use of the available energy. Recently a scheme named Saubhagya has been launched with following Scope:

Providing last mile connectivity and electricity connections to all un-electrified households in rural areas.

Providing Solar Photovoltaic (SPV) based standalone system for un-electrified households located in remote and inaccessible villages / habitations, where grid extension is not feasible or cost effective.

Providing last mile connectivity and electricity connections to all remaining economically poor un-electrified households in urban areas. Non-poor urban households are excluded from this scheme.

5.2. As per the Scheme approximately 19.33 lakh household are yet to be electrified in Rajasthan. Under the Saubhagya scheme, Discoms are to organize camps in villages/cluster of villages to facilitate on-the-spot filling up of application forms including release of electricity connections to households.

5.3. The electricity connections to un-electrified households include provision of service line cable, energy meter including pre-paid/smart meter, single point wiring. LED lamps and associated accessories in line with technical specifications and construction standard. In case of un-electrified households located in remote and inaccessible areas, power packs of 200 to 300 Wp(with battery bank) with a maximum of 5 LED lights, 1 DC Fan, 1 DC power plug etc. may be provided along with provision of Repair and Maintenance (R&M) for 5 years. All Discoms are eligible for financial assistance under the scheme in line with DDUGJY.

5.4. The Scheme is mainly funded through grant from Central Government and Utility/State's initial contribution is limited to 10% only. The Discom should release all connections as envisaged under the Scheme on priority basis. This will improve Last mile connectivity on the other these consumers, improve their quality of life, create household demand and will also help to absorb the surplus power of Discoms. . The Govt of Rajasthan may consider launching a similar scheme on the lines of saubhagya Scheme for leftover households of urban area.

5.5. The Commission would also like to reiterate that Primary Schools, Panchayat Samitis, Primary Health Sub-Centres situated in rural areas also require day time power. In all such cases solar PV is a cheap and viable option which not only relieves the distribution system but also help in avoiding future investments needed for upgradation of the distribution system. Therefore, Discoms may take up this with the State Govt. or concerned departments on priority and take further action in this regard.

(6) Standards of Performance for Distribution Licensees.:

6.1. The RERC (Standards of Performance for Distribution Licensees) Regulations, 2014 in addition to various other provisions, specify the guaranteed standards of performances for distribution licensees, Complaint Handling Mechanism and also have compensation provisions.

6.2. Performance Standards specified by the Commission act as guidelines for efficient, reliable, coordinated and economical system of electricity distribution by the Distribution Licensee, so that consumer's installations can function properly. In case of power failure, the time taken by the Discoms for restoration of supply is specified by the Commission in Standards of Performance and depends upon nature / gravity/ cause of fault etc. The broad classifications are such as No Current Complaint, Overhead line/cable breakdowns, Underground cable breakdowns, Transformer failure etc.

6.3. In the event of non-fulfilment of any Guaranteed Standards of Performance, the affected person may file an application personally or by registered post to the concerned Assistant Engineer, for the claim of compensation. Failure by the licensee to pay the compensation shall constitute a Grievance, which shall be dealt and decided by the respective Consumer Grievance Redressal Forum, in accordance with procedure set out in the RERC (Guidelines for Redressal of Grievances) Regulations, 2008. In case the Forum does not decide the amount of compensation within the specified time or the aggrieved consumer is not satisfied with the decision of the Forum, he will be free to approach the Electricity Ombudsman, who shall deal and decide the case under RERC (Settlement of Disputes by Electricity Ombudsman) Regulations, 2010.

6.4. The aggrieved consumer shall not be liable to pay any fee for lodging a claim of compensation under these regulations before the licensee, Forum or Electricity Ombudsman. The payment of such compensation shall be without prejudice to any penalty which may be imposed or prosecution be initiated for the failure of the licensee in meeting the standards specified in these Regulations.

6.5. The Discoms should ensure that they adhere to provisions of Standards of Performance for Distribution Licensees in their area of operations as well as franchisee's area so as to meet genuine expectations of consumers and improve customer satisfaction. With Happy consumers, Discoms will be able to conduct its operations with higher efficiency and in a smoother way.

(7) Metering, billing and collection

7.1. The Commission in its various orders has laid emphasis on improvement in metering, billing and collection. The Discoms have submitted that new IT system is being designed which would reduce the time gap between meter reading and the delivery of bills. The new system will also ensure error free bill generation and reduction in cases of average billing. It is also envisaged that cases of meter readers/employees conniving with consumers will also reduce leading to improved process of billing and collection. It will also lead to prompt resolution of consumer complaints including testing/replacement of defective meters.

7.2. The bill distribution system is the weakest point in the revenue management systems of the Discoms. They should institute a system for informing consumers regarding their bills/dues and payments through SMS and e-mail immediately on issuance of bills/receipt of payment. SMS and e-mail facility should also be used to share other information as well as various notices so as to reduce effective lead time.

7.3. With adoption of sms/e-mail based information system and availability of all information on portal of Discoms the consumers may be able to avail prompt payment rebate which is introduced as an incentive measure. The Commission further feels that there is a need to shift consumers to online payment mode as it cuts short the time between receipt of cheque/DD and its realisation in the Bank and also reduces burden on bill collection centre. The Commission accordingly mandates that all categories of consumers except Domestic, NDS consumers consuming below 500 units and agriculture consumers shall be encouraged to pay their bills online. If consumers undertakes to pay online and pays bills online for (12) months continuously. Commission will consider reducing securities deposit for such consumers to one and half month as against present two months.

7.4. On Metering front, the Commission observes that still there are flat rate connections in agriculture category despite Electricity Act making metering mandatory The Discoms seems to have slowed down in converting consumers from flat rate to metered category. This is not desirable. Accordingly, the Discoms should make all efforts to convert all flat rate agriculture consumers in next one year. Whenever a flat rate consumer is disconnected due to default in payment, its connection on payment of dues should only be restored in metered category. Similarly in case of applications for change in load, change in name or shifting etc connection should only be processed after converting the consumer to metered category. The Government may consider reviewing tariff subsidy to flat rate agriculture consumers so as to make these consumer shift to metered category.

7.5. Flat rate consumers are not being reduced by Discoms may be due to recovering the revenue through Government Subsidy due to assessed consumption. Therefore to arrest this easy going by Discom, Commission may consider reduction of deemed consumption by 5% every year for subsidy payment and shifting the same to Discoms in the next Tariff Order(s).

7.6. The Discoms should have a long term metering plan in force keeping in view the requirement of meters for replacement , new connections ,tariff rationalization measures (viz load based billing, ToD tariff etc.) and communication requirement and should be future ready with use of smart meters wherever required. Jaipur Discom has informed that they are taking up implementation of Smart Meter Project under the provisions of IPDS scheme wherein they shall also receive funding from Central Govt. Other Discoms based on their requirement and making due diligence may take up similar projects. However with Smart Grids and Smart Meters the working of Discoms should also be smart enough to reap the maximum benefits of investments.

7.7. Discoms should ensure that all feeder meters remain in healthy conditions and energy audit being carried out and Discoms make use of the results For the energy audit to bring in discipline.The Discoms must understand that Metering, Billing and collection are the most important activites for their financial health and should divert proper investment and efforts towards Metering, Feeder Metering, Distribution Transformer Metering and Energy Audit.

7.8. Another area is quality and quantity of supply. Discom may on the basis of readings of feeder meters should substantiate supply hours separately for urban areas, industrial area and rural areas. In rural area they should separately furnish the details of supply hours for domestic feeders and agricultural feeders.

7.9. Discoms should also monitor quality of supply viz voltage variations, Voltage drops , voltage unbalance, current unbalance and Harmonics and furnish a report to this effect along with next tariff filing.

(8) Tariff Rationalization Measures:

8.1. Though two part tariff has been introduced way back in 2001 but there is a continuous mismatch between actual fixed and variable cost vis-à-vis recovery from fixed charges and variable charges.

8.2. The Commission in its order dated 31.8.2007 while dealing with the issue of the position of recovery from fixed charges vis-à-vis fixed Cost and noted that Fixed & Energy Cost components of ARR are in the ratio of 49.7% and 50.3% respectively for FY-2007-08, whereas only one fourth of allowable Fixed Costs are realized from the existing tariff structure whereas Energy Charges accounts for higher recovery upto 83.3%. This is an aberration in the tariff structure and needs to be removed.

8.3. However over past few years no major changes happened in Cost structure or tariff design. As per petition filed by Discoms recovery from fixed charges is approximately 15% against share of fixed cost of approximately 55% and recovery from energy charges continued to remain higher (approx 85% of total revenue) than the variable cost (approx 45% of total Cost) .

8.4. With introduction of Open Access and advent of new class called "prosumers" it has become imperative that fixed charges should be reflective of actual fixed cost and to start with fixed charges should at least cover fixed cost of Generation . This, on one hand will lead to transparent determination of additional surcharge and cross subsidy surcharge. On the other hand it will enable Discoms to compete with other market players where they can offer energy at lower prices based on their marginal variable cost and at the same time recovering full fixed cost. For this Discoms may initiate a study.

(9) Monthly Billing

9.1. In the last tariff Order Commission had mandated that from 01.04.2018 the Discoms should consider to shift consumers from bi-monthly to monthly billing, which will help in reducing consumers bill burden of 2 months and speedy recovery of funds, improve the cash flow position and early identification of defaulting consumers.

9.2. It is informed that Discoms are in the process of implementing monthly billing but there are some teething problems.. The Discoms are directed to mandatorily shift to monthly billing not later than 1.9.2018 and furnish a report to this effect to the Commission. Otherwise Commission may be compelled to take such action as deemed necessary.

(10) Load/demand based billing

10.1. With regard to load/demand based billing, in the last tariff order for FY 2017-18, dated 02.11.2017, the Commission had observed as under:

"Now meters installed are having load/demand recording facility, the Commission desires to extend the facility of load/demand based billing to all categories of consumer during next financial year. So that the consumers will be billed based on their actual load/demand usage. This step will also save precious time of field staff of the Discoms which they can utilize to curb theft and ensure better consumer services, instead of keep on checking the connected load of consumers. which is an irritant to honest consumers Accordingly, Discoms may file suitable proposal with the next tariff filing."

10.2. Discoms in their petition submitted that they will explore the present scenario of implementing load/demand based billing and the status of installation of the requisite meters. They requested to provide additional time in order to make a detailed assessment and present a suitable proposal along with the tariff petition for next year.

10.3. The Commission observes that load/demand based billing is a method whereby fixed tariff are charged and collected more scientifically based on actual load usages. This will enable Discoms to recover these fixed charges irrespective of actual consumption of energy. Therefore Discoms should make an analysis of revenue they are collecting vis-à-vis no. of consumers and their connected load and propose a tariff with their next tariff proposal in such a manner that an average consumer's bill should not be affected adversely and at the same time the existing revenue of the Discoms getting from fixed charges is fully protected.

(11) Charitable animal health care centres

The State government may also consider increasing the subsidy to Goshalas and such subsidy may also be extended to other similar charitable animal care centers.

(12) Arrears:

12.1. It is observed that the Discoms financial statements indicates a huge amount of arrears. The Discoms should prepare age wise and category wise details of arrears and chalk out strict action plan for recovery of arrears. The Discoms may also plan for an interest waiver scheme for arrears which are pending since long time. Such interest waiver schemes have shown a positive response from consumers in past. This will not only benefit the consumers but shall also improve the financial position of Discoms.

12.2. Discom should launch special campaign for recovery of arrears from Government Offices and medium and large industries at the first instance and ensure recovery of all arrears from these categories by December-18. Discom should create effective interaction systems with consumers including meeting them personally for making them aware about amnesty schemes being launched by them and ensure recovery. Discoms should ensure that arrears show reducing trend.

12.3. To ensure that arrear should not be accrued in future and to control this timely and prompt disconnection should be made of erring consumers and security should be forfeited immediately apart from taking other legal action for recovery of dues. Responsibility of officers for not making timely disconnection and recovery of arrear should be fixed and suitable action be taken against them.

(13) Ease of doing business:

13.1. It is observed that various initiatives have been taken by the Government of Rajasthan for implementing 'Ease of Doing Business' such as single window system, where a industry register at one point and its ID is available to multiple departments, similarly, pollution control board, labour department as well as factories and boilers department permits the submission of application, registration, renewal and issuing of certificates online. All these efforts have supported the industries in ease of doing business. Therefore, in line with above actions of government of Rajasthan, the Discoms must also facilitate the smooth functioning and environment to industries as well as commercial establishments. The Commission vide Rajasthan Electricity Regulatory Commission (Electricity Supply Code and Connected Matters) XIth Amendment Regulations, has introduced various measures for simplification of process of release of new connection as were discussed in order dt. 2.11.2017. The Discoms should ensure that these measures are followed and not only for the business establishment but also to consumers of all categories are getting new connection and services without much of hassle.

13.2. Further, in view of higher power availability, Discoms may consider to offer an incentive of upto Rs. 1/unit to new industries being set up in State after 01.09.2018 for a period of first (5) year. This will not only help to handle surplus energy but will also create employment and revenue generation in the State.

(14) Redressal of consumer Grievances:

14.1. In exercise of the power conferred on it under section 42 (5) & Section 42(6) of the Electricity Act 2003, the Commission has specified the Regulation for Redressal of consumer Grievances "RERC (Guideline for Redressal of

Grievances) Regulation 2008" and "RERC (Settlement of Disputes by Electricity Ombudsman) Regulations, 2010. As per provisions of Regulations, the licensee has established Consumer Grievance Redressal Forums and are functional. According to the regulations a consumer may approach the appropriate level of forum, as per the jurisdiction. Also, an independent Electricity Ombudsman has been appointed by Commission and is functional.

14.2. The Forums redress the grievances, as per provisions of the Act, Rules and Regulations, orders/directions of the Commission with mutual consensus. In case of no mutual consensus is arrived, Forum shall pass speaking orders, on 'merits'. Time frame for disposal of grievance is normally, 30 days, but not exceeding 45 days. The consumer, if feeling aggrieved by the decision of the sub-div/div/circle level forum, may approach the Corporate Forum, before making appeal to the Electricity Ombudsman.

14.3. Any consumer aggrieved by the Non-Redressal of his grievance by the Forum for Redressal of Grievance may make a representation, to the Electricity Ombudsman, within 90 days of the decision or within 90 days from the date or expiry of the period within which the Forum was required to take decision, along with a copy of grievance filed before the Forum and its decision, if any. To make CGRF mechanism more effective and efficient, Commission has also nominated one Independent Member at Corporate Level Forum in Discoms. In Rajasthan, 703 nos. of CGRFs and one Electricity Ombudsman have been setup for speedy Redressal of grievances.

14.4. The Discoms should ensure that proper publicity be given to the Consumer grievavance redressal mechanism so that maximum number of consumers can avail the benefit of redressal mechanism and try to resolve maximum number of complaints at lowest level and within the time frame given. Needless to say, proper facilities like sitting, shed , sanitation and drinking water be provided to consumers who come for grievance redressal or for any other purpose and they should be treated in friendly manner.

(15) <u>Avoidance of unnecessary litigation</u>

The Discoms must ensure that unnecessary litigations regarding connections, billing, metering etc be avoided and a facilitative environment is created. For this purpose, Discoms may designate a set of officers to work as facilitators. This step will reduce burden of field officers and they can focus on the area of their core competencies.

(16) Power Purchase requirement

16.1. Power purchase expense is a major contributor in its overall expenditure. Discoms have informed that they ensure that the power is procured on the basis of merit order, over drawal and under drawal is controlled, commercially sound decisions are taken with respect to purchase/sale of energy from exchange and they are also undertaking review of long term PPAs to identify possibility of reduction in costs. It should be ensured that future requirement of power purchases should be done through competitive bidding only, so as to ensure the most competitive prices for power.

16.2. It is observed that Jodhpur Discom is showing highest deficit among three Discoms because it is making highest sale to Agriculture Category though it purchases electricity at the same rate. Therefore, the State Govt. may consider to review allocation of existing PPA(s) among Discoms to provide benefit of low cost PPA(s) to Jodhpur Discom, which may reduce its input cost.

(17) Late payment Surcharge:

17.1. The Discoms have submitted that it is now made sure that all the bills pertaining to power generators are cleared on time and there is no further accumulation of the late payment surcharge on this account and now they are availing the benefit of rebates on prompt payment and during last 12 months they were able to save approx Rs. 225 crore.

17.2. The Commission appreciates that the Discoms are adhering to timely payment to the generators and getting prompt payment rebate. They should continue to make payments to generator timely as this not only reduces unwarranted litigation and its cost but also create a conducive atmosphere for generators. For their old dues ,if any, the Discom may enter into settlement with Generators as per Law so as to make optimum use of existing funds and manage outflow of interest optimally in favour of retail consumers. The Discoms shall make online payments to Generators hereafter duly deducting the applicable rebate. It should be noted that LPS shall not be allowed in ARR under any circumtances.

(18) IT implementation

18.1. The Commission in its last orders also stressed on to implementation of Enterprise Resource Planning (ERP) systems for better and effective management and also noted that apart from use of website and online payment, the Discoms must develop and promote mobile applications for billing and collection as well as for customer complaints where consumer grievance can be addressed timely and expeditiously, which will on one hand improve revenue collection of Discoms and on other hand improve the consumer satisfaction level. The long term goal of IT enablement should be transformation of Discoms into a virtual enterprise to handle 24X7 operations with full responsiveness, which the consumers have become accustomed to in e-commerce era. Only with the full IT enablement, Discoms will be able to derive out the maximum benefit of investments.

18.2. The Discoms submitted that at present they are operating with legacy systems and the departments like finance and accounts, human resources, materials management etc. face various challenges in their day to day operation. The tasks are being performed manually which provides a scope for further improvement in efficiency. Due to routine and repetitive nature of work, manual efforts are required to be put in by staff in preparation of reports on regular basis, which could be carried out by a software solution. Also, the departments across the Discoms are dependent and reliant on each other which necessitate the transfer of data and reports on a regular basis.

18.3. Discoms in their petitions submitted that the Petitioner are working towards embracing Information Technology to improve its working and provide quality services to its consumers wherein they have to face minimum hassles. The Discoms are planning for ERP implementation in the areas of Finance and Accounts, Materials Management, Project Management and Human Resource Management including self-service for executive category of officials and payroll for all its employees. Other IT initiatives are also being planned which are aimed towards reducing the time lag between occurrence of events and action taken to resolve the issues and ensure anytime anywhere availability of data which will help in monitoring feeder health, improving commercial activities including collection of dues. The availability of data along with analytics tool would also assist the management in making faster and better decisions.

18.4. Jaipur Discom submitted that it is envisaged that the use of Information Technology Systems in the core business operations will enhance the overall quality of data, enable effective and real time monitoring thereby improving the flow of information for decision support and would help lay the foundation for achieving sustainable operational and financial reforms. It would also ensure implementation of standard practices and controls at the operations level and bring about sustainable improvements in the overall health of the utilities. It is envisaged that due to the benefit accrued out of these systems in terms of improved billing, collection, material management, etc. Jaipur Discom will ensure that the net impact on costs is not there.

a) *Jaipur Discoms also submitted that they are taking following steps:*

   i) Revenue and Information Management System

   ii) The Discom has also planned for a new system for Revenue management and Customer Information System on SaaS (System as a Service) basis. The planned system is consumer centric and is envisaged to provide information for Revenue and Management purposes.

   iii) The proposed solution will have the following benefits:

   *iv) **Automated meter reading:** The meter reader will not have to note the meter reading thereby improving the accuracy and reducing any possibility of human error. Removing the manual intervention in meter reading process will also lead to reduction in cases of meter readers colluding with consumers.*

   ***v) Timely bill delivery:** The bills would be printed and delivered to the consumer at the time of meter reading itself which will reduce the time span of the entire process (collection of meter reading to bill delivery) from 15 days to 0 days.*

   *vi) **Geo tagging:** The geo position of consumers as well as electrical network assets will be tagged which will enable consumer indexing and also help identify consumer location for re-connection/dis-connection, etc. It will also ease the task of locating faults as well as consumers for attending to complaints or providing any other service.*

   *vii) **Real time availability of data on mobile/system:** Availability of data on mobile/system will help achieve the objective of anytime anywhere availability of data thereby improving control, efficiency, etc.*

viii) ***Customer portal to provide host of services:*** *To provide new avenues to interact with consumers the proposed solution will have host of services on web portal as well as mobile apps which will enable the consumer to view their billing history, request for new connection/reconnection/dis-connection, request for meter check, report issues, etc.*

ix) ***Query/Report builder tool:*** *With humungous amount of data being generated, query/report builder will enable the various levels of management to extract relevant information and even run what-if scenarios.*

b) Feeder Monitoring System

i) *To improve customer satisfaction, it is essential to monitor current status of feeders and DTs to improve reliability. Having real time monitoring techniques to improve monitoring and to reduce the time taken to act will also go a long way in ensuring customer satisfaction. To enable effective data acquisition from 11 kV feeders, feeder monitoring system has been implemented. This will provide meter data for all 11 kV feeders. One of the primary features of this system is that it will give feeder wise losses. Moreover it will also provide breakup of agriculture and domestic losses in case of rural feeders which will go a long way in planning loss reduction measures.*

ii) *The system will provide multiple parameters for easy monitoring including Meter data at 15 min interval, Break down status, Total supply hours, Substation/feeder interruption status, Constituency wise information for 11 kV feeders, Drilldown dashboards for real time status of the feeders with details of the energy flow statistics. With acquisition of such details on real time basis, the monitoring of feeders would become much easier leading to reduction in time gaps between faults and rectification. The system will also be integrated with the revenue management system to provide feeder wise input energy data and generate energy audit reports*

c) Mobile Apps

i) To improve control at transactional level and ensure anytime anywhere availability of data, Revenue management system and other IT systems will be made available with integrated mobile apps. For the time being, four separate mobile apps have been planned to cater to different set of users.

BijliMitra: *The app is targeted to be consumer facing and will enable the consumers to request for host of services from their fingertips. This will include viewing and downloading their bill details, consumption history, previous payment details, etc. The consumers will have an option to pay their bills through the app itself. The consumers will also be able to lodge complaints and track the status of such complaints. It will also be possible to apply for meter checking, re-connection and dis-connection.*

BijliPrabandh: *This app will provide real time information to the management regarding key parameters. The management will be able to monitor the billing progress, collection made, list of consumers with outstanding payments, etc. The management will be able to identify the location of consumers with outstanding dues thereby leading to better recovery drives.*

Feeder In-charge App: *The app will enable the functioning of revenue management system. The designated feeder in charge will be able to carry out consumer and asset indexing on its respective feeder with the support of the app. This app will also enable the feeder in charge to take meter readings, provide on the on-site bills and collect payments. The app will also send instant alerts to consumers regarding completion of meter reading, bill generation, delivery, payment, etc.*

BijliAapurti App: *The app will be used for feeder monitoring. The app will provide real time detail of feeder health including its meter data, breakdown status, interruption status, etc.*

The apps are aimed to reduce the time lag between occurrence of events and action taken. Moreover all future systems will be made to integrate seamlessly with these mobile apps.

d) *DT and AMR Metering*

i) Realizing the necessity of DT metering and AMR metering, Discoms intends to outsource this activity on a model wherein the vendor will need to make the necessary investments and will be reimbursed based on per DT meter reading and per consumer meter reading. This will include the upkeep of the existing AMR meters and the associated equipment as well as installation of new hardware wherever required.

e) *Smart Customer Care System*

i) The Petitioner intends to adopt advanced technologies to implement a state of art Smart Customer Care Centre system which would also enhance customer satisfaction. The customer care system will use the data collected through all other IT systems in place and as such will be able to delegate the work to the correct authority. This would enable reduction in time between occurrence and action. This would also ensure that the consumers get regular and correct updates regarding their concerns. It is envisaged that the smart customer care system will be able to

Complaint registration: *The customer care system will be able to register complaints of consumers not only through calls but also through social media.*

Identification of consumer: *The system will be able to identify the consumer through the registered mobile phone number/email-id. It would also be possible to identify the feeder/DT/pole to which the consumer is connected to.*

Delegation of work: *Based on nature of complaint, the system will be able to direct the call to fault rectification team (for no current complaints) or to the concerned sub-division office.*

Regular Update: *The system will provide regular updates to the consumers based on details received from fault rectification team or sub-division office.*

Automated messages: *The system is also expected to provide automated messages to customers in case of DT outage or any other such issue concerning a number of consumers. Other messages like billing alerts, festive greetings, energy efficiency measures are also expected to be sent through this system.*

f) Smart Meters

Smart metering is an initiative taken for system improvement and accurate energy accounting of the distribution utility, which would help Discoms achieve their milestones under the UDAY scheme. GoR in its endeavour to provide 24x7 power supply for consumers in urban areas has envisioned for installation of Smart Meters/AMI on LT/HT consumers. With metering at all nodal points, the energy accounting and auditing would be improved, resulting in better administrative actions and demand side planning. AMI would help not only in reduced cost of meter reading and data entry but timely detection of defective meters, improvement in billing efficiency with reduction in human error in meter reading and billing.

18.5. The Commission has noted the submissions of the Discoms. Jodhpur and Ajmer Discoms have not submitted any detailed plan for implementation of IT as submitted by Jaipur Discom. Though the plan of Jaipur Discom looks ambitious but in reality Discoms have to work very hard and adopt a holistic approach for implementation of IT system and to make Discoms an IT enabled organization. Every activity is required to be integrated into a system. Facilities like making application for a new connection, generation of Demand note, automated meter readings, billing, collection, accounting, complaint handling etc. all should be IT enabled with minimum human intervention. Apps and Portals should in reality make the life of consumer easier and it will be considered successful when most of the consumers operate through App or Portal envisaged. Jaipur Discom may share its experience with other Discoms in its IT initiative and other Discoms may also initiate suitable IT interventions.

18.6. With integrated planning of Finance and Accounts, Materials Management (Purchase and Stores), Human Resources Management and Projected Management errors and delays due to manual data management should be minimized. Data flow within and Outside Discoms should be standardized. However, Discoms simultaneously need to review their internal procedures and standards and standardize them so that while implementing ERP, flaws of existing systems may be removed.

18.7. For this, Necessary Skill at Discoms level are required to be developed and there may be need of a new cadre and Discoms should be able to provide data with consistency while making submissions before Regulatory Commission or Government or before stakeholders. All this is possible only when Discoms pursue their Goal with Zeal , have an organization for IT enablement by inducting IT professionals and adopt a full hearted consumer centric approach.

18.8. Discoms have not made much progress in implementation of ERP and IT initiatives during last few years. Discoms are directed to furnish quarterly reports in respect of IT implementation as it is the area where Discoms are lagging behind other Commercial Organizations and with present day operation scale, it will not be possible for the Discoms to exercise effective control without implementation of these measures.

(19) Private Sector Participation

19.1. It has been informed that franchisee operations are yielding good results. However, the Stakeholders in their written objections as well as during hearing furnished comments on operation of franchisee model. The Discoms are required to consider each point very carefully before replicating the model in other circles. Focus should be on reduction of losses, protection of Discoms interest and improvement in consumer satisfaction.

19.2. Discoms should ensure that franchisees make requisite investment in the network as contemplated in the franchisee agreement so as to have an efficient coordinated system in the franchisee area.

19.3. Discoms should ensure that franchisees are adhering to the Standards of Performance Regulations and services are provided within time limits and complaints are being handled as specified, as the franchisees are working on their behalf and Discoms are liable for all legal compliances as a distribution licensee.

Annexure – A

1. Sh. Y.K. Bolia (JVVNL, AVVNL & JdVVNL)
2. Sh. B.M. Sanadhya (JVVNL, AVVNL & JdVVNL)
3. Kuldeep Verma (JVVNL)
4. M/s. Rudraksh Energy (JVVNL,AVVNL & JdVVNL)
5. Sh. Mohd Aarif (JVVNL)
6. Sh. Shanti Prasad (JVVNL,AVVNL & JdVVNL)
7. M/s. Rajasthan Steel Chambers (JVVNL, AVVNL & JdVVNL)
8. Sh. Ramesh Chandra Sharma (JVVNL)
9. Sh. Anil Sharma(School Shiksha Parivar) (JVVNL, AVVNL & JdVVNL)
10. Sh. Gyan Singh(Mansarover) JVVNL,AVVNL & JdVVNL)
11. Sh. G.L. Sharma (JVVNL, AVVNL & JdVVNL)
12. M/s Rajasthan Textile Mills Association (JVVNL, AVVNL & JdVVNL)
13. Sh. P.C. Jain (JVVNL & AVVNL)
14. Sh. Kailash Chand Saini (JVVNL)
15. Sh. Ramesh Chandra Muhi (JVVNL)
16. Sh. D.D. Agarwal (JVVNL,AVVNL & JdVVNL)
17. Sh. Hari Prasad Yogi (JVVNL,AVVNL & JdVVNL)
18. Sh. Prakash Shukla (JVVNL)
19. Sh. P.C. Kanthaliya (AVVNL)
20. Sh. Ashok Jain(AVVNL)
21. Sh. Bhawnesh Chandra Mathur (JdVVNL)
22. Sh. Liyakat ali (JdVVNL)
23. M/s Dabli Khurd Seva Samiti (JdVVNL)
24. Ms. Dropti Meghval (JdVVNL)
25. Sh. Badriram(Dabli Khurd Seva Samiti) (JdVVNL)
26. Sh. Vijendra Sharma (JdVVNL)

Annexure - B

1. Sh. Y.K. Bolia
2. Sh. B.M. Sanadhya
3. M/s. Rudraksh Energy
4. Sh. Ramesh Chandra Sharma
5. Sh. Gyan Singh(Mansarover)
6. Sh. G.L. Sharma
7. M/s Rajasthan Textile Mills Association
8. Sh. P.C. Jain
9. Sh. Ramesh Chandra Muhi

Annexure- C

List of abbreviations		
A&G	:	Administrative and General Expenses
AMR	:	Automatic Meter Reading
APTEL	:	Appellate Tribunal for Electricity
ARR	:	Aggregate Revenue Requirement
AT & C	:	Aggregate Technical and Commercial
AVVNL	:	Ajmer Vidyut Vitran Nigam Ltd.
BSF	:	Border Security Force
CAGR	:	Compound Annual Growth Rate
CEA	:	Central Electrical Authority
CERC	:	Central Electricity Regulatory Commission
CPP	:	Captive Power Plants
CTPP	:	Chhabra Thermal Power Plant
DCCPP	:	Dholpur Combined Cycle Gas based Thermal Power Plant
DDUGJY	:	Deendayal Upadhyaya Gram Jyoti Yojana
DF	:	Distribution Franchisee
DISCOM	:	Distribution Company
DPS	:	Delayed Payment Surcharge
DS	:	Domestic Supply
DT	:	Distribution Transformer
EA 2003	:	Electricity Act, 2003
ED	:	Electricity Duty
ERP	:	Enterprise Resource Planning
FIP	:	Feeder Improvement Programme
FIR	:	First Intimation Report
FR	:	Flat Rate
FY	:	Financial Year
GFA	:	Gross Fixed Assets
GoI	:	Government of India
GoR	:	Government of Rajasthan
GLTPP	:	Giral Lignite Thermal Power Plant
HT	:	High Tension
JdVVNL	:	Jodhpur Vidyut Vitran Nigam Limited
JVVNL	:	Jaipur Vidyut Vitran Nigam Limited
KTPS	:	Kota Thermal Power Station
KW	:	Kilo Watt
KWH	:	Kilo Watt Hour

List of abbreviations		
KVA	:	Kilo Volt Ampere
LED	:	Light Emitting Diode
LPR	:	Low Power Range
LT	:	Low Tension
LTL	:	Long-Term Loans
MMH	:	Mini Micro Hydro
ML	:	Mixed Load
MoU	:	Memorandum of Understanding
MU	:	Million Unit
MW	:	Mega Watt
NCES	:	Non Conventional Energy Sources
NDS	:	Non Domestic Supply
NFA	:	Net Fixed Assets
NHPC	:	National Hydro Power Corporation
NLC	:	Neyveli Lignite Corporation
NPCIL	:	Nuclear Power Corporation
NTI	:	Non Tariff Income
NTPC	:	National Thermal Power Corporation
NVVN	:	NTPC Vidyut Vyapar Nigam
O&M	:	Operation & Maintenance
PGCIL	:	Power Grid Corporation of India Ltd.
PLF	:	Plant Load Factor
PP	:	Partnership Projects
PTC	:	Power Trading Corporation
PWW	:	Public Water Works
PV	:	Photovoltaic
RAPDRP	:	Restructured Accelerated Power Development & Reform Programme
RBI	:	Reserve Bank of India
RERC	:	Rajasthan Electricity Regulatory Commission
RGGVY	:	Rajiv Gandhi Grameen Vidyutikaran Yojana
RGTPS	:	Ramgarh Gas Thermal Power Station
RLDC	:	Region Load Dispatch Centre
RoE	:	Return on Equity
ROI	:	Return on Investment
RPO	:	Renewable Purchase Obligation
R&M	:	Repairs & Maintenance

List of abbreviations		
RVPN	:	Rajasthan Vidyut Prasaran Nigam
RVUN	:	Rajasthan Vidyut Utpadan Nigam
SE	:	Superintending Engineer
SIP	:	Small Industrial Power
SJVNL	:	Satluj Jal Vidyut Nigam Limited
SLDC	:	State Load Dispatch Centre
SLM	:	Straight Line Method
STPS	:	Suratgarh Thermal Power Station
T&D	:	Transmission & Distribution
UDAY	:	Ujwal Discom Assurance Yojana

Annexure -D

Approved Tariff for FY 2018-19

DOMESTIC CATEGORY (LT-1 and HT-1)

(BPL, Astha Card Holders and Small Domestic having consumption upto 50 units per month)

BPL and Small Domestic

Domestic Category		
Particulars	**Approved Tariff**	
	Energy Charges	**Fixed Charges**
BPL and Astha card Holders*		
(i) For consumption upto first 50 units per month	Rs. 3.50/ unit	Rs. 100/ connection / month
Small Domestic*		
(i) For consumption upto first 50 units per month	Rs. 3.85/ unit	Rs. 100/ connection / month

**Note:* *The BPL and Astha card Holder domestic tariff shall be exclusively applicable to individual consumer person and shall not be applicable to any institution. In case any BPL, Astha Card Holder and Small Domestic consumers has consumed more than 50 unit per month in any billing cycle, the consumer will be charged as per the applicable tariff of the respective slab under the LT-I domestic category for the additional units consumed.*

General Domestic-1

Domestic Category		
Particulars	**Approved Tariff**	
General Domestic-1 (Consumption upto 150 units/month)		
	Energy Charges	**Fixed Charges**
(i) For consumption upto first 50 units per month	Rs. 3.85/ unit	Rs. 200/ connection / month
(ii) For consumption above 50 units and upto 150 units per month	Rs. 6.10/ unit	

General Domestic-2

Domestic Category		
Particulars	**Approved Tariff**	
General Domestic-2 (Consumption above 150 units and upto 300 units/month)		
	Energy Charges	**Fixed Charges**
(i) For consumption upto first 50 units per month	Rs. 3.85/ unit	Rs. 220/ connection / month
(ii)For consumption above 50 units and upto 150 units per month	Rs. 6.10/ unit	
(iii)For consumption above 150 units and upto 300 units per month	Rs. 6.40/ unit	

General Domestic-3

Domestic Category		
Particulars	**Approved Tariff**	
General Domestic-3 (Consumption above 300 and upto 500 units/month)		
	Energy Charges	**Fixed Charges**
(i) For consumption upto first 50 units per month	Rs. 3.85/ unit	Rs. 265/ connection / month
(ii)For consumption above 50 units and upto 150 units per month	Rs. 6.10/ unit	
(iii)For consumption above 150 units and upto 300 units per month	Rs. 6.40/ unit	
(iv)For consumption above 300 units and upto 500 units per month	Rs. 6.70/ unit	

General Domestic-4

Domestic Category		
Particulars	**Approved Tariff**	
General Domestic-4 (Consumption above 500 units/month)		
	Energy Charges	**Fixed Charges**
(i) For consumption upto first 50 units per month	Rs. 3.85/ unit	Rs. 285/ connection / month
(ii)For consumption above 50 units and upto 150 units per month	Rs. 6.10/ unit	
(iii) For consumption above 150 units and upto 300 units per month	Rs. 6.40/ unit	
(iv)For consumption above 300 units and upto 500 units per month	Rs. 6.70/ unit	
(v)For consumption above 500 units per month	Rs. 7.15/ unit	

Domestic Category (HT-1)

Domestic Category		
Particulars	**Approved Tariff**	
HT – Domestic (HT-1)		
	Energy Charges	**Fixed Charges**
For contract demand over 50 KVA	Rs. 6.15/ unit	Rs. 190 per kVA of Billing Demand per month

NON-DOMESTIC CATEGORY (LT-2 & HT-2)
NDS up to 5 kW of SCL
(NDS- type1)

Non-Domestic Category		
Particulars	**Approved Tariff**	
LT-NDS(LT-2)		
Type1 (Consumption upto 100 units/month)		
	Energy Charges	**Fixed Charges**
Consumption upto first 100 units per month	Rs. 7.55 /unit	Rs. 230 / connection / month

(NDS- type2)

Non-Domestic Category		
Particulars	**Approved Tariff**	
LT-NDS(LT-2)		
Type 2 (Consumption above 100 units/month and upto 200 units/month)		
	Energy Charges	**Fixed Charges**
Consumption upto first 100 units per month	Rs. 7.55 /unit	Rs. 230 / connection / month
Consumption above 100 units and upto 200 unit per month	Rs. 8.00 /unit	

(NDS- type 3)

Non-Domestic Category		
Particulars	**Approved Tariff**	
LT-NDS(LT-2)		
Type 3 (Consumption above 200 units and upto 500 units/month)		
	Energy Charges	**Fixed Charges**
Consumption upto first 100 units per month	Rs. 7.55 /unit	Rs. 275 / connection / month
Consumption above 100 units and upto 200 unit per month	Rs. 8.00 /unit	
Consumption above 200 unit and upto 500 unit per month	Rs. 8.35 /unit	

(NDS- type 4)

Non-Domestic Category		
Particulars	**Approved Tariff**	
LT-NDS(LT-2)		
Type 4 (Consumption above 500 units/month)		
	Energy Charges	**Fixed Charges**
Consumption upto first 100 units per month	Rs. 7.55 /unit	Rs. 330 / connection / month
Consumption above 100 units and upto 200 unit per month	Rs. 8.00 /unit	
Consumption above 200 units and upto 500 units per month	Rs. 8.35 /unit	
Consumption above 500 unit per month	Rs. 8.80 /unit	

NDS above 5 kW of SCL

Non-Domestic Category		
Particulars	**Approved Tariff**	
NDS above 5 KW of SCL (LT-2)		
	Energy Charges	**Fixed Charges**
Consumption upto first 100 units per month	Rs. 7.55 /unit	Rs.95/ KW of SCL / month
Consumption above 100 units and upto 200 units per month	Rs. 8.00 /unit	
Consumption above 200 units and upto 500 units per month	Rs. 8.35 /unit	
Consumption above 500 units per month	Rs. 8.80 /unit	Rs. 105/ KW of SCL / month Or Rs. 190 per kVA of Billing Demand per month (If SCL is more than 18.65 KW)

NDS –Contract Demand Over 50 kVA

HT-NDS (HT-2)	**Approved Tariff**	
For contract demand over 50 kVA	**Energy Charges**	**Fixed Charges**
All units	Rs. 8.35 /unit	Rs.190/ kVA of Billing Demand per month

PUBLIC STREET LIGHTING (LT-3)

Particulars	**Approved Tariff**	
Public Street Lighting	**Energy Charges**	**Fixed Charges**
Population <1 Lakh	Rs. 6.55/ unit	Rs. 85/ Lamp point/ month subject to a maximum of Rs. 850 /service connection/month
Population =>1 Lakh	Rs. 7.05/ unit	Rs. 105/ Lamp point/ month subject to a maximum of Rs. 2100 /service connection/month

AGRICULTURE (Metered and Flat Rate) (LT-4)

Particulars	Approved Tariff	
Metered (AG/MS/LT-4)		
Agriculture Supply	**Energy Charges**	**Fixed Charges**
(i) General (getting supply in block hours)	Rs. 4.75 /unit	Rs.15 per HP per Month of SCL
(ii) All others not covered under items (i) and getting supply more than block hours	Rs. 6.05 /unit	Rs.30 per HP per Month of SCL
Flat/ unmetered (AG/FR/LT-4)		
(i)General (getting supply in block hours)	Rs. 635 HP /Month	Rs.15 per HP per Month of SCL
(ii) All others not covered under items (i) above and getting more than block hour supply	Rs. 765 HP /Month	Rs.30 per HP per Month of SCL

SMALL INDUSTRIES (LT-5)

Particulars	Approved Tariff	
Small Industrial Service (LT-5) (Load not exceeding 18.65 kW (25HP)	**Energy Charges**	**Fixed Charges**
Upto first 500 units	Rs.6.00/ unit	Rs. 65/ HP/ month of sanctioned connected load
Above 500 units	Rs.6.45/ unit	Rs. 65/ HP/ month of sanctioned connected load

MEDIUM INDUSTRIES (LT-6 and HT-3)

Particulars	Approved Tariff	
	Energy Charges	**Fixed Charges**
Medium Industrial Service (LT-6)	Rs. 7.00/ unit	Rs. 75 per HP per month of sanctioned connected load or Rs. 165 per kVA of Billing Demand per month
Medium Industrial Service (HT-3)	Rs. 7.00/ unit	Rs. 165/ kVA of Billing Demand per month

BULK SUPPLY FOR MIXED LOAD (LT-7 and HT-4)

Particulars	Approved Tariff	
	Energy Charges	**Fixed Charges**
Schedule ML/LT-7	Rs. 7.00/ unit	Rs. 75 per HP per month of sanctioned connected load or Rs. 165 per kVA of Billing Demand per month

Particulars	Approved Tariff	
	Energy Charges	Fixed Charges
Schedule ML/HT-4	Rs. 7.00/ unit	Rs. 165/kVA of Billing Demand per month

LARGE INDUSTRIES (HT-5)

Particulars	Approved Tariff	
	Energy Charges	Fixed Charges
SCL above 150 HP &/or having Contract/Maximum Demand above 125 kVA (HT-5)	Rs. 7.30/ unit	Rs. 185/ kVA of Billing Demand per month

General Note:
<u>All existing provisions which are not modified by this order, shall continue to be in force.</u>

Annexure- E

Power Purchase Quantum and Cost for FY 2018-19				JVVNL				AVVNL				JdVVNL			
Source of Power(Station wise)	Net Generation (MU)	Total Annual Fixed charges (Rs Cr.)	Variable Cost (Rs./ unit	Net Generation (MU)	Total Fixed Cost (Rs. Cr.)	Total Variable Cost (Rs. Cr.)	Total Cost JVVNL (Rs. Cr.)	Net Generation (MU)	Total Fixed Cost (Rs. Cr.)	Total Variable Cost (Rs. Cr.)	Total Cost AVVNL (Rs. Cr.)	Net Generation (MU)	Total Fixed Cost (Rs. Cr.)	Total Variable Cost (Rs. Cr.)	Total Cost JdVVNL (Rs. Cr.)
NTPC															
ANTA GTPS	48	43	4.58	19	17	9	26	13	12	6	18	15	14	7	21
AURIYA GTPS	31	28	6.81	12	11	8	20	9	8	6	14	10	9	7	16
Bhadla	413	0	5.10	165	0	84	84	116	0	59	59	132	0	67	67
DADRI GTPS	142	32	3.42	57	13	19	32	40	9	14	23	46	10	16	26
FGUTTPS -I	97	14	2.62	39	5	10	16	27	4	7	11	31	4	8	12
FGUTTPS -II	181	23	2.31	72	9	17	26	51	6	12	18	58	7	13	21
FGUTPP III	112	19	2.36	45	8	11	18	31	5	7	13	36	6	8	15
F.S.T.P.S	42	7	3.00	17	3	5	8	12	2	4	5	13	2	4	6
K.H.S.T.P.S. I	103	18	2.55	41	7	11	18	29	5	7	12	33	6	8	14
K.H.S.T.P.S. & II	501	82	2.37	201	33	47	80	140	23	33	56	160	26	38	64
RHIND STPS	764	49	1.24	306	20	38	58	214	14	27	40	245	16	30	46
RIHAND II	813	53	1.20	325	21	39	60	228	15	27	42	260	17	31	48
RIHAND III	937	106	1.23	375	43	46	89	262	30	32	62	300	34	37	71
SINGUARLI	2094	118	1.31	838	47	110	157	586	33	77	110	670	38	88	126
KHPS-I	360	79	2.28	144	32	33	64	101	22	23	45	115	25	26	51
NCTPS 2	39	0	0.54	15	0	1	1	11	0	1	1	12	0	1	1
FGUTTPS IV	28	6	2.41	11	2	3	5	8	2	2	3	9	2	2	4
NSM BUNDLED	1755	166	2.82	702	66	198	264	491	46	139	185	562	53	158	211
Total NTPC	**8461**	**842**		**3384**	**337**	**688**	**1025**	**2369**	**236**	**482**	**718**	**2707**	**269**	**551**	**820**
NHPC															
TANAKPUR HEP	38	9	1.60	15	4	2	6	11	3	2	4	12	3	2	5
SALAL HEP	97	7	1.55	39	3	6	9	27	2	4	6	31	2	5	7
CHAMERA-I	471	39	1.08	188	16	20	36	132	11	14	25	151	12	16	29
CHAMERA-II	158	16	1.01	63	6	6	13	44	4	4	9	51	5	5	10
CHAMERA-III	125	29	2.17	50	12	11	23	35	8	8	16	40	9	9	18
URI HEP	205	20	1.23	82	8	10	18	57	6	7	13	66	6	8	14
URI HEP II	140	44	3.20	56	18	18	36	39	12	13	25	45	14	14	28
DHOLIGANGA	118	18	1.54	47	7	7	15	33	5	5	10	38	6	6	12
DULHASTI	271	64	2.92	109	26	32	57	76	18	22	40	87	21	25	46
PARBATI III	83	18	2.80	33	7	9	17	23	5	7	12	27	6	7	13
SEWA II	58	15	2.38	23	6	5	11	16	4	4	8	18	5	4	9
Total NHPC	**1765**	**279**		**706**	**112**	**128**	**239**	**494**	**78**	**89**	**168**	**565**	**89**	**102**	**192**
STATE GEN. & OTHER															
RVUN															
KTPS(1 to 7)	6289	363	2.79	2516	145	701	847	1761	102	491	593	2012	116	561	677
STPS(1 to 6)	4411	371	3.44	1764	148	607	755	1235	104	425	528	1412	119	485	604
DCCPP	239	21	4.98	96	9	48	56	67	6	33	39	76	7	38	45
CTPP (1&2)	2756	372	2.31	1102	149	255	404	772	104	178	283	882	119	204	323
CTPP (3)	1135	204	2.31	454	82	105	187	318	57	74	131	363	65	84	149
CTPP (4)	1567	247	2.31	627	99	145	244	439	69	102	171	501	79	116	195
RGTP(1&2)	368	24	2.24	147	10	33	43	103	7	23	30	118	8	26	34
KaTPP#1	3110	599	2.71	1244	240	337	577	871	168	236	404	995	192	270	461
KaTPP#2	2952	533	2.71	1181	213	320	533	826	149	224	373	945	170	256	426
RGTP 3	1010	147	2.91	404	59	118	177	283	41	82	124	323	47	94	141
MAHI	170	45	0.30	68	18	2	20	48	13	1	14	54	14	2	16

Power Purchase Quantum and Cost for FY 2018-19				JVVNL				AVVNL				JdVVNL			
Source of Power(Station wise)	**Net Generation (MU)**	**Total Annual Fixed charges (Rs Cr.)**	**Variable Cost (Rs./ unit**	**Net Generation (MU)**	**Total Fixed Cost (Rs. Cr.)**	**Total Variable Cost (Rs. Cr.)**	**Total Cost JVVNL (Rs. Cr.)**	**Net Generation (MU)**	**Total Fixed Cost (Rs. Cr.)**	**Total Variable Cost (Rs. Cr.)**	**Total Cost AVVNL (Rs. Cr.)**	**Net Generation (MU)**	**Total Fixed Cost (Rs. Cr.)**	**Total Variable Cost (Rs. Cr.)**	**Total Cost JdVVNL (Rs. Cr.)**
MAHI MMH	1	0	3.78	1	0	0	0	0	0	0	0	0	0	0	0
MANGROL	6	0	3.78	2	0	1	1	2	0	1	1	2	0	1	1
STPS MMH	4	0	3.78	1	0	1	1	1	0	0	0	1	0	0	0
Total RVUN	**24016**	**2927**		**9607**	**1171**	**2671**	**3842**	**6725**	**820**	**1870**	**2690**	**7685**	**937**	**2137**	**3074**
Rajwest	**6060**	**1030**	**2.15**	**2424**	**412**	**521**	**933**	**1697**	**288**	**365**	**653**	**1939**	**330**	**417**	**747**
NPCIL															
NAPP	338	0	2.63	135	0	36	36	95	0	25	25	108	0	28	28
RAPP-I& II	1345	0	2.93	538	0	158	158	377	0	111	111	430	0	126	126
RAPP-III& IV	1095	0	2.94	438	0	129	129	306	0	90	90	350	0	103	103
RAPP-V& VI	678	0	3.61	271	0	98	98	190	0	68	68	217	0	78	78
RAPP-V	0			0											
Total NPCIL	**3456**	**0**		**1382**	**0**	**420**	**420**	**968**	**0**	**294**	**294**	**1106**	**0**	**336**	**336**
SHARE PROJECTS															
BBMB(BHAKRA,DEHAR& PONG	2517	0	0.42	1007	0	42	42	705	0	29	29	806	0	34	34
CHAMBAL/SATPURA	624	0		250	0			175	0			200	0		
RFF	182	0	2.04	182	0	37	37	0	0	0	0	0	0	0	0
Total Shared Projects	**3324**	**0**		**1439**	**0**	**79**	**79**	**880**	**0**	**29**	**29**	**1005**	**0**	**34**	**34**
OTHERS															
TEHRI	236	59	2.76	94	24	26	50	66	17	18	35	76	19	21	40
KOTESHWAR	104	19	1.98	41	8	8	16	29	5	6	11	33	6	7	13
Tala	46	0	2.20	18	0	4	4	13	0	3	3	15	0	3	3
Total Others	**386**	**79**		**154**	**31**	**38**	**70**	**108**	**22**	**27**	**49**	**123**	**25**	**31**	**56**
SJVNL-NATHPA-JHAKRI	578	65	1.23	231	26	28	54	162	18	20	38	185	21	23	43
Rampur	164	29	1.64	65	12	11	22	46	8	8	16	52	9	9	18
Total SJVNL	**741**	**94**		**297**	**37**	**39**	**77**	**208**	**26**	**27**	**54**	**237**	**30**	**31**	**61**
Other															
Neyveli Lignite Corporation Ltd	1450	341	1.22	580	137	71	208	406	96	50	145	464	109	57	166
Aravali Power Co. Pvt. Ltd.	4	2	3.93	2	1	1	2	1	1	0	1	1	1	0	1
Coastal Gujerat	2361	237	1.49	945	95	141	236	661	66	99	165	756	76	113	189
Adani Power Rajasthan Ltd.	5289	782	2.09	2115	313	441	754	1481	219	309	528	1692	250	353	603
Sasan Power Ltd.	2681	47	1.33	1073	19	143	162	751	13	100	113	858	15	114	130
Karcham Wangtoo	495	84	2.86	198	34	57	90	139	23	40	63	158	27	45	72
MPPMCL	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0
DB POWER	1850	575	1.75	740	230	129	360	518	161	91	252	592	184	104	288
MARUTI	1820	342	1.79	728	137	130	267	510	96	91	187	582	109	104	214
Total IPP/UMPP	**15950**	**2410**		**6380**	**964**	**1113**	**2078**	**4466**	**675**	**779**	**1454**	**5104**	**771**	**891**	**1662**

Power Purchase Quantum and Cost for FY 2018-19				JVVNL				AVVNL				JdVVNL			
Source of Power(Station wise)	**Net Generation (MU)**	**Total Annual Fixed charges (Rs Cr.)**	**Variable Cost (Rs./ unit**	**Net Generation (MU)**	**Total Fixed Cost (Rs. Cr.)**	**Total Variable Cost (Rs. Cr.)**	**Total Cost JVVNL (Rs. Cr.)**	**Net Generation (MU)**	**Total Fixed Cost (Rs. Cr.)**	**Total Variable Cost (Rs. Cr.)**	**Total Cost AVVNL (Rs. Cr.)**	**Net Generation (MU)**	**Total Fixed Cost (Rs. Cr.)**	**Total Variable Cost (Rs. Cr.)**	**Total Cost JdVVNL (Rs. Cr.)**
NVVN Bundled	**2260**	**217**	**3.55**	**904**	**87**	**321**	**408**	**633**	**61**	**225**	**285**	**723**	**70**	**257**	**326**
NCES															
Wind farms	5963	0	4.93	2385	0	1176	1176	1670	0	823	823	1908	0	941	941
Solar	4600	0	4.87	1840	0	897	897	1288	0	628	628	1472	0	717	717
Biomass	1022	0	6.82	409	0	279	279	286	0	195	195	327	0	223	223
Total NCES	**11585**	**0**		**4634**	**0**	**2351**	**2351**	**3244**	**0**	**1646**	**1646**	**3707**	**0**	**1881**	**1881**
NEW STATIONS															
Within State	**8487**	**796**		**3395**	**318**	**872**	**1191**	**2376**	**223**	**611**	**833**	**2716**	**255**	**698**	**952**
Chhabra TPS St - 1 Ph -3 (Unit - 5)	2174	398	2.13	870	159	185	344	609	111	130	241	696	127	148	275
Chhabra TPS St - 1 Ph -3 (Unit - 6)	2174	398	2.13	870	159	185	344	609	111	130	241	696	127	148	275
RAPP Unit 7&8 (2*700) NPCIL	4139	0	3.03	1656	0	502	502	1159	0	351	351	1325	0	402	402
Outside State	**1232**	**162**		**493**	**65**	**136**	**201**	**345**	**45**	**95**	**141**	**394**	**52**	**109**	**161**
Tnda STPP Stage II (2*660 MW)	590	64	2.71	236	26	64	90	165	18	45	63	189	21	51	72
Parbati HEP Stage II (4*200 MW)	124	27	2.74	49	11	14	24	35	8	9	17	40	9	11	19
Unchahar IV (1*1500 MW) NTPC	519	70	2.84	207	28	59	87	145	20	41	61	166	23	47	70
Total	**87722**	**8836**		**35198**	**3534**	**9380**	**12914**	**24511**	**2474**	**6540**	**9014**	**28013**	**2828**	**7474**	**10301**
SHORT TERM	-12865	0	3.44	-5146	0	-1770	-1770	-3602	0	-1239	-1239	-4117	0	-1416	-1416
	74857			**30052**	**3534**	**7609**	**11144**	**20909**	**2474**	**5301**	**7775**	**23896**	**2828**	**6058**	**8885**