

Additional Submissions regarding ARR Petition FY 2019-20

1. Cross Subsidy

The petitioner submits the Cross Subsidy at existing and proposed tariff for FY 2019-20 in the following Table:

Table 1: Cross subsidy at existing tariff

| Category | JVNL | Rajasthan |
|----------------------------|-------------|-------------|
| Domestic Service | -21% | -17% |
| Non-Domestic Service | 14% | 18% |
| Public Street Lighting | -17% | -4% |
| <i>Metered supply</i> | -42% | -40% |
| <i>Unmetered Supply</i> | -37% | -35% |
| Small Industrial Service | -11% | -6% |
| Medium Industrial Service | -4% | 1% |
| Large Industrial Service | 2% | 7% |
| Power Intensive Industries | -7% | -3% |
| P.W.W. | -11% | -9% |
| Mixed Load supply | -7% | -3% |
| Total | -16% | -17% |

Table 2: Cross subsidy at proposed tariff

| Category | JVNL | Rajasthan |
|----------------------------|------|-----------|
| Domestic Service | -11% | -7% |
| Non-Domestic Service | 30% | 35% |
| Public Street Lighting | -3% | 13% |
| <i>Metered supply</i> | -31% | -29% |
| <i>Unmetered Supply</i> | -26% | -23% |
| Small Industrial Service | -5% | 0% |
| Medium Industrial Service | 3% | 8% |
| Large Industrial Service | 11% | 17% |
| Power Intensive Industries | -21% | -17% |

| | | |
|-------------------|------------|------------|
| P.W.W. | -7% | -5% |
| Mixed Load supply | 9% | 14% |
| Total | -7% | -7% |

2. Voltage wise Cost of Supply:

- As per the Commission's directive, Discom is required to furnish details of Voltage wise Cost of Supply in accordance to Hon'ble APTEL judgment in Appeal No 102 of 2010.
- In the judgment referred above, the Tribunal had recognized the difficulty in determination of cost of supply to different categories of consumers. However, instead of waiting indefinitely for availability of the entire data, the Tribunal had suggested a simple method which would take into account the major cost element. The Tribunal had suggested determination of voltage-wise cost of supply taking into account the major cost element which would be applicable to all the consumers connected at a particular voltage level.
- According to the said judgment, in the absence of segregated network costs, it would be prudent to work out voltage-wise cost of supply taking into account the distribution losses at different voltage levels. As power purchase cost is a major component of tariff, the power purchase cost can be apportioned at different voltage levels taking into account the distribution losses at the relevant voltage level and the upstream system.
- The system study to determine voltage wise technical losses is under process and hence voltage wise technical losses are not available at the moment.
- In the absence of voltage wise technical losses, the petitioner has considered the technical distribution losses in the distribution network approved by the Hon'ble Commission for 2006-07 in the order on determination of wheeling charges and cross subsidy surcharge for the year 2006-07 dated 19th September 2006 to work out voltage wise power purchase cost for 2006-07. For commercial losses, the APTEL judgement has suggested apportionment of difference of total and technical losses i.e. commercial losses across all voltage levels in proportion to the sales plus technical losses at the respective voltage levels. In this manner, the total losses have been apportioned at different voltage levels.
- The following table gives the details of apportionment of total losses for FY 2006-07:

Table 3: Voltage-wise cost of supply for FY 2018-19

| Voltage Level | Sales (MU) | Voltage wise Tech Loss (%) | Transmission Loss | Sales + Tech Loss (MU) | Tech. Losses (MU) | Comm Losses (MU) | Total Loss (MU) | Energy Input (MU) |
|---------------|------------|----------------------------|-------------------|------------------------|-------------------|------------------|-----------------|-------------------|
| 132 KV | 227.83 | 0% | 5.60% | 241.34 | 13.52 | 57.68 | 71.19 | 299.02 |

| Voltage Level | Sales (MU) | Voltage wise Tech Loss (%) | Trans- mission Loss | Sales + Tech Loss (MU) | Tech. Losses (MU) | Comm Losses (MU) | Total Loss (MU) | Energy Input (MU) |
|---------------|-----------------|----------------------------|---------------------|------------------------|-------------------|------------------|-----------------|-------------------|
| 33 KV | 328.83 | 3.80% | 5.60% | 362.10 | 33.27 | 86.53 | 119.80 | 448.63 |
| 11 KV | 1,120.74 | 8.80% | 5.60% | 1,353.21 | 232.46 | 323.38 | 555.85 | 1,676.59 |
| LT | 4,609.31 | 16.55% | 5.60% | 6,669.10 | 2,059.80 | 1,593.75 | 3,653.54 | 8,262.85 |
| Total | 6,286.71 | | | 8,625.75 | 2,339.04 | 2,061.34 | 4,400.38 | 10,687.09 |

- It is important to mention that the Discom has taken a number of steps to reduce AT&C losses at each voltage level. As such in order to arrive at voltage wise input energy, the total projected loss of FY 2019-20 has been apportioned between the different voltage levels in the same ratio as the voltage wise losses in FY 2006-07. Accordingly, input energy has been computed for different voltage levels for FY 2019-20 and the total power purchase cost has been apportioned between different voltages on the basis of energy input required as shown below:

Table 4: Voltage-wise power purchase cost for FY 2018-19

| Voltage Level | Sales (MU) | Total Losses (MU) | Energy Input Required (MU) | Total Power Purchase Cost (Excluding Transmission Cost) (Rs Cr) | Cost per unit sold |
|---------------|---------------|-------------------|----------------------------|---|--------------------|
| | A | B | C = A+B | D | E=D/A*10 |
| 132 KV | 967 | 132 | 1,100 | 436 | 4.51 |
| 33 KV | 3,885 | 222 | 4,108 | 1,630 | 4.19 |
| 11 KV | 3,169 | 1,032 | 4,201 | 1,667 | 5.26 |
| LT | 16,023 | 6,783 | 22,807 | 9,049 | 5.65 |
| Total | 24,045 | 8,170 | 32,215 | 12,782 | 5.32 |

Table 5: Voltage-wise network cost for FY 2019-20

| Voltage Level | Sales (MU) | Total Losses (MU) | Energy Input Required (MU) | Total Power Purchase Cost (Excluding Transmission Cost) (Rs Cr) | Cost per unit sold |
|---------------|------------------|-------------------|----------------------------|---|--------------------|
| | A | B | C = A+B | D | E=D/A*10 |
| 132 KV | 1,007.06 | 91.79 | 1,098.85 | 499.45 | 4.96 |
| 33 KV | 4,044.91 | 543.04 | 4,587.95 | 2,085.31 | 5.16 |
| 11 KV | 3,299.08 | 648.06 | 3,947.14 | 1,794.05 | 5.44 |
| LT | 16,681.14 | 5,130.28 | 21,811.42 | 9,913.69 | 5.94 |
| Total | 25,032.19 | 6,413.17 | 31,445.37 | 14,292.49 | 5.71 |

- According to the Hon'ble Tribunal's Judgment, in absence of segregated network costs, all the other costs such as Return on Equity, Interest on loan, Depreciation, interest on working capital and O&M costs can be pooled and apportioned equitably to all categories to determine the cost of supply.
- Various elements and computation of network cost per unit has been presented in the table below:

Table 6: Element-wise network cost for FY 2018-19 and FY 2019-20

| Elements | Unit | FY 2018-19 | FY 2019-20 |
|------------------------------|---------|------------|------------|
| O&M Cost | Rs. Cr. | 1,572.52 | 1,946.79 |
| Depreciation | Rs. Cr. | 900 | 1037.88 |
| Interest and Finance Charges | Rs. Cr. | 3,168.98 | 3,377.26 |
| Interest on Working Capital | Rs. Cr. | | |
| RoE | Rs. Cr. | - | 327.56 |
| Transmission Cost | Rs. Cr. | 1,925.95 | 940.73 |

| Elements | Unit | FY 2018-19 | FY 2019-20 |
|--|----------------|---------------|---------------|
| Prior Period Expenses | Rs. Cr. | 444.89 | 60.60 |
| Insurance Expenses | Rs. Cr. | 27.06 | 29.53 |
| Other Expenses | Rs. Cr. | - | - |
| <i>Less: NTI</i> | <i>Rs. Cr.</i> | <i>673.87</i> | <i>436.80</i> |
| <i>Less: Income from wheeling charges/CSS/AS</i> | <i>Rs. Cr.</i> | <i>57.62</i> | <i>57.62</i> |
| <i>Less: Income from Trading Activity</i> | <i>Rs. Cr.</i> | <i>-</i> | <i>-</i> |
| Total Cost | Rs. Cr. | 7,307.91 | 7,225.93 |
| Units Sold | MU | 24,045.00 | 25,032.19 |
| Network Cost per Unit | Rs./kWh | 3.04 | 2.89 |

- Based on the methodology suggested by the Hon'ble Tribunal and details provided above, the voltage wise cost of supply for FY 2019-20 has been computed and shown in the following table.

Table 7: Voltage-wise cost of supply for FY 2018-19

| Voltage-level | Power Purchase Cost per unit sold | Network Cost per unit of sale | Cost of Supply per Unit |
|---------------|-----------------------------------|-------------------------------|-------------------------|
| | F | G | H=F+G |
| 132 KV | 4.96 | 3.04 | 8.00 |
| 33 KV | 5.16 | 3.04 | 8.20 |
| 11 KV | 5.44 | 3.04 | 8.48 |
| LT | 5.94 | 3.04 | 8.98 |

| Voltage-level | Power Purchase Cost per unit sold | Network Cost per unit of sale | Cost of Supply per Unit |
|---------------|-----------------------------------|-------------------------------|-------------------------|
| | F | G | H=F+G |
| Total | 5.71 | 3.04 | 8.75 |

Table 8: Voltage-wise cost of supply for FY 2019-20

| Voltage Level | Power Purchase Cost per unit sold | Network Cost per unit of sale | Cost of Supply per Unit |
|---------------|-----------------------------------|-------------------------------|-------------------------|
| | F | G | H=F+G |
| 132 KV | 4.96 | 2.89 | 7.85 |
| 33 KV | 5.16 | 2.89 | 8.05 |
| 11 KV | 5.44 | 2.89 | 8.33 |
| LT | 5.94 | 2.89 | 8.83 |
| Total | 5.71 | 2.89 | 8.60 |

3. Trading margin of 1 Paisa charged by RUVNL to Discoms

RUVNL has been formed by GoR in December 2015 to carry out power trading business of state power sector utilities. Energy cost account for 80% of the total ARR of Discoms and efficiency improvement on this front has potential to significantly benefit the financial health of discoms leading to reduction in tariff of customers. RUVNL will be leveraging technology for Day ahead demand forecasting and day ahead scheduling, strengthening power purchase planning approaches and sales/purchase decision making, review of PPAs and TSAs with generators and Transmission companies, Procure power from additional sources at least cost and identifying new avenues to power procurement matching with load pattern of Rajasthan consumers. To meet these objectives of power procurement optimization and financial management, RUVNL will have to invest in latest technology and tools of power procurement, employ additional resources and also incur cost of setting up and running new company. Thus the coordination

committee of Rajasthan energy companies in its meeting dated 31.03.2019 decided that RUVNL will charge 1 paisa on the Energy purchased from “sources other than RVUNL” by it on the behalf of Discoms as trading margin. The petitioner humbly request the Hon’ble Commission to approve the same.

4. Compliance of Directives:

| S. No. | Directives of RERC | Present Status | | | | | | | | | | |
|-----------|---|--|-----------------------------|-------------|-----|-----------------------------|----------|-----------|-------------|------|--------|--------|
| 1. | Renewable Energy | RUVNL has prepared the year wise trajectory for addition of additional solar/wind power capacities enabling Rajasthan Discoms to meet out RPO fixed by RERC up to 2023-24. | | | | | | | | | | |
| 2. | Waste to Energy | As on date no such waste to energy power plant is operated in Discom area. However the power from such plants will be purchased at the tariff to be determined by RERC through RUVNL for Discom. | | | | | | | | | | |
| 3 | Changing Nature of Grid | SCADA Project under RAPDRP Part-A was awarded to M/s Dongfang Electronics Co. ltd. under TN-37. The present status of the SCADA project as on dated 09.08.2019 for Jaipur City for RTU installed is 78 no.'s and FRTU installed 600 no.'s and in Kota RTU installed 19 no.'s and FRTU 240 no.'s. | | | | | | | | | | |
| 4. | Day time Supply of Electricity to Rural Consumer | Distributed generation and micro-grids working in tandem with the Grid supply is a great way to improve duration and reliability of supply. The option being explored is of funding the replacement of existing pump-sets with solar pump-sets to agriculture consumers. This will not only allow the consumers to get free day time power but may also lead to substantial savings in terms of power purchase cost for the Discom. Further, the excess energy can also be fed back into the grid allowing the consumers to earn a nominal incentive on the same and thereby ensuring that the water level is also not adversely affected. Other possible options are putting up large centralised solar plants each with a capacity of a few hundred MW or having distributed mini solar plants each with a capacity of 1-2 MW. Action is already initiated on this under KUSUM scheme. | | | | | | | | | | |
| 5. | Saubhagya Scheme | <p>The progress under Saubhagya Scheme upto 19.07.2019 as below:</p> <table border="1" data-bbox="699 1274 1535 1422"> <thead> <tr> <th data-bbox="699 1274 879 1385">Scheme</th> <th data-bbox="879 1274 1066 1385">Particulars</th> <th data-bbox="1066 1274 1171 1385">UOM</th> <th data-bbox="1171 1274 1381 1385">Coverage as per DPR(Target)</th> <th data-bbox="1381 1274 1535 1385">Achieved</th> </tr> </thead> <tbody> <tr> <td data-bbox="699 1385 879 1422">Saubhagya</td> <td data-bbox="879 1385 1066 1422">Connections</td> <td data-bbox="1066 1385 1171 1422">Nos.</td> <td data-bbox="1171 1385 1381 1422">104125</td> <td data-bbox="1381 1385 1535 1422">104125</td> </tr> </tbody> </table> | Scheme | Particulars | UOM | Coverage as per DPR(Target) | Achieved | Saubhagya | Connections | Nos. | 104125 | 104125 |
| Scheme | Particulars | UOM | Coverage as per DPR(Target) | Achieved | | | | | | | | |
| Saubhagya | Connections | Nos. | 104125 | 104125 | | | | | | | | |

| | | | | | | | | |
|-----|--|--|----------------------|-------------------|------|--------|---------|--|
| | | | (Grid) | Total Connections | Nos. | 104125 | 104125 | |
| | | | | 11 kV Line | Ckm. | 741 | 680.63 | |
| | | | | LT Line | Ckm. | 691.44 | 1208.35 | |
| | | | | DTs | Nos. | 6024 | 5338 | |
| | | | Saubhagya (Off Grid) | Total Connections | Nos. | 7211 | 7211 | |
| 6. | Release of pending connections | The Discom is undertaking all efforts to release pending agriculture connection at the earliest. In FY 2018-19 Jaipur Discom has released 44209 no.'s agriculture connections & for FY 19-20 there is a proposed target of 19848 no.'s of agriculture connection's. | | | | | | |
| 7. | Standards of Performance (SoP) for Discom | The Discom adheres to the Standards of Performance (SoP) strictly. The half yearlySoP report of the period Oct-18 to March-19 submitted to RERC. | | | | | | |
| 8. | Metering ,billing and collection | Discom under TN-64 had issued work order for implementation of "Revenue management System (Metering,Billing and collection) on SAAS(System as a service)Basis for five years to M/S BCITS Private Ltd. | | | | | | |
| 9. | Monthly Billing | Jaipur Discom has started monthly billing in its jurisdiction. | | | | | | |
| 10. | Arrears | Discom is putting in its best efforts for the collection of outstanding arrears. The same is reflected in the lower level of outstanding as compared to the previous year. The outstanding on Government connections at the end of December-2018 stood at Rs 45305.27 (in lacs) which was reduced to Rs 40391.16 (in lacs) at the end of March-19. The total arrears of Discom at the end of December-2018 stood at Rs 284943.66 (in lacs) which was reduced to Rs 227624.60 (in lacs) at the end of March-19. | | | | | | |
| 11. | Ease of doing business | Discoms have filed a petition no. 1403/18 before Hon'ble RERC for providing rebate to large Industries. | | | | | | |
| 12. | Avoidance of unnecessary litigation | Discom have set up a grievance cell to address the problems related to | | | | | | |

| | | |
|-----|--------------------------|---|
| | | connections,billing,meteringetc to avoid unnecessary litigations. |
| 13. | IT implementation | <p><u>(1).ERP implementation .</u></p> <p>Work order for ERP implementation has been awarded to rajcom info Service Ltd. at a cost of 1.51 Cr.</p> <p>The ERP project covers the following modules.</p> <ol style="list-style-type: none"> a. Human Resource management system. b. Finance & Accounting. c. Work & Project management. d. Material Management. <p><u>(2).Smart Metering.</u></p> <p>Discom under TN-71 & TN-72 have take initiative for implementation of AMI/Smart metering for the consumers and work order had been awarded to M/S Genuses Power Infrastructure Ltd..Presently matter is on hold.</p> <p><u>(3).AMR based DT/Consumer Metering</u></p> <p>Discom under TN-62 have take initiative implementation of AMR system for DT's & consumer on Infrastructure as a service basis to M/s Secure Meter Ltd.,it will cover the village which is having population of more than 5000.</p> <p>DT AMR = 41000 no.'s Consumer AMR(NDS,SIP,MIX Load upto 18.65 KW(25 HP) = 35000 no.'s Consumer AMR(MIP and HT for above 18.65 KW(25 HP) = 15000 no.'s Presently matter is on hold.</p> <p><u>Other IT INITIATIVES</u></p> <p><u>Mobile app</u> :Discom is having two app's :</p> |

| | | |
|-----|-------------------------------------|--|
| | | <p>1.BIJLI Mitra 2.BIJLI Prabhand</p> <p>BIJLI mitra app is for consumers and having various feature for consumer including online payment facility and complaint registration and BIJLI prabhandapp for the officials of the Discoms to monitor the Revenue etc. This two app's are developed by the M/s BCITS under TN-64.</p> |
| 14. | Private Sector Participation | <p>The Discom has already introduced the Distribution Franchisee model in Kota city &Bharatpur city .The performance of the same is being scrutinized through monthly monitoring meetings and accordingly the possibility of implementing the same with added parameters in other circles is also being looked into. Further, independent auditor has also been appointed to ensure that the DF is working as per the provisions of the Distribution Franchisee Agreement.</p> |