Executive Summary

The power sector value chain in India is broadly segmented into generation, transmission and distribution sectors. The distribution sector consists of Power Distribution Companies (DISCOMs) responsible for purchase and sale of power to the consumers at the rates determined by the concerned Electricity Regulatory Commission.

In Rajasthan, distribution of electricity is being done by the three State DISCOMs *i.e.* Jaipur Vidyut Vitran Nigam Limited (Jaipur DISCOM), Ajmer Vidyut Vitran Nigam Limited (Ajmer DISCOM) and Jodhpur Vidyut Vitran Nigam Limited (Jodhpur DISCOM). The electricity is being procured by these DISCOMs from Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL- a State owned power generating company) and other power generators. The purchase of electricity on behalf of these three DISCOMs is being managed by Rajasthan Urja Vikas Nigam Limited (RUVNL). The DISCOMs distribute the electricity so procured to the various categories of consumers at the rates approved by the Rajasthan Electricity Regulatory Commission (RERC) in the tariff orders issued from time to time.

At the time of launch of UDAY, all the three State DISCOMs were reeling under severe financial stress as they had significant revenue deficit (₹ 12,474 crore) and accumulated losses (₹ 81,411 crore) in 2014-15. The DISCOMs also owed significant debts (₹ 80,529.90 crore as on 30 September 2015) and thus, bearing high interest/finance cost. Further, the ACS-ARR gap was also very significant.

The Ministry of Power, Government of India (MoP, GoI) launched (November 2015) Ujwal DISCOM Assurance Yojana (UDAY) for financial turnaround of State-owned power distribution companies (DISCOMs) with an objective to improve their operational and financial efficiency. To improve the operational efficiency, the participating States and the DISCOMs were to adhere to the operational milestones prescribed by MoP, GoI. The outcomes of operational improvements were to be measured through two indicators *i.e.* (i) Reduction of AT&C loss to 15 *per cent* in 2018-19 and (ii) Reduction in gap between Average Cost of Supply-Average Realizable Revenue (ACS-ARR) to zero by 2018-19. For achieving the financial turnaround of DISCOMs, the States were to takeover 75 *per cent* of the DISCOMs' debt as on 30 September 2015 over a period of two years (*i.e.* 50 *per cent* in 2015-16 and 25 *per cent* in 2016-17). Besides, the States and the DISCOMs were also required to execute a tripartite agreement with the GoI.

This Report, while analyzing the performance of UDAY scheme, largely deals with two aspects, *i.e.* Financial and Operational performances, of the DISCOMs.

Audit scrutiny included assessment of improvement in financial and operational efficiencies of the three State DISCOMs as against the targets/milestones laid down under UDAY. For this, financial position of the three State DISCOMs and their achievement against the major operational parameters/milestones during 2015-16 to 2020-21 were reviewed. Besides, records of RRVUNL were also reviewed to assess the efforts made for reduction of cost of generation of power.

Financial Turnaround of the DISCOMs under UDAY

UDAY envisaged taking over of 75 *per cent* of the outstanding debts of the DISCOMs (₹ 62,422.88 crore) along with existing and future losses in a graded manner so that the burden of existing losses/ debts would be shelved off from the DISCOMs. It was expected that once the losses/ debts were minimized, the DISCOMs would be able to start afresh and attain self-sustainability.

The debt takeover, an important feature of financial turnaround of the DISCOMs, was affected as the GoR could not ensure takeover of the entire 50 *per cent* of DISCOMs debts in 2015-16 as envisaged in UDAY. The considerable delay in taking over the shortfall of debt as the last tranche of debt in 2016-17 led to payment of substantial interest by the DISCOMs. Besides, the priority of loan accounts mentioned in the MoUs was not followed and the high-cost debt of financial institutions remained in the books of the DISCOMs. Apart from deficiencies in takeover of debts, non-financing of current losses by the GoR and non-issue of bonds by the DISCOMs led to increase in the interest and finance cost and liquidity issues in the DISCOMs. This had negatively impacted the primary objective of financial turnaround of the DISCOMs through UDAY.

After introduction of UDAY, the tariff subsidy receivable to the DISCOMs from the GoR on account of various categories of consumers had been steeply mounted from ₹ 15.83 crore in April 2015 to ₹ 17,458.79 crore as of March 2021.

The MoUs executed under UDAY envisaged payment of all the outstanding dues of the Government departments to the DISCOMs towards supply of electricity by March 2016. However, the outstanding electricity dues against the departments/ institutions of the GoR/GoI increased significantly from ₹ 580.80 crore in 2015-16 to ₹ 1,831.76 crore in 2020-21.

As per UDAY, the DISCOMs could avail working capital loans upto 25 *per cent* of their turnover. The DISCOMs could not ensure payment of dues of the power generators in time which had affected their working capital management. Besides, the pending subsidy and the outstanding electricity dues of the Government departments/institutions had a huge bearing on the working capital requirements of the DISCOMs. Resultantly, the DISCOMs were forced to borrow loans in excess of the prescribed limit of the working capital loans. Thus, the very objective of UDAY, to keep the level as well as cost of the borrowings under control, was defeated and their financial turnaround as envisaged in UDAY could not take place.

We recommend that the GoR may support the DISCOMs in their financial turnaround by ensuring release of tariff subsidy in time; issuing necessary directives to its departments as regards clearance of their outstanding electricity dues and payment of future electricity bills in time. The DISCOMs, to improve their financial health, may ensure necessary measures viz. keeping the working capital borrowings within the permissible limit, filing of ARR/tariff petitions in time and ensuring payment of dues to power generators in time.

Operational Turnaround of the DISCOMs under UDAY

UDAY envisaged operational turnaround of the DISCOMs by the end of 2019 through:

- Reduction of Aggregate Technical and Commercial (AT&C) losses to 15 *per cent* by 2018-19, and
- Elimination of gap between Average Cost of Supply (ACS)[1] and Average Realisable Revenue (ARR)[2] by 2018-19.

In order to achieve these two indicators, UDAY prescribed certain operational milestones *i.e.* compulsory metering at feeders and distribution transformers (DTs), smart metering of consumers, consumer indexing and Geographic Information System (GIS) mapping of losses and upgradation/ change of transformers and meters which were to be achieved by the DISCOMs.

The DISCOMs could not ensure feeder metering as out total 29,096 feeders, 473 feeders (Jodhpur DISCOM) were un-metered and 9,018 feeders did not have dedicated metering devices as on 31 March 2021. However, the DISCOMs had incorrectly considered these 9,018 feeders as metered based on metering device inbuilt in VCBs installed on such feeders.

The DISCOMs did not initiate efforts for ensuring DT metering till the milestone date (June 2018). Even after the milestone date, the progress of DT metering was negligible (1.48 *per cent*) till March 2021.

Resultantly, the DISCOMs were not in a position to identify feeder-wise as well as DT-wise losses, to trace the high-loss making areas, which defeated the very purpose of reducing the AT&C losses.

UDAY envisaged to complete smart metering of all the consumers having consumption above 500 units per month by December 2017 (extended to June 2018) and others (*i.e.* consumers having consumption above 200 units and upto 500 units per month) by December 2019 (extended to June 2020). However, the Jaipur, Ajmer and Jodhpur DISCOMs planned for implementing smart metering in only 13.87 *per cent*, 12.74 *per cent* and 2.70 *per cent* of their total sub-divisions respectively, that too without consumption-wise identification of consumers, as envisaged under UDAY.

Consumer indexing with Geographic Information System mapping as envisaged under UDAY was not taken up by the DISCOMs. Further, execution of consumer indexing by updating the data manually on monthly basis after carrying out proper authentications/verifications was also not ensured. Resultantly, the DISCOMs could not generate proper and reliable energy audit reports.

To reduce technical losses and minimize outages, UDAY envisaged upgradation of the single-phase DTs and replacing the defective DTs/ consumer meters. However, the Jaipur and Ajmer DISCOMs significantly lagged in achieving the targeted augmentation of single-phase DTs during 2015-21 whereas achievement of the Jodhpur DISCOM remained negligible. The three DISCOMs could not overcome the problem of high failure rate of the DTs during 2015-21 by taking suitable measures to contain the failure rate. The DISCOMs also not ensured replacement of failed Distribution Transformers in

1 Average Cost of Supply (ACS) means total expenditure incurred divided by the total input of energy during a specific period.

2 Average Realisable Revenue (ARR) means total revenue (including subsidy on receipt basis and all other incomes) divided by the total input of energy during a specific period.

time and had significant balance (11,387 failed Distribution Transformers) for replacement till March 2021. Similarly, the DISCOMs did not adhere to the norms for replacement of defective consumer meters and thus, had to allow significant rebate (₹ 56.35 crore) to the consumers towards defective meters during 2016-21.

The DISCOM could not ensure 100 *per cent* automation of feeder monitoring system. Resultantly, manual interference/ inaccuracies in the system still existed. Further, the purpose of real time monitoring of the system remained unachieved.

The DISCOMs also did not ensure compliance with the provisions of the Energy Conservation Act.

Thus, the DISCOMs could not achieve the operational milestones to that extent as envisaged in UDAY and therefore, could not improve their operational efficiency which was essential to achieve self-sustainability.

We also recommend that the DISCOMs/ GoR take immediate and appropriate actions to install meters at all the feeders and DTs and conduct GIS mapping and consumer indexing to identify the specific loss areas for taking appropriate measures to reduce the AT&C losses. Installation of smart meters may be taken up on priority, in accordance with the provisions of UDAY. The high failure rate of DTs should be contained, defective DTs/consumer meters should be replaced. 100 per cent automation of feeder monitoring system to ensure real-time monitoring of distribution system would be imperative, among other necessary steps.

Optimisation of cost of power purchase

To eliminate the ACS-ARR gap in the DISCOMs, UDAY envisaged reduction of the cost of power generation. Further, for power purchase cost optimisation, the efficiency of the State Generating units was to be improved.

In Rajasthan, RRVUNL is involved in generating power through its power plants, however performance of its thermal power plants was not satisfactory as they not only exceeded the laid down Station Heat Rate (SHR) but also operated on the low Plant Load Factor (PLF) during 2015-21. Thus, the inefficiencies of RRVUNL and resultant high cost of power generation, burdening the DISCOMs as they committed to purchase the power generated by RRVUNL.

RUVNL was incorporated in December 2015 to streamline and bring together all the processes related to power purchases including PPA management, power trading and to focus on power purchase efficiencies. However, RUVNL could not be made operational as envisaged as it was incorporated without foreseeing the requisite operational modalities. Resultantly, the purpose of its incorporation was defeated.

We recommend that RRVUNL may take suitable steps for the improvement in performance of its power plants with respect to keeping SHR within norms and enhancing PLF; and RUVNL may take suitable steps to achieve the objectives of its incorporation.

Outcome of UDAY

Though implementation of UDAY had significantly reduced the debt burden of

DISCOMs from ₹ 80,529.90 crore (September 2015) to ₹ 48,260.36 crore (March 2020) but due to raising of fresh loans, the debt burden of the DISCOMs again increased to ₹ 52,799.02 crore (March 2021). Resultantly, the total interest liability of the DISCOMs increased from ₹ 8,254 crore in 2014-15 (equal to ₹ 1.79 per unit of energy sold) to ₹ 9,044.47 crore in 2020-21 (equal to ₹ 1.39 per unit of energy sold). Thus, even after takeover of major part of debts by the GoR under UDAY, no significant reduction was visible in the interest cost per unit sold of the DISCOMs.

AT&C losses of the Jaipur DISCOM (25.22 *per cent*) and Ajmer DISCOM (21.60 *per cent*), despite reduction during 2015-16 to 2020-21, were still significantly high as compared to the level of AT&C losses targeted (15 *per cent*) under UDAY. Further, instead of improvement, the level of AT&C losses of the Jodhpur DISCOM alarmingly surpassed the loss levels of 2015-16 (29.64 *per cent*) during 2018-21 (ranged between 30.87 *per cent* and 37.99 *per cent*).

The DISCOMs (except Jaipur DISCOM in 2017-18 and 2019-20 and Ajmer DISCOM in 2017-18) could not eliminate the ACS-ARR gap during 2015-21. The financial health of Jodhpur DISCOM was a cause for concern as the ACS remained significantly higher than ARR in all the years during 2015-21.

Thus, due to these shortcomings of the DISCOMs and the State Government in implementation of UDAY, the financial turnaround of the DISCOMs in the State remained unachieved.