Chapter-V

Outcome of UDAY

Summary

Technical and Commercial losses together comprise Aggregate Technical and Commercial (AT&C) losses, hence it is imperative to improve Billing and Collection efficiency to contain both type of losses, thereby reducing the AT&C losses.

Various financial and operational activities as envisaged in UDAY aimed at reduction of AT&C losses to 15 *per cent* by 2018-19 and elimination of gap between Average Cost of Supply (ACS) and Average Realisable Revenue (ARR) by 2018-19 of the DISCOMs.

We noticed that Jaipur DISCOM and Ajmer DISCOM, despite reducing their AT&C losses significantly during 2015-16 to 2020-21, lagged behind in the targeted reduction in AT&C loss. Contrarily, the position of Jodhpur DISCOM deteriorated after a marginal decline in AT&C losses during 2016-18, and the AT&C losses alarmingly surpassed the loss levels of 2015-16 during 2018-21. Resultantly, none of the DISCOMs could achieve the targeted AT&C losses as fixed under UDAY/the MoUs.

None of the three DISCOMs (except Jaipur DISCOM in 2017-18 and 2019-20 and Ajmer DISCOM in 2017-18) could 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.

Though implementation of UDAY had significantly reduced the debt of DISCOMs from ₹ 80,529.90 crore (September 2015) to ₹ 48,309.09 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).

Previous reforms in Distribution Sector

5.1 During the period 2001-14, the GoI launched several central sector schemes/ centrally sponsored schemes[1] to improve the financial stability and sustainability of DISCOMs by strengthening distribution infrastructure to enhance operational efficiency and reducing AT&C losses. Despite receipt of central assistance under these schemes and incurring significant capital expenditure (₹ 13,246.33 crore) during 2011-15, there was no improvement in the financial position of the DISCOMs.

1 Accelerated Power Development Programme; Settlement of State Electricity Board Dues; Accelerated Power Development and Reform Programme; Rajiv Gandhi Grameen Vidyutikaran Yojana; Restructured Accelerated Power Development Reforms Programme; Financial Restructuring Plan-2012; Integrated Power Development Scheme and Deendayal Upadhyaya Gram Jyoti Yojana.

By the end of 2014-15, the accumulated loss of the DISCOMs mounted to ₹ 81,411.30 crore[2]. To meet the past liabilities, the DISCOMs raised significant debts and thus, had a total interest liability to the tune of ₹ 8,254 crore (equal to ₹ 1.79 per unit of energy sold) during 2014-15.

As the DISCOMs were reeling under severe financial stress and considering the revenue deficit/ accumulated losses, the DISCOMs opted for UDAY to improve their operational efficiency and attempt a financial turnaround.

Outcome of UDAY

Operational Outcomes

5.2 Clause 4.3 of UDAY provided that outcomes of operational improvements would be measured through:

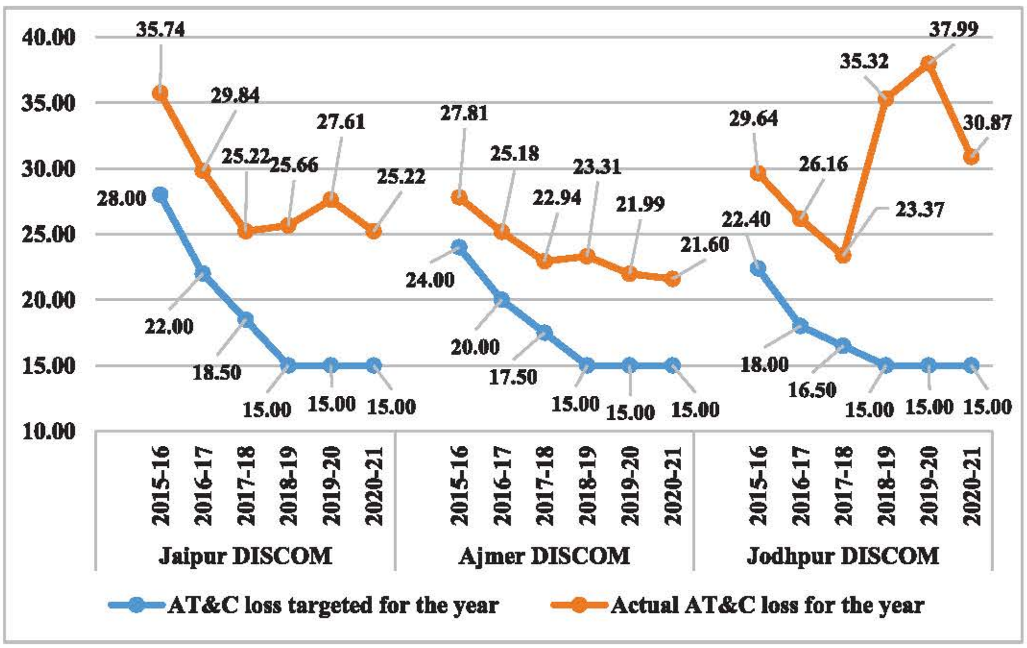
- Reduction of AT&C loss to 15 *per cent* in 2018-19 as per the loss reduction trajectory; and
- Reduction in gap between Average Cost of Supply (ACS) and Average Revenue Realised (ARR) to zero by 2018-19.

Reduction in AT&C losses

5.3 UDAY envisaged reduction of AT&C loss to 15 *per cent* in 2018-19 and thereafter loss reduction trajectory was not finalized. In the absence of any laid down target/trajectory, AT&C loss targeted for 2018-19 (15 *per cent*) was considered target for the period 2019-20 and 2020-21 also.

The DISCOM-wise targets *vis-à-vis* actual AT&C loss for the period 2015-16 to 2020-21 are given in the Chart below:

Chart No. 5.1: DISCOM-wise targets *vis-à-vis* actual AT&C loss



Source: MOUs and information provided by DISCOMs.

2 Jaipur DISCOM: ₹ 27,831.09 crore, Ajmer DISCOM: ₹ 26,843.76 crore and Jodhpur DISCOM: ₹ 26,736.45 crore.

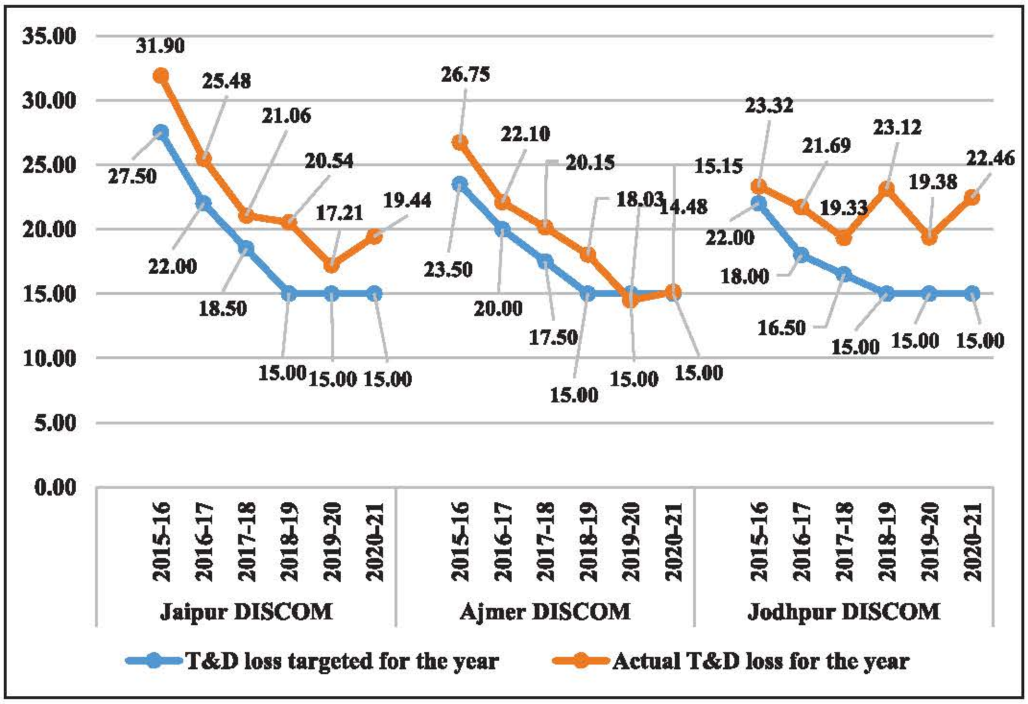
Audit noticed that Jaipur DISCOM and Ajmer DISCOM, despite reducing their AT&C losses significantly during 2015-16 to 2020-21, lagged behind in the targeted reduction in AT&C loss. Contrarily, the position of Jodhpur DISCOM deteriorated after a marginal decline in AT&C losses during 2016-18, and the AT&C losses alarmingly surpassed the loss levels of 2015-16 during 2018-21. Thus, during the implementation of UDAY, none of the DISCOMs could achieve the targets of AT&C losses as fixed under the MoUs.

The AT&C loss is a combination of energy loss (T&D loss) and commercial loss. Hence, it is useful to analyze the T&D loss, billing efficiency and collection efficiency of the DISCOMs to identify the reasons for the high AT&C loss. The same are discussed in subsequent **paragraphs 5.3.1 to 5.3.3.**

Technical and Distribution Loss

5.3.1 The targets of technical and distribution (T&D) losses committed by the DISCOMs under the MoUs *vis-à-vis* the achievement thereagainst during 2015-16 to 2020-21 are given in the Chart below:

Chart No. 5.2: DISCOM wise targets *vis-à-vis* actual T&D loss



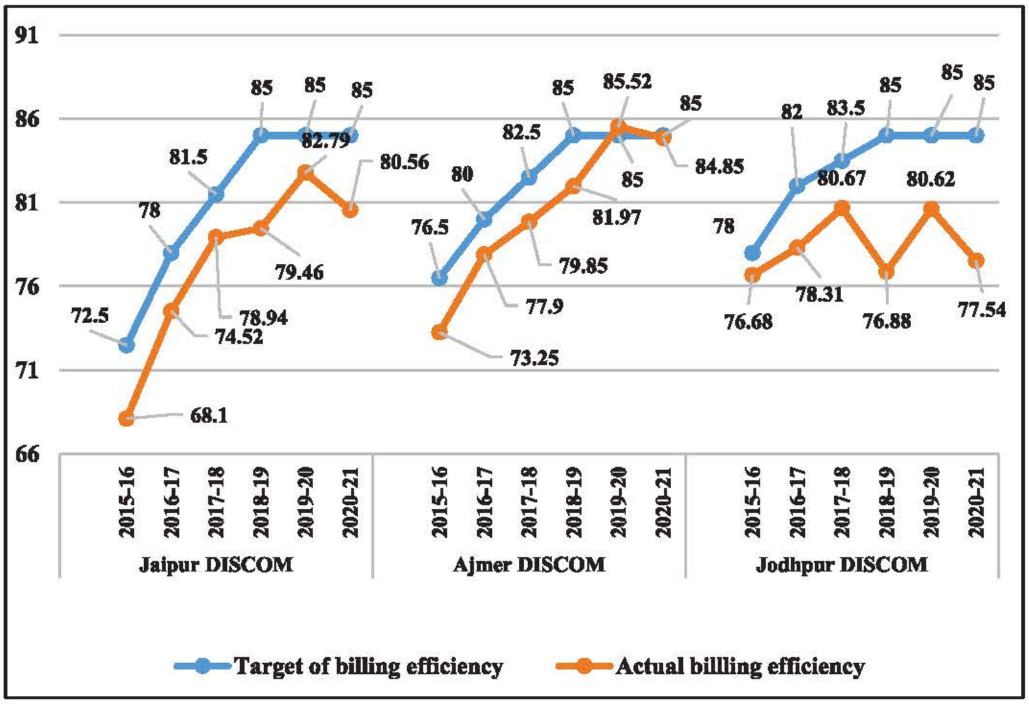
Source: MOUs and information provided by DISCOMs.

Audit noticed that none of the three DISCOMs (except Ajmer DISCOM in 2019-20) could achieve the targeted reduction in T&D losses during 2015-21. Audit observed that the DISCOMs could not curb theft of power and the billing inefficiencies. Lack of improvement was mainly due to the slow pace of structural reforms, *viz.* metering of feeders and distribution transformers, indexing and GIS mapping of consumers, adoption of smart/advanced metering infrastructure, upgrading/changing transformers and meters, *etc.* as discussed in **Chapter-III.**

Billing Efficiency

5.3.2 The billing efficiency[3] targets committed by the DISCOMs under the MoUs *vis-à-vis* achievement thereagainst during 2015-16 to 2020-21 are given in the Chart below:

Chart No. 5.3: DISCOM-wise targets vis-à-vis actual billing efficiency



Source: MOUs and information provided by DISCOMs.

Audit noticed that due to non-reduction of T&D losses to the targeted level, none of the three DISCOMs (except Ajmer DISCOM in 2019-20) could achieve the billing efficiency committed under the MoUs during 2015-21.

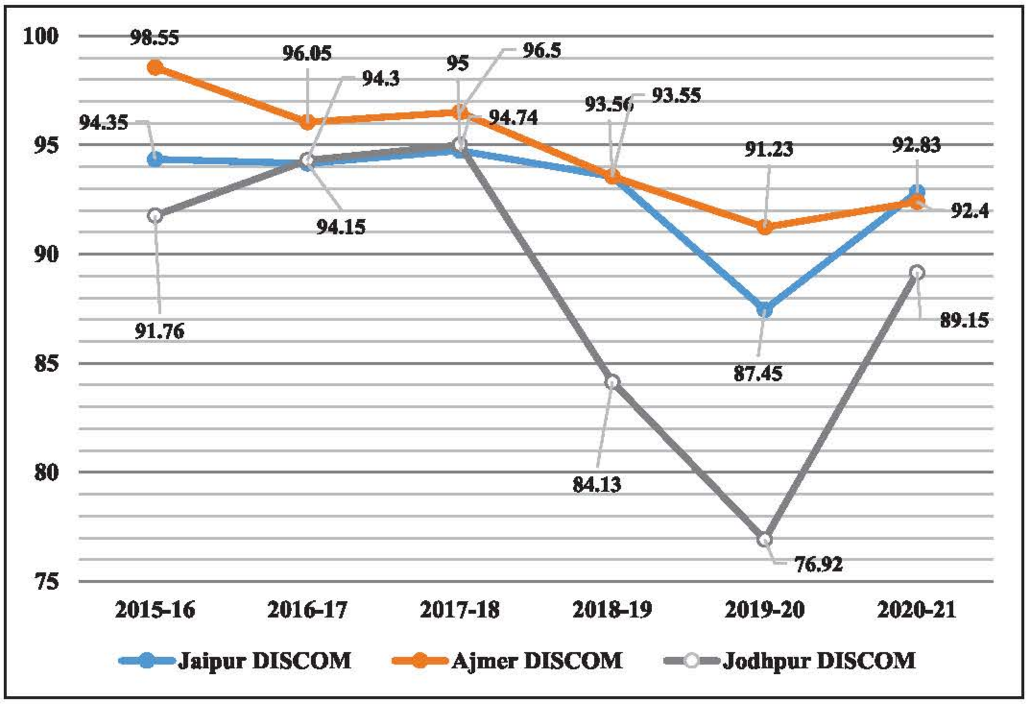
Collection Efficiency

5.3.3 As per the MoUs, the DISCOMs were required to achieve 99.50 *per cent* collection efficiency[4] in 2015-16 and 100 *per cent* collection efficiency thereafter. The DISCOM-wise actual collection efficiency during 2015-21 is given in the Chart below:

3 It is an indicator of proportion of energy that has been billed (includes both metered and unmetered sales) to consumers with respect to energy supplied to an area.

4 It is an indicator of the proportion of amount that has been collected from consumers with respect to amount billed to them. It is marred by the tendency of consumers in making default in payment of dues.

Chart No. 5.4: DISCOM-wise targets *vis-à-vis* actual collection efficiency



Source: MOUs and information provided by DISCOMs.

Audit noticed that collection efficiency of all the three DISCOMs deteriorated during 2015-21. Resultantly, the gap for achieving the 100 *per cent* collection efficiency widened.

Audit observed that during 2015-21, the collection efficiency of Jaipur DISCOM (during 2016-18) and Jodhpur DISCOM (during 2015-16 and 2018-21) were the poorest. Audit also observed that despite taking over of major debts by the GoR, the DISCOMs faced serious liquidity problems and incurred penalties due to delay in payment of power purchase dues as discussed in **Para 2.6.4.**

Reduction in ACS-ARR Gap

5.4 Shortcomings/deficiencies in reduction of ACS-ARR Gap[5] is discussed in subsequent paragraphs.

(a) Determination of the ACS-ARR Gap projections in the MoU

As per clause 4.3 of UDAY guidelines, the DISCOMs were required to reduce the gap between ACS and ARR to zero by 2018-19 as finalised by the MoP and the States.

Audit noticed that the ACS-ARR gap was projected in the MOUs (January 2016) for the period 2015-16 to 2018-19. The projections were made by considering total income inclusive of tariff subsidy receivable from the Government as part of the revenue from sale of power. Looking to inconsistencies in the methodologies adopted for computation of ACS-ARR gap by various States, the MoP, GoI finalised and circulated (August 2017) the methodology for calculation of ACS-ARR Gap as given below:

5 The ACS-ARR gap indicates gap in cost and revenue realised from each unit of energy purchased/sold. Greater ACS indicates loss whereas greater ARR indicates profit.

Average Cost of Supply (ACS)	**Total expenditure in amount/ Total input energy units,** where total input energy means input energy before making adjustments like transmission losses, inter-state sales or energy traded, *etc.*
Average Realisable Revenue (ARR)	**{Revenue from sale of power excluding subsidy booked plus subsidy received + other income}/ Total input energy units**
ACS-ARR Gap	**ARR less ACS**

Audit observed that the projections were made in the MoUs by using a methodology antedating the methodology prescribed by the MoP which included tariff subsidy receivable from the Government instead of tariff subsidy actually received during the concerned year. Thus, the projections did not reflect the correct projections. Audit further observed that the DISCOMs did not revise the projections as per the prescribed methodology. Besides, the projections of DISCOMs were made on the basis that there would be no interest burden towards debt to be taken over by the GoR under UDAY and no cash support and loss subsidy from financial year 2017 onwards. These considerations in the projections were not as per MoP's guidelines/ methodology.

(b) Non-elimination of ACS-ARR Gap

As per Clause 4.3 (b) of UDAY guidelines, the overall outcomes of the operational efficiency were to be measured through reduction in ACS-ARR Gap. Further, as per the MoUs, the DISCOMs were to eliminate the gap between ACS-ARR in 2018-19 and onwards.

The targeted ACS, ARR and ACS-ARR gap as per MoUs *vis-à-vis* actual ACS-ARR gap as per methodology prescribed by the MoP, GoI and as per accounts during 2015-21 is given in **Annexure-14.**

Audit observed that none of the three DISCOMs (except Jaipur and Ajmer DISCOMs in 2017-18) could eliminate the ACS-ARR gap[6] by the year 2018-19. Further, during 2019-21, two DISCOMs (Ajmer and Jodhpur DISCOMs) could not ensure elimination of ACS-ARR gap whereas Jaipur DISCOM could eliminate the ACS-ARR gap in 2019-20 only.

Audit further observed that Jaipur and Ajmer DISCOMs could eliminate the ACS-ARR gap in 2017-18 and booked profits of ₹ 943 crore and ₹ 1,199 crore respectively only due to UDAY subsidy amounting to ₹ 4,164 crore and ₹ 3,986 crore respectively. Further, 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 despite taking over of debt by GoR and converting a portion of it into revenue subsidy. The main reasons of non-elimination of the ACS-ARR gap were high cost of power purchase, and non/short receipt of tariff subsidy of concessional consumers from GoR.

Thus, the DISCOMs could not eliminate the ACS-ARR gap as envisaged under UDAY despite receipt of financial assistance of ₹ 62,421.96 crore (Equity: ₹ 15,605.49 crore and Subsidy: ₹ 46,816.47 crore) under UDAY against 75 *per cent* of their debt liability taken over by the GoR.

6 ACS-ARR gap as per methodology prescribed by the MoP, GoI.

Financial turnaround of DISCOMs

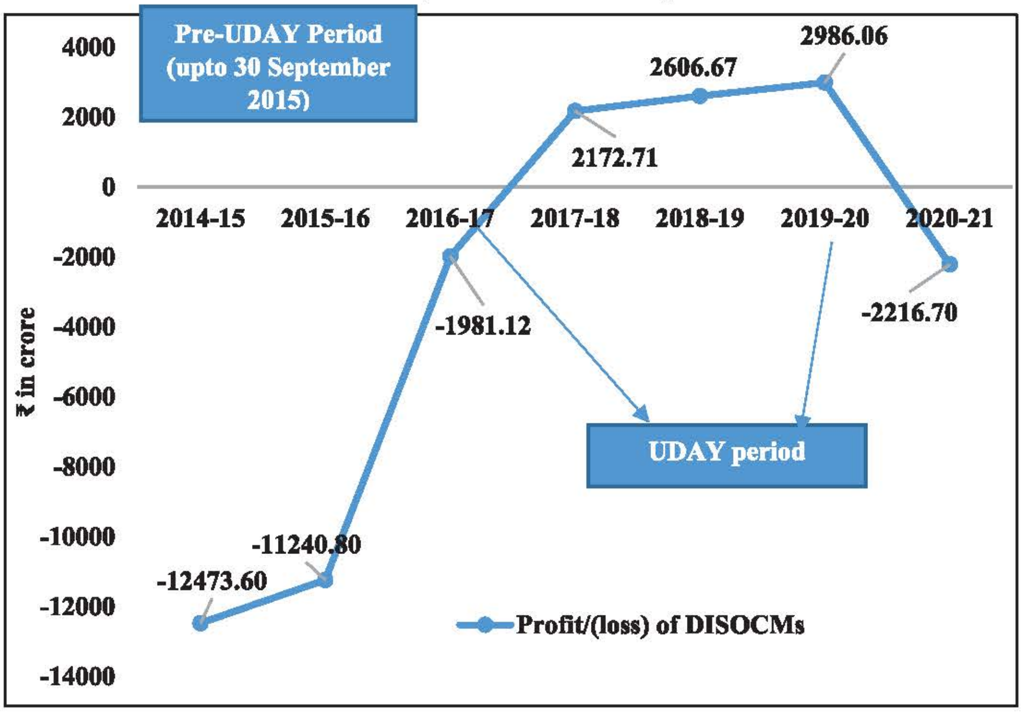
5.5 The GoI launched UDAY with expectations that it would be helpful in turning around the financial condition of the DISCOMs by making them economically viable on sustainable basis. The impact of UDAY on financial condition of DISCOMs is discussed below.

Impact on profitability of DISCOMs

5.5.1 Implementation of UDAY showed signs of financial turnaround in historically loss-making DISCOMs from 2016-17, as losses decreased by 84.12 *per cent* as compared to 2015-16. Further, the DISCOMs booked profits during 2017-18 for the first time since their incorporation (July 2000).

The financial performance of DISCOMs showing revenue, expenditure and profit during the period from 2014-15 to 2020-21 is shown in **Annexure-15**. The profitability of DISCOMs prior to UDAY and during implementation of UDAY is shown in the Chart below:

Chart No. 5.5: Profitability of DISCOMs during 2014-15 to 2020-21



Source: Annual Financial Statements of DISCOMs.

The DISCOM-wise details of profitability are given in the Table below:

Table 5.1: Details of profit/loss shown in the books of accounts of DISCOMs

(₹ in crore)

Year	DISCOMs		
	Jaipur	Ajmer	Jodhpur
2014-15	(4734.57)	(3592.89)	(4146.12)
2015-16	(4462.91)	(3504.00)	(3273.87)
2016-17	(615.75)	(336.69)	(1028.68)
2017-18	943.16	1199.08	30.47
2018-19	906.09	466.82	1233.76
2019-20	2188.15	788.06	9.85
2020-21	(660.75)	175.73	(1731.68)

Source: Annual Financial Statements of DISCOMs

Audit observed that the profit shown by DISCOMs during 2017-18 to 2019-20 was not due to their operational efficiency. The DISCOMs' profitability was merely due to conversion of debt into revenue subsidy under UDAY. Further, after discontinuing revenue subsidy support by GoR, Jaipur DISCOM and Jodhpur DISCOM again incurred losses whereas Ajmer DISCOM earned meagre profit during 2020-21.

Audit also observed that the GoR had withdrawn (September 2021) the return on equity for FY 2019-20 and 2020-21 allowed to Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL) by the Rajasthan Electricity Regulatory Commission under its tariff regulations. Accordingly, RRVUNL reversed ₹ 1811.74 crore (FY 2019-20: ₹ 856.53 crore and FY 2020-21: ₹ 955.21 crore) to the DISCOMs. The amount reversed by RRVUNL was booked by the DISCOMs as 'Other Operating Income' and adjusted from the purchase of power in FY 2019-20 and 2020-21 respectively. Though Jaipur and Jodhpur DISCOMs remained in losses after the adjustment of amount reversed, Ajmer DISCOM which was also in losses during FY 2020-21, could register profits after considering the amount so reversed by RRVUNL.

Audit observed that profit excluding revenue subsidy booked under UDAY was the real indicator of the profitability of the DISCOMs. By that logic, the DISCOMs incurred huge losses in all the years as shown in the Table below:

Table 5.2: Profitability of DISCOMs after excluding revenue subsidy under UDAY during 2016-17 to 2019-20

(₹ in crore)

DISCOM	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Jaipur	(4462.91)	(1737.02)	(3220.48)	(3257.55)	(2605.70)	(660.75)
Ajmer	(3504.00)	(1303.55)	(2787.25)	(2793.83)	(436.94)	175.73
Jodhpur	(3273.87)	(1775.48)	(3819.57)	(3341.95)	(3697.31)	(1731.68)

Source: Annual Financial Statements of DISCOMs

The trend in losses of DISCOMs in the years 2016-17 onwards as compared to losses incurred in 2015-16 showed little impact of implementation of UDAY as two out of three DISCOMS remained in losses as on 31 March 2021 and Ajmer DISCOM could also earn meagre profit.

Outstanding debt of DISCOMs

5.5.2 The position of outstanding debts of the DISCOMs during the period 2015-16 to 2020-21 are shown in the Table given below:

Table 5.3: Outstanding debts of DISCOMs

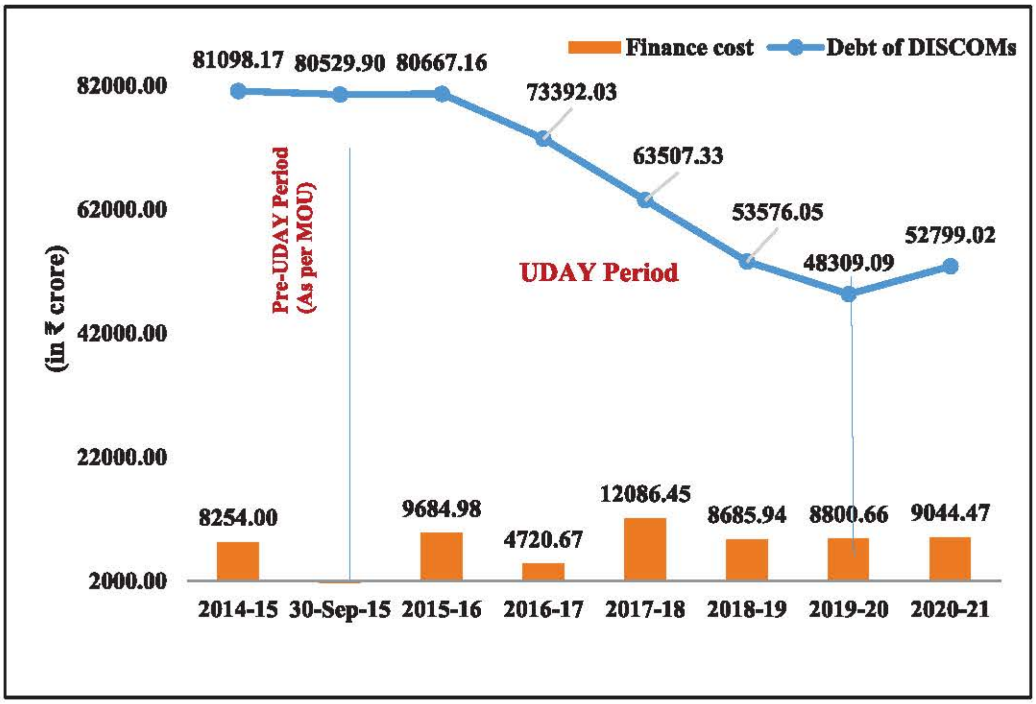
(₹ in crore)

Year	DISCOM			
	Jaipur	Ajmer	Jodhpur	Total
2015-16	27940.03	26615.83	26111.30	80667.16
2016-17	25960.16	23915.27	23516.60	73392.03
2017-18	22709.52	20421.54	20376.27	63507.33
2018-19	19335.93	17726.87	16513.25	53576.05
2019-20	17025.33	15099.44	16184.32	48309.09
2020-21	18161.89	16445.59	18191.54	52799.02

Source: Annual Financial Statements of DISCOMs

A comparison of the outstanding debts of the Rajasthan DISCOMs during the prior and post UDAY periods are shown in the Chart below:

Chart No. 5.6: Position of outstanding debts of DISCOMs



Source: Information provided by DISCOMs.

Audit observed that implementation of UDAY had significantly reduced the debt of DISCOMs from ₹ 80,529.90 crore in September 2015 (cut-off date for UDAY) to ₹ 48,309.09 crore by March 2020. However, the debts were again increased to ₹ 52,799.02 crore by March 2021 due to raising of fresh loans by the DISCOMs to meet the obligations of outstanding dues of power purchase and loss funding. Resultantly, the total interest liability of the DISCOMs increased from ₹ 8,254 crore in 2014-15 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. Further, the debt obligations of the DISCOMs will continue to increase due to non-accomplishment of structural reforms and operational parameters, like liquidation of tariff dues by the State Government, outstanding dues of Government Departments, installation of smart meters, *etc.*

Ratings of Rajasthan DISCOMs

5.6 The MoP, GoI formulated (July 2012) an Integrated Rating Methodology for evaluating performance of State DISCOMs on operational, financial and external parameters. The rating exercise is being carried out on an annual basis by ICRA Analytics Limited and CARE Advisory Research and Training Limited.

The ninth integrated ratings report of MoP for 2019-20 disclosed (July 2021) that out of 41 State DISCOMs, Ajmer DISCOM, Jaipur DISCOM and Jodhpur DISCOM were assigned 26th, 35th and 41st ranks with 'C+', 'C' and 'C' ratings[7] respectively. The key areas of concern of the rating agencies as regards Rajasthan DISCOMs were high AT&C losses, low billing efficiency, low cost coverage ratio, high payable days, non-filing of tariff petition for FY 2021-22, non-availability of tariff order for FY 2020-21 and non-receipt of subsidy in timely manner.

Audit observed that Rajasthan DISOCMs over the years had performed badly on various parameters and occupied low ratings in the all-India Ranking. Further, the grading of the DISCOMs had slipped from 'B' in FY 2016-17 and FY 2017-18 to 'C+' and 'C' in FY 2019-20. This indicated that the performance of the DISCOMs on operational and financial parameters had further deteriorated after the implementation of UDAY.

The low ratings, despite the Government making substantial investments in the distribution sector, is a matter of grave concern as the expected outcomes were nowhere near the targets.

To Sum up

The DISCOMs could not achieve the operational milestones *viz.* 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 as per provisions of UDAY/ MOUs. Due to non-achievement of these operational milestones, the DISCOMs neither could reduce the AT&C losses to the level of 15 *per cent* nor could eliminate the ACS-ARR Gap till 2020-21. Resultantly, the DISCOMs could not improve their operational efficiency which was essential to achieve self-sustainability.

Further, payment of substantial interest by DISCOMs, because of considerable delay in taking over the shortfall of debt by the GoR, not maintaining the priority of taking over of high-cost loan accounts, non-financing of current losses by the GoR and non-issue of bonds by the DISCOMs, led to increased interest and finance cost and liquidity issues in the DISCOMs. Besides, the balance of outstanding tariff subsidy towards the GoR and outstanding electricity dues towards the Government departments also put a huge bearing on the working capital requirements of the DISCOMs as they could not ensure payment of dues

7 A 'C' rating denotes 'very low operational and financial performance capability' whereas 'C+' rating denotes 'low operational and financial performance capability'.

of the power generators in time. Resultantly, the DISCOMs were forced to borrow loans which negatively impacted the primary objective of financial turnaround of the DISCOMs through UDAY.

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

JAIPUR
The 17th April 2024

(ARCHANA GURJAR)
Accountant General
(Audit-II) Rajasthan

Countersigned

NEW DELHI
The 6th May 2024

(GIRISH CHANDRA MURMU)
Comptroller and Auditor General of India