सत्यमेव जयते

Report of the Comptroller and Auditor General of India

on

Performance Audit on

Implementation of Ujwal DISCOM Assurance Yojana in Rajasthan for the year ended 31 March 2021

भारत के नियंत्रक एवं महालेखापरीक्षक
COMPTROLLER & AUDITOR GENERAL OF INDIA
सत्यमेव जयते

SUPREME AUDIT INSTITUTION OF INDIA

लोकहितार्थ सत्यनिष्ठा

Dedicated to Truth in Public Interest

GOVERNMENT OF RAJASTHAN

Report No. 1 of the year 2024

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COMPTROLLER AND AUDITOR GENERAL
OF INDIA

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GOVERNMENT OF RAJASTHAN
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Preface

This Report of the Comptroller and Auditor General (CAG) of India for the year ended 31 March 2021 has been prepared for submission to the Governor of Rajasthan under Article 151 of the Constitution of India and Section 19A of the CAG's (Duties, Powers and Conditions of Services) Act, 1971, as amended from time to time.

The Report contains the results of the Performance Audit on 'Implementation of Ujwal DISCOM Assurance Yojana in Rajasthan', covering the period 2015-21.

The audit has been conducted in accordance with the Auditing Standards issued by the Comptroller and Auditor General of India.

Executive Summary

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.

Chapter-I
Introduction

Chapter-I

Implementation of Ujwal DISCOM Assurance Yojana in Rajasthan

Introduction

1.1 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 Electricity Regulatory Commission concerned in the tariff orders issued from time to time. This sector is the weakest link in terms of financial and operational sustainability.

In Rajasthan, as part of power sector reforms, the State Government had unbundled the Rajasthan State Electricity Board and formulated (June 2000) five power sector Companies {*viz.* Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL), Rajasthan Rajya Vidyut Prasaran Nigam Limited (RRVPNL), Jaipur Vidyut Vitran Nigam Limited (Jaipur DISCOM), Ajmer Vidyut Vitran Nigam Limited (Ajmer DISCOM) and Jodhpur Vidyut Vitran Nigam Limited (Jodhpur DISCOM)}. The State-owned DISCOMs in Rajasthan were trapped in a vicious cycle with operational losses being funded by debt.

Launch of Ujwal DISCOM Assurance Yojana

1.2 The Central and State Governments had launched various schemes and initiatives from time to time aimed at improving the operational and financial health of the DISCOMs. These attained limited success and the DISCOMs continue to be a resource drain on the economy. During November 2015, the Ministry of Power (MoP), Government of India (GoI) launched the Ujwal DISCOM Assurance Yojana (UDAY) with the twin objective of financial turnaround and improving operational efficiency of State-owned DISCOMs[1]. The Scheme was envisaged as a path-breaking reform for realising the vision of affordable and accessible '24x7 Power for All'.

In addition, participating States were required to develop State specific targeted programmes for other activities to improve DISCOM efficiency as envisaged in the '24X7 Power for All' document. Further, the outcomes of operational improvements were to be measured through the following two indicators:

Reduction in AT&C losses

- **Reduction of AT&C loss to 15 *per cent* in 2018-19 as per the loss reduction trajectory by MoP, GoI and States.**

Reduction in revenue gap

- **Reduction in gap between Average Cost of Supply and Average Revenue Realised (ACS-ARR) to zero by 2018-19 as finalized by MoP, GoI and States.**

Further, the UDAY Guidelines (Guidelines) required that an agreement be signed amongst the respective State Government, DISCOMs and MoP, GoI

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1 Jaipur DISCOM, Ajmer DISCOM and Jodhpur DISCOM.

stipulating responsibilities of the State Government, DISCOMs and MoP, GoI for achieving the Financial and Operational milestones, as described under UDAY.

Rajasthan

1.3 At the time of launch of UDAY, all the three State DISCOMs of Rajasthan were reeling under severe financial stress, as shown below:

Table-1.1: Indicators of financial stress on DISCOMs

Particulars	Jaipur DISCOM	Ajmer DISCOM	Jodhpur DISCOM	Total
Revenue deficit during financial year 2014-15 (In ₹ crore)	4,735	3,593	4,146	12,474
Accumulated losses at the end of financial year 2014-15 (In ₹ crore)	27,831	26,844	26,736	81,411
Outstanding debt at the end of September 2015 (In ₹ crore)	28,056	26,597	25,877	80,530
Interest and finance cost burden during financial year 2014-15 (In ₹ per unit of energy sold)	1.62	2.09	1.71	1.62 to 2.09
National average of interest and finance cost burden (In ₹ per unit of energy sold)	0.44	0.44	0.44	0.44
Recovery of ACS through ARR	70%	70%	69%	69-70%

Source: Tripartite MoUs executed under UDAY.

The financial stress on the State DISCOMs made Rajasthan a perfect State to opt for UDAY. Each of the three State DISCOMs entered into (January 2016) a separate Memorandum of Understanding (MOU) with the MoP, GoI and GoR for implementation of UDAY in their jurisdiction.

Audit Scope and Objectives

1.4 This Performance Audit covered the implementation of UDAY in the State during 2015-16 to 2020-21. Under audit, data and records relating to financial position of the three State DISCOMs and their achievement against the major operational parameters/milestones laid down under UDAY during 2015-16 to 2020-21 were reviewed. Besides, records relating to efforts made for reduction of cost of generation of power by RRVUNL were also reviewed.

The objectives of this Performance Audit were to assess whether:

- The ultimate objective of financial turnaround of the DISCOMs was achieved as envisaged in UDAY and the conditions of MOUs were adhered to; and
- The operational efficiency targeted in UDAY was achieved with the intended outcomes.

Audit Criteria

1.5 The criteria to achieve the audit objectives were derived from:

- Office Memorandum issued (November 2015) by the MoP, GoI on

UDAY;

- The tripartite MOUs executed (January 2016) among the MoP, GoI; GoR and DISCOMs;
- The Electricity Act 2003 and Tariff Policy 2016 issued by the MoP, GoI;
- Rules, regulations, codes, standards and policy documents issued by Rajasthan Electricity Regulatory Commission and Central Electricity Authority; and
- Annual Reports, Management Information System (MIS), Manuals and Policies of the DISCOMs; Annual Reports of Power Finance Corporation, REC Limited and NITI Aayog: Sanctions of loans issued by GoR; and Agenda and Minutes of Board of Directors (BoDs) and other committees of DISCOMs.

Audit methodology and coverage

1.6 An Entry Conference was held with the Government/DISCOMs on 29 October 2021 wherein the audit objectives, scope and methodology were discussed. The field audit involved review of records at the Head Offices of the three DISCOMs as well as at the Circle Offices selected for review. For detailed scrutiny of records/data, nine out of 33 Circle Offices[2], nine Division Offices (23 *per cent* of the 39 Division Offices under selected Circle Offices) and all the 37 Sub-Division Offices (100 *per cent*) under the selected Division Offices were selected as shown in **Annexure-1**.

The draft Performance Audit Report was issued to the State Government, DISCOMs and RRVUNL in September 2022. After receipt of the replies (October 2022) from the Government, the audit findings and recommendations were discussed with the Government in the Exit Conference (19 January 2023). The replies given and views expressed by the State Government/ Management have been appropriately incorporated in this Report. Thereafter, the draft Report was again sent to the State Government, DISCOMs and RRVUNL on 19 January 2024 for their response/comments, however, no further reply/comments were received till 30 January 2024.

Acknowledgement

1.7 Audit acknowledges the co-operation and assistance extended by the Energy Department, DISCOMs and their officials in providing records during the conduct of audit.

2 Three circle offices from each of the three State DISCOMs.

Chapter-II
Financial Turnaround of DISCOMs under UDAY

Chapter-II

Financial Turnaround of DISCOMs under UDAY

Summary

We examined the records relating to financial activities undertaken by the GoR/ DISCOMs within the framework of the UDAY Guidelines/ provisions of the MoU for financial turnaround of the DISCOMs. Our examination revealed that the UDAY Guidelines/ provisions of the MoU were not followed effectively by the GoR/ DISCOMs.

There was significant shortfall in takeover of debts as the entire 50 *per cent* of the DISCOMs debts was not taken over in the last quarter of 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 DISCOMs.

The GoR/ DISCOMs did not follow the priority of loan accounts mentioned in the MoUs. Resultantly, the high-cost debt of the financial institutions remained in the books of the DISCOMs.

The DISCOMs neither could manage to finance the projected losses (₹ 8,185 crore) for the current period through State/ DISCOMs issued Bonds due to their financial inefficiency and poor credit ratings nor could convince the State Government for accepting claim for loss subsidy of five *per cent* of the loss for the year 2017-18. This led to increase in interest and finance cost and liquidity issues in the DISCOMs and had negative impact on the primary objective of financial turnaround of the DISCOMs through UDAY.

The working capital limit exceeded the limits prescribed under UDAY in all the years during 2015-16 to 2020-21 in case of Jaipur DISCOM except during 2016-17. In case of Ajmer and Jodhpur DISCOMs, the prescribed limit was exceeded during 2015-16, 2019-20 and 2020-21.

The DISCOMs could not ensure payment of dues of the power generators in time which had affected their working capital management. Thus, the very objective of UDAY to limit the working capital loans by keeping the overall borrowings and borrowing cost under control, was defeated and their financial turnaround as envisaged in UDAY could not take place.

Further, financial turnaround of the DISCOMs had also been impacted adversely due to various other reasons, *viz.* non-receipt of tariff subsidy, interest burden of UDAY loans, non-adherence to the agreement for liquidation of receivables, heavy outstanding dues recoverable from the Government departments, delay in filing of ARR and Tariff petitions, huge regulatory assets, and high finance cost of the DISCOMs.

The objective of the financial activities in UDAY

2.1 The main objective of financial activities in UDAY was to reduce the debt burden of the DISCOMs and minimise the financial losses during the implementation period of the Scheme (2015-16 to 2019-20). By this way, the financial turnaround of the DISCOMs was intended to be achieved.

Implementation of the financial activities in UDAY Scheme

2.2 The Scheme Guidelines/ Memorandum of Undertakings (MoUs) stipulate financial and operational efficiency parameters to be monitored for time-bound improvement. The targeted activities under the financial parameters, along with the targeted benefits as per UDAY, are detailed in **Table 2.1** below:

Table 2.1: Financial parameters under UDAY and targeted benefits

S. No.	Financial parameters	Purpose/ intended benefits
	DISCOMs' Obligations/commitments of GoR	
1	Taking over of 75 *per cent* the DISCOMs debts (as on 30 September 2015) by the Government of Rajasthan *i.e.* 50 *per cent* in 2015-16 and 25 *per cent* in 2016-17. (Clause 7.1 of UDAY)	Financial support for reducing debts and interest burden of the DISCOMs.
2	Issue of Bonds for 50 *per cent* debt remained with the DISCOMs as on 31 March 2016 at low interest rates by the DISCOMs	Financial support for reducing debts and interest burden of the DISCOMs.
3	Taking over of future losses of the DISCOMs by the GoR in a graded manner	Improving financial health of the DISCOMs.
4	Limiting working capital borrowings upto 25 *per cent* of the DISCOM's previous year revenue	Bringing down the cost of capital of the DISCOMs.
5	Clearing all outstanding dues from the State Government Departments to the DISCOMs for supply of electricity by 30 March 2016	Improving cash flow of the DISCOMs.

To examine the implementation of UDAY, we analysed the targets and achievements of financial turnaround under UDAY and resultant improvement in financial position of the DISCOMs.

Audit findings related to financial parameters/activities

2.3 A flow chart depicting status of initial two parameters *i.e.* takeover of the DISCOMs debts by the GoR and issuance of bonds by the DISCOMs (as shown in **Table 2.1** and discussed in **Paragraphs 2.4 and 2.5**) is given as under:

Debt takeover and Bond issuance under UDAY		
50% of the DISCOMs debts as on 30 September 2015 were to be taken over by the GoR upto March 2016 (*i.e.* List A of MoUs)	Bonds to be issued by the DISCOMs for remaining 50% of their debts (*i.e.* List B and List C of MoUs)	
	25% to be taken over by the GoR upto September 2016	25% to be remained with the DISCOMs

1. Debt takeover		
Stage-I (Assessment of Debts as on 30 September 2015)	**Total Outstanding Debts: ₹ 83,229.90 crore**	
	Outstanding debt (₹ 80,529.90 crore)	FRP bonds already taken over during 2015-16 (₹ 2700 crore)
Stage-II (Plan to takeover 75% of the DISCOMs Debts as on 30 September 2015)	Upto March 2016: 50% of the DISCOMs Debts as on 30 September 2015 (List A of MOUs) and 50% of FRP Bonds	Upto September 2016: 25% of the DISCOMs Debts as on 30 September 2015 (List B) and 25% of FRP Bonds
	₹ 41,614.64 (₹ 40,264.64 crore + ₹1,350 crore)	₹ 20,808.24 crore (₹ 20,133.24 crore + ₹ 675 crore)
	Total takeover targeted in MoUs plus 75% of FRP bonds	
	₹ 62,422.88 crore	
Stage-III Actual takeover of the DISCOMs debts	FRP Bonds (taken over upto September 2015)	₹ 2,700.00 crore
	Ist Trench (17 March 2016)	₹ 28,455.08 crore
	II Trench (31 March 2016)	₹ 8,894.69 crore
	III Trench (22 June 2016)	₹ 20,807.32 crore
	IV Trench (7 February 2017)	₹ 1,564.87 crore
	Total	₹ 62,421.96 crore
Shortfall in takeover	₹ 0.92 crore	

2. Issuance of Bonds	
Bonds to be issued against remaining 50% the DISCOM debts	₹ 40265.26 crore (against List B: ₹ 20,133.24 crore and List C: ₹ 20,132.02 crore)
Bonds actually issued	₹ 20,418.72 crore

Audit noticed the following deficiencies/shortcomings in the achievement of the financial parameters for taking over of debts under UDAY.

Taking over of debts of DISCOMs by the Government of Rajasthan

2.4 Clause 7.1 (g) of the UDAY scheme provided that the transfers to the DISCOMs by the State in 2015-16 and 2016-17 will be as grant. In case the State is not able to absorb the interest burden of the entire grant immediately, the transfer of grant can be spread over three years, *i.e.* 2015-16, 2016-17 and 2017-18, with the remaining transfer through State loans to the DISCOMs. For States with very high DISCOM debt, this period can be further relaxed by two years. Further, Clause 7.1 (h) of the scheme provided that in exceptional cases, where the DISCOMs require equity support, not more than 25 *per cent* of the grant may be given in equity.

The total outstanding debt of the three DISCOMs as on 30 September 2015 was ₹ 80,529.90 crore of which 75 *per cent* was to be taken over. However, Clause 7.1 (j) of the scheme specifically provided that the Bonds already taken over in the financial year 2015-16 were also to be part of the debt to be taken over by the State Government. The DISCOMs, however, did not consider Financial Restructuring Plan (FRP) 2012 bonds of ₹ 2,700 crore already taken over (May 2015) by the State Government while calculating the outstanding debts as on 30 September 2015 and executed MoUs for ₹ 60,397.88 crore. The tripartite MoUs executed by the DISCOMs contained three lists, *i.e.* List A and List B and List C defining the priority in which the debts were to be taken over. List A and List B of the MoUs had lender-wise details of 50 *per cent* debt (₹ 40,264.64 crore) to be taken over by March 2016 and 25 *per cent* debt (₹ 20,133.24 crore) to be taken over by September 2016 respectively. List C of the MoUs had remaining 25 *per cent* residual debts (₹ 20,132.02 crore) which were to be retained with the DISCOMs.

Subsequently, the Ministry of Finance, GoI clarified (March 2016) that the bonds already taken over by the States under FRP 2012 during 2015-16 before 30 September 2015 shall be added to the outstanding debt of the DISCOMs as on 30 September 2015 to arrive at the outstanding amount. Accordingly, the outstanding debt to be taken over as on 30 September 2015 was considered as ₹ 83,229.90 crore.

Audit noticed that in compliance with the provisions of UDAY, the GoR, while executing the tripartite agreements, committed to take over 50 *per cent* and 25 *per cent* of their outstanding debts as on 30 September 2015 in the last quarter of 2015-16 and second quarter of 2016-17 respectively.

Status of takeover of debts under UDAY is given in **Table 2.2**:

Table 2.2: Status of takeover of debts under UDAY as on 31 March 2017

Total outstanding debts of the DISCOMs as on 30 September 2015	Debts targeted to be taken over as per the MoUs plus 75 *per cent* of the FRP bonds	Debts taken over by GoR	Shortfall
₹ 83,229.90 crore	₹ 62,422.88 crore (₹ 41,614.64 crore till March 2016 and ₹ 20,808.24 crore till September 2016)	₹ 62,421.96 crore Equity-₹ 8,700 crore Loan- ₹ 44,721.96 crore Grant/ Subsidy- ₹ 9,000 crore	₹ 0.92 crore (Shortfall)

DISCOM-wise details of total outstanding debts as on 30 September 2015, debts taken over by the GoR, shortfall, priority and break-up of outstanding debts and details of bonds issued are given in **Annexure-2.**

The loan extended under UDAY (₹ 44,721.96 crore) was converted into equity of ₹ 6,905.49 crore and grant/ subsidy of ₹ 37,816.47 crore during 2017-18 to 2019-20, in accordance with relaxation given under UDAY as given in **Table 2.3** below:

Table 2.3: Position of Equity/ Loan/ Subsidy under UDAY

(₹ in crore)

Year	Equity Investment	Loan	Subsidy/ Grant-in-aid	Total
2015-16	5,700.00	34,349.77	-	40,049.77

Year	Equity Investment	Loan	Subsidy/ Grant-in-aid	Total
2016-17	3,000.00	10,372.19	9,000.00	22,372.19
Total	**8,700.00**	**44,721.96**	**9,000.00**	**62,421.96**
2017-18	3,000.00	(-) 15,000.00	12,000.00	-
2018-19	3,000.00	(-) 15,000.00	12,000.00	-
2019-20	905.49	(-) 14,721.96	13,816.47	-
Total	**6905.49**		**37816.47**	
Position as on 31-03-2020	**15,605.49 (25.00%)**	-	**46,816.47 (75.00%)**	**62,421.96**

Audit observed that on conclusion of the scheme, except for the shortfall of ₹ 0.92 crore, equity support to the DISCOMs was 25 *per cent* of the total debt taken over by the GoR in compliance with the methodology/provisions prescribed in UDAY. The discrepancies/shortcomings noticed in taking over of the debts are discussed in subsequent paragraphs.

Delay in taking over of the debts

2.4.1 As per Clause 7.1 (f) of UDAY and Clause 1.2 (h) of the MoUs, the debts of the DISCOMs were to be taken over in the priority of 'debts already due' followed by 'debts with highest cost'.

Details of debts to be taken over as per the MoUs plus 75 *per cent* of ₹ 2,700 crore FRP bonds *vis-à-vis* actually taken over is given in **Table 2.4** below:

Table 2.4: Details of debts to be taken over *vis-à-vis* actually taken over

(₹ in crore)

Particulars	As on 31/03/2016	As on 31/03/2017
Debts to be taken over	41,614.64*	20,808.24**
Debt taken over	40,049.77 i. May 2015: 2,700 ii. 17/03/2016: 28,455.08 iii. 31/03/2016: 8,894.69	22,372.19 i. 22/06/2016-20,807.32 ii. 07/02/2017- 1,564.87
(Shortfall)/ overpayment	**(1,564.87)**	**1,563.95**
Overall shortfall	**0.92**	

*₹ 40,264.64 crore plus ₹ 1,350 crore (50 *per cent* of ₹ 2,700 crore)
**₹ 20,133.24 crore plus ₹ 675 crore (25 *per cent* of ₹ 2,700 crore)

Audit noticed that the GoR had already taken over 100 *per cent* FRP bonds of ₹ 2,700 crore upto September 2015. Further, it took over debts of ₹ 28,455.08 crore on 17 March 2016 (inclusive of ₹ 268.06 crore of List C) and taken over bonds/loans of ₹ 8,894.69 crore (from List B) on 31 March 2016, thus, leaving a shortfall of ₹ 1,564.87 crore. This shortfall was covered in the last tranche of debts (₹ 1,564.87 crore) taken over in February 2017. However, if we compare the taken over debt, excluding ₹ 2,700 crore FRP bonds, with the amount specified in the MoUs, the shortfall would have been ₹ 675.92 crore[1].

Audit observed that the rates of interest of debts of the DISCOMs taken over in last tranche ranged between 11.50 *per cent* and 12.75 *per cent*. Thus, the DISCOMs had to pay interest of ₹ 160.54 crore on ₹ 1564.87 crore due to delay[2] in taking over of the debt by the GoR.

The Government accepted the observation.

1 ₹ 0.92 crore + ₹ 675 crore (*i.e.* remaining 25% of ₹ 2700 crore).
2 Delay is calculated from 1 April 2016 till date of payment i.e. 07/02/2017 (312 days).

Priority of debts to be taken over

2.4.2 As per Clause 7.1 (f) of UDAY and Clause 1.2 (h) of the MoUs, the debts of the DISCOMs were to be taken over in the priority of 'debts already due' followed by 'debts with highest cost'.

As per MoUs, total outstanding debt to be taken over from List A as on 31 March 2016 was ₹ 40,264.64 crore[3]. Audit noticed that GoR had taken over debts of ₹ 28,455.08 crore on 17 March 2016 including ₹ 268.06 crore from List C. As such debt of ₹ 28,187.02 crore was taken over from List A. Further, prior to takeover of these debts, Jaipur DISCOM had made partial/ full repayment of debts worth ₹ 173.50 crore from List A and these loans were not taken over by GoR.

Audit observed that priority of debts stipulated in UDAY/ MoUs was not adhered to as 39 loans (₹ 11,904.12 crore)[4] of List A of MoUs, belonging to financial institutions (FIs)[5], carrying interest rate ranged between 13.25 *per cent* and 11.00 *per cent per annum,* were not taken over by the GoR. Against this, bank loans carrying interest rate ranged between 11.70 *per cent* and 11.60 *per cent per annum* were taken over which led to continued increase in the finance cost of the DISCOMs till the full/ partial takeover of high cost loans by the GoR (22 June 2016).

The Government stated (October 2022) that initially, only the Banks had participated and accordingly only their loans had been taken over by GoR. In case of FIs, the DISCOMs had the impression that their non-participation was in the knowledge/with the consent of the GoI.

The reply was not convincing as the DISCOMs neither made adequate efforts for ensuring participation of FIs nor apprised their non-participation to the GoI.

Issuance of Bonds

2.5 UDAY envisaged issuance of Bonds by the DISCOMs for their remaining 50 *per cent* debts and the current losses. Provisions of UDAY for issuance of Bonds were as under:

Clause	Description
For remaining 50 *per cent* debts	
Clause 7.2 of UDAY and 1.1 (b) of MoUs	Remaining 50 *per cent* of the DISCOMs debts as on 31 March 2016 is required to be converted by the Banks/FIs into loans or Bonds with interest rate not more than the bank's base rate plus 0.10 *per cent*. Alternately, this debt is to be fully or partly issued by the DISCOM as State guaranteed DISCOM Bonds at the prevailing market rates which shall be equal to or less than bank base rate plus 0.10 *per cent.*
Clause 7.3 of UDAY	Bonds to be issued against the loans of FIs, including REC and PFC, were to be first offered for subscription by the

3 Jaipur DISCOM: ₹ 14,028.16 crore, Ajmer DISCOM: ₹ 13,298.28 crore and Jodhpur DISCOM: ₹ 12,938.20 crore.

4 Jaipur DISCOM (21 loans): ₹ 4,475.37 crore, Ajmer DISCOM (9 loans): ₹ 3,274.75 crore and Jodhpur DISCOM (8 loans): ₹ 4,154 crore

5 Power Finance Corporation, REC Limited (REC), SIDBI, Rajasthan State Power Finance Corporation Limited (RSPFCL) and HUDCO *etc.*

	market including pension and insurance companies. Balances, if any, were be taken over by banks in proportion to their current lending to the DISCOMs.
For current losses	
Clause 8.3 of UDAY	Current losses after 1st October 2015 shall be financed only up to the extent of loss trajectory finalized by MoP with the State and such financing will be done through State issued Bonds or Bonds issued by the DISCOMs backed by State guarantee, to keep the borrowings within limit and cost of borrowing low.
Clause 1.2 (L) of MoUs	In case the DISCOMs fail to raise the Bonds to meet their requirements, then GoR would arrange remaining funds after considering the fiscal space available with the State Government.

DISCOM-wise details of remaining 50 *per cent* debts as per list 'B' and 'C' of MoUs are shown in **Annexure-2.** The discrepancies/shortcomings noticed in issuance of Bonds are discussed under:

Non-issue of Bonds for remaining 50 per cent debts

2.5.1 Audit noticed that the BoDs of all the three DISCOMs approved (March 2016) issue of Bonds amounting to ₹ 22,753.59 crore[6] against remaining 50 *per cent* bonds wherein outstanding loans of FIs and World Bank were not considered. Against this, the DISCOMs could issue (March 2016) bonds of ₹ 20,418.72 crore only.

Subsequently, the DISCOMs requested (April 2016) the FIs to reduce the interest rate on residual loans upto lead bank's base rate plus 0.10 *per cent.* Power Finance Corporation, one of the FIs, responded (May 2016) that reduction of rate is not applicable in its case as it does not have any base rate concept. It further suggested the DISCOMs to pre-pay their entire loans by opting for the second option as per provisions of UDAY. The other FIs did not respond to the request of the DISCOMs. However, DISCOMs did not make any efforts in this direction till December 2016. Resultantly, high-cost debt of ₹ 17,404.89 crore[7] (excluding ₹ 2441.65 crore relating to World Bank loans having lower interest rates, interest free loans from GoR and repayments made by the DISCOMs after 30 September 2015) continued to be in the books of the DISCOMs.

Financing of current and future losses

2.5.2 Clause 8.1 of the UDAY scheme and Clause 1.2 (i) of the MoUs provided that the States shall take over the future losses of the DISCOMs in a graded manner and fund the losses as given in **Table 2.5** below:

6 Jaipur DISCOM: ₹ 8,717.41 crore Ajmer DISCOM: ₹ 6,765.12 crore and Jodhpur DISCOM: ₹ 7,271.06 crore.

7 Jaipur DISCOM: ₹ 5,315.51 crore, Ajmer DISCOM: ₹ 6,469.54 crore and Jodhpur DISCOM: ₹ 5,619.84 crore.

Table 2.5: Trajectory for takeover of future losses of the DISCOMs

Year	2017-18	2018-19	2019-20	2020-21
Previous year's loss of the DISCOM to be taken over by GoR	5 *per cent* of the loss of 2016-17	10 *per cent* of the loss of 2017-18	25 per cent of the loss of 2018-19	50 *per cent* of the loss of 2019-20

Source: UDAY notification

The previous year's actual losses were to be used for calculation for each year instead of using current year's estimated losses.

Further, Clause 8.3 of the UDAY scheme provided that the current losses after 1st October 2015 were to be financed upto the extent of loss trajectory finalised by MoP with the State and such financing was to be done through State issued Bonds or Bonds issued by the DISCOMs backed by State Guarantee.

Audit noticed that the DISCOMs incurred loss (after tax) of ₹ 1,981.13 crore during 2016-17 whereas in subsequent financial years, *i.e.* 2017-18 to 2019-20, the DISCOMs showed profits due to revenue grant received from the GoR under UDAY. The DISCOMs accordingly requested (September 2017) the GoR to provide five *per cent* of the losses of 2016-17, *i.e.* ₹ 99.06 crore, in the form of assistance/grant as per the MoUs. The GoR, however, did not accept (March 2018) the claim of the DISCOMs on the plea that it had already allowed State guarantee of ₹ 12,215 crore covering projected losses of ₹ 8,185 crore for the period from 1 October 2015 to 31 March 2017. The GoR further clarified that the State Guarantee is a contingent liability of the State Government and therefore it cannot own two liabilities for one loss. The GoR also advised the DISCOMs to borrow funds from the market as allowed by the State Cabinet.

Thereafter, the DISCOMs time and again raised (between January 2019 and January 2021) the issue with GoR stating that funding towards loss under Clause 8.1 and providing State Government guarantees for raising bonds under Clause 8.3 were two distinct obligations on the part of the State Government required to be fulfilled to fructify the very motive behind UDAY.

On being referred by the Monitoring Committee of UDAY, the Finance Department, GoR informed (30 April 2018) that out of two available options, *i.e.* to issue Bonds for the losses of the DISCOMs or to provide State Guarantee for the Bonds to be issued by the DISCOMS, the State Government had opted for the latter option.

Audit observed that despite four attempts, the DISCOMs could not issue Bonds against the State guarantee due to non-arrangement of 'RBI Backstop[8]', quoting of high coupon rates coupled with high fees, getting offer for subscription of meagre amount, assigning of low ratings by rating agencies, *etc.* Audit further observed that despite failure of the DISCOMs to issue bonds, the GoR also did not arrange funds as committed in the MoUs.

8 DISCOMs, through GoR, sought (September 2017) RBI Backstop as an additional security for the issue of bonds. However, the Reserve Bank of India, being the cash manager for the State Governments only, expressed its inability to extend any direct debit mechanism to the State owned entities (DISCOMs). The other available options (i) creation of Escrow account by DISCOMs with the GoR to get indirect RBI guarantee against the off-budget liabilities of GoR and (ii) use of Guarantee Redemption Fund with the RBI were not agreed to by the GoR.

Thus, the DISCOMs neither could manage to finance the projected losses (₹ 8,185 crore) for the current period through State/ DISCOMs issued Bonds due to their financial inefficiency and poor credit ratings nor it could convince the State Government for accepting claim for loss subsidy of five *per cent* of the loss for the year 2017-18.

During the Exit Conference, the Principal Secretary (Energy), GoR accepted that the Government did not take over the losses of the DISCOMs as the same was not agreed upon by the Finance Department, GoR.

The Government/ DISCOMs did not adhere to the provisions of UDAY/ MoUs as regards to taking over of the debts within the stipulated schedule, maintaining priority of debts in takeover, issue of Bonds and financing of current and future losses.

Recommendation 1: The Government and the DISCOMs, may ensure compliance with the provisions in the upcoming schemes.

Factors affecting the financial turnaround

2.6 The factors affecting the financial turnaround of the DISCOMs were the poor working capital management, heavy liabilities of power purchase overdues and Late Payment Surcharge (LPS), non-receipt of tariff subsidy, interest burden of UDAY loans, non-adherence to the agreement for liquidation of receivables, outstanding dues of the Government departments, delay in filing of ARRs/tariff petitions, regulatory assets of the DISCOMs, irregular payment of excess interest and the high finance cost of the DISCOMs, as discussed in succeeding **paragraphs 2.6.1 to 2.6.10.**

Working Capital Management

2.6.1 Clause 8.4 of the UDAY Scheme provided that Banks/ Financial Institutions shall lend to the DISCOMs for working capital only upto 25 *per cent* of the DISCOM's previous year's annual revenue or as per prudential norms.

Further, the RERC (Terms and Conditions for Determination of Tariff) Regulations, 2014 and 2019 provided the methodology for determination of working capital (WC) requirements for the DISCOMs and interest thereon.

As per information furnished by DISCOMs, in case of Jaipur DISCOM, the percentage of working capital loans exceeded 25 *per cent* in all the years during 2015-21 except 2016-17. In case of Ajmer and Jodhpur DISCOM, it breeched the 25 *per cent* mark during the year 2015-16.

Audit further observed that the DISCOMs took loans during 2019-20 and 2020-21 for payment of pending power purchase liabilities. However, these borrowings were not considered while calculating the working capital by the DISCOMs. Audit is of the view that since these loans were undertaken for normal business operation of the DISCOMs and not for capital creation, these should have been included in the working capital. After considering these loans, the percentage of working capital loans exceeded 25 *per cent* during 2019-20 and 2020-21 also, in case of Ajmer and Jodhpur DISCOM.

Thus, the percentage of working capital loans exceeded 25 *per cent* in all the years in Jaipur DISCOM during 2015-21, except during 2016-17. In case of Ajmer and Jodhpur DISCOMs, the prescribed limit was exceeded during 2015-16, 2019-20 and 2020-21, as detailed in **Annexure-3**.

Audit observed that the DISCOMs could not ensure maximum working capital cycle period of 45 days prescribed in the Regulations in respect of payment of power purchase dues as discussed in **Paragraph 2.6.4**, which vitiated the overall management of working capital and resulted in higher borrowings to meet working capital requirements and increased interest and finance cost. Besides, the COVID-19 pandemic also impacted the working capital cycle of the DISCOMs as revenues dipped during the lock-down period.

Thus, all the three DISCOMs breached the permissible limits of working capital prescribed under UDAY as discussed above and the very objective of UDAY to limit the working capital loans to keep the overall borrowings and borrowing cost under control was defeated.

The Government stated (October 2022) that loss funding loans were taken pursuant to clause no. 8.3 of UDAY which permits the funding of previous years losses.

The reply was not acceptable as Clause 8.3 provided for financing of current losses through State issued Bonds or Bonds issued by the DISCOMs backed by State Guarantee.

Recommendation 2: The DISCOMs may ensure that working capital borrowings remain within the permissible limit.

Filing of Aggregate Revenue Requirement and Tariff Petition

2.6.2 The RERC (Terms and Conditions for Determination of Tariff) Regulations 2014 and 2019 provided for filing of ARR and tariff petitions for subsequent year/Multi-Year Tariff (MYT) application and True-up for previous year by 30 November of each year. Timely filing of ARR/tariff petition was vital to the financial health of the DISCOMs not only to determine the tariff for the financial year concerned but to recover the increased allowable expenses and reduce the gap between ACS and ARR in case of upward revision in tariff.

Audit noticed that the DISCOMs submitted the ARR and tariff petitions for 2015-16 to 2020-21 (except 2018-19) with delays ranging between 61 days and 427 days. Consequently, the tariff approved for the year, which was to be applied from commencement of the financial year concerned, could be made applicable with delay of 61 days to 602 days.

Audit further noticed that the DISCOMs did not propose revision in tariff during the years 2016-17, 2017-18, 2018-19 and 2020-21. Out of the six petitions filed during 2015-16 to 2020-21, it claimed upward revision in tariff in two petition (2015-16 and 2019-20) only. It was observed that due to delay in filing ARR/ tariff petition for the year 2015-16 (filed in July 2015 against November 2014), the revised tariff could not be applied during 2015-16 (made effective *w.e.f.* September 2016) and the impact/gap was passed on to regulatory assets. Further due to delay in filing ARR/tariff petition for the year 2019-20 (filed August 2019 against November 2018), the DISCOMs had to forgo the revenue worth

₹ 4026 crore[9] during the period of delay (April 2019 to January 2020) in determination of tariff. This resulted in accumulation of power purchase dues and the gap was fulfilled by way of borrowings for working capital needs.

The Government accepted the facts and stated that the delay in issue of ARR and Tariff order for 2014-15 led to delay in filing of future petitions upto the financial year 2017-18. Further, ARR and Tariff petition for 2019-20 filed in November 2018 had to be withdrawn due to delay in issue (10 May 2019) of MYT Regulations for 2019-24 which had a cascading effect on future filings and Tariff orders.

Recommendation 3: The Government may issue necessary directives to the DISCOMs for filing of ARR and tariff petitions in time.

Regulatory Assets of DISCOMs

2.6.3 Regulatory Asset is the previously incurred expenditure/ losses that have been deferred and can be recovered from consumers by Regulatory authorities in future through tariff revision. Carrying cost is the interest allowed by the Regulatory authorities on balance of Regulatory Assets. The National Tariff Policy 2016 (Clause 8.2.2) provided that creation of Regulatory Asset should be allowed by the Regulatory Commissions only as a very rare exception in case of natural calamity or force majeure conditions. Further, the recovery of outstanding Regulatory Assets along with carrying cost should be time-bound and within a period not exceeding seven years.

The NITI Aayog in its report[10] (August 2021) stated that mounting regulatory assets create cash-flow problems for DISCOMs, forcing them to borrow funds to cover the revenue deficit. The additional borrowing, coupled with the interest, adds to the burden of the DISCOMs. It also recommended that no new regulatory assets should be created, and the existing regulatory assets should be cleared over a defined schedule over the next 3-5 years through appropriate tariff changes.

Audit noticed that RERC continuously allowed creation of regulatory assets to DISCOMs from 2009-10 onwards. Hence, the regulatory assets of DISCOMs increased significantly, *i.e.* from ₹ 6,965 crore in 2009-10 to ₹ 46,670 crore in 2019-20. Audit further noticed that RERC allowed interest of ₹ 4,427 crore and ₹ 4,625 crore towards the unfunded gap in the true up orders for the year 2018-19 and 2019-20 respectively. Similarly, RERC also allowed interest of ₹ 4,902 crore and ₹ 4,886 crore in the tariff orders for the years 2020-21 and 2021-22 respectively.

Audit observed that huge regulatory assets on one side created cash-flow problems for DISCOMs compelling them to borrow funds and on the other side the interest allowed by the RERC may put tariff burden on consumers.

The DISCOMs accepted that irregular tariff hikes in past and various legacy issues led to surge in regulatory assets and high level of borrowings. Further, after 2015-16, tariff was revised in February 2020 and hence, the DISCOMs had to rely on borrowings to meet the expenditure. The DISCOMs further stated

9 Worked out by RERC in its approved tariff order for the year 2019-20, made effective *w.e.f.* February 2020.

10 Turning Around the Power Distribution Sector (Learnings and Best Practices from Reforms).

that RERC allowed creation of regulatory assets to cover the gap in revenue and expenditure. For future period, the DISCOMs are bound by qualification criteria of non-creation of regulatory assets under RDSS and FRBM[11] Act. The Government endorsed the reply given by the DISCOMs.

The reply was not convincing as while filing the ARR and tariff petitions, the DISCOMs themselves did not make any proposal before RERC for revision in tariff during 2016-21 (except in 2019-20).

Heavy liabilities of power purchase overdues and Late Payment Surcharge

2.6.4 Clause 45 of the CERC (Terms and Conditions of Tariff) Regulations 2014[12] provided for Late Payment Surcharge (LPS) at the rate of 1.50 *per cent* per month in case the payment of any bill for charges was delayed by a distribution licensee beyond a period of 60 days (reduced to 45 days from the date of presentation of bill vide Regulations 2019[13]) from the date of billing. Besides, RERC directed (September 2019) the DISCOMs to liquidate their entire outstanding dues towards RRVUNL within a period of six months.

The DISCOM-wise position of power purchase overdues beyond 45/60 days during the period from March 2015 to March 2021 is shown in **Table 2.6** below:

Table 2.6: DISCOM-wise position of total power purchase overdues

(₹ in crore)

DISCOM	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21
Jaipur	148.55	2421.13	3915.43	3682.22	6194.27	7209.42	8370.44
Ajmer	636.85	1531.27	2935.01	2297.10	3859.34	4644.16	5436.21
Jodhpur	658.51	1523.91	2838	2760.54	6738.4	8777.43	9703.19
Total	**1443.91**	**5476.31**	**9688.44**	**8739.86**	**16792.01**	**20631.01**	**23509.84**

Source: Information received from RUVNL for all the power produces/suppliers.

Audit observed that even after takeover of loans by the GoR, the power purchase overdues of DISCOMs increased significantly during implementation of UDAY. Resultantly, the burden of LPS also increased significantly, *i.e.* from ₹ 3.44 crore to ₹ 3,420.07 crore during 2015-21 which led to additional requirement of working capital. Further analysis of billing data of power purchase, available for the year 2020-21, disclosed that the DISCOMs[14] released payments of power purchase bills with delay upto 820 days beyond the stipulated period of 45 days.

Audit further observed that DISCOMs did not adhere to the directions of RERC as ₹ 15,309.60 crore (Overdue amount: ₹ 13,873.95 crore) was pending for payment towards RRVUNL dues as of March 2020. The RRVUNL dues were further increased to ₹ 18,220.43 crore (Overdue amount: ₹ 16,936.88 crore) as of March 2021. Further, the entire loans of ₹ 11,564.62 crore availed (between September 2020 and March 2022) under liquidity infusion scheme of GoI, was utilised to liquidate the power purchase dues of Central PSUs, Individual Power Producers and Private Suppliers. However, no payment was made to RRVUNL despite having huge outstanding dues.

11 Fiscal Responsibility and Budget Management.

12 Applicable for the period 2014-19.

13 Applicable for the period 2019-24.

14 Jaipur DISCOM (upto 648 days), Ajmer DISCOM (upto 820 days) and Jodhpur DISCOM (upto 820 days).

The Government accepted the facts and stated that DISCOMs are making constant efforts to clear the outstanding dues of the power generators.

The fact remained that DISCOMs did not chalk out any action plan to liquidate these outstanding dues in a periodic manner.

Recommendation 4: The DISCOMs may ensure payment of dues to the power generators in time.

Non-receipt of Tariff subsidy

2.6.5 The GoR provides subsidy in tariff of electricity to various categories[15] which is required to be released in advance as provided in the Electricity Act, 2003 and the Rajasthan State Electricity Distribution Management Responsibility (RSEDMR) Act 2016.

Audit noticed that the tariff subsidy receivable from GoR on account of various categories of consumers had been steeply mounted from ₹ 15.83 crore in the beginning of 2015-16 to ₹ 17,458.79 crore at the end of 2020-21 indicating an increase of 1,103 times approximately, as shown in **Annexure-4.**

Audit noticed that the tariff subsidy remained pending primarily due to additional financial burden on State finances after takeover of debt liability of DISCOMs, dispute on calculation of tariff subsidy in respect of agriculture consumers having defective meters, delay in approval (December 2020) of subsidy towards fuel surcharge, *etc.*

Audit observed that liquidation of outstanding tariff subsidy remained pending despite submission (October 2021) of the reconciled figures (upto March 2021) by DISCOMs as per the directions of GoR.

The issues of tariff subsidy on defective agriculture metered consumers, which was a point of contention between DISCOMs and GoR, and the burden of additional tariff subsidy due to the flagship schemes of the Government are discussed in brief as below:

A. Tariff subsidy on defective meters of agriculture consumers

Pursuant to the Government directions, DISCOMs supplied electricity to agriculture consumers at subsidised rate for which the Government provided tariff subsidy. The DISCOMs were demanding tariff subsidy on closed/defective meters of agriculture consumers as per the flat rate agriculture consumers. This proposal was not agreed to (December 2017) by the GoR on the basis that Terms and Conditions of Supply (TCOS) provides no rules or arrangement for applicability of flat rate tariff and the fact that about 40 *per cent* defective meters estimated by DISCOMs for calculation of tariff subsidy shows the incompetence of the DISCOMs. Therefore, the losses due to DISCOMs may not be borne by the State Government. The GoR again rejected several times (February 2019, March 2019 and August 2020) the proposal of DISCOMs to release tariff subsidy pertaining to defective meters of agriculture consumers treated as flat rate connections.

15 Below Poverty Line (BPL), domestic consumers, small domestic consumers and agriculture consumers.

Subsequently, the GoR decided (December 2020) that only the metered consumers will be given the benefit of agriculture tariff subsidy and directed the DISCOMs to change the defective meters on priority. The DISCOM-wise detail of defective meters pertaining to agriculture connections at the end of March 2020 and March 2021 was as under:

Year	Jaipur DISCOM			Ajmer DISCOM			Jodhpur DISCOM		
	Total metered agriculture connection	Defective meters	%age of defective to total metered connections	Total metered agriculture connection	Defective meters	%age of defective to total metered connections	Total metered agriculture connections	Defective meters	%age of defective to total metered connections
2020	488587	133567	27.34	476232	139548	29.30	340116	159949	47.03
2021	497380	123657	24.86	482378	114194	23.67	364088	168924	46.40

Source: MIS for the year 2020 and 2021

The Chairman, DISCOMs submitted (28 October 2021) the reconciled figures and apprised the GoR that tariff subsidy towards defective agriculture consumers was computed as per TCOS. It also informed that the benefit against the subsidy of ₹ 3,611.01 crore pending on this account has already been passed on and therefore, sought permission to debit the amount in the bills in case the GoR did not agree to release the subsidy. The final view of the Finance Department was pending (December 2022).

B. Flagship schemes of the State Government

Direct Benefit Transfer and Mukhyamantri Kisan Mitra Yojna

The State Government declared (October 2018) a Direct Benefit Transfer (DBT) scheme for General Category agriculture consumers of rural areas (Block supply-Rural) and decided to provide a subsidy of ₹ 833 per month to every consumer from November 2018 upto a maximum of ₹ 10,000 per annum. However, for the year 2018-19, the maximum amount was decided as ₹ 4,167. The DBT scheme was in force upto October 2019. The State Government introduced (July 2021) a new scheme, Mukhyamantri Kisan Mitra Yojna under which the maximum subsidy amount per consumer was increased to ₹ 12,000 per annum. The additional burden of Tariff Subsidy on DISCOMs due to implementation of the above two flagship schemes of the State Government was as below:

(₹ in crore)

Direct Benefit Transfer				
Year	**Jaipur DISCOM**	**Ajmer DISCOM**	**Jodhpur DISCOM**	**Total**
2018-19	122.57	93.75	48.28	264.6
2019-20	174.34	132.61	108.70	415.65
Mukhyamantri Kisan Mitra Yojna				
2021-22 (July 2021 to December 2021)	172.94	90.90	60.25	324.09
Total	469.85	317.26	217.23	1004.34

Source: Information provided by DISCOMs.

It could be seen that the flagship schemes of the Government put an additional burden of ₹ 1,004.34 crore on the State finances besides adversely impacting the financials of DISCOMs due to delay in reimbursement by the State Government as discussed above in **Paragraph 2.6.5**.

Thus, failure of GoR in providing the tariff subsidy in advance, non-ensuring timely reimbursement of tariff subsidy and launching flagship schemes without releasing subsidy put the DISCOMs in a debt trap like condition, something similar to their condition prior to UDAY.

The Government stated (October 2022) that it had allowed retention of electricity duty as grant/ subsidy against deferred tariff subsidy. It further stated that tariff subsidy for the flagship schemes is regularly being remitted to DISCOMs. Besides, it had also prepared an action plan to liquidate the subsidy overdues under Revamped Distribution Sector Scheme (RDSS).

The fact remained that significant amount of subsidy was still outstanding which defeated the very purpose of financial turnaround of DISCOMs under UDAY scheme.

Recommendation 5: The Government may ensure release of tariff subsidy to the DISCOMs in a timely manner.

Interest burden of UDAY loans

2.6.6 UDAY stipulated transfer of a maximum of 75 *per cent* grant in 2015-16 and 2016-17 to DISCOMs. Further, to avoid the interest burden of the entire grant immediately, the transfer of grant could be spread over three years, which was relaxed further upto two years, with remaining transfer through State loan to DISCOMs. The financial projections annexed to MoUs executed under UDAY specifically mentioned that there would be no interest burden on the DISCOMs of the taken over debt.

Audit noticed that out of the debt of ₹ 62,421.96 crore taken over under UDAY, the GoR transferred back ₹ 44,721.96 crore (71.64 *per cent*) in the form of UDAY loan. This loan was subsequently converted into equity and grant between March 2018 and March 2020.

Audit observed that the GoR started (February 2018) adjusting interest on UDAY loans through tariff subsidy and accordingly, adjusted an amount of ₹ 10,860.20 crore for the period 2015-16 to 2019-20. Further, the DISCOMs' request to roll back the recovery of interest of loans under UDAY and release admissible tariff subsidy was declined by the GoR on the plea that DISCOMs had turned around in the year 2016-17 and had operating profit.

Audit further observed that charging interest on UDAY loans had burdened DISCOMs, which was not the intention or spirit of UDAY scheme and MoUs. This proved a hindrance in the financial turnaround of DISCOMs.

The Government's reply was silent on the issue of charging interest from DISCOMs on UDAY loans.

Non-adherence to the agreement for liquidation of receivables

2.6.7 The GoR executed (26 October 2009) an agreement with DISCOMs to liquidate their losses (₹ 16,448 crore) upto 2008-09. Thereafter, the State Cabinet approved (19 October 2011) an action plan to strengthen the financial position of DISCOMs as per which the GoR was to reimburse ₹ 9,245 crore upto 2021-22 whereas the balance amount was to remain unfunded.

Audit noticed that after reimbursement of ₹ 3,448 crore upto March 2016, the GoR declined to release any subsidy against the balance receivables of ₹ 5,797 crore. The DISCOMs had to therefore, write-off the un-reimbursed amount from their books during 2016-17.

Audit observed that the denial by the GoR to liquidate the receivables on the basis of subsidy released under UDAY was not justified as the loss subsidy of ₹ 5,797 crore was to be funded for the losses accumulated upto the year 2008-09 while subsidy under UDAY was given against the liquidation of outstanding loans with cut-off date being 30 September 2015. Thus, the accumulated losses of ₹ 5,797 crore could not be liquidated despite commitment by the GoR and had to be written off by DISCOMs.

The Government's reply was, however, silent on this issue.

Thus, the Government did not adhere to its commitments as regards to non-charging of interest on UDAY loans as given in financial projections attached to the MoUs as well as agreement executed for liquidation of receivables.

Recommendation 6: The Government may ensure adherence to the commitments made to the DISCOMs.

Outstanding dues of the Government departments

2.6.8 Clause 1.2 (j) of MoU provided that all outstanding dues from the State Government departments to DISCOMs for supply of electricity shall be paid by 30 March 2016. Further, Section 4 (f) of the RSEDMR[16] Act 2016 provided that there would be no arrears of electricity supplied to various departments/ institutions of the State Government from 15 June 2016. In case of failure to do so, such dues shall be adjusted against the budgetary grant.

Audit noticed that the outstanding electricity dues against the departments/ institutions of GoR/GoI continuously increased (except marginal decrease in 2017-18) during 2015-16 to 2020-21 and mounted to ₹ 1,831.76 crore as of March 2021, as given in **Annexure-5.** The age-wise break-up of these outstanding electricity dues against the Government departments is shown in **Table 2.7** below:

Table 2.7: Age-wise break-up of outstanding electricity dues against the Government departments as on 31 March 2021

(₹ in crore)

DISCOMs	Period of outstanding electricity dues						
	<=90 days	90-180 days	180 days to 1 year	1-2 years	2-3 years	>3 years	Total
Jaipur	252.97	263.79	293.20	50.55	47.92	15.10	923.53
Ajmer	87.41	72.28	44.57	41.81	15.35	5.06	266.48
Jodhpur	241.07	75.28	90.85	21.14	51.34	162.10	641.78
Total	**581.42**	**411.35**	**428.62**	**113.50**	**114.61**	**182.26**	**1831.76**

Source: Financial Statements of the DISCOMs.

Further, these outstanding dues did not liquidate despite having provisions in RSEDMR Act 2016, availability of budget provisions with GoR, policy interventions through clauses of the MoUs and involvement of officials of

16 Rajasthan State Electricity Distribution Management Responsibility Act

DISCOMs, as well as the Energy Department and the Finance Department of GoR.

Audit observed that DISCOMs did not initiate any action to disconnect the electricity supply of defaulting departments/institution for non-payment of dues as stipulated under the Terms and Conditions of Supply (TCOS). Further, these outstanding dues had a huge bearing on the working capital requirements of the DISCOMs which were forced to borrow loans for purchase of power.

The DISCOMs stated that outstanding government dues had reduced during 2021-22 and assured to liquidate these dues by 2024-25 as per action plan approved by the Rajasthan Cabinet under Revamped Distribution Sector Scheme (RDSS).

Recommendation 7: The Government may issue necessary directives to its departments to clear their outstanding power dues and to ensure timely payment of future electricity bills.

Irregular payment of excess interest

2.6.9 Clause 7.1 (e) of the UDAY scheme provided that Banks/Financial Institution shall waive-off any unpaid overdue interest and penal interest on the debts of the DISCOMs and refund/adjust any such overdue/penal interest paid since 1 October 2013. The MoP further clarified (March 2016) that DISCOMs would be liable to pay only simple interest on the outstanding principal from its due date of payment to the actual date of payment for all outstanding payments after 1 October 2013.

Audit noticed that the DISCOMs had intimated (November-December 2015 and February 2016) the Banks for refund/adjustment of the overdue/penal interest paid since 1 October 2013 upto September 2015 only (cut-off date) instead of actual date of payment. Thereafter, the banks commenced charging interest on the outstanding balance (including overdue interest amount for the period from 1 October 2015 to the date of actual payment) instead of principal outstanding balance only which was not in consonance with the provisions of UDAY. Despite this, DISCOMs did not raise the issue with the Banks and continued to make payment of interest as demanded by the Banks.

Audit observed that payment of interest on outstanding balances and specifying the cut-off date of refund/adjustment of penal interest was in violation of provisions of UDAY and subsequent clarification of the MoP. A test check of 73 loan accounts of three banks[17] (out of 25 banks) from 1 October 2015 till the date of closure of these loan accounts disclosed that these banks charged excess interest/penal interest of ₹ 31.63 crore[18] from DISCOMs. The actual figure of excess charged interest would be huge considering all Banks.

17 Central Bank of India (CBI), Canara Bank and Syndicate Bank

18 CBI: ₹ 20.71 crore in 35 loan accounts (Jaipur DISCOM- ₹ 7.77 crore, Ajmer DISCOM- ₹ 5.02 crore and Jodhpur DISCOM- ₹ 7.92 crore), Canara Bank: ₹ 10.33 crore in 18 loan accounts (Jaipur DISCOM- ₹ 9.29 crore, Ajmer DISCOM- ₹ 0.86 crore and Jodhpur DISCOM- ₹ 0.18 crore) and Syndicate Bank: ₹ 0.59 crore in 20 loan accounts (Jaipur DISCOM- ₹ 0.31 crore, Ajmer DISCOM- ₹ 0.13 crore and Jodhpur DISCOM- ₹ 0.15 crore)

Thus, the DISCOMs paid irregular interest/penal interest to the Banks in violation of the UDAY scheme and directions of the MoP.

The DISCOMs stated (October 2022) that since the eligible amount of debt was taken over for cut-off date 30 September 2015, the banks were also required to waive off/adjust penal interest/ unpaid overdue interest till that date only.

The reply was factually incorrect as the unpaid overdue/penal interest belonging to these loans was to be waived off/adjusted till their takeover (March 2017).

Finance cost of DISCOMs

2.6.10 The finance cost of DISCOMs consists of interest expenses and other borrowing cost. The interest and finance cost of DISCOMs as projected in MoUs for the period from 2016-17 to 2018-19 and incurred in actual during 2015-16 to 2020-21 are shown in **Annexure-6.**

Audit noticed that the actual interest and finance cost of DISCOMs during 2016-19 remained significantly high (except Jaipur and Jodhpur DISCOMs in 2015-16) as compared to the projections in the MoUs. Further, the steep increase in finance cost during 2017-18 was due to booking of interest (₹ 7,237.92 crore for 2015-18) on the UDAY loans of GoR and additional borrowings raised by DISCOMs. The difference between pre-UDAY levels (2015-16) and as at March 2021 was only ₹ 640.51 crore which indicated minimal impact of UDAY as regards reduction in interest and finance cost of DISCOMs.

Audit observed that the primary reason for non-reduction in interest and finance cost was mainly due to non-issue of bonds, raising fresh borrowings and continuation of the high-cost debts in the books of DISCOMs.

Thus, non-reduction of interest and finance cost as well as continuation of the high-cost debt ranging between 53.39 *per cent* and 58.44 *per cent* of the total debt as of 31 March 2021 indicated that despite financial assistance provided under UDAY, the DISCOMs had to resort to high cost borrowings which further deteriorates their financial health.

The Government accepted (October 2022) the facts and stated that fresh borrowings were taken to clear the dues of power generators to avoid LPS as market conditions were not favourable for issue of Bonds.

Chapter-III
Operational Turnaround of DISCOMs under UDAY

CHAPTER-III

Operational Turnaround of DISCOMs under UDAY

Summary

For operational turnaround of the DISCOMs, UDAY prescribed certain operational milestones *i.e.* compulsory metering at feeders and distribution transformers, 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. Further, UDAY/ the MOUs also envisaged certain other initiatives viz. conducting energy audit of 11 kV feeders, implementing Enterprises Resource Planning (ERP), Demand Side Management (DSM), conducting Information, Education and Communication (IEC) Campaign and vigilance checking drives by the DISCOMs.

We noticed that the DISCOMs could not ensure installation of dedicated metering devices on 9,018 feeders (31 *per cent* of total feeders). Further, the DISCOMs also wrongly considered these feeders as metered, based on the metering devices in-built in the Vacuum Circuit Breakers installed on such feeders.

Further, none of the three DISCOMs initiated efforts for ensuring metering at the Distribution Transformers till the milestone date (June 2018) as the progress of Distribution Transformer metering was negligible (1.48 *per cent* up to March 2021). Resultantly, the DISCOMs were not in a position to identify Distribution Transformer-wise losses and trace high-loss Distribution Transformers, which defeated the very effort of trying to reduce the Aggregate Technical and Commercial losses.

The DISCOMs planned for implementing smart metering between 2.70 *per cent* and 13.87 *per cent* of the total sub-divisions only. Further, despite lapse of original implementation schedule, the Jaipur, Ajmer and Jodhpur DISCOMs could install 81.44 *per cent*, 35.98 *per cent* and 54.93 *per cent* respectively of the awarded quantity of smart meters till March 2022.

The DISCOMS did not implement consumer indexing with Geographic Information System mapping as envisaged under UDAY till March 2022. Besides, the directions of the Chairman DISCOMs to authenticate/ verify 100 *per cent* feeder-wise consumer indexing and updating the data on monthly basis were not adhered to. Resultantly, the DISCOMs could not generate proper and reliable energy audit reports.

The Jaipur and Ajmer DISCOMs significantly lagged behind in achieving the targets of augmenting single-phase Distribution Transformers whereas achievement of the Jodhpur DISCOM was negligible. Further, the DISCOMs did not take suitable measures to overcome the problem of high failure rate of Distribution Transformers.

The DISCOMs also not ensured replacement of failed Distribution Transformers in time and had significant balance (11,387 failed Distribution Transformers) for replacement till March 2021.

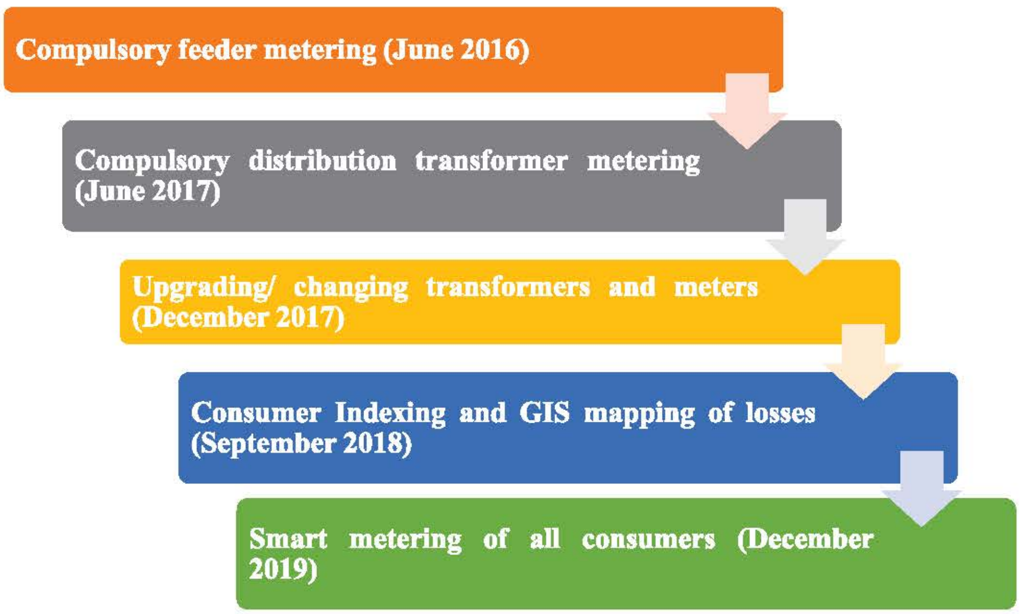
The DISCOMs did not adhere to the norms for replacement of defective consumer meters and thus, had to allow ₹ 56.35 crore towards rebate on defective meters during 2016-21.

Besides, the DISCOMs could not ensure 100 *per cent* automation of feeder monitoring system to avert manual interference/ inaccuracies in the system, implementation of ERP to harmonize the processes and DSM for energy savings. The DISCOMs also did not ensure compliance with the provisions of the Energy Conservation Act. Further, the efforts to enhance vigilance drives were not undertaken by the DISCOMs. Also, the Vigilance Monitoring Committees, envisaged under the Action Plan of UDAY, were not constituted by the DISCOMs/ GoR.

Resultantly, the very purpose of improving operational efficiency of the DISCOMs could not be achieved.

Milestones for improving operational efficiency of DISCOMs

3.1 UDAY prescribed certain operational milestones to be achieved by the DISCOMs. The milestones included in UDAY/tripartite MoUs were:

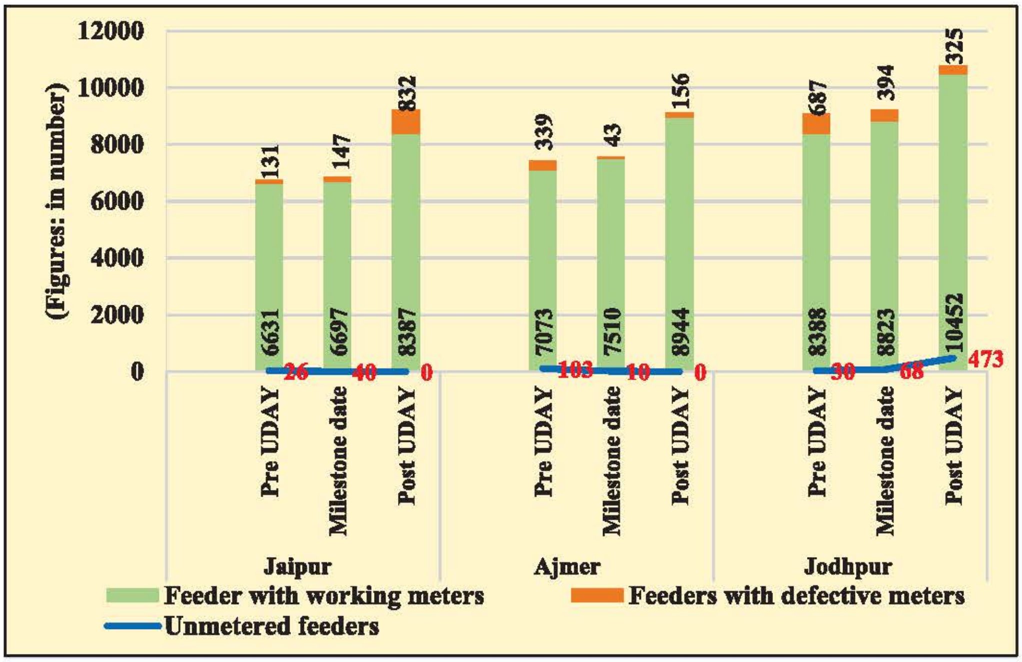


Compulsory Feeder Metering

3.2 Feeder metering helps in tracking feeder-wise energy losses by comparing energy input recorded in feeder meter with the energy billed to consumers connected with the respective feeder. UDAY envisaged completion of compulsory feeder metering by 30 June 2016.

Status of feeder metering as on 31 March 2016 (Pre UDAY), 30 June 2016 (Milestone date) and 31 March 2021 (Post UDAY) is given in the chart below:

Chart No. 3.1: DISCOM-wise status of feeder metering



Source: MIS maintained by Meter and Protection (M&P) Wing of State DISCOMs.

Audit noticed that the Meter and Protection (M&P) wings of the three DISCOMs depicted all their feeders as metered (except 473 unmetered feeders in Jodhpur DISCOM) as on 31 March 2021 (Post Uday). Audit however noticed that out of 29,096 metered feeders, 9,018 feeders[1] (31 *per cent*), had only Vacuum Circuit Breakers (VCBs) equipped with metering device, instead of having dedicated metering device.

Audit observed that VCBs equipped with metering device were not sufficient to record energy intake/offtake on the feeder as these may have irregular/ inaccurate energy readings in case the VCBs remain out of order due to interruptions/ outages in power supply. Hence, DISCOMs were required to deploy dedicated meters on the 9,018 feeders where the metering device was inbuilt in VCBs only. Further, 1313 feeder meters[2] were lying defective as on 31 March 2021.

During the Exit Conference (January 2023), the Government agreed that feeder metering through VCBs was not an effective way and may yield defective readings. The Government further directed the DISCOMs to ensure feeder metering through dedicated feeder meters instead of relying on metering device embedded in VCBs. It also assured for carrying out 100 *per cent* feeder metering under Revamped Distribution Sector Scheme (RDSS).

1 1048 feeders in Jaipur DISCOM, 28 feeders in Ajmer DISCOM and 7942 feeders in Jodhpur DISCOM.

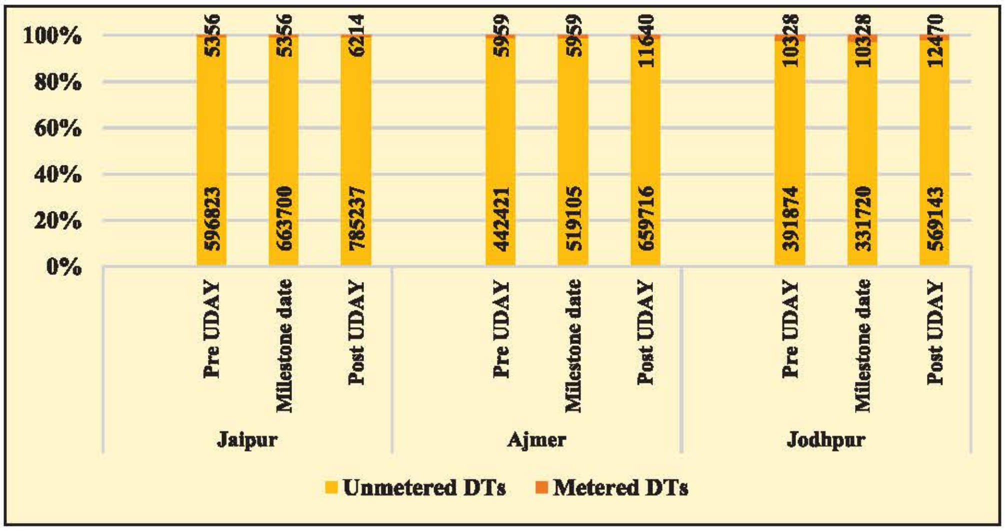
2 832 feeders in Jaipur DISCOM, 156 feeders in Ajmer DISCOM and 325 feeders in Jodhpur DISCOM.

Compulsory metering of Distribution Transformer (DT)

3.3 **(a)** UDAY envisaged completion of compulsory DT metering by 30 June 2017 (revised to 30 June 2018 in the MoUs). As per the trajectory committed in MoUs, the DISCOMs were to meter 20 *per cent* DTs by September 2016, 40 *per cent* DTs by March 2017, 60 *per cent* DTs by September 2017, 80 *per cent* DTs by March 2018 and 100 *per cent* DTs by June 2018.

Status of DT metering as on 31 March 2016 (Pre UDAY), 30 June 2018 (Milestone date) and 31 March 2021 (Post UDAY) is given in the chart below:

Chart No. 3.2: DISCOM wise status of metering of Distribution Transformer



Source: MIS maintained and information furnished by the DISCOMs.

Audit noticed that none of the DISCOMs initiated efforts for ensuring metering at the DTs till the milestone date. Further, the DISCOMs belatedly awarded (between August 2018 and November 2019) work orders for carrying out DT metering. Resultantly, the three DISCOMs collectively could arrange metering at merely 1.48 *per cent* of the total installed DTs (20.44 lakh DTs) upto 31 March 2021.

(b) Planning and Implementation of DT metering

The DISCOMs formulated (December 2016) a DT metering policy as per which metering of DTs was to be done first in the municipal towns having higher AT&C losses. In order to achieve the cost benefit ratio, the policy was to be implemented in three phases[3]. Considering the capital intensity of the work, the policy also provided to take up DT metering in rural areas only after assessing its feasibility from the outcomes of DT metering in municipal towns and by prioritising metering of high loss DTs.

Audit observed that DISCOMs belatedly framed the policy in December 2016 without considering the milestone decided under the MoUs (January 2016) and without specifying any timeframe for implementation of the three phases envisaged under it. Audit observed that DISCOMs could not complete the first phase of DT metering till March 2022.

3 R-APDRP towns (Phase-I), balance towns (Phase-II) and rural areas having AT&C losses of more than 40 *per cent* (Phase-III).

In the absence of implementing the DT metering, the DISCOMs were not in a position to either identify DT-wise losses or trace high loss DTs. Further, non-achievement of the timeframe committed under UDAY defeated the very purpose of reducing AT&C losses in the DISCOMs.

The DISCOMs while accepting the facts stated (October 2022) that since nature and technology of the DT metering work was new and crucial, they decided to meter the DTs in phased manner by commencing from the municipal towns having higher AT&C losses. The Government endorsed (October 2022) the reply furnished by DISCOMs.

Recommendation 8: The DISCOMs may ensure installation of meters at all the feeders and distribution transformers to identify the specific loss areas and take appropriate measures to reduce the AT&C losses.

Smart metering of consumers

3.4 Clause 4.1 of UDAY provided to complete smart metering of consumers having consumption above 500 units per month by December 2017 and others (*i.e.* consumers having consumption above 200 units and upto 500 units per month) by December 2019. While executing the MoUs (January 2016), the target dates for consumers with consumption above 500 units/month was considered as June 2018 and for others with consumption above 200 units/ month by June 2020, subject to cost benefit analysis.

The MoP, GoI allocated (June 2017) funds (₹ 68.21 crore) to the DISCOMs for installation of smart metering solutions for UDAY participating States under Integrated Power Development Scheme (IPDS) and issued (October 2017) general guidelines for the same. In accordance with the IPDS guidelines, the DISCOMs submitted (November 2017 to March 2018) DPRs for smart metering by covering 60 sub-divisions (19 Circle Offices[4]) out of total 600 sub-divisions under 33 Circle Offices[5].

Further, in pursuance of the DRC[6] meeting (August 2018), wherein it was decided that only the Jaipur DISCOM will implement the smart metring project and the other two DISCOMs will follow based on the outcome of the Jaipur DISCOM, the Jaipur DISCOM awarded (August 2018) contracts for implementation of advanced metering infrastructure (AMI)/ smart metering of 4.31 lakh consumers with completion period of one year. Subsequently, on intervention of PFC (nodal agency for IPDS) and the MoP, GoI (January 2019), the Ajmer and Jodhpur DISCOMs also awarded (July-August 2019) contracts for implementing the AMI/ smart metering of 1.91 lakh consumers and 1.02 lakh consumers respectively with completion period of two years.

4 Jaipur DISCOM (29 sub-divisions under eight Circle Offices), Ajmer DISCOM (26 sub-divisions under 10 Circle Offices) and Jodhpur DISCOM (only five sub-divisions under one Circle Office).

5 Jaipur DISCOM (209 sub-divisions under 13 Circle Offices), Ajmer DISCOM (204 sub-divisions under 12 Circle Offices) and Jodhpur DISCOM (185 sub-divisions under 11 Circle Offices).

6 Distribution Reforms Committee.

The DISCOMs-wise details of number of sub-divisions covered, award and completion of smart metering at the consumers end as of March 2022 is given in table below:

Table 3.1: DISCOMs-wise details of sub-divisions covered, award and completion of smart metering at the consumers end as of March 2022

DISCOM	Total Sub-divisions	Sub-divisions proposed for coverage	Number of consumers for which work order was issued	Number of consumers for which smart metering was done
Jaipur	209	29	4.31 lakh	3.50 lakh
Ajmer	204	26	1.91 lakh	0.68 lakh
Jodhpur	185	5	1.02 lakh	0.56 lakh

Audit observed that no efforts were made by the DISCOMs for implementation of smart metering under UDAY till allocation of funds under IPDS. Further, the criteria adopted for implementation of smart metering was not in accordance to the provisions of UDAY/MoUs as the DISCOMs selected the sub-divisions having high T&D losses and low per consumer consumption. Besides, the actual scale of the implementation was much lesser as coverage of merely 13.87 *per cent* and 12.74 *per cent* of the total sub-divisions of the Jaipur and Ajmer DISCOMs respectively were planned in DPRs. The same was negligible in the Jodhpur DISCOM (2.70 *per cent*).

Audit further observed that despite lapse of original implementation schedule, the Jaipur, Ajmer and Jodhpur DISCOMs could install 81.44 *per cent*, 35.98 *per cent* and 54.93 *per cent* respectively of the awarded quantity of smart meters till March 2022. Audit noticed that Ajmer and Jodhpur DISCOMs had 3.80 lakh and 6.80 lakh consumers respectively whose monthly consumption was above 200 units whereas Jaipur DISCOM did not have consumption-wise details of consumers. However, in the absence of consumption-wise identification of consumers in DPRs, it could not be ensured that the smart meters were installed as per provisions of UDAY.

Thus, the DISCOMs were neither cognizant to achieve the milestones set/ committed under UDAY nor ensured timely completion of contracts awarded for smart metering of consumers.

The DISCOMs stated (October 2022) that scattered installation of smart meters (only for consumers above 200 units and 500 units) instead of covering the entire revenue unit would have constraints, *viz.* no reduction in manpower deployed, disturbance in route sequencing and billing cycle, *etc.* The Government endorsed (October 2022) the reply furnished by the DISCOMs.

The reply was not convincing as the DISCOMs did not take up the smart metering as per provisions of UDAY. Further, deficient approach and inadequate efforts of DISCOMs led to insignificant implementation of smart metering till March 2022, which in turn impacted the effectiveness of UDAY.

Recommendation 9: The DISCOMs may take necessary steps to install smart meters at consumers' end on priority in accordance with the provisions of UDAY.

Consumer Indexing and GIS mapping

3.5 Consumer Indexing is a mechanism to locate the feeder or the distribution transformer by which electricity is supplied to a particular consumer. Geographic Information System (GIS) mapping is a technique of capturing, storing, checking, integrating, manipulating, analysing and displaying geo-data related to positions of the Earth's surface.

Clause 4.1 of UDAY *inter alia* provided for complete Consumer Indexing and GIS mapping of losses upto 30 September 2018 for enabling the DISCOMs to identify the loss-making areas for taking corrective action.

Consumer Indexing with GIS mapping

3.5.1 The GoI introduced (December 2008) Consumer Indexing and GIS mapping under R-APDRP[7]. Accordingly, DISCOMs initiated (September 2009) GIS survey of consumers in 188 towns of the State with the help of a private vendor (HCL Infosystems). However, due to dispute on methodology adopted for GIS survey, the private vendor discontinued the work in 2015.

Audit noticed that the Corporate Level Purchase Committee (CLPC) of three DISCOMs, considering practical difficulties in implementation and high cost of updating GIS data, decided (May 2016) to adopt Network Indexing Module (NIM[8]) instead of GIS mapping. Accordingly, Jaipur DISCOM was directed to arrange updating/changing the GIS data through an outsource agency post go-live of the system.

Audit observed that the GIS survey data of 188 towns covered in R-APDRP got outdated (March 2021) due to discontinuation of work in 2015. Further, Jaipur DISCOM ignored the directions to outsource the GIS mapping work till March 2021. Thus, the GIS mapping and Consumer Indexing as envisaged under UDAY remained unimplemented till March 2022 and the desired objectives remained unmet.

The Government stated (October 2022) that the project would be completed as per the contractual agreement. It further stated that NIM without GIS has been developed as an alternative to GIS based network indexing and consumer indexing module. Presently, this work is carried out manually, but GIS based consumer indexing shall be undertaken under Revamped Distribution Sector Scheme (RDSS).

The fact remained that even after lapse of the implementation period of UDAY in 2018-19, consumer indexing with GIS mapping as envisaged under UDAY could not be implemented till March 2022. Further, the Government reply to carry out GIS based consumer indexing under RDSS confirms that the NIM without GIS mapping developed as an alternative does not serve the purpose.

Consumer Indexing without GIS mapping

3.5.2 Considering the compulsion of Consumer Indexing, the Chairman, DISCOMs[9] directed (January-February 2019) the DISCOMs to ensure 100 *per*

7 Restructured Accelerated Power Development and Reforms Programme.

8 Under NIM, Consumer Indexing was to be done with reference to feeder concerned and distribution transformer instead of GIS mapping.

9 Chairman DISCOMs is the Chairman of all the three DISCOMs.

cent authentication/ certification of consumer indexing by 31 March 2019 as per the prescribed methodology and updating the data on monthly basis.

(a) In case of feeder-wise Consumer Indexing, Jaipur, Ajmer and Jodhpur DISCOMs could authenticate/verify feeder-wise indexing of 99.87 *per cent*, 84.77 *per cent* and 80.88 *per cent* respectively till 1 February 2022. Thus, Ajmer and Jodhpur DISCOMs could not ensure compliance of the directions of Chairman, DISCOMs.

(b) In case of DT-wise Consumer Indexing, Jaipur, Ajmer and Jodhpur DISCOMs depicted indexing of 47.10 *per cent*, 98.98 *per cent* and 98.35 *per cent* consumers respectively as on 1 February 2022. Thus, Jaipur DISCOM lagged behind significantly in achieving the DT-wise Consumer Indexing.

Audit observed that authentication/ verification of partial data of consumer indexing did not serve any purpose as in the absence of fully verified data, the DISCOMs could not generate proper and reliable energy audit reports. The discrepancies (*viz.* feeders having no consumers) in energy audit reports due to unauthenticated/unverified consumer indexing data is discussed in **para 3.5.3 below.** Besides, planning to achieve 100 *per cent* Consumer Indexing with real-time updation of the indexed data was not possible without implementing GIS mapping and arranging for automatic data capturing from each feeder/DT on real-time basis. Resultantly, the main purpose of identifying the loss areas remained unachieved.

The Government accepted (October 2022) that a real-time monitoring tool is more effective to know the present status of consumer indexing and taking corrective action accordingly. During the Exit Conference (January 2023), the Government assured to carry out GIS based Consumer Indexing under RDSS.

Lack of realistic data without implementing envisaged Consumer Indexing

3.5.3 Audit analysed AT&C losses of all the 32,175 feeders (including split/cross feeders[10]) depicted in feeder-wise energy audit reports and Circle-wise summary reports for the year ended 31 March 2021.

Audit observed that 8,179 feeders (25.42 *per cent*) depicted negative/non-numerical AT&C losses whereas 8,728 feeders (27.13 *per cent*) depicted AT&C losses of more than 50 *per cent* (including 66 feeders[11] having AT&C loss beyond 100 *per cent*). Considerable size of data depicting impossible/abnormal results indicated that the data was not properly verified/ authenticated by the field offices and thus, it was not reliable. In view of abnormality of results generated from the software, possibility of significant deficiencies in the Consumer Indexing figures/ numbers projected by the DISCOMs cannot be ruled out.

Audit also observed that DISCOMs did not take necessary steps to remove the discrepancies in data which not only vitiated the reports generated by the DISCOMs but also led to representation of incorrect data and reports. Further,

10 Refers to a feeder created out of a physical/direct feeder to arrange/manage power supply requirements of any area and subsequently discontinued on getting regular arrangement.

11 Jaipur DISCOM (nine feeders), Ajmer DISCOM (17 feeders) and Jodhpur DISCOM (40 feeders).

maintenance of unreliable/unauthenticated data did not serve any purpose as the loss areas remained untraced.

During the Exit Conference (January 2023), the Government accepted that due to incorrect indexing, there were deficiencies/ abnormalities in data. The Government also directed the DISCOMs to ensure proper data maintenance at their level.

Recommendation 10: The DISCOMs may adopt a time-bound approach to ensure implementation of GIS mapping and consumer indexing.

Upgrading/changing transformers and meters

3.6 Clause 4.1 of UDAY provided for upgrading/changing transformers and meters to reduce technical losses and minimize outages.

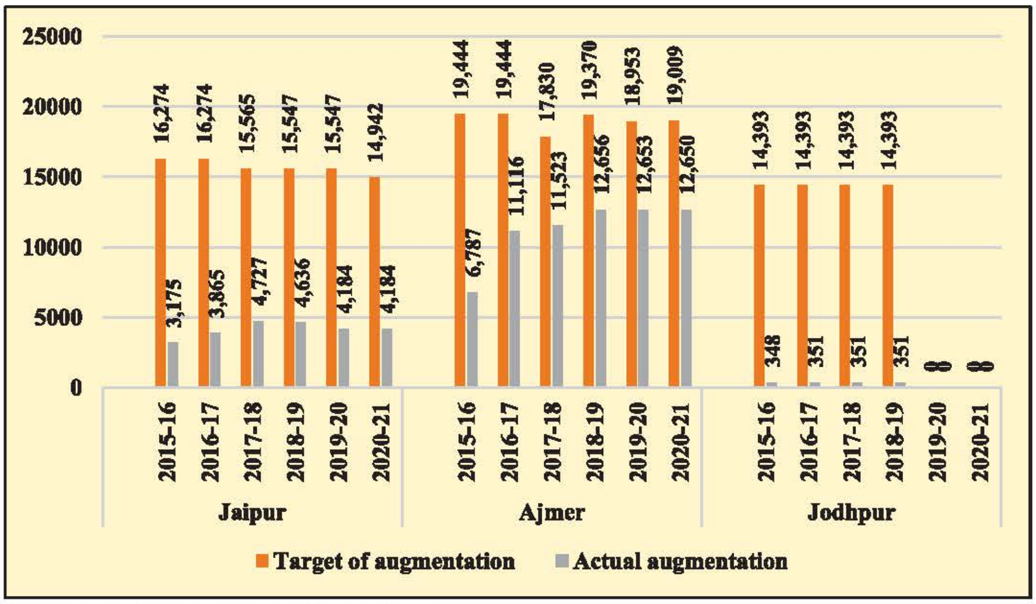
Further, considering the high failure rate of DTs and increase in losses of 11 kV rural feeders, the Chairman DISCOMs had also stressed upon (March 2014) the need to undertake a fifteen-point feeder maintenance programme, including augmentation of single-phase DTs, drawing three-phase system in villages, replacement of damaged DTs, *etc.*

Deficiencies in augmentation/upgradion of DTs and replacement of defective DTs and consumer meters are discussed hereunder:

Augmentation of Distribution Transformers (DTs)

3.6.1 The yearly targets *vis-à-vis* achievement of augmentation of single-phase DTs into three-phase DTs during 2015-16 to 2020-21 is indicated in the Chart below:

Chart No. 3.3: Targets *vis-à-vis* achievement of augmentation of single-phase DTs during 2015-16 to 2020-21



Source: MIS furnished by DISCOMs.

Audit noticed that the achievement against the targeted augmentation ranged between 19.51 *per cent* and 30.37 *per cent* in Jaipur DISCOM and 34.91 *per cent* and 66.76 *per cent* in Ajmer DISCOM between 2015-16 and 2020-21. Thus, these two DISCOMs lagged behind in achieving the targeted augmentation of single-phase DTs during 2015-21. Further, performance of Jodhpur DISCOM was significantly poorer as achievement was negligible (less than three *per cent*) *vis-à-vis* the targeted augmentation during 2015-19[12].

Audit observed that despite the sub-optimal achievement against the targeted augmentation being reported on a monthly basis, the Management did not initiate any action for improving the performance.

The Jaipur and Ajmer DISCOMs stated (October 2022) that figures of augmentation for 2019-20 and 2020-21 did not include newly installed DTs which were also part of augmentation of existing distribution systems. Further, the Jodhpur DISCOM accepted (October 2022) the facts of excluding the proforma from MIS from 2019-20 onwards and assured to include the relevant proforma in the MIS henceforth. The Government endorsed the reply.

The replies of Jaipur and Ajmer DISCOMs are not convincing as facts and figures included in the observation were based on the MIS of DISCOMs whereas the figures mentioned in reply for 2019-20 and 2020-21 were not supported with evidence. And even if, for argument's sake the DISCOMs' replies are accepted, then they would need to explain why those newly installed DTs were not being reflected in the MIS concerned. Further, static data of actual augmentation shown in respect of Jodhpur DISCOM for the years 2016-17 to 2018-19 also raised doubt on the reliability of MIS.

High failure rate of distribution transformers

3.6.2 For proper reliability, DT failure rate was required to be less than 1.5 *per cent* per annum, as indicated by the Ministry of Power (MoP).

Audit noticed that the failure rate of DTs in DISCOMs during 2015-21 ranged between 7.26 *per cent* and 11.90 *per cent*[13], as given in **Annexure-7**. Thus, the failure rate of DTs was very high. Further, share of DTs that failed beyond the guarantee period out of total DTs that failed during the period was also significant, ranging between 46.88 *per cent* and 65.22 *per cent* of the total DTs that failed during the period.

Audit observed that the high failure rate of DTs was because of overloading of DTs, improper earthing and protection, improper fuses, inadequate preventive maintenance, *etc*. However, the DISCOMs did not take suitable measures to overcome the problem of high failure rates of DTs.

The Government accepted (October 2022) the facts and stated that provision for installation of Molded Case Circuit Breaker (MCCB) has been introduced to prevent burning of transformer due to excess load. However, no reply was given with respect to other reasons for failure of DTs.

12 Jodhpur DISCOM excluded the relevant proforma from MIS from 2019-20 onwards.

13 Jaipur DISCOM (between 9.14 *per cent* and 11.90 *per cent*), Ajmer DISCOM (between 7.96 *per cent* and 10.91 *per cent*) and Jodhpur DISCOM (between 7.26 *per cent* and 9.53 *per cent*).

Replacement/deposition of defective/burnt Distribution Transformers

3.6.3 As per procedure for replacement of burnt/defective DT approved (December 2009) by the Coordination Committee[14], the sub-divisions were to replace the DT within 72 hours and deposit the failed DT with the Assistant Controller of Stores (ACOS) concerned within 7 to 14 days.

Audit noticed that during 2015-21, the Jaipur, Ajmer and Jodhpur DISCOMs replaced 4,09,920 DTs, 3,11,523 DTs and 2,47,750 DTs respectively as given in **Annexure-8.** Of these, the three DISCOMs replaced 6,448 DTs, 597 DTs and 90 DTs respectively beyond the laid down period of 72 hours. Out of the failed DTs, 11,387 DTs were pending for replacement. Besides, the balance of DTs with the Jaipur, Ajmer and Jodhpur DISCOMs that had failed but were pending for deposit with respective ACOS ranged between 94 days and 137 days, 10 days and 73 days, and 11 days and 74 days respectively. Audit also observed that the pendency in deposit of failed DTs in Jaipur DISCOM was significantly high.

The Government accepted (October 2022) the facts and stated that ERP modules were being implemented for better analysis of overall functionality of stores. Also, CCTV cameras were being installed at ACOS for better monitoring of activities.

Non-replacement of defective consumer meters

3.6.4 The Terms and Conditions for supply of electricity (TCOS) of DISCOMs provided for replacement of stopped/defective meters within 24 hours in urban areas and within 72 hours in rural areas. Further, in case of non-replacement of a stopped/ defective meter within a period of two months (60 days), a rebate of five *per cent* on the total bill of the consumer (excluding electricity duty) shall be allowed.

The DISCOM-wise periodicity of defective consumer meters pending for replacement (including defective agriculture meters) as on 31 March 2021 is given in the table below:

Table 3.2: Breakup of defective consumer meters pending for replacement

DISCOM	Total metered consumers (in lakh)	Upto 3 months	3 to 6 months	6 to 12 months	More than 12 months	Total defective meters	% of defective meters
		(Figures in number)					
Jaipur	45.41	47805	45855	49762	81704	225126	4.96
Ajmer	48.40	98137	42144	27516	67227	235024	4.86
Jodhpur	43.31	76201	64008	49239	147212	336660	7.77

Source: Information provided by DISCOMs

Audit observed that the DISCOMs had failed in adhering to the norms laid down under TCOS and a major part of these defective consumer meters was pending for replacement for more than 12 months. Due to non-replacement of defective meters within the prescribed time-frame, the DISCOMs had to allow for ₹ 56.35 crore[15] towards rebate on defective meters during 2016-21 and continued

14 A committee of State Power Sector Companies (representatives of the State DISCOMs) for coordination and uniformity in power sector activities.

15 Jaipur DISCOM (₹ 22.30 crore), Ajmer DISCOM (₹ 13.34 crore) and Jodhpur DISCOM (₹ 20.71 crore).

to bill their consumption on average basis. The loss of revenue that resulted from average billing however could not be worked out by Audit due to non-availability of actual consumption data.

The Government accepted (October 2022) the audit observation.

Recommendation 11: The DISCOMs may take measures to control the high failure rate of DTs and ensure replacement of defective DTs/ consumer meters in time.

Feeder Monitoring System

Automation of feeder metering data/readings

3.7 As per the MoUs, the DISCOMs were to undertake energy audit upto 11 kV level in rural areas by September 2016. Further, the MoP, GoI decided (March 2016) to provide communicable meters on 11 kV rural feeders and appointed (March 2016) REC Limited (REC) as the nodal agency for implementing the task and preparing the DPR for capturing real-time data of 11 kV rural feeders. The REC, therefore, sought (March 2016) details relating to feeder metering and remote communication availability thereon. Subsequently, the REC time and again sought (September to December 2016) confirmation from DISCOMs regarding their willingness on participation in the scheme to avoid duplicity of efforts.

(a) The Ajmer and Jodhpur DISCOMs opted (May 2017) to execute the work through REC under MoP, GoI scheme. The REC Transmission Projects Company Limited (a subsidiary of REC and the implementing agency) placed work order (July 2017) for implementation of 11 kV Rural Feeder Monitoring Scheme. The work order envisaged installation of modems on 8,000 feeders and 8,315 feeders of the Ajmer and Jodhpur DISCOMs respectively. Communication system in urban feeders were installed by both DISCOMs also.

Audit noticed that 1,452 feeders and 2,409 feeders of the Ajmer and Jodhpur DISCOMs respectively did not have communication system till 2020-21 as given in **Annexure-9**. Further, the number of feeders having defunct modems in the Ajmer and Jodhpur DISCOMs increased significantly from 878 to 1,690 feeders and 2,939 to 4,244 feeders respectively during 2018-21. In the absence of automatic/technological communication, the data from 34.53 *per cent* feeders of the Ajmer DISCOM and 59.14 *per cent* feeders of the Jodhpur DISCOM were being collected and fed in the system manually (March 2021). Subsequently, due to dispute between REC Transmission Projects Company Limited and the vendor, the vendor stopped operating the communication system in both the DISCOMs from July 2021. The dispute remained unresolved till March 2022.

Thus, in the absence of 100 *per cent* automation of feeder information monitoring system, manual interference and inaccuracies in the system still exist. Further, the purpose of real-time monitoring of the system remained unachieved till December 2022.

During the Exit Conference (January 2023), the Government accepted the facts and stated that the matter would be taken up with REC as action against the contractor can be initiated at the level of REC only.

(b) The Jaipur DISCOM, instead of opting for implementation through REC, awarded (March 2017 and February 2019) two build, own, operate and transfer (BOOT) contracts for feeder meter information system at 5,000 feeders and 2,500 feeders respectively for a period of five years on monthly payment of ₹ 275 per feeder. Audit noticed that the Chairman DISCOM, while granting his approval, directed (March 2017) the Jaipur DISCOM for communicating to REC regarding integration of the Jaipur DISCOM's proposed system with its feeder monitoring system and considering for financial assistance accordingly.

Audit observed that the Jaipur DISCOM did not adhere to the directions for integrating the systems with REC's system. Resultantly, the Jaipur DISCOM missed the opportunity to get financial assistance towards the expenditure of ₹ 5.05 crore incurred on implementing the system. Since the expenditure is of recurring nature, the actual opportunity loss will be much higher. Further, number of feeders without modem and number of feeders having defunct modems in the DISCOM increased significantly from 813 to 1,727 and 756 to 1,564 respectively during 2018-21, as given in **Annexure-9**. In the absence of automatic/ technological communication, the data from 35.70 *per cent* feeders of the DISCOM was being collected and fed in the system manually (March 2021).

Audit also observed that Jaipur DISCOM compromised with the quality of modems supplied by the vendor as it waived off (July 2017) verification/ inspection and testing of the modems despite having no Indian Standard Code for modem. Further, several deficiencies, *viz.* non-availability of feeders (no load feeders), allocation of duplicate numbers to feeders, non-replacement of burnt/defective meters, non-replacement of CTPT sets, non-communication of meter ports/compatibility issues of already installed meters, *etc.* were also noticed on the part of the Jaipur DISCOM in implementation of feeder meter information system. Further, the deficiencies on the part of the vendor involved lack of network connectivity, poor quality of cables used in modems, not updating multiplying factor of feeder meters and real-time clock, *etc.*

Thus, in the absence of 100 *per cent* automation of feeder information monitoring system, manual interference/ inaccuracies in the system still existed. Further, the purpose of real-time monitoring of the system remained unachieved.

The Jaipur DISCOM stated (October 2022) that to avoid complications of separate system for rural and urban feeders, it floated only one tender to fulfil its requirement. The DISCOM further stated that several constraints, *viz.* non-availability of network in remote areas, time-consuming process for replacement/ repair of CTPT/ meter/ modem, defects in due to extreme weather conditions, *etc.* The Government endorsed (October 2022) the reply given by the DISCOMs.

The reply did not address the audit observation and was silent on the issue of not adhering to the directions of Chairman DISCOM. Further, the DISCOM did not chalk out any action plan to resolve the constraints.

Recommendation 12: The DISCOMs may take steps for 100 *per cent* automation of feeder monitoring system to ensure real time monitoring of distribution system.

Other initiatives for improving Operational Efficiency of DISCOMs

3.8 UDAY also envisaged certain other initiatives for improving operational efficiency of DISCOMs. Deficiencies/shortcomings in the implementation of these other initiatives are discussed in subsequent paragraphs.

Implementation of Enterprises Resource Planning

3.9 Clause 1.3 g (xi) of the MoUs provided for the implementation of Enterprise Resource Planning (ERP) system by March 2018 for better and effective inventory management, accounts management, *etc.*

Audit noticed that the DISCOMs awarded (between May 2018 and June 2019) ERP work to RajComp Info Services Limited (RISL) at a total cost of ₹ 4.03 crore[16] with scheduled completion period of 12 months for development of four modules for the DISCOMs in an integrated manner.

Audit observed that RISL could not develop all the modules as only nine to 21 sub-modules[17] (out of total 39 sub-modules) under the four main modules were functional as on 31 March 2021 whereas the remaining sub-modules were in testing stage.

Thus, due to delay in implementation of ERP, the DISCOMs could not get the benefits of an integrated, centralised and unified database, improved information sharing and harmonization of process, improvement in transaction efficiency, reduction in work duplication and instantaneous MIS report generation capabilities, *etc.*

The Government accepted (October 2022) the delay and stated that the DISCOMs had decided (15 June 2022) to foreclose the ERP project on 31 July 2022 and penal provision for short closure of these modules/ sub-modules are being explored.

Demand Side Management

3.10 UDAY, as well as the MoUs executed thereunder, envisaged Demand Side Management (DSM) as per which the DISCOMs were to undertake measures for providing LED bulbs, agricultural pumps, fans/air-conditioners and efficient industrial equipment through Perform, Achieve and Trade (PAT)[18].

16 Jaipur DISCOM: ₹ 1.52 crore, Ajmer DISCOM: ₹ 1.27 crore and Jodhpur DISCOM: ₹ 1.24 crore.

17 Jaipur DISCOM: 9 sub-modules, Ajmer DISCOM: 21 sub-modules and Jodhpur DISCOM: 12 sub-modules.

18 PAT, an initiative under the Energy Conservation Act, is a market-assisted compliance mechanism, designed to accelerate cost-effective improvement in energy efficiency in large energy-intensive industries, through certification of energy savings that can be traded.

Replacement of agriculture pump sets

3.10.1 The MoUs envisaged replacement of at least 10 *per cent* of existing agriculture pumps with energy efficient agriculture pump sets by March 2019 with an aim to reduce the energy consumption between 25 *per cent* and 30 *per cent*.

The Jaipur DISCOM decided (July 2016) to undertake replacement of ordinary agriculture pumps with energy efficient pumps at one feeder[19] on pilot basis and awarded the work to Energy Efficiency Services Limited (EESL) for replacement of 50 agriculture pumps. The EESL was also required to inform the actual energy saved on these pumps so that further action to roll-out this project might be taken accordingly.

Audit noticed that the EESL replaced 28 agriculture pumps with energy-efficient agriculture pumps and accordingly intimated (October 2016) 31.70 *per cent* savings in energy. Thereafter, a proposal for replacement of 31,200 agriculture pumps in three[20] selected districts, with estimated total cost of ₹ 145 crore, was sent (May 2017) to the Finance Department, GoR to provide subsidy as it would reduce the subsidy burden (₹ 276 crore) of GoR on agriculture connections in five years. Audit observed that the Finance Department, GoR declined to provide the grant in its entirety, but agreed to finance the project cost upto the limit of saving in subsidy during implementation period. The DISCOMs, however, subsequently (August 2018) dropped the proposed project as they were not in a position to finance it.

Audit observed that the DISCOMs did not chalk out another plan to implement the commitment of replacement of agriculture pump sets despite the fact that the Finance Department, GoR agreed to provide funds to the extent of savings in subsidy on agriculture connections.

Thus, inaction on the part of the DISCOMs to implement the Action Plan and inability to get advantage of the funding committed by the GoR not only hampered the energy saving under DSM but also violated the provisions of UDAY.

The Government/DISCOMs accepted the audit observation.

Non-achievement of target under Perform, Achieve and Trade (PAT)

3.10.2 As per Section 14A of the Energy Conservation Act 2001, the GoI may issue the energy savings certificate (ESC) to the designated consumer whose energy consumption is less than the prescribed norms and standards. Rule 13 (b) of the Energy Conservation Rules 2012 further provided that where the measures for achieving compliance with the energy consumption norms and standards are found inadequate, the designated consumer shall purchase the Energy Savings Certificates (ESCs) equivalent in full satisfaction of the shortfall in the energy consumption norms and standards worked out in terms of metric ton of oil equivalent. Further with a view to incentivize energy efficiency, Bureau of Energy Efficiency under the MoP, GoI launched (July 2012) Perform, Achieve and Trade (PAT) scheme. The GoI included

19 Tejaji feeder of Chomu Sub-division.

20 Jhalawar (Jaipur DISCOM), Pali (Jodhpur DISCOM) and Chittorgarh (Ajmer DISCOM).

(December 2015) the DISCOMs as designated consumers (DCs) under PAT and also notified (December 2020) the value of per metric ton of oil as ₹ 18,402 under Energy Conservation Rules 2012.

The excess energy savings are converted into tradable instruments called ESCs that are traded at the Power Exchanges which provide the trading platform where the DCs who fall short of their compliance, bid for purchase of ESCs.

The GoI set (March 2016) energy consumption norms and standards (as T&D loss[21]) for the Rajasthan DISCOMs for 2018-19 (target year) which were revised to 15 *per cent* in October 2018. Audit noticed that none of the DISCOMs could achieve the targeted reduction in T&D loss as actual T&D loss in 2018-19 remained 20.54 *per cent*, 18.03 *per cent* and 23.12 *per cent* in Jaipur, Ajmer and Jodhpur DISCOMs respectively. It was mandatory for the DISCOMs to purchase ESCs to fully satisfy the shortfall in energy conservation norms and standards. Accordingly, the DISCOMs were liable to purchase 3,11,462 ESC valued at ₹ 573.15 crore[22] as the value of one ESC was to be equivalent to one metric ton of oil.

Audit observed that in the trading held in October-November 2021, the ESCs were traded at ₹ 250, however, the DISCOMs lost the opportunity to purchase ESCs at this rate. Audit further observed that the DISCOMs belatedly entrusted (December 2021) the work of purchase of ESCs to Rajasthan Urja Vikas Nigam Limited. However, ESCs were not purchased till March 2022.

Subsequently, the MoP, GoI specified (August 2022) the floor price for trading of ESCs at ten *per cent* of the price of one metric tonne of oil equivalent of energy consumed *i.e.* ₹ 1,840.

Thus, the inaction on the part of the DISCOMs may lead to liability of atleast ₹ 57.30 crore on account of purchasing ESCs priced conservatively at the minimum floor price fixed.

The DISCOMs not only failed to achieve the targeted reduction in T&D loss but also could not ensure compliance with provisions of the Energy Conservation Act. Moreover, failure in reduction of T&D loss may lead to liability of atleast ₹ 57.30 crore on account of purchase of ESCs.

The Government, while accepting the facts (October 2022), assured to comply with the provisions of the Energy Conservation Act.

Vigilance Checking

3.11 The Action Plan of UDAY envisages carrying out of vigilance drives and constitution of Vigilance Monitoring Committees by the DISCOMs/ GoR. The shortcomings/deficiencies in this regard are discussed hereunder.

21 Jaipur DISCOM-28.12 *per cent*, Ajmer DISCOM-24.53 *per cent* and Jodhpur DISCOM-22.80 *per cent*.

22 Jaipur DISCOM: ₹ 220.56 crore (1,19,854 ESCs*₹ 18,402), Ajmer DISCOM: ₹ 83.67crore (45,470 ESCs*₹ 18,402) and Jodhpur DISCOM: ₹ 268.92crore (1,46,138 ESCs*₹ 18,402).

Vigilance Drives

3.11.1 As per Action Plan of UDAY, the DISCOMs were required to carry out vigilance drives in each sub-division by deputing a team to check and curb the theft of electricity for reducing the commercial losses.

Audit noticed that the Ajmer and Jodhpur DISCOMs did not take any action to implement the vigilance drives as envisaged in the Action Plan. However, the Jaipur DISCOM initiated the action, though belatedly, in April 2019. Audit also noticed that the total number of vigilance checking conducted by the DISCOMs reduced significantly (exceptionally low in 2018-19 due to the State Assembly elections) from 2015 onwards to 2021, as given in **Annexure-10**. Audit observed that the DISCOMs, instead of enhancing the vigilance drive through the Vigilance Wing and O&M Circles, as envisaged in the UDAY Action Plan, actually reduced the vigilance checking and thus could not ensure reduction in AT&C losses as per the approved loss trajectory.

Further, details of dues assessed and realised against the theft cases detected in vigilance checks during 2015-21 is given as under:

Table 3.3: Status of dues assessed and realised against the theft cases detected in vigilance checks during 2015-21

(₹ in crore)

DISCOM	Number of theft cases detected	Dues assessed	Dues realised against assessment		Dues not realised against assessment	
			Amount	Percent	Amount	Percent
Jaipur	434820	929.25	469.27	50.49	459.98	49.51
Ajmer	358464	790.09	427.86	54.15	362.23	45.85
Jodhpur	145557	481.44	217.45	45.17	263.99	54.83
Total	**938841**	**2200.78**	**1114.58**	**50.64**	**1086.20**	**49.36**

Audit also observed that against 9.39 lakh theft cases detected during vigilance checks, the DISCOMs assessed dues of ₹ 2200.78 crore during 2015-21. However, only an amount of ₹ 1,114.58 crore was realized, representing only 50.49 *per cent*, 54.15 *per cent* and 45.17 *per cent* in the Jaipur, Ajmer and Jodhpur DISCOMs respectively. The performance of the Jodhpur DISCOM in comparison to the other two DISCOMs was extremely poor in all the fields, *viz.* vigilance checking, detection of thefts and realisation of assessed amount, which led to continuous increase in AT&C losses from 2018-19 onwards as detailed in **Para 5.3**. Further, increase in AT&C losses as compared to Pre-UDAY period depicted complete failure of the Jodhpur DISCOM in getting benefit out of the scheme.

The Government/DISCOMs accepted (October 2022) the audit observation. However, the reply was silent on the issue of declining trend in vigilance checking.

Constitution of Vigilance Monitoring Committees

3.11.2 Based on the vigilance drives initiated under the Action Plan of UDAY, each Circle was required to identify the two worst-performing sub-divisions in terms of AT&C losses and two worst-affected patches in each sub-division. Further, these identified patches were to be checked by external teams with the support of District Level Vigilance Drive Monitoring Committee (DLVDMC).

The implementation and outcome of these drives were to be monitored by the State Level Vigilance Drive Monitoring Committee (SLVDMC).

Audit noticed that the DLVDMC and the SLVDMC were not constituted till March 2022 for the monitoring of vigilance drives. A State Level Committee comprising of three members[23] was, however, constituted belatedly in February 2021.

The Government/DISCOMs accepted (October 2022) the audit observation.

Recommendation 13: The DISCOMs, especially Jodhpur DISCOM, may enhance the vigilance checking to curb the electricity thefts and to reduce the losses within the targeted limits.

Lack of Information, Education and Communication Campaign

3.12 UDAY envisaged conducting comprehensive Information, Education and Communication (IEC) campaign jointly with the State to check power theft through enhanced public awareness program upto December 2016. The MoP, GoI also issued (May 2016) directives to include IEC interventions in the State Action Plan document of UDAY and to take IEC campaign to control power theft from time to time.

Audit, however, observed that the DISCOMs did not comply with the directives issued by the GoI and thereby did not include the IEC interventions in the State Action Plan. Besides, any action to conduct comprehensive IEC campaign through public participation was not found on the records of the DISCOMs.

The Government stated (October 2022) that the DISCOMs had organized awareness programs/ campaigns from time to time to prevent electricity related accidents and misuse of electricity.

The reply was silent on the issue of not including the IEC interventions in the State Action Plan. Further, the DISCOMs did not furnish any evidence regarding organizing awareness programs/campaigns.

23 Energy Minister as Chairman and Industries Minister and State Minister (Independent Charge) of Education as Members.

Chapter-IV

Optimisation of cost of power purchase

CHAPTER-IV

Optimisation of cost of power purchase

Summary

UDAY envisaged reduction of the cost of power generation by improving efficiency of the State Generating units.

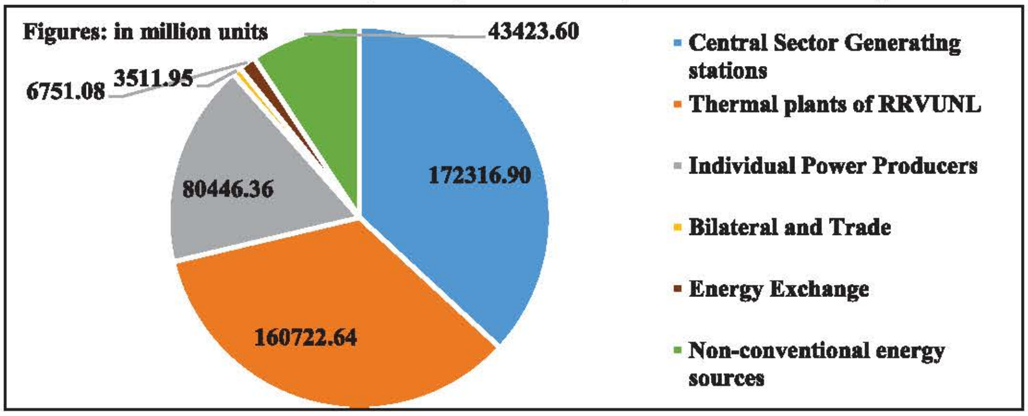
We noticed that the performance of power plants of Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL) was not satisfactory as the Station Heat Rate (SHR) was in excess of the determined norms whereas the Plant Load Factor (PLF) remained low during 2015-21.

Rajasthan Urja Vikas Nigam Limited (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.

Sources of power purchase

4.1 The DISCOMs purchase power from the Central Sector generating stations, State-owned thermal power plants of Rajasthan Rajya Vidyut Utpadan Nigam Limited (RRVUNL), Non-Conventional Energy Sources (NCES) and Individual Power Producers (IPPs) through long-term Power Purchase Agreements (PPAs). Besides, the DISCOMs purchase power through Captive Power Producers (CPPs), bilateral and trade deals, and energy exchange on short-term basis. Source-wise break-up of power purchased by the DISCOMs during 2015-21 (as shown in the chart below) indicated that 98 *per cent* of the power was purchased by the DISCOMs under long-term PPAs.

Chart No. 4.1: Sources of power purchased by DISCOMs during 2015-21



Source: Information provided by DISCOMs/RUVNL.

Steps to reduce/optimise the power cost

4.2 As per Clause 5.3 of UDAY and the Action Plan annexed with the MoUs, the States/ DISCOMs/ RRVUNL/ Rajasthan Urja Vikas Nigam Limited (RUVNL) were required to take the following steps to reduce the cost of power and power purchase cost optimisation:

i. Prospective power purchase through transparent competitive bidding by DISCOMs;
ii. Improving efficiency of State Generating units;
iii. Power purchase cost optimization through power purchase management;
iv. Purchase of short-term power; and
v. Strict enforcement of merit order.

The shortcomings noticed in reduction of cost of power and power purchase cost optimization are discussed hereunder.

Cost of purchase of power and efficiency of State Generating Units

4.3 Audit noticed that per unit purchase cost from RRVUNL (total share 34.40 *per cent* during 2015-21[1]) was costlier as compared to those from other sources, except NCES, during 2015-16 to 2020-21, as given in **Annexure-11**.

The per unit generating cost of all the four thermal power generating stations of RRVUNL is depicted in **Annexure-12**.

As can be seen from the **Annexure-12**, the Station Heat Rate (SHR) of all the four thermal power generating stations[2], except at KSTPS in 2016-17, 2019-20 and 2020-21, and SSTPS during 2016-19, was always in excess of the norms fixed by RERC. The SHR in excess of the norms caused excess consumption of coal in these thermal stations and correspondingly the cost of generation was higher. Besides, the Plant Load Factor (PLF) of all the four generating stations except CTPP in FY 2018-19 was less than the targeted PLF during 2015-21. The low PLF indicated that the plants were not utilised to their optimal capacity and thus the per unit cost of power generated was increased. Audit also observed that due to non-achievement of the targeted PLF during 2015-21, all the power plants of RRVUNL were deprived from getting any incentive (except incentive of ₹ 4.82 crore to CTPP under the true-up order of 2018-19) prescribed under RERC (Terms and Conditions for Determination of Tariff) Regulations 2014 and 2019 (Regulations 2014/2019).

The Government stated (October 2022) that power from RRVUNL and Central Sector is scheduled in accordance with the merit order dispatch (MOD[3]). It further stated that the fixed charges are to be paid in case if plants are available but not scheduled in MOD.

1 Power purchased from all the power plants of RRVUNL during 2015-21/Total power purchase by DISCOMs during 2015-21*100.

2 Kota Super Thermal Power Station (KSTPS), Suratgarh Super Thermal Power Station (SSTPS), Chhabra Thermal Power Plant (CTPP) and Kalisindh Thermal Power Plant (KTPP).

3 MOD is the order in which plants are ranked based on their variable charges.

Further, the PLF was low due to non-scheduling of power by the State Load Dispatch Center (SLDC).

The reply was not convincing as generation schedule for plants is decided by SLDC on the basis of variable charges. However, RRVUNL could not ensure operational efficiency to control the variable charges. Further, it was silent in respect of high SHR.

Recommendation 14: RRVUNL may take suitable steps for the improvement in performance of its power plants with respect to keeping SHR within norms and enhancing PLF.

Power Purchase Management

Incorporation of new utility for power purchase management

4.4 For improvement of efficiency, and streamlining of all the processes related to power purchase (including PPA management), power trading, increasing the focus on power purchase efficiency, better institutional arrangement through long-term staffing arrangement and enabling hiring of experts, the Government of Rajasthan incorporated (December 2015) a new company-Rajasthan Urja Vikas Nigam Limited (RUVNL). Previously, the DISCOMs carried out the power purchase activity through a common cell called Rajasthan DISCOMs Power Procurement Centre.

Audit noticed that RUVNL filed an application (March 2017) to obtain a trading license as per provision of CERC Regulation 2009. Subsequently, the GoR amended (July 2019) the Rajasthan Power Sector Reforms Transfer Scheme, 2000 enabling RUVNL to transact business of bulk power purchase and sale without the necessity of trading license. The GoR also directed (August 2019) the DISCOMs to transfer PPAs/Transmission Service Agreements (TSAs) to RUVNL and intimate power generators/ transmission service providers to raise bills in the name of RUVNL from October 2019 onwards. RUVNL approved (August 2019) the Action Plan for taking over functions related to power procurement in its name as a deemed licensee[4].

As per the approved Action Plan, the DISCOMs were to transfer fund to RUVNL on daily basis through escrow management, based on certain percentage of their daily remittances, to cover the current liability of power generators. Audit, however, noticed that the GoR deferred (October 2019 and January 2020) implementation of the Action Plan upto March 2020 as the DISCOMs were not able to provide escrow to RUVNL on daily remittance because of substantial gap in their cash flow and inability in meeting the critical payment liabilities as debt service on due date.

Audit observed that RUVNL was made operational without foreseeing the operational modalities of fund flow to the company. Further, RUVNL was not operationalised in true spirit and all the transactions of power purchases were

4 Being engaged in the business of supply of electricity under the Rajasthan Power Sector Reforms Transfer Scheme, 2000 (as per Section 14 of the Electricity Act 2003).

carried out in the name of DISCOMs till March 2021 as the Action Plan was deferred. Besides, the administrative expenses of ₹ 101.42 crore was recovered by RUVNL from the DISCOMs which also attracted the liability of service tax (up to June 2017) and Goods and Service Tax (from July 2017 onwards) to the tune of ₹ 12.51 crore during 2016-22.

Thus, the very purpose of incorporating RUVNL to streamline and bring together all the processes related to power purchases, including PPA management, power trading and focus on power purchase efficiencies, was defeated.

The DISCOMs accepted (October 2022) the facts and stated that GST would not be charged on sale of electricity as and when RUVNL would start working in its name as an independent power trading company. The Government endorsed (October 2022) the reply furnished by the DISCOMs.

Recommendation 15: RUVNL may take suitable steps to achieve the objectives of its incorporation.

Disallowance of expenditure by RERC

4.5 The RERC finalised (February 2015) trajectory for reduction of distribution losses for the period 2015-19. Further, RERC revised (November 2017) the trajectory for distribution losses for the period 2016-19 in compliance with the losses committed by the DISCOMs under UDAY/MoUs (as depicted in **Para 5.3.1**). .

Audit observed that RERC disallowed expenditure of the DISCOMs worth ₹ 11,980.98 crore[5] for 2015-21 towards excess purchase of power due to increase in distribution loss over the target given by RERC. RERC, while disallowing the expenditure, stated that despite making substantial investment under various loss reduction schemes, the DISCOMs could not reduce the losses as per the loss reduction trajectory approved/ revised under UDAY. Further, the DISCOMs could not ensure requisite improvement in metering, billing & collection activities, *etc.* and therefore, consumers should not be burdened on account of non-achievement of targets by DISCOMs despite being allowed requisite investment. Accordingly, RERC allowed energy requirement based on targeted losses approved by it instead of actual losses incurred by the DISCOMs. Thus, non-improvement in operational efficiency and non-reduction of losses as per trajectory decided by RERC/UDAY adversely impacted DISCOMs' financial turnaround.

The Government accepted (October 2022) the facts and stated that the DISCOMs were trying their best to achieve the loss targets as specified by the RERC and several measures and schemes have been initiated in this regard.

5 Jaipur DISCOM: ₹ 5918.47 crore, Ajmer DISCOM: ₹ 2172.67 crore and Jodhpur DISCOM: ₹ 3889.84 crore.

Fuel Surcharge

4.6 Clause 88 of RERC's Regulation (Terms and Conditions for Determination of Tariff) 2014/2019 specified a formula for computing the Fuel Surcharge (FS) chargeable by DISCOMs from their consumers for any quarter. Further, the total fuel surcharge recoverable, as per the specified formula, is to be recovered from the actual sales and in case of un-metered consumers, it is to be recoverable based on estimated sales to such consumers.

Review of records for the period 2015-21 related to computation and charging of fuel surcharge disclosed that:

- In seven to ten quarters[6], the DISCOMs issued orders for charging the fuel surcharge with a delay ranging between 4 and 226 days;
- The fuel surcharge was to be recovered on the consumption of previous quarter. Ajmer DISCOM, however, recovered fuel surcharge for quarter I and IV of 2016-17 on the basis of current quarters consumption, instead of previous quarters and thus recovered excess amount of ₹ 2.31 crore from the consumers as detailed below:

Table 4.1: Details of excess amount recovered from consumer

Year (Quarter)	FS rate	Order date	Previous quarter consumption	Current quarter consumption	Difference	Excess recovery
2016-17	₹ per unit		(MU)	(MU)	(MU)	(₹ in crore)
I	0.01	17 November 2016	3406.95	3434.34	27.39	0.03
IV	0.11	25 October 2017	3403.87	3611.87	208.00	2.28
Total						**2.31**

Source: Records of Ajmer DISCOM

The Government, while accepting the facts (October 2022) stated that the DISCOMs tried their best to issue orders in time. However, the time taken in collection, vetting and verification of data for removing anomalies in data led to delay in issue of orders.

The fact however remained that the delay in issue of orders caused delay in recovery of fuel surcharge.

Renewable Purchase Obligations

4.7 As per Clause 9 of UDAY, the DISCOMs were required to comply with the Renewable Purchase Obligations (RPO[7]) outstanding since 1 April 2012, within a period to be decided in consultation with the MoP, GoI.

The regulatory framework for RPO is described below:

Regulation	Clause	Provisions
RERC (RPO) Regulation 2007	**4**	**Minimum (4.88 *per cent*) purchase obligation of Renewable Energy (RE) for 2007-08 and further increased to 9.50 *per cent* for the year 2011-12.**

6 Jaipur DISCOM: 10 quarters, Ajmer DISCOM: 9 quarters and Jodhpur DISCOM: 7 quarters.

7 RPO mandates that all DISCOMs should purchase or produce a minimum specified quantity of their requirements from Renewable Energy Sources.

	5	**Any shortfall to meet the RE obligation shall be subject to RE surcharge to be paid by DISCOMs @ ₹ 3.59/ kWH for 2007-08 and to be continued until revised.**
RERC (Renewable Energy Certificate and Renewable Purchase Obligation Compliance Framework) Regulations, 2010	**4(a)**	**Obligated Entity shall procure electricity generated from renewable energy sources as per obligation.**
	9	**If the obligated entity does not fulfil the specified RPO, the Commission may direct the obligated entity to deposit into a separate fund an RPO charge determined by it on the basis of the shortfall in units of RPO and forbearance price[8] decided by the Central Commission**
	9 modified	**The obligated entities in default shall pay, by 30th November of the Assessment Year, the RPO charges assessed equivalent to the product of shortfall and forbearance price of solar or non-solar REC, as applicable on 31st March of the relevant Financial Year,**

Audit noticed that the DISCOMs could not achieve the targets of purchase of renewable energy, except in case of solar energy during 2019-20, during 2011-21 as given in **Annexure-13**. The overall shortfall of 13,105.02 MUs was required to be met either through purchase of RPO worth ₹ 1,310.50 crore or deposit the amount at the current forbearance price in separate account as per Regulation.

The RERC directed (November 2017) the DISCOMs to make up the shortfall in the next five years by buying renewable energy through reverse bidding[9]. Audit observed that the DISCOMs did not initiate any action on the order passed by RERC. The RERC again directed (October 2020) the DISCOMs to make up the shortfall in the next three years. However, again no action was found on the records of the DISCOMs regarding to purchase of RPO or depositing of the designated amount at the current forbearance price in separate account as per Regulation.

Thus, the DISCOMs did not adhere to the provision of UDAY as regards to outstanding RPO.

The Government accepted (October 2022) the facts and stated that on behalf of the DISCOMs, the RUVNL had filed a petition before RERC to waive off the shortfall of RPO. The RERC in its order (December 2021) has directed to meet the RPO backlog accumulated till date along with future RPO targets upto 2023-24. The RUVNL/DISCOMs had signed a Power Sale Agreement with Solar Energy Corporation of India Limited for purchasing requisite quantity of renewable energy to achieve the RPO targets.

8 ₹ 1000/MWh for solar and non-solar REC from July 2020

9 A reverse bidding is a method in which sellers bids for the prices at which they are willing to sell their goods and services.

Chapter-V
Outcome of UDAY

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:

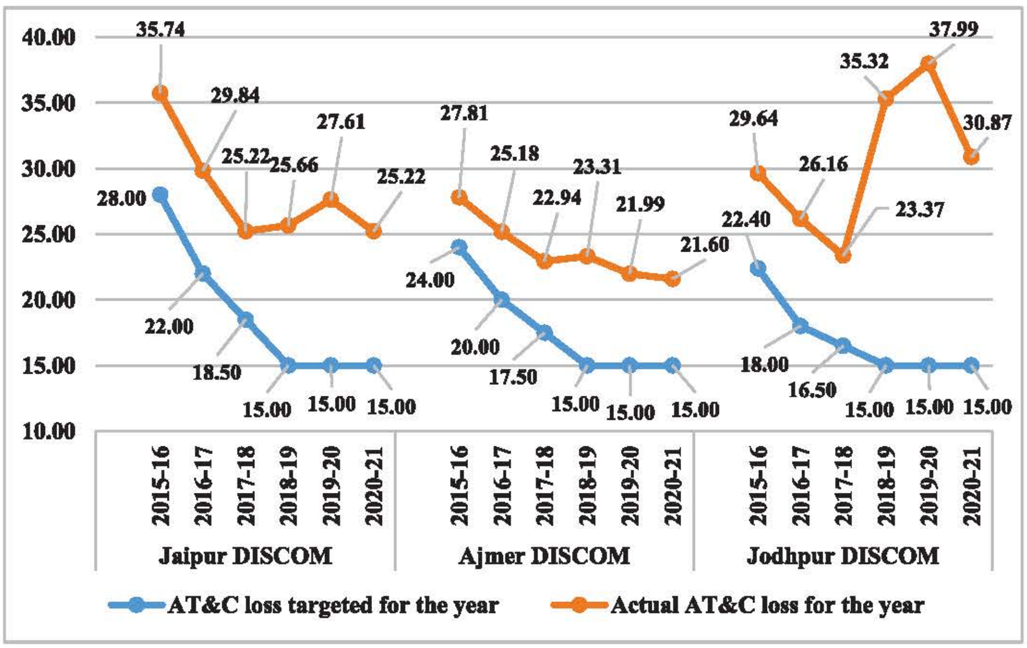
- Reduction of AT&C loss to 15 *per cent* in 2018-19 as per the loss reduction trajectory; and
- Reduction in gap between Average Cost of Supply (ACS) and Average Revenue Realised (ARR) to zero by 2018-19.

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.

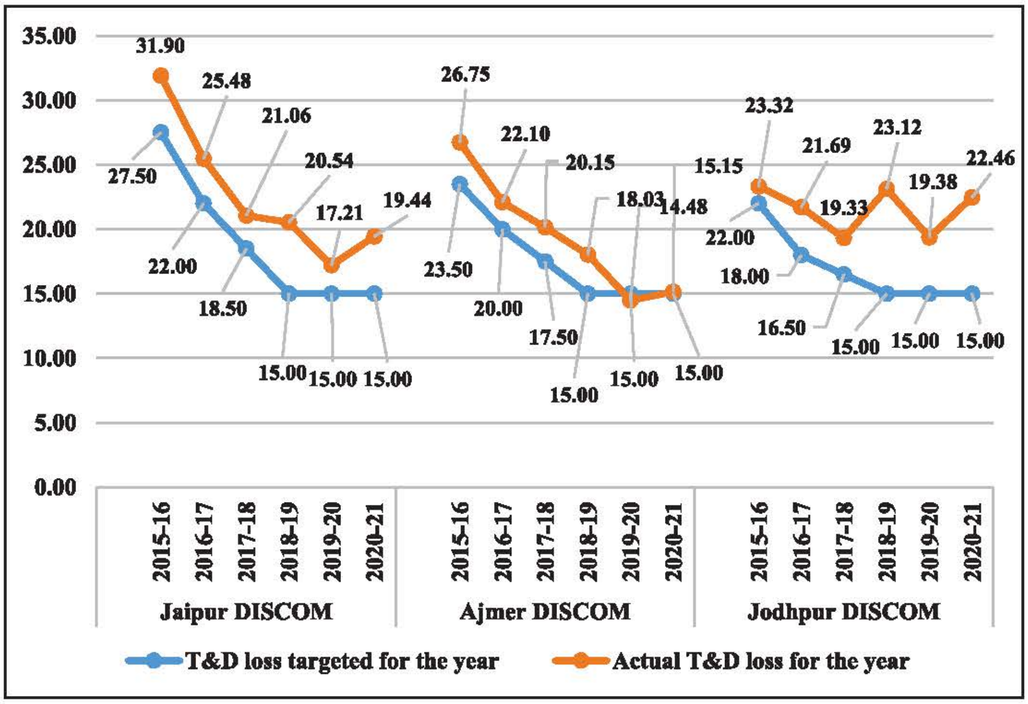
Audit noticed that Jaipur DISCOM and Ajmer DISCOM, despite reducing their AT&C losses significantly during 2015-16 to 2020-21, lagged behind in the targeted reduction in AT&C loss. Contrarily, the position of Jodhpur DISCOM deteriorated after a marginal decline in AT&C losses during 2016-18, and the 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



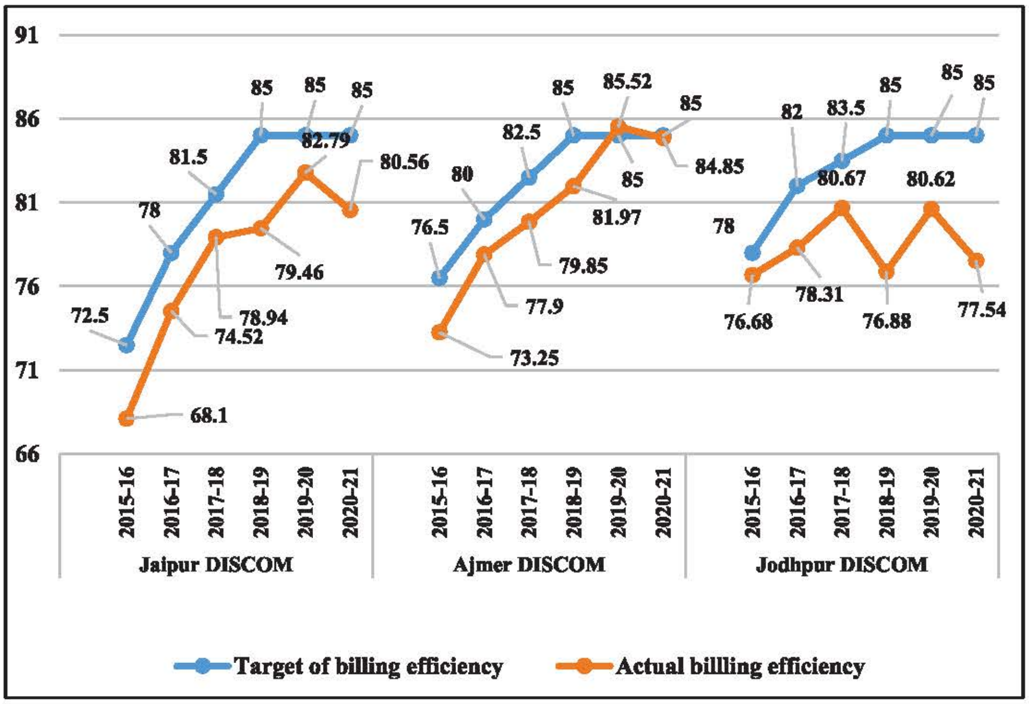
Source: MOUs and information provided by DISCOMs.

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.

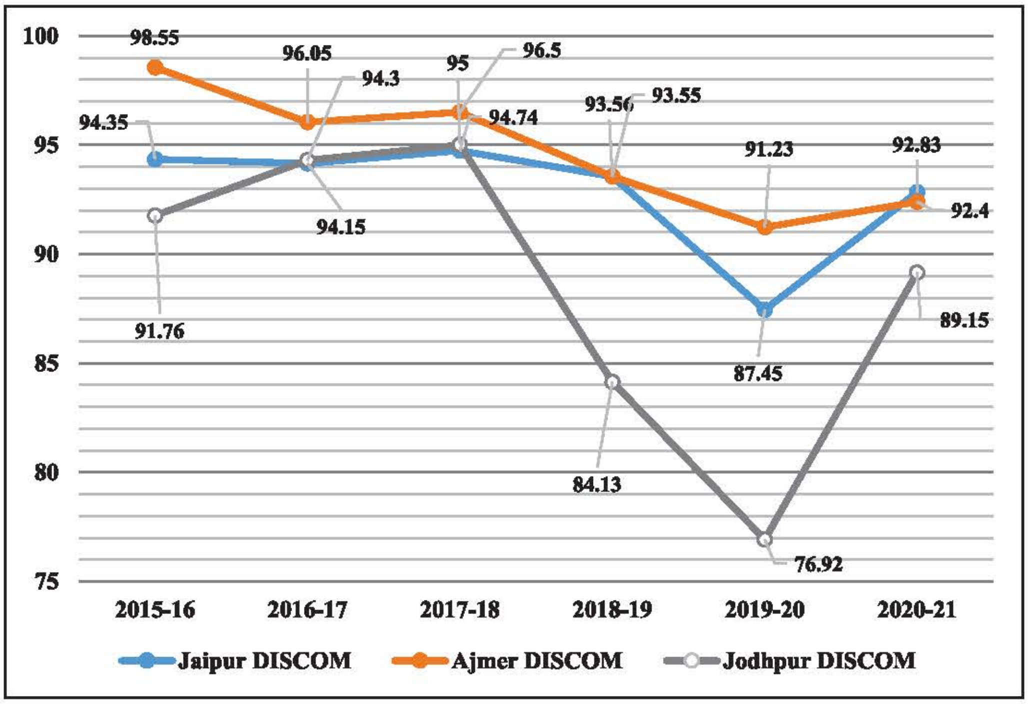
Collection Efficiency

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

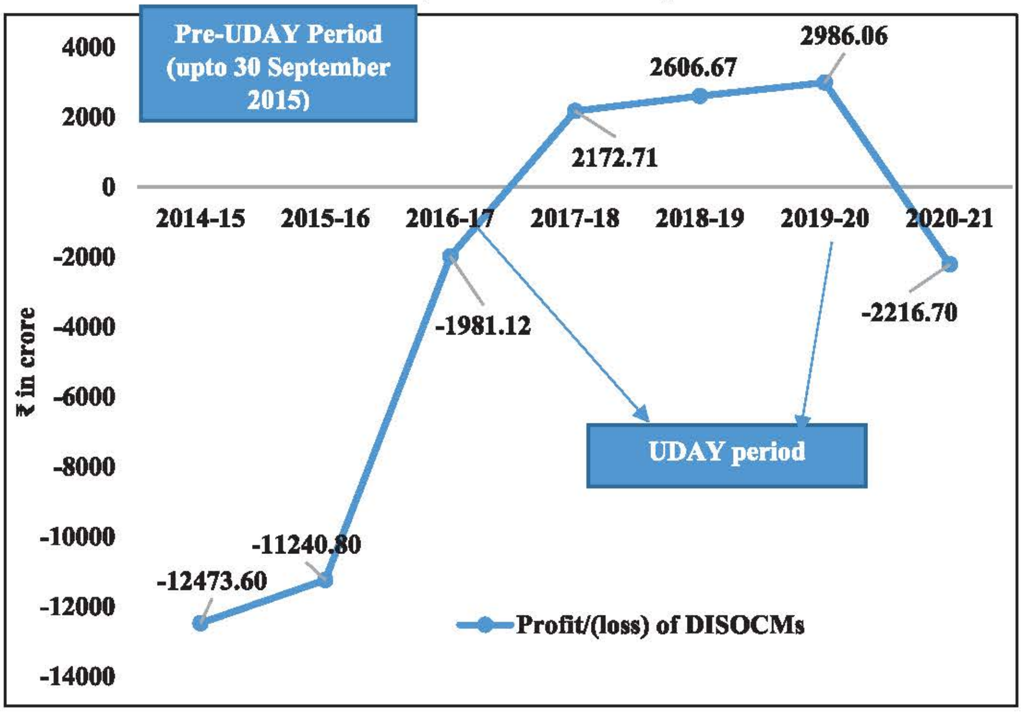
5.5 The GoI launched UDAY with expectations that it would be helpful in turning around the financial condition of the DISCOMs by making them economically viable on sustainable basis. The impact of UDAY on financial condition of DISCOMs is discussed below.

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

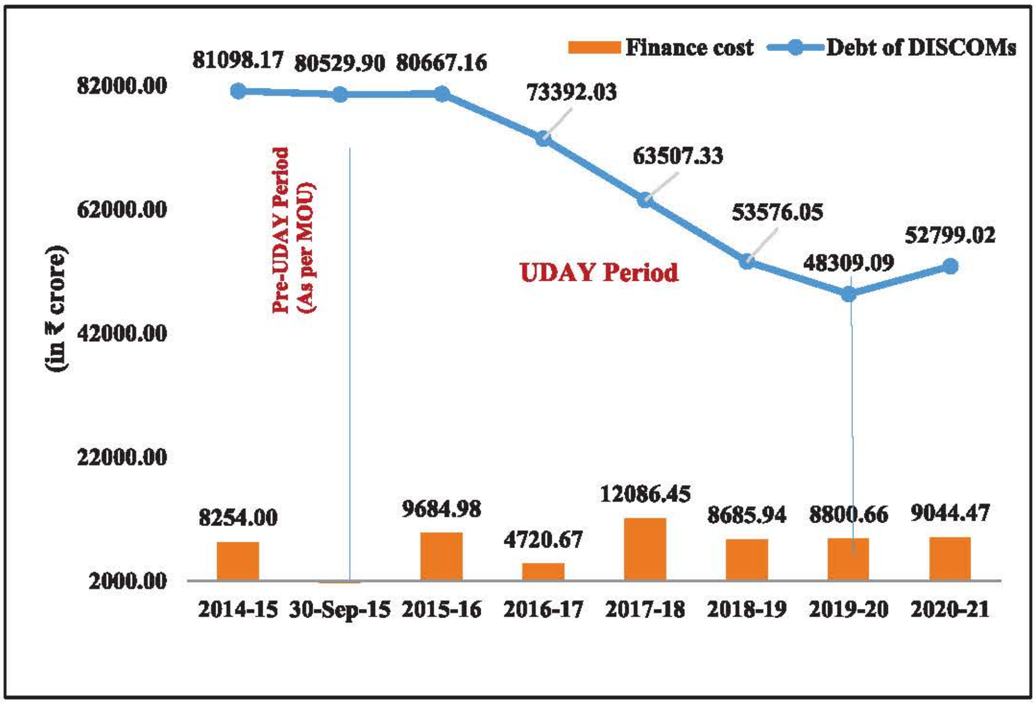
(₹ in crore)

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	**(ARCHANA GURJAR)**
The 17th April 2024	**Accountant General**
	(Audit-II) Rajasthan

Countersigned

NEW DELHI	**(GIRISH CHANDRA MURMU)**
The 6th May 2024	**Comptroller and Auditor General of India**

Annexures

Annexure-1

(Referred to in paragraph 1.6 at page no. 3)

Statement showing details of selected Circle Offices, Division Offices, Sub-Divisions offices

DISCOM	Selected Circle office	Selected Division office	Number of selected Sub-Division offices
Jaipur	Kota	Ramganj Mandi	3
	Tonk	Tonk	4
	Jhalawar	Jhalawar-I	4
Ajmer	Nagore	Mertacity	4
	Bhilwara	Bhilwara	7
	Jhunjhunu	Jhunjhunu	3
Jodhpur	Jodhpur District Circle	District Circle, Jodhpur	4
	Hanumangarh	Hanumangarh	5
	Bikaner	District Division-I, Bikaner	3
Total	**9**	**9**	**37**

Annexure-2

(Referred to in paragraph 2.4 at page no. 8 and 2.5 at page no. 11)

Statement showing DISCOM-wise details of total outstanding debts as on 30 September 2015, debts taken over by GoR, short fall, priority of outstanding debts, break-up of outstanding debts and details of bonds issued

	Details		**Jaipur**	**Ajmer**	**Jodhpur**	**Total**
			(Amount: ₹ in crore)			
I	**Total Outstanding debts**					
	i. Outstanding debts as on 30 September 2015		28056.36	26596.93	25876.61	80529.90
	ii. 9.95% FRP bonds already taken over by GoR		855.60	1006.20	838.20	2700.00
	Total I (i+ii)		**28911.96**	**27603.13**	**26714.81**	**83229.90**
II	**Debts targeted to be taken over as per MoUs plus 75 *per cent* of the FRP bonds**					
	i Debts to be taken over upto March 2016 (As per List A of MoUs)		14028.16	13298.28	12938.20	**40264.64**
	ii 50% of the FRP bonds		427.80	503.10	419.10	**1350.00**
	iii Debts to be taken over upto March 2016 (i+ii)		**14455.96**	**13801.38**	**13357.30**	**41614.64**
	iv Debts to be taken over upto March 2017 (As per List B of MoUs)		7014.75	6649.23	6469.26	**20133.24**
	v 25% of the FRP bonds		213.90	251.55	209.55	675.00
	vi Debts to be taken over upto March 2017 (i+ii)		**7228.65**	**6900.78**	**6678.81**	**20808.24**
	Total II (iii+vi)		**21684.61**	**20702.16**	**20036.11**	**62422.88**
III	**Debts taken over by GoR**					
	Equity		3031.06	2873.38	2795.56	8700.00
	Loan		15517.17	14856.35	14348.44	44721.96
	Grant		3135.57	2972.47	2891.96	9000.00
	Total III		**21683.80**	**20702.20**	**20035.96**	**62421.96**
IV	**Short fall (II-III)**					**0.92**
V	**Details of taken over debts**	**Date/Month of taking over of debts**	**Jaipur**	**Ajmer**	**Jodhpur**	**Total**
	9.95% FRP bonds	May 2015	855.60	1006.20	838.20	2700.00
	1st Tranche	17 March 2016	9647.35	10023.53	8784.20	28455.08
	2nd Tranche	31 March 2016	3267.52	2638.69	2988.48	8894.69
	Total debts taken over during 2015-16		**13770.47**	**13668.42**	**12610.88**	**40049.77**
	3rd Tranche	22 June 2016	7227.94	6900.73	6678.65	20807.32

	4th Tranche	7 February 2017	685.39	133.05	746.43	1564.87
	Total debts taken over during 2016-17		**7913.33**	**7033.78**	**7425.08**	**22372.19**
	Grand total		**21683.80**	**20702.20**	**20035.96**	**62421.96**

VI	**Priority of outstanding debts to be taken over as per lists attached with MoUs**	**Jaipur**		**Ajmer**		**Jodhpur**		**Total**	
		No.	**Amount**	**No.**	**Amount**	**No.**	**Amount**	**No.**	**Amount**
	List-A First 50% debt to be taken over by the GoR during 2015-16	142	14028.16	141	13298.28	116	12938.20	399	**40264.64**
	Loan accounts taken over (As on 17 March 2016)	121	9647.35	132	10023.53	108	8784.20	361	28455.08
	Loan accounts of List 'A' fully taken over	120	9379.29	132	10023.53	108	8784.20	360	28187.02
	Loan accounts taken over by GoR out of List 'C' which was to be residual with the DISCOMs	1	268.06	-	-	-	-	1	268.06
	List-B 25% debt to be taken over by the GoR during 2016-17		7014.75		6649.23		6469.26		**20133.24**
	List-C Remaining 25% debt (Bonds to be issued by the concerned DISCOMs)		7013.46		6649.41		6469.15		**20132.02**

VII	**Break up of outstanding debts**							
	DISCOM	**List**	**Debts pertained to Banks**	**Debts pertained to FIs**	**9.95% FRP bonds**	**GoR loans**	**Other debts**	**Total**
	Jaipur DISCOM	A	9552.79	4475.37	-	-	-	14028.16
		B	5364.75	1650.00	-	-	-	7014.75
		C	460.45	2954.61	3205.64	267.13	125.63	7013.46
	Sub-total		**15377.99**	**9079.98**	**3205.64**	**267.13**	**125.63**	**28056.37**
	Ajmer DISCOM	A	10023.53	3274.75	-	-	-	13298.28
		B	2282.56	4366.67	-	-	-	6649.23
		C	810.96	1714.30	3770.12	241.26	112.77	6649.41
	Sub-total		**13117.05**	**9355.72**	**3770.12**	**241.26**	**112.77**	**26596.92**
	Jodhpur DISCOM	A	8784.20	4154.00	-	-	-	12938.20
		B	2969.80	3499.46	-	-	-	6469.26
		C	1248.96	1747.20	3140.28	234.72	97.99	6469.15
	Sub-total		**13002.96**	**9400.66**	**3140.28**	**234.72**	**97.99**	**25876.61**
	Grand Total		**41498.00**	**27836.36**	**10116.04**	**743.11**	**336.38**	**80529.90**

VIII	**Issuance of Bonds**	**Jaipur**	**Ajmer**	**Jodhpur**	**Total**
	9.95% FRP Bonds	4781.98	2749.01	3841.67	11372.66
	Debts pertained to Banks	2834.94	3349.33	2861.79	9046.06
	Total	**7616.92**	**6098.34**	**6703.46**	**20418.72**

Annexure – 3

(Referred to in paragraph 2.6.1 at page no. 14)

Statement showing details of working capital from 2015-16 to 2020-21 (figures are at the end of financial year)

(₹ in crore)

DISCOM	Particulars	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Jaipur	Previous year revenue	10954.39	12454.96	14460.78	17249.46	18198.94	19291.12
	Details of Working capital provided by DISCOMs	6261.59	2442.64	4059.63	4629.63	5252.86	5257.40
	Percentage of working capital to previous year turnover	57.16	19.61	28.07	26.84	28.86	27.25
	Loan for working capital, specifically for payment of pending power purchase, not considered by DISCOMs	0	0	0	0	1400.00	1689.01
	Total Working capital	6261.59	2442.64	4059.63	4629.63	6652.86	6946.41
	Percentage of working capital to previous year turnover	**57.16**	**19.61**	**28.07**	**26.84**	**36.56**	**36.00**
Ajmer	Previous year revenue	8280.60	9405.54	10314.67	12097.38	13174.28	14616.41
	Details of Working capital provided by DISCOMs	6084.02	1534.41	2466	2921	3043.67	2831.7
	Percentage of working capital to previous year turnover	73.47	16.31	23.91	24.15	23.10	19.37
	Loan for working capital, specifically for payment of pending power purchase, not considered by DISCOMs	0	0	0	0	1300.00	1573.97
	Total Working capital	6084.02	1534.41	2466	2921	4343.67	4405.67
	Percentage of working capital to previous year turnover	**73.47**	**16.31**	**23.91**	**24.15**	**32.97**	**30.14**
Jodhpur	Previous year revenue	9100.41	10683.66	11716.57	12992.11	14072.12	15432.46
	Details of Working capital provided by DISCOMs	6171.21	1720.99	2796.4	3152	3395.82	3272.55
	Percentage of working capital to previous year turnover	67.81	16.11	23.87	24.26	24.13	21.20
	Loan for working capital, specifically for payment of pending power purchase, not considered by DISCOMs	0	0	0	0	1750.00	2072.84
	Total Working capital	6171.21	1720.99	2796.4	3152	5145.82	5345.39
	Percentage of working capital to previous year turnover	**67.81**	**16.11**	**23.87**	**24.26**	**36.57**	**41.06**

Annexure-4

(Referred to in paragraph 2.6.5 at page no. 17)

Statement showing details of subsidy pending for receipt from GoR and DISCOM wise figures of reconciled tariff subsidy

(₹ in crore)

Year	Opening balance of subsidy recoverable	Subsidy due during the year	Subsidy received during the year	Closing balance of subsidy recoverable
2015-16	15.83	8640.19	6788.48	1867.54
2016-17	1867.54	9311.09	7823.07	3355.56
2017-18	3355.56	10246.14	8759.14	4842.56
2018-19	4842.56	10982.79	7681.33	8144.02
2019-20	8144.02	12921.38	7384.00	13681.40
2020-21	13681.40	16544.84	12767.45	17458.79

Particulars	DISCOMs			Total
	Jaipur	Ajmer	Jodhpur	
	(Amount: ₹ in crore)			
Short receipt of tariff subsidy due to calculation of current year tariff subsidy on the basis of last year audited accounts	2618.97	1851.21	3906.66	8376.84
Short Tariff subsidy due to subsidy on account of closed/defective metered agricultural connections given on rate of metered category instead of flat category	773.46	752.51	2085.04	3611.01
Subsidy of the year 2020-21 deferred to the year 2021-22	1115.17	863.35	1618.77	3597.29
Short Tariff subsidy received during 2019-20 and 2020-21 due to mathematical error in calculation	145.94	148.89	120.70	415.53
Short subsidy received on account of fuel surcharge	228.93	11.88	156.97	397.78
Others	4.09	126.86	929.39	1060.34
Total	**4886.56**	**3754.70**	**8817.53**	**17458.79**

Annexure –5

(Referred to in paragraph 2.6.8 at page no. 20)

Statement showing Department-wise dues of Electricity Charges from 2015-16 to 2020-21

(₹ in crore)

Year ended in	Central Government	PHED	Janta Jal Yojana & Sarpanch	Administration	Police	Municipal Boards/ Urban Improvement Trusts	Others	Total
Jaipur DISCOM								
March 2016	Break-up of dues not available							**157.32**
March 2017	13.81	79.11	58.68	3.13	4.22	92.76	13.89	**265.60**
March 2018	7.45	58.06	75.88	8.32	4.49	54.10	9.68	**217.99**
March 2019	7.93	84.63	117.06	13.91	6.12	158.78	15.49	**403.91**
March 2020	11.87	141.01	165.38	18.96	7.99	333.02	23.30	**701.52**
March 2021	6.02	202.00	218.85	24.00	7.99	430.13	34.53	**923.52**
Ajmer DISCOM								
March 2016	1.32	25.97	18.18	0.70	1.27	8.24	5.16	**60.84**
March 2017	1.23	34.43	19.62	0.74	1.37	33.79	2.20	**93.38**
March 2018	1.67	17.97	29.92	1.19	1.86	22.03	2.81	**77.45**
March 2019	4.22	22.98	41.95	1.56	2.45	65.77	4.22	**143.15**
March 2020	5.27	68.89	54.33	2.77	3.08	46.07	6.13	**186.53**
March 2021	2.08	100.79	76.72	3.40	2.75	72.14	8.59	**266.47**
Jodhpur DISCOM								
March 2016	2.5	146.63	22.60	2.22	3.11	179.93	5.65	**362.64**
March 2017	4.97	114.79	13.98	2.14	2.99	239.63	4.51	**383.01**
March 2018	0.56	23.23	23.06	2.93	3.44	18.97	6.03	**78.22**
March 2019	0.26	70.46	43.37	7.08	4.75	98.95	6.65	**231.52**
March 2020	12.40	145.35	71.87	11.22	4.74	165.43	9.75	**420.77**
March 2021	10.20	208.65	143.84	16.84	4.33	227.48	30.44	**641.77**
Grand Total as on March 2021	**18.3**	**511.44**	**439.41**	**44.24**	**15.07**	**729.75**	**73.56**	**1831.76**

Annexure-6

(Referred to in paragraph 2.6.10 at page no. 22)

DISCOM-wise position of projected interest and finance cost *vis-à-vis* actual interest and finance cost and details of high-cost debt in the books of DISCOMs as on 31 March 2021

(₹ in crore)

Year	Jaipur		Ajmer		Jodhpur	
	Projected	Actual	Projected	Actual	Projected	Actual
2015-16	3408	3405.28	3091	3144.69	3152	3135.01
2016-17	1264	1715.83	1137	1432.37	1220	1572.47
2017-18	1108	4312.20	1018	3881.52	1090	3892.73
2018-19	1186	3207.64	1118	2676.96	1177	2801.34
2019-20	No projection	3068.29	No projection	2612.67	No projection	3119.70
2020-21	No projection	3229.23	No projection	2537.02	No projection	3278.22

High-cost debt in the books of DISCOMs as on 31 March 2021

Particulars	Jaipur	Ajmer	Jodhpur
Lead Bank interest rate plus 0.1 *per cent* as on March 2016 (in %)	9.80	9.75	9.70
Total number of loan accounts as on March 2021	64	67	73
Total debt of DISCOMs (₹ in crore)	18161.89	16445.60	18191.53
No. of loan accounts above the lead Bank interest rate plus 0.1 *per cent* as on March 2021	47	49	55
Loan Amount (₹ in crore)	9696.03	9609.87	10632.00
Effective interest rate of high-cost debt (in %)	9.95 to 12.25	9.95 to 12.65	9.95 to 12.50
Percentage of high-cost debt in total debt of DISCOMs	53.39	58.43	58.44

Annexure –7

(Referred to in paragraph 3.6.2 at page no. 32)

Statement showing failure rate of Distribution Transformers during 2015-16 to 2020-21

Year	DTs installed at the end of year (in number)	Number of DTs failed during the year				Total (in Numbers)	Failure rate of DTs (in %)
		Within guarantee period		Beyond guarantee period			
		Number	%	Number	%		
Jaipur DISCOM							
2015-16	602179	38079	53.12	33610	46.88	71689	11.90
2016-17	643044	36793	51.02	35317	48.98	72110	11.21
2017-18	647089	30682	50.89	29603	49.11	60285	9.32
2018-19	715550	30632	46.71	34946	53.29	65578	9.16
2019-20	767066	34306	47.60	37764	52.40	72070	9.40
2020-21	791451	30950	42.77	41422	57.23	72372	9.14
Ajmer DISCOM							
2015-16	448380	18823	40.12	28096	59.88	46919	10.46
2016-17	481897	20602	39.19	31970	60.81	52572	10.91
2017-18	504921	16416	34.78	30787	65.22	47203	9.35
2018-19	564740	16287	36.21	28691	63.79	44978	7.96
2019-20	628335	21741	35.91	38800	64.09	60541	9.64
2020-21	671356	23425	36.24	41217	63.76	64642	9.63
Jodhpur DISCOM							
2015-16	402202	14845	38.78	23434	61.22	38279	9.52
2016-17	414767	12405	38.49	19823	61.51	32228	7.77
2017-18	450096	14464	37.63	23970	62.37	38434	8.54
2018-19	481889	13073	37.35	21932	62.65	35005	7.26
2019-20	546684	18647	37.63	30913	62.37	49560	9.07
2020-21	581613	22253	40.17	33150	59.83	55403	9.53

Source: MIS furnished by DISCOMs.

Annexure-8

(Referred to in paragraph 3.6.3 at page no. 33)

Statement showing details of Distribution Transformers failed but not replaced as well as pending for deposit in ACOs during 2015-16 to 2020-21

(Figure: in number)

DISCOM	S. No.	Particulars	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Jaipur	1.	Distribution Transformers failed	71689	72110	60285	65578	72070	72372	**4,14,104**
	2.	Distribution Transformers replaced	70054	71260	59605	65178	72599	71224	**4,09,920**
	3.	Distribution Transformers not replaced (1-2)	1635	850	680	400	**-529$**	1148	**4,713**
	4.	DTs failed but pending to be deposited at the end of the year	26338	23321	17651	16789	21776	23102	
	5.	Balance of DTs pending for deposit (in days) (4/2*365)	**137.23**	**119.45**	**108.09**	**94.02**	**109.48**	**118.39**	
Ajmer	6.	Distribution Transformers failed	46919	52572	47203	44978	60541	64642	**3,16,855**
	7.	Distribution Transformers replaced	46098	48212	47052	44978	60541	64642	**3,11,523**
	8.	Distribution Transformers not replaced (6-7)	821	4360	151	0	0	0	**5,332**
	9.	DTs failed but pending to be deposited at the end of the year	9247	6344	5569	3015	1781	1825	
	10.	Balance of DTs pending for deposit (in days) (9/7*365)	**73.22**	**48.03**	**43.20**	**24.47**	**10.74**	**10.30**	
Jodhpur	11.	Distribution Transformers failed	38279	32228	38434	35005	49560	55403	**2,48,909**
	12.	Distribution Transformers replaced	38180	31528	38411	35188	49526	54917	**2,47,750**
	13.	Distribution Transformers not replaced (11-12)	99	700	23	**-183$**	34	486	**1,342**
	14.	DTs failed but pending to be deposited at the end of the year	1361	2043	1197	7127	3360	3406	
	15.	Balance of DTs pending for deposit (in days) (14/12*365)	**13.01**	**23.65**	**11.37**	**73.93**	**24.76**	**22.64**	

Source: MIS of DISCOMs.

$Negative figures shown for Jodhpur DISCOM in 2018-19 and Jaipur DISCOM in 2019-20 reflect deficiency in MIS.

Annexure –9

(Referred to in paragraph 3.7(a) at page no. 34 and 3.7(b) at page no. 35)

Statement showing status of Metered Feeders

Year	Total feeders	Feeders metered	Feeders where modems were installed to connect feeder meters	Feeders where data was communicated by modems		Feeders where meter data collected and fed in the system manually			
				Number	%	Feeders without modem	Feeders having non-communicating modems	Total	%
1	2	3	4	5	6	7=2-4	8=4-5	9=7+8	10
Jaipur DISCOM									
2018-19	7867	7818	7054	6298	89.28	813	756	1569	19.94
2019-20	8709	8707	7488	6481	86.55	1221	1007	2228	25.58
2020-21	9219	9219	7492	5928	79.12	1727	1564	3291	35.70
Ajmer DISCOM									
2018-19	8273	8166	6378	5500	86.23	1895	878	2773	33.52
2019-20	8615	8544	7648	5578	72.93	967	2070	3037	35.25
2020-21	9100	9100	7648	5958	77.90	1452	1690	3142	34.53
Jodhpur DISCOM									
2018-19	10539	10245	7616	4677	61.41	2923	2939	5862	55.62
2019-20	10650	10361	8828	4825	54.66	1822	4003	5825	54.69
2020-21	11250	10777	8841	4597	52.00	2409	4244	6653	59.14

Source: Information provided by DISCOMs.

Annexure-10

(Referred to in paragraph 3.11.1 at page no. 39)

Details of vigilance checking conducted by the Vigilance Wing as well as O&M circle and AT&C losses

Year	Total No of Consumers (In lakh)	Targets	Checking conducted by		Total checking	No of checking as percentage of total number of consumers	No of Theft cases	Amount assessed (₹ in crore)	Amount Realized (₹ in crore)	Amount realised to Amount assessed (%)	T&D losses (%)	AT&C Losses (%)
			O&M	Vigilance wing								
Jaipur DISCOM												
2015-16	47.16	NA	122865	15421	138286	2.93	92496	136.05	63.44	46.63	31.90	35.74
2016-17	50.04	NA	126516	18693	145209	2.90	106706	174.16	84.85	48.72	25.48	29.84
2017-18	53.35	NA	86404	14284	100688	1.89	77789	162.82	101.36	62.25	21.06	25.22
2018-19	56.80	NA	8555	1754	10309	0.18	4317	16.38	20.42	124.66	20.54	25.66
2019-20	55.53	NA	60696	14067	74763	1.35	64526	186.72	75.58	40.48	17.21	27.61
2020-21	57.83	NA	74522	23829	98351	1.70	88986	253.12	123.62	48.84	19.44	25.22
Total							**434820**	**929.25**	**469.27**	**50.49**		
Ajmer DISCOM												
2015-16	44.35	252910	136620	38447	175067	4.19	73308	143.02	64.55	45.13	26.75	27.81
2016-17	47.19	219835	123034	27984	151018	3.60	72218	148.4	86.97	58.61	22.10	25.18
2017-18	50.18	207460	68526	21758	90014	2.08	62971	139.89	100.17	71.61	20.15	22.94
2018-19	54.18	120769	9127	4461	13788	0.29	10357	33.47	21.78	65.07	18.03	23.31
2019-20	58.24	208641	66422	25574	91996	1.78	57974	129.14	56.72	43.92	14.48	21.99
2020-21	60.89	308253	89528	31961	121489	2.00	81636	196.17	97.67	49.79	15.15	21.60
Total							**358464**	**790.09**	**427.86**	**54.15**		
Jodhpur DISCOM												
2015-16	33.12	173440	67773	22170	89927	2.97	28557	90.88	37.5	41.26	23.32	29.64
2016-17	34.35	137180	61112	28300	89412	2.81	29501	81	36.64	45.23	21.69	26.16
2017-18	36.10	176490	59178	15600	74778	2.39	30299	103.76	51.23	49.37	19.33	23.37
2018-19	39.46	178623	4421	6779	11200	0.27	4786	19.3	13.95	72.28	23.12	35.32
2019-20	42.49	175506	65200	11809	77009	1.72	19036	96.12	44.27	46.06	19.38	37.99
2020-21	44.16	178644	43301	12686	55987	1.27	33378	90.38	33.86	37.46	22.46	30.87
Total							**145557**	**481.44**	**217.45**	**45.17**		

Annexure-11

(Referred to in paragraph 4.3 at page no. 42)

Statement showing cost of power purchase during 2015-16 to 2020-21

Particular	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
(a) Power purchase from Central/State Sector						
Central Sector (in MUs)	24277.86	24389.95	31203.86	30062.33	30766.65	31616.25
Rate (in ₹)	2.65	2.79	2.88	3.16	3.11	3.17
RRVUNL (in MUs)	24114.6	23987.32	25781.78	30141.81	29248.09	27449.04
Rate (in ₹)	4.13	4.55	4.56	4.13	4.98	4.27
Percentage to Power Purchase	68.24	70.14	75.73	72.64	72.99	67.94
Total Power purchase from Central/State Sector (in MUs)	**48392.46**	**48377.27**	**56985.64**	**60204.14**	**60014.74**	**59065.29**
Cost per unit	**3.39**	**3.66**	**3.64**	**3.65**	**4.02**	**3.68**
b) Power purchase from other sources						
IPP (in MUs)	14639.95	13697.33	11141.85	13467.77	12928.10	14571.36
Rate (in ₹)	3.78	4.01	3.90	4.53	4.40	4.20
Bilateral and Trade (in MUs)	1709.67	0.00	0.00	0.00	0.00	1802.28
Rate (in ₹)	3.32	0.00	0.00	0.00	0.00	2.70
Power Exchange (in MUs)	826.23	546.80	598.07	849.19	710.10	3220.69
Rate (in ₹)	3.67	2.81	4.35	4.44	3.94	3.50
NCES (in MUs)	5349.75	6347.07	6526.74	8357.32	8562.22	8280.50
Rate (in ₹)	4.91	5.03	5.04	4.83	4.69	4.63
Other (Captive) Mus	26.43	0.00	0.00	0.00	0.00	0.00
Rate (in ₹)	1.82	0.00	0.00	0.00	0.00	0.00
Percentage to total Purchase	31.76	29.86	24.27	27.36	27.01	32.06
Total power purchase from private sector (in MUs)	**22525.60**	**20591.20**	**18266.66**	**22674.28**	**22200.32**	**27874.83**
Cost per unit (₹)	**4.01**	**4.29**	**4.32**	**4.64**	**4.50**	**4.15**
Total Power Purchase (in MUs)	**70918.06**	**68968.47**	**75252.3**	**82878.42**	**82215.06**	**86940.12**
Cost per unit (₹)	**3.59**	**3.85**	**3.81**	**3.92**	**4.15**	**3.83**

Annexure-12

(Referred to in paragraph 4.3 at page no. 42)

Statement showing Plant-wise position of Generation Cost, Station Heat Rate and Plant Load Factor during 2015-16 to 2020-21

Plant	Particulars	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
KSTPS	Generation cost (in crore)	2135.57	2049.88	1953.28	2139.67	1992.32	1589.04
	Generated units (MUs)	7769.54	7486.91	7213.04	7920.96	6513.08	5195.56
	Cost per generated unit	2.75	2.74	2.71	2.70	3.06	3.06
	SHR Approved	2561.70	2561.70	2561.70	2561.70	2561.70	2561.70
	SHR actual	2787.00	2551.29	2650.90	2613.76	2552.86	2491.58
	Targeted PLF	82.00	82.00	82.00	82.00	83.00	83.00
	Actual PLF	70.45	67.26	65.08	71.52	58.31	46.64
SSTPS	Generation cost (in crore)	2106.82	1414.97	1595.24	2253.50	1719.33	379.04
	Generated units (MUs)	5902.98	4474.71	4964.45	7168.98	4690.33	989.69
	Cost per generated unit	3.57	3.16	3.21	3.14	3.67	3.83
	SHR approved	2476.28	2476.28	2476.28	2476.28	2471.48	2476.28
	SHR actual	2655.00	2452.04	2449.20	2476.09	2471.48	2512.37
	Targeted PLF	82.00	82.00	82.00	82.00	83.00	83.00
	Actual PLF	44.00	33.65	37.22	54.07	35.50	7.44
CTPP	Generation cost (in crore)	1099.98	1671.31	1471.20	1767.67	1850.52	1784.09
	Generated units (MUs)	4473.89	6825.04	6251.55	7289.83	7090.64	6665.15
	Cost per generated unit	2.46	2.45	2.35	2.42	2.61	2.68
	SHR approved	2312.31	2476.28	2400.00	2400.00	2400.00	2400.00
	SHR actual	2863.00	2648.38	2527.72	2549.00	2471.29	2508.72
	Targeted PLF	80.00	80.00	80.00	80.00	83.00	83.00
	Actual PLF	49.93	76.95	70.61	82.77	80.85	76.39
KTPP	Generation cost (in crore)	1498.63	1501.54	1702.48	1521.13	1813.03	1808.31
	Generated units (MUs)	5921.2	5944.12	6691.18	5550.4	5708.09	6089.98
	Cost per generated unit	2.53	2.53	2.54	2.74	3.18	2.97
	SHR approved	2322.17	2322.17	2322.17	2322.17	2333.28	2333.28
	SHR actual	2601.00	2418.16	2388.68	2435.10	2397.63	2399.55
	Targeted PLF	83.00	83.00	83.00	83.00	83.00	83.00
	Actual PLF	65.83	55.83	62.84	52.26	53.49	57.40

Annexure-13

(Referred to in paragraph 4.7 at page no. 46)

Statement showing details of shortfall in purchase of renewable energy during 2011-21

(In Million Units)

Year	Jaipur DISCOM		Ajmer DISCOM		Jodhpur DISCOM		Total
	Solar Energy	Non-Solar Energy	Solar Energy	Non-Solar Energy	Solar Energy	Non-Solar Energy	
2011-12	-79.45	-141.20	-57.73	-3.05	-62.19	-75.91	-419.53
2012-13	-61.47	-243.75	-42.95	-14.59	-48.37	-28.31	-439.44
2013-14	-28.59	-263.77	-15.99	-51.08	-33.24	-193.21	-585.88
2014-15	-214.54	-439.59	-145.47	-181.11	-183.84	-378.72	-1543.27
2015-16	-286.20	-408.42	-192.26	-310.21	-240.59	-378.51	-1816.19
2016-17	-352.85	-183.03	-235.03	-254.00	-319.02	-281.81	-1625.74
2017-18	-494.82	-382.31	-333.59	-381.66	-411.86	-383.85	-2388.09
2018-19	-90.29	-75.58	-57.33	-207.72	-105.63	-211.09	-747.64
2019-20	10.08	-236.95	26.54	-244.86	13.11	-253.60	-685.68
2020-21	-314.22	-743.92	-245.81	-573.89	-336.94	-638.78	-2853.56
Total (A)	**-1912.35**	**-3118.52**	**-1299.62**	**-2222.17**	**-1728.57**	**-2823.79**	**-13105.02**
Forbearance Price per MU(B)*	1.00	1.00	1.00	1.00	1.00	1.00	
Total liability on account of Shortfall in RPO (In ₹ crore) (A*B)	**191.23**	**311.85**	**129.96**	**222.12**	**172.86**	**282.38**	**1310.50**

Source: Data provided by DISCOMs

***Forbearance price per MU= Forbearance price per MWh/1000**

Annexure-14

(Referred to in paragraph 5.4 (b) at page 52)

Statement showing Average Cost of Supply (ACS) and Average Revenue Realised (ARR) of the DISCOMs during the period from 2015-16 to 2020-21

(₹ per unit of input energy)

Particulars	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Jaipur DISCOM						
Targeted ACS as per MoU (A)	9.09	8.01	7.82	7.71	-	-
Targeted ARR as per MoU (B)	7.05	7.48	7.93	7.82	-	-
Targeted ACS-ARR Gap as per MOU (C) = (A) – (B)	2.04	0.53	(0.11)	(0.11)	0.00	0.00
Actual ACS-ARR Gap reported to Audit as per MoP prescribed methodology	**1.87**	**0.37**	**(0.12)**	**0.03**	**(0.19)**	**0.46**
ACS-ARR Gap as per accounts (MoU methodology)	1.60	0.23	(0.31)	(0.27)	(0.67)	0.20
Ajmer DISCOM						
Targeted ACS as per MoU (A)	9.36	7.89	7.87	7.87	-	-
Targeted ARR as per MoU (B)	7.01	7.50	8.02	8.02	-	-
Targeted ACS-ARR Gap as per MOU (C) = (A) – (B)	2.35	0.39	(0.15)	(0.15)	0.00	0.00
Actual ACS-ARR Gap reported to Audit as per MoP prescribed methodology	**1.97**	**0.37**	**(0.42)**	**0.08**	**0.18**	**0.36**
ACS-ARR Gap as per accounts (MoU methodology)	1.85	0.18	(0.58)	(0.21)	(0.36)	(0.08)
Jodhpur DISCOM						
Targeted ACS as per MoU (A)	8.43	7.19	7.21	7.17		
Targeted ARR as per MoU (B)	6.45	6.87	7.32	7.28	-	-
Targeted ACS-ARR Gap as per MOU (C) = (A) – (B)	1.98	0.32	(0.11)	(0.11)	0.00	0.00
Actual ACS-ARR Gap reported to Audit as per MoP prescribed methodology	**1.80**	**0.75**	**0.22**	**0.15**	**0.99**	**1.19**
ACS-ARR Gap as per accounts (MoU methodology)	1.43	0.43	(0.01)	(0.44)	0.00	0.57

Annexure-15

(Referred to in paragraph 5.5.1 at page no. 53)

Statement showing financial performance of DISCOMs viz; Total Revenue, Total Expenditure and Profit during the period from 2014-15 to 2020-21

(₹ in crore)

DISCOM	Particulars	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Jaipur	Revenue from operation	10,070.09	11,502.12	13,682.36	16,257.44	17,213.81	18,335.72	20,903.79
	Other Income	884.31	952.84	778.42	992.02	985.13	955.41	864.35
	Total Revenue	10,954.39	12,454.96	14,460.78	17,249.46	18,198.94	19,291.12	21,768.14
	Total Expenditure	15,644.77	16,775.79	16,167.77	20,467.87	21,369.71	21,865.54	22,440.74
	Profit/(Loss) before exception item (UDAY subsidy) and Prior period Income/(Expenses)	(4,690.38)	(4,320.83)	(1,706.99)	(3,218.41)	(3,170.78)	(2,574.42)	(672.60)
	Prior period Income/(Expenses)	(44.20)	(142.08)	(30.02)	(2.07)	(86.77)	(31.33)	11.85
	UDAY subsidy	0	0	1,121.26	4,163.64	4,163.64	4,793.90	0
	Profit/(Loss) after exception item	(4,734.57)	(4,462.91)	(615.75)	943.16	906.09	2,188.15	(660.75)
Ajmer	Revenue from operation	7,413.63	8,331.21	9,596.79	11,285.67	12,355.47	13,763.74	14,721.73
	Other Income	866.97	1,074.33	717.88	811.71	818.81	852.68	867.73
	Total Revenue	8,280.60	9,405.54	10,314.67	12,097.38	13,174.28	14,616.41	15,589.45
	Total Expenditure	11,845.57	12,739.05	11,517.77	14,826.65	15,737.86	15,087.58	15,434.54
	Profit/(Loss) before exception item (UDAY subsidy) and Prior period Income/(Expenses)	(3,564.98)	(3,333.51)	(1,203.11)	(2,729.27)	(2,563.58)	(471.17)	154.91
	Prior period Income/(Expenses)	(27.91)	(170.49)	(100.44)	(57.97)	(230.25)	34.22	20.82
	UDAY subsidy	0	0	966.86	3,986.32	3,260.65	1,225.00	0
	Profit/(Loss) after exception item	(3,592.89)	(3,504.00)	(336.69)	1,199.08	466.82	788.06	175.73
Jodhpur	Revenue from operation	8,223.05	9,983.61	11,138.63	12,304.22	13,396.52	14,614.85	17,656.55
	Other Income	877.35	700.05	577.94	687.88	675.61	817.61	840.29
	Total Revenue	9,100.41	10,683.66	11,716.57	12,992.11	14,072.12	15,432.46	18,496.85
	Total Expenditure	13,047.18	13,912.48	13,539.72	16,819.59	17,476.69	18,976.70	20,216.58
	Profit/(Loss) before exception item (UDAY subsidy) and Prior period Income/(Expenses)	(3,946.77)	(3,228.82)	(1,823.15)	(3,827.48)	(3,404.57)	(3,544.23)	(1,719.73)
	Prior period Income/(Expenses)	(199.35)	(45.05)	47.67	7.92	62.62	(153.08)	(11.95)
	UDAY subsidy	0	0	746.80	3,850.04	4,575.71	3,707.16	0
	Profit/(Loss) after exception item	(4,146.12)	(3,273.87)	(1,028.68)	30.47	1,233.76	9.85	(1,731.68)

Glossary of terms

Abbreviation	Full form
ACS	Average Cost of Supply
ARR	Average Revenue Realised
AT&C Loss	Aggregate Technical & Commercial Loss
BEE	Bureau of Energy Efficiency
BPSA	Bulk Power Supply Agreement
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CTPP	Chhabra Thermal Power Station
DBT	Direct Benefit Transfer
DDUGJY	Deendayal Upadhyaya Gram Jyoti Yojana
DELP	Domestic Efficient Lighting Program
DF	Distribution Franchisee
DIC	Designated ISTS Customer
DRC	Distribution Reforms Committee
DSM	Demand Side Management
DT	Distribution Transformer
ERP	Enterprise Resource Planning
FIs	Financial Institutions
GIS	Geographic Information System
GoI	Government of India
GoR	Government of Rajasthan
GSA	Gas Sales Agreement
IEC	Information, Education and Communication
IPDS	Integrated Power Development Scheme
ISTS	Inter-State Transmission System
KPI	Key Performance Indicators
KSTPS	Kota Super Thermal Power Station
KTPP	Kalisindh Thermal Power Plant
LPS	Late Payment Surcharge
MIS	Management Information System
MNRE	Ministry of New and Renewable Energy
MOD	Merit Order Dispatch
MoP	Ministry of Power
MOU	Memorandum of Understanding
MYT	Multi-Year Tariff
NIM	Network Indexing Module
NSE	National Stock Exchange
NSGM	National Smart Grid Mission
NTPC	National Thermal Power Corporation
PAT	Perform Achieve Trade
PFC	Power Finance Corporation
PLF	Plant Load Factor
PSDF	Power Sector Development Fund

Abbreviation	Full form
R-APDRP	Restructured Accelerated Power Development and Reforms Programme
RDSS	Revamped Distribution Sector Scheme
REC	REC Limited
RERC	Rajasthan Electricity Regulatory Commission
RPO	Renewable Purchase Obligations
RRVUNL	Rajasthan Rajya Vidyut Utpadan Nigam Limited
RSEDMR Act	Rajasthan State Electricity Distribution Management Responsibility Act
RVUNL	Rajasthan Urja Vikas Nigam Limited
SHR	Station Heat Rate
SSTPS	Suratgarh Super Thermal Power Station
STF	State Task Force
STU	State Transmission Utility
T&D Loss	Transmission and Distribution Loss
TCOS	Terms and Conditions of Supply
UDAY	Ujwal DISCOM Assurance Yojana
VCB	Vacuum Circuit Breaker

http://cag.gov.in/ag2/rajasthan/en