



**Report of the
Comptroller and Auditor General of India
on
Restructured Accelerated Power Development
and Reforms Programme**



**Union Government
Ministry of Power
Report No. 30 of 2016
(Performance Audit)**

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Preface

This Report of the Comptroller and Auditor General of India has been prepared for submission to the President of India under Article 151 of the Constitution of India for being laid before the Parliament.

The Report contains the results of audit examination of the implementation of the Restructured Accelerated Power Development and Reforms Programme by the Ministry of Power and State power utilities.

Executive Summary

The Restructured Accelerated Power Development and Reforms Programme (R-APDRP) was launched in December 2008 as a continuation of the Accelerated Power Development and Reforms Programme (APDRP) in the XI Plan period. The programme envisaged sustainable reduction of Aggregate Technical and Commercial (AT&C) losses, establishment of reliable and automated system for collection of accurate base line data and the adoption of Information Technology in the area of energy accounting as necessary preconditions for sanctioning distribution strengthening projects. The scheme also aimed to map all power distribution assets, index and meter all consumers to ensure that electricity supplied can be traced to the ultimate consumer thereby resulting in better billing efficiency.

This was sought to be achieved through implementation of projects under **Part A** (preparation of baseline data for project areas covering consumer indexing, metering, automatic data logging etc., asset mapping of the entire distribution network, Information Technology applications for meter reading, billing & collection, energy accounting and auditing, implementation of Supervisory Control and Data Acquisition projects in selected towns with a population of more than 4 lakh, etc.) and **Part B** (regular distribution strengthening projects). The scheme also envisaged capacity building of power distribution utility personnel through **Part C** and provided for incentive scheme for personnel under **Part D**. The projects were to be implemented by the Utilities on turnkey basis.

The scheme provided for 100 *per cent* funding of Part A projects by way of Government of India loans while in respect of Part B projects, 25 *per cent* of the project cost (90 *per cent* in case of special category states) was provided by Government of India loan and the balance funds were to be raised as counterpart fund from other sources like Power Finance Corporation / Rural Electrification Corporation / Banks etc. The scheme also provided for conversion of the Government of India loan into grant subject to fulfilment of prescribed conditions.

The projects were to be sanctioned on the basis of Detailed Project Reports submitted by the Utilities to the Steering Committee through the state level Distribution Reforms Committees. The scheme stipulated that the details of funds released and actual utilisation should be submitted to the Ministry of Power at the end of the year.

The major findings of the performance audit are:

Financial Management

- Gross Budgetary Support of ₹28,424 crore was envisaged for the Scheme in the XI and XII plan periods (2008–17). Against this, Ministry of Power had actually budgeted ₹12,415.04 crore during 2008-09 to 2014-15 which was only 43.68 *per cent* of the envisaged amount. R-APDRP scheme has been subsumed in Integrated Power Development Scheme since December 2014 and no separate budget for R-APDRP has been allocated after 2014–15. The actual releases during 2008–15 on R-APDRP scheme were only ₹8,175.45 crore implying slow pace of scheme implementation.

(Para 3.1)

- Counterpart funding was not tied up by many State Utilities implementing the scheme within the prescribed period. Audit noticed that Power Finance Corporation did not maintain records of counterpart funding raised by the Utilities from Financial Institutions.

(Para 3.3.3)

- Instances of diversion of R-APDRP funds and overlapping of schemes were noticed in some States.

(Paras 3.5 & 3.6)

- Power Finance Corporation submitted two sets of Utilisation Certificates to the Ministry of Power; one indicating the total disbursement of Government of India funds made by Power Finance Corporation to Utilities and the other indicating the utilisation of funds by the Utilities as received from them periodically. There was a considerable mismatch between both sets of Utilisation Certificates; Utilisation Certificates furnished by Power Finance Corporation indicated disbursement of ₹8,606.62 crore while Utilisation Certificates from Utilities indicated utilisation of a meagre ₹ 4,155.88 Crore (49.29 *per cent* of the total funds released) as on March 2016.

(Para 3.8)

- It was noticed that only the first instalment had been released in 198 Part A, 317 Part B and 47 Supervisory Control and Data Acquisition projects of the selected sample raising doubts regarding completion of the projects.

(Para 3.3.1)

- The provision of conversion of loan into grant has not been utilized by any of the Utilities as none of the Part A and Part B projects had been completed in any of the states.

(Para 3.10)

Programme Implementation

- There were delays ranging up to 13 months in finalization of preparatory activities for implementation of the programme.

(Para 4.1)

- Detailed Project Reports were not prepared in line with the Model Detailed Project Report, resulting in inclusion of inadmissible items of work and exclusion of required items of work in the scope of the project. Assumptions made during project formulation were not independently verified during appraisal. Instances of revision in cost of the projects without approval of the Steering Committee were noticed. In some cases, the Detailed Project Reports were appraised and approved by the Steering Committee without recommendation of State Distribution Reforms Committees in contravention of the prescribed procedure.

(Paras 4.2 & 4.7)

- Additional expenditure due to re-tendering and award of works to contractors at different rates for similar items of work being executed in a State were observed.

(Paras 4.10 & 4.11)

- Deficiencies in quality controls like procurement of material in deviation of specifications, failure of the items/systems leading to delay in completion of the projects and not obtaining suitable guarantees were noticed.

(Paras 4.13.1, 4.13.2 & 4.14)

- The efforts made to impart training to the staff of the Utilities were inadequate and the purpose of training of staff was not achieved.

(Para 4.15)

- Audit noticed that State Utilities had declared a number of Part A projects ‘Go Live’ though as per the project details available with Ministry of Power, none of them had yet been verified by Third Party Independent Evaluation Agency which was a pre-requisite

for project completion. Though, nearly 80 *per cent* of the towns where Part A projects were implemented had been declared ‘Go Live’, only around 50 *per cent* of the sanctioned cost had been disbursed to the Utilities. Many projects were declared ‘Go Live’ where release of funds was less than 30 *per cent* of the approved project cost. Audit noticed that the ‘Go Live’ was declared by the States themselves without verification by or approval of Ministry of Power.

(Para 4.16)

Aggregate Technical & Commercial Losses

- In the sample cases test checked in Audit, the Aggregate Technical & Commercial losses had increased relative to the baseline or could not be generated in more than 100 towns which had been declared ‘Go Live’. It was noticed that the baseline data itself has not been collected in many States before the projects were taken up.

(Paras 5.1 & 5.2)

- Variations were noticed in the Aggregate Technical & Commercial losses presented in various documents by the Ministry of Power to the Parliament. The methodology used for calculating the Aggregate Technical & Commercial losses, though laid down, was not followed uniformly leading to varying estimates of the Aggregate Technical & Commercial losses.

(Paras 5.3 & 5.4)

- Energy accounting and audit was not being done in 12 States while in another 13 states, the data for energy accounting and audit was being collected manually raising concerns about their reliability and accuracy. The main reason for not conducting energy accounting and audit was non-completion of Part A projects and non-integration of different modules for data collection.

(Para 5.5)

- 100 *per cent* metering of feeders, Distribution Transformers and consumers was not done in many states.

(Para 5.5.1)

- The measures for preventing theft of electricity like special courts and vigilance squads were not adequate and effective.

(Para 5.6.1)

Consumer satisfaction

- Computerisation of Commercial Activities like billing, collection etc. remained incomplete. The Customer Service System comprising of computerised logging, tracking and redressal of customer requests were not fully established by the Utilities in many states.

(Paras 6.1 & 6.2)

- In some States, all service connections were not fixed/ replaced with high accuracy/ tamper proof meters, as envisaged under the scheme. Proper tail end voltage was also not supplied in some States.

(Paras 6.3 & 6.4)

Monitoring and evaluation

- Shortcomings were noticed in the monitoring of the Scheme by State Distribution Reforms Committees.

(Para 7.2)

Recommendations

1. Ministry should ensure that Utilities tie-up Counterpart funding before release of funds.
2. Ministry may ensure that Utilisation Certificates are submitted by the concerned Utilities as per timelines prescribed in the General Financial Rules.
3. Ministry should consider evolving a mechanism of reporting of achievement of milestones vis-à-vis targets by state utilities along with reasons for non-achievement and action taken.
4. Ministry may ensure 100 *per cent* completion of metering so that verification of baseline data of Aggregate Technical & Commercial losses is completed, annual verification of Aggregate Technical & Commercial losses is done and to enable effective energy accounting and audit.
5. Ministry may encourage States to set up the special courts and vigilance squads, based on population of project area, so that speedy trials of offences act as deterrent to theft of electricity thereby reducing the commercial losses.
6. Monitoring and evaluation process, at the level of the Distribution Reforms Committee and Steering/Review Committee, needs to be strengthened to ensure that projects are completed in time.

Chapter 1

Introduction

Introduction

1.1 Background

Power sector reforms in India are more than two decades old and had initially focused on bringing about structural changes like unbundling of State Electricity Boards (SEBs), creation of independent generation, transmission and distribution companies. Subsequently, the focus shifted to power generation and to power distribution. During the last two decades, the Government of India (GOI) introduced various programmes to support the power sector, the significant initiatives being Accelerated Power Development Programme (APDP), Accelerated Power Development and Reforms Programme (APDRP) and Restructured Accelerated Power Development and Reforms Programme (R-APDRP).

1.1.1 Accelerated Power Development Programme (APDP)

APDP was launched in February 2001 to finance specific projects related to renovation and modernization (R&M) / life extension / up-rating of old power plants (thermal and hydel); upgrading and strengthening of sub-transmission and distribution network (below 33 KV or 66 KV) including energy accounting and metering in the distribution circles in a phased manner.

1.1.2 Accelerated Power Development and Reforms Programme (APDRP)

In order to enable a quick turnaround of the power sector, APDP was restructured from being merely an investment window to a driver for reforms and renamed 'Accelerated Power Development and Reforms Programme' (APDRP) during 2002-03.

A performance audit of the APDRP was conducted by the Comptroller and Auditor General of India (CAG) and the Report (Report no. 16 of 2007) was considered by the Public Accounts Committee (PAC). The PAC gave its recommendations regarding the scheme in its 77th report (of the 14th Lok Sabha). The scheme had also been evaluated by independent agencies (such as Indian Institute of Management (IIM), Administrative

Staff College of India (ASCI), Tata Consultancy Services (TCS), The Energy and Resources Institute (TERI) and SBI Capital Markets Limited) which while recommending the continuance of APDRP beyond the X Plan, suggested restructuring of the scheme and recommended direct release of funds to utilities, adoption of Information Technology (IT), adherence to specific reform milestones, better project management, third party quality checks, continued training of utility staff.

1.1.3 Restructured Accelerated Power Development and Reforms Programme (R-APDRP)

R-APDRP was launched in December 2008 as a continuation of APDRP in the XI Plan period. The programme envisaged sustainable loss reduction, establishment of reliable and automated systems for collection of accurate base line data and the adoption of Information Technology in the areas of energy accounting as necessary pre-conditions for sanctioning distribution strengthening projects. It was hoped that these pre-conditions would enable objective evaluation of the performance of utilities before and after implementation of the programme, and enforce internal accountability leading to better performance. The scheme also aimed to map all power distribution assets, index and meter all consumers to ensure that electricity supplied can be traced to the ultimate consumer thereby resulting in better billing efficiency.

This was sought to be achieved through implementation of projects under Part A, Part B and other activities under Part C and Part D. The scheme provided for release of funds for the projects by way of loans and their conversion into grants subject to fulfilment of prescribed conditions.

1.1.4 Part – A

These projects were for preparation of baseline data for project areas covering consumer indexing, Geographical Information System (GIS) mapping, metering of distribution transformers and feeders, automatic data logging. It was to include asset mapping of the entire distribution network at and below 11 KV transformer level and shall include the distribution transformers and feeders, low tension lines, poles and other distribution network equipment. They also include adoption of IT applications for meter reading, billing & collection; energy accounting and auditing; Management Information System (MIS) etc. They also envisaged implementation of Supervisory Control and Data Acquisition (SCADA) projects in selected towns with a population of more than 4 lakh. Part A projects were to be completed in three years.

1.1.5 Part – B

Part B projects were regular distribution strengthening projects. They included renovation, modernization and strengthening of 11KV substations, transformers/transformer centres, re-conductoring of lines at 11KV level and below. In exceptional cases, where the sub-transmission system is weak, strengthening at 33KV or 66KV levels may also be considered under **Part B** projects.

1.1.6 Part C

The task of capacity building of power distribution utility personnel was mandated to Power Finance Corporation (PFC) under this part. Part C included the enabling components for the implementation of R-APDRP and for facilitating the process of reforms in the Power Sector.

1.1.7 Part D

This part dealt with the incentive schemes for the personnel of the Utilities. The funds under the incentive schemes were to be released after the conversion of the loan into grant under Part B.

1.2 Major Features of R-APDRP

The major features of the R-APDRP were as below:

- a. R-APDRP covered urban areas (towns and cities with a population of more than 10,000 in the case of Special Category States¹ and 30,000 in other cases). It envisaged separation of agricultural feeders from domestic and industrial ones and of High Voltage Distribution System (11KV) in high-load density rural areas. Towns and areas for which projects had been sanctioned in the X Plan under APDRP were eligible for consideration under the XI Plan either after completion or short closure of the earlier sanctioned projects.
- b. PFC was the nodal agency for the operationalisation and implementation of R-APDRP scheme, under the overall guidance of the Ministry of Power (MOP). PFC was expected to take the initiative for speedy and timely completion of projects and assist the Utilities in achieving loss reduction targets and other parameters of the scheme.
- c. The Steering Committee of R-APDRP under the Chairmanship of Secretary (Power) comprising of representatives of Ministry of Finance (MOF), Planning

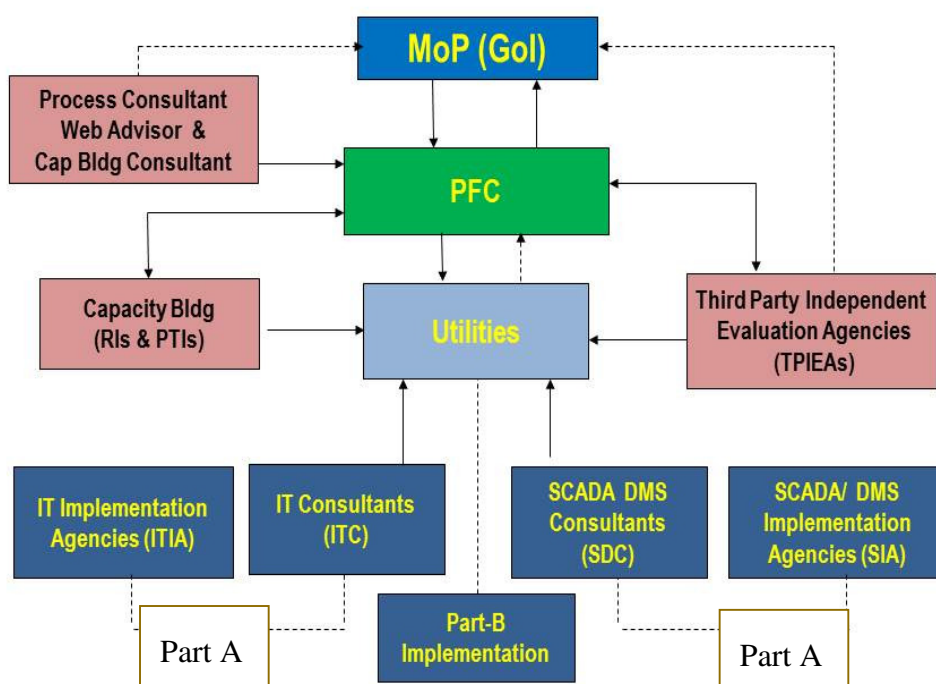
¹ All North- Eastern States, Sikkim, Uttarakhand, Himachal Pradesh and J&K

Commission, Central Electricity Authority (CEA), PFC, Rural Electrification Corporation (REC), selected State Governments (on one year rotation basis) was to oversee the scheme. The Steering Committee was to sanction projects, monitor and review the implementation of the scheme, approve panels of consultants, implementing agencies, independent evaluation agencies and approve conversion of loan into grants on fulfilment of necessary conditions.

- d. Under the R-APDRP scheme, the Utilities were to prepare Detailed Project Reports (DPRs) in two parts (i.e., Part-A & Part-B) for each of the project areas indicating the priority of the projects while forwarding them to PFC. For Part-A projects, Utilities were to either prepare DPRs on their own or through IT Consultants (ITC) appointed through open bidding process from the panel of IT Consultants prepared by the PFC. For Part-B projects, the DPRs were to be prepared in-house. The DPRs were then to be validated and appraised techno-commercially by PFC and submitted to the R-APDRP Steering Committee for approval. SEBs / Utilities were to implement projects sanctioned under Part-A through an IT Implementing Agency (ITIA) and Part-B projects by themselves on turnkey basis.
- e. For approved Part-A projects, 100 *per cent* of the funds were to be provided by GOI as loan. Once the Part-A project was completed within three years and the developed system verified by an independent agency, the loan was to be converted into grant. For Part-B projects, 25 *per cent* of the funds (90 *per cent* for Special Category States) were to be provided as loan from GOI with the balance funds raised from financial institutions (including PFC, REC) and or own resources. If the target of 15 *per cent* Aggregate Technical and Commercial (AT&C) loss was achieved on a sustained basis for five years in the project area, up to 50 *per cent* (up to 90 *per cent* for Special Category States) of the loan against Part-B projects was to be converted into grant.
- f. A Quadripartite Agreement (QA) was to be entered into amongst SEBs/Utilities, GOI, PFC and the State Governments to implement the R-APDRP. The signing of the QA was a prerequisite for release of funds. The MOP/ PFC was to monitor implementation of the precedent conditions agreed to in the QA before releasing funds. If considered necessary, MOP could impose such conditions as it deemed fit for the implementation of R-APDRP from time to time.

- g. R-APDRP provided for third party independent evaluation agencies (TPIEA) to be appointed by the MOP through PFC for verification of
- (i) base (starting) figure of AT&C loss of the project area. Part-B projects were to be taken up after verification of initial AT&C loss by MOP through nodal agency; and
 - (ii) the yearly AT & C loss figures of project areas after the completion of the **Part-A** projects.
- h. The scheme also envisaged incentives for utility staff in towns where AT&C loss levels were brought below 15 *per cent*. A maximum of 2 *per cent* of the grant for Part-B projects was allocated for this purpose. The Utility was expected to match these funds and disburse the total amount among its employees according to suitably devised incentive scheme.

The implementation of the R-APDRP is graphically indicated below.



Source: Power Finance Corporation

1.3 Funding of R-APDRP

As per the Cabinet Committee on Economic Affairs (CCEA) approval for R-APDRP scheme dated 30 July 2008, an outlay of ₹ 51,577 crore had been provided during the XI Plan period for the Scheme.

The subsequent CCEA Note of May 2013 projected an outlay of ₹ 44,011 crore incorporating GOI grant of ₹ 28,424 crore (for both XI and XII Plan periods; 2008 – 17). Till March 2015, MOP had released only ₹ 8,175.45 crore on the project.

1.4 Integrated Power Development Scheme

Government of India had launched a new Scheme ‘Integrated Power Development Scheme’ (IPDS) in December 2014 and the scheme of R-APDRP was subsumed in this scheme as a separate component relating to IT enablement of distribution sector and strengthening of distribution network. In addition to this, IPDS had two other components, namely, strengthening of sub-transmission and distribution network in the urban areas; and metering of distribution transformers/ feeders/ consumers in the urban areas.

Chapter 2

Audit Methodology

Audit Methodology

2.1 Audit Objectives

The performance audit was undertaken to assess whether:

- The planning required for implementation of the programme was appropriate and adequate;
- The funds were released in accordance with the guidelines and were commensurate with the progress of the work;
- The projects were implemented in an efficient and effective manner; and
- The mechanism for monitoring and evaluation of the projects was adequate and adherence to quality and timelines was ensured.

2.2 Audit Scope and Sample

The performance audit covered the period from the start of the R-APDRP scheme (December 2008) to 2014-15. The performance audit covered 29 States. In respect of Part A and Part B projects, a sample of 25 *per cent* of the sanctioned projects, subject to a minimum of 25 projects in each State was selected. In States where the number of sanctioned projects were less than 25, all the projects were selected for examination. In all, 596 Part A projects, 570 Part B projects and all 72 SCADA projects were examined in audit. State-wise number of projects sanctioned for implementation and selected for audit are presented at *Annexure - I and II*.

2.3 Sources of Audit Criteria

The main sources of audit criteria for the performance audit were:

- R-APDRP Guidelines;
- Detailed Project Reports (DPR), Quadripartite Agreements (QA) and Memorandum of Agreements (MoA) with State Electricity Boards (SEB);
- Electricity Act, 2003;
- General Financial Rules, 2005 (GFR);

- Methodology for establishing baseline AT&C losses; and
- Records and correspondence relating to the Scheme in MOP, PFC and Utilities.

2.4 Audit Methodology

The performance audit was taken up in May 2015. The performance audit commenced with an entry conference with MOP in May 2015 which was also attended by officers of PFC, the nodal agency. In the entry conference, audit methodology, scope, objectives and criteria were discussed.

Audit was conducted at MOP/PFC and SEBs/ State Electricity Departments (SEDs)/ Distribution Companies (Utilities / DISCOMS) in States.

The draft audit report was issued to the MOP in February 2016 and replies were received from MOP in April 2016. An exit conference was held in May 2016 with the MOP, where the audit findings and recommendations were discussed. Representatives of PFC were also present in the exit conference. The State Audit offices also conducted entry/exit conferences with the respective Utilities/SEBs (Utilities).

Audit acknowledges the cooperation extended by the officers of the MOP, PFC, Utilities and/or the State Governments in the conduct of this audit.

Chapter 3

Financial Management

Financial Management

3.1 Release and Utilization of Funds

The projected requirement of Gross Budgetary Support (GBS) for the R-APDRP scheme over the XI Plan period (2008 - 12) was ₹ 31,577 crores. The CCEA Note of May 2013 for continuation of the R-APDRP scheme projected that the estimated outlay required for the scheme (2008 - 17) would be ₹ 44,011 crore with GOI grant of ₹ 28,424 crore. The budgeted estimates and actual releases over 2008-15 (the scheme was subsumed in IPDS w.e.f. December 2014) were, however, much lower as presented in the following table:

Table 1 : Details of budgeted funds and release of funds under R-APDRP

(₹ in crore)

Financial year	Budget Estimate		Released	
	Loan	Grant	Loan	Grant
2008-09 ²	0	1.00	325.00	25.00
2009-10	1,650.00	80.00	1,321.09	1.26
2010-11	3,600.00	100.00	2,256.79	100.00
2011-12	1,959.00	75.00	1,600.00	67.87
2012-13	2,997.00	117.00	1,217.45	17.04
2103-14	500.00	75.00	640.00	8.70
2014-15	1,116.54	144.50	578.47	16.78
TOTAL	11,822.54	592.50	7,938.80	236.65
	12,415.04		8,175.45	

The budgetary estimates for 2008-15 were ₹ 12,415.04 crore (43.68 *per cent* of the revised GBS - ₹28,424 crore projected for the period 2008 - 17). The actual releases during 2008-15 were only ₹ 8,175.45 crores which was only 65.85 *per cent* of budgetary allocation. The reasons for the lower budget allocation as against the outlay

² Supplementary of ₹ 325.00 crore and ₹ 25.00 crore was obtained towards loan and grant respectively.

and even lower release of funds for the scheme were not available in the records produced to Audit.

The poor utilisation of the earmarked funds in APDRP scheme resulting in non-achievement of the targets was also commented upon by the PAC while considering the CAG's Report no. 16 of 2007. From the above, it appears that the situation with regard to the utilisation of the earmarked funds had not improved even under R-APDRP.

MOP stated (March 2016) that as against the revised programme size of ₹ 44,011 crore, total sanctioned cost of Part A and B projects was ₹ 39,244 crore as on 31 March 2015 of which the GOI loan component sanctioned was ₹ 17,855 crore (45.49 *per cent* of total sanctioned cost). The balance amount for Part-B was to be arranged by the Utilities from Banks/ financial institutions (FIs) /own resources. MOP further added that against the GOI loan sanction of ₹17,855 crore, MOP had budgeted for ₹ 11,822.54 crore (BE) and the revised budget estimate was ₹8,346.57 crore which works out to about 47 *per cent* of GOI loan component sanctioned. Further, actual GOI loan releases were ₹ 7,938.79 crore as against revised budget estimate of ₹ 8,346.57 crore which works out to 95 *per cent* of RE budget and about 44.46 *per cent* of total GOI loan sanctioned.

The fact was that MOP failed to fully utilise the funds allocated under the scheme even in a span of six years and implementation of the scheme was slow.

3.2 Expenditure incurred under Part C of the Scheme

The allocation for enabling activities under Part C was ₹ 1,177 crore as under:

- ₹ 850 crore for the services rendered by PFC for operationalisation of the Scheme, validation of baseline data system and yearly verification of AT&C loss figures of project areas, appointment of advisors and project management consultants to vet the project proposals, monitor implementation of the projects and MIS etc.;
- ₹ 200 crore for Capacity Building and Franchisee Development and exposure to latest developments in electricity distribution within India and abroad;
- ₹ 50 crore (increased to ₹250 crore vide MOP Order dated 8 July 2013) for few Pilot Projects for adopting new innovations; and
- ₹ 77 crore for miscellaneous activities such as 'Best Practices' workshops and conferences, Consumer attitude survey, Project specific evaluation and Standardisation of specification of equipment and contractual documents.

Against the allocation of ₹ 1,177 crore, MOP released only ₹ 236.65 crore up to March 2015.

3.3 Lapses in release and utilization of funds in the States

Clause 2 of the 'Terms and Conditions' of the QA regarding release/ disbursement of loans *inter-alia* provided that 30 *per cent* of the project cost can be released as GOI loan up front on approval of the project in case of Part A projects. Similarly, 30 *per cent* of the project cost can be released as GOI loan up front on approval of the project in case of Part B projects in Special Category States and 15 *per cent* in other States. Audit noticed the following issues:

3.3.1 Release of only the first installment

Scrutiny of records revealed that in 198 Part A projects, 317 Part B projects and 47 SCADA projects of the selected sample, only the first instalment amounting to ₹3,808.71 crore was released as upfront advance as detailed below:

Table 2 : Projects in which only first instalment was released

(₹ in crore)

Year	Release of First Installment by GOI								
	Part A - 100% Funded by GOI			Part B - 25% Funded by GOI			SCADA - 100% Funded by GOI		
	No. of Projects	Cumulative no. of projects	Amount Released	No. of Projects	Cumulative no. of projects	Amount Released	No. of Projects	Cumulative no. of projects	Amount Released
2009	60	60	169.34	-	-	--	5	5	45.27
2010	104	164	168.26	51	51	186.61	--	5	--
2011	18	182	20.58	159	210	1,402.11	18	23	144.43
2012	4	186	4.51	30	240	478.74	18	41	113.92
2013	--	186	--	37	277	170.53	--	41	--
2014	12	198	31.69	27	304	122.66	3	44	12.14
2015	--	198	-	13	317	316.20	3	47	421.72
TOTAL	198		394.38	317		2,676.85	47		737.48

Part A projects had to be completed within three years of sanction. As can be seen from the table, for 186 Part A and 41 SCADA projects, only the first instalment was released even though three or more years have lapsed since the first release. No further funds have since been released. It is also noticed that a number of Part B projects have been pending for up to six years.

MOP stated (March 2016) that in respect of Part B projects, implementation period is 5 years and up to 25 *per cent* of project cost (90 *per cent* in case of Special Category States) is provided as GOI loan and the balance funds were to be raised by the Utilities as counterpart fund from other sources, viz., PFC/REC/Banks/own resources. As such, in case of Part B projects after release of initial advance of GOI loan (15 *per cent*), major funding (75 *per cent*) was from counterpart funds and Utilities were availing the same for project implementation. Hence, last 10 *per cent* GOI loan was not yet due in most of the Part B projects.

The reply of MOP may be seen in light of the fact that:

- The test checked cases include Part A and SCADA projects, with 100 *per cent* funding by GOI, which had a completion period of three years and where second instalment has not been released even after lapse of four to seven years from the date of sanction of the projects raising doubts on completion of these projects.
- The table also indicates Part B projects where the 1st installment has been released more than five years ago and hence these projects ought to have been completed as per plan.

3.3.2 Separate Bank Account

As per clause no.13.0 (b) of R-APDRP guidelines, Utilities had to open a separate bank account (Escrow account) for receipt and utilisation of funds. It was, however, observed that:

- Maharashtra State Electricity Distribution Company Limited (MSEDCL) operated a separate “current” account with the bank only for the purpose of receiving funds from the PFC. The funds received from PFC, after maintaining a minimum balance of ₹ 5,000, were automatically transferred through standing instruction to another operative account of MSEDCL, which was common for all other schemes, Operation and Maintenance (O&M) and other expenses of MSEDCL. Pooling of funds in the common operative account was in violation of the scheme guidelines.

MSEDCL replied that the funds were transferred to the cash credit account as the interest rates were around 10 to 11.50 *per cent* as against the interest rate of 4 to 5 *per cent* in respect of savings account. It was added that there was no delay in project implementation due to diversion of funds and stated that scheme guidelines would be followed for future schemes.

- In Chhattisgarh, ₹ 304.67 crore received as R-APDRP funds from February 2013 to March 2015 were initially put into the overdraft account of the Utility. Out of the ₹ 304.67 crore R-APDRP funds, ₹ 233.19 crore was transferred to the R-APDRP scheme account and balance fund of ₹ 71.48 crore was lying in the overdraft account as on August 2015. Evidently, the Utility used the scheme fund to reduce its own overdraft. By depositing the scheme funds in the overdraft account of the Utility instead of the Separate Account opened for scheme funds, the Utility benefitted at the cost of the scheme.

MOP stated (March 2016) that the Utility has been advised to comply with the scheme guidelines in view of the audit observation.

Audit is of the opinion that in cases where higher interest has been earned due to parking of R-APDRP funds in a different account, such interest needs to be credited into the R-APDRP account.

3.3.3 Counterpart Funding

As per the terms of the scheme, a Quadripartite Agreement (QA) had to be entered amongst SEBs/Utilities, GOI, PFC and the State Government before implementation of projects. Signing of QA was a prerequisite for release of funds under the R-APDRP. The Ministry of Power/ PFC had to monitor compliance of the conditions precedent agreed to in the QA before releasing funds.

Clause 5.3 of the QA stipulated that the Utility shall ensure that the balance funds of Part B projects (to be raised from PFC/ REC / multi-lateral institutions and/ or own resources) will be fully tied up within two months of the sanction of a project and that agreement with Financial Institutions (FIs) for counterpart funding will be appended to the Loan Agreement with Nodal Agency.

It was noticed that in eight States, though the 1st installment of the Part B projects had been released during 2010 to 2014 (*Annexure III*), neither the PFC nor the MOP had any information as to whether the requisite counterpart funding had actually been tied up.

PFC replied (October and November 2015) that it took an undertaking from the utilities to the effect that the counterpart funding would be tied up within two months of sanction of the project. Details of counterpart loan extended by PFC only were maintained by them. They reviewed the tie up of balance funds for Part B projects on a

continuous basis in various fora, review meetings and through e-mails. The requirement of appending the counterpart loan agreement with GOI loan agreement does not serve any purpose as the Part-B counterpart loans from the FIs are to be governed by the respective terms of the FIs. The details of counterpart funding, as required shall be obtained at the time of conversion of loan into grant.

MOP stated (March 2016) that:

- The onus of tying up of counterpart fund is on the Utilities, being owners of projects and not on the PFC. PFC is maintaining information to the extent furnished by the Utilities in respect of tying-up of counterpart fund.
- The QA required the Utilities to ensure tie up of counterpart funds within two months from sanction of Part B projects. The same was amended in the 28th meeting of the Steering Committee held on 6 August 2013 when Utilities were allowed to ensure tie up of counterpart funds within two months from award of Part B projects by the utilities.
- The Utilities are required to submit the details of counterpart funding while submitting claims for further release of GOI loan or conversion of loan into grant. PFC, while processing release of further tranche of GOI loan for Part B projects, ensures that Utility has tied-up and utilised counterpart funds as per R-APDRP guidelines.

The above reply should be seen in light of the fact that:

- Non-tying up of counterpart funding can lead to financial crunch for the Utility in implementation of the projects and should have been ensured by the MOP/ PFC before release of funds as envisaged in the scheme to ensure projects implementation in a time bound manner.
- Para 4.0 (c) of R-APDRP Guidelines entrusted the responsibility of monitoring the implementation of the precedent conditions agreed to in the Quadripartite Agreement to PFC, before funds of MOP and PFC were released. Hence, it was incumbent upon PFC to monitor whether counterpart funding were tied up by the Utilities in cases where funds have been released under Part B Projects.
- The contention of PFC that '*the requirement of appending the counterpart loan agreement with GOI loan agreement does not serve any purpose*' is not acceptable

as such agreement assures MOP/ PFC that adequate finances were available for implementing the project.

- The contention of PFC that counterpart loans from the FIs were to be governed by the respective terms of the FIs also needs to be seen in the light of the fact that the counterpart loan was also eligible for conversion of loan into grant, subject to fulfillment of stipulated conditions.

3.4 Transfer / abandonment of works by Utility

Clause 16.0 of the QA, *inter alia*, stipulates that the Utility shall not transfer or abandon the project at any stage without written consent of the PFC. Further, when projects were transferred or abandoned, the entire outstanding dues from the Utility were to be repaid to the PFC.

It was observed that projects of 24 towns in **Tamil Nadu** had been cancelled by the Steering Committee as the AT & C losses verified by the TPIEA were less than 15 *per cent* in these towns. However, the funds released for these towns, amounting to ₹ 163.95 crore, were yet to be recovered/ adjusted by PFC.

MOP stated (March 2016) that PFC is pursuing with Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO) regularly for recovery of loan proceeds along with interest accrued.

3.5 Diversion of funds

Para 12 (g) of the QA envisaged that funds provided to the Utility under R-APDRP shall not be diverted for any other scheme or purpose.

Audit scrutiny in 29 States indicated cases of diversion of funds of ₹ 535.39 crore in 8 States (*Annexure - IV*) out of which, recovery only in respect of ₹ 368.54 crore has been made till March 2015.

It was also noticed from the Internal Audit Report of MOP for the year 2011-12 that in five cases there were diversion of funds amounting to ₹ 1,365.52 crore in different States as detailed below:

Table 3 : Cases of diversion of R-APDRP Funds*(₹ in crore)*

Sl. No.	State (Utility)	Amount Diverted
1.	Tamil Nadu (TANGEDCO)	572.91
2.	Maharashtra (MSEDCL)	540.38
3.	Andhra Pradesh (Now Telangana) (APCPDCL)	124.14
4.	Rajasthan (JVNL)	104.94
5.	Karnataka (BESCOM)	23.15
Total		1,365.52

MOP, while stating (March 2016) that PFC had sought clarifications from the Utilities of Rajasthan, Maharashtra, Karnataka and Tamil Nadu added that PFC had suggested that as long as the Utility met its payment obligations in a timely manner, fund management by the Utility as per its own policy may be acceptable as the Utility was taking interest risk on the GOI loan. It was further stated that PFC/MOP cannot exercise any direct operational control on the bank accounts as they are managed by the concerned Utilities.

MOP's reply did not address the issue of specific cases of diversion of funds pointed out by Audit. Further, while the responsibility of fund management rests with the concerned Utility, MOP/PFC cannot absolve themselves of supervisory responsibility to ensure that the funds were utilized in accordance with the scheme guidelines.

3.6 Overlapping of Schemes

It was noticed that in **Assam**, projects taken up under R-APDRP were also taken up under other schemes as indicated below:

Table 4 : Cases indicating overlapping of Projects

Project/ Part of the Project	Value of the Project / Part of the Project	Other Scheme under which included
Part B project in Dhing - supply and installation of Vacuum Circuit Breaker (VCB) 9 unit for 33/11 KV sub-station	₹ 30.05 lakh	Scheme under Asian Development Bank (ADB). Material procured under ADB project kept on standby.

Part B project in Dibrugarh – supply and installation of one 5 MVA PTR	₹ 57.96 lakh	Scheme under Asian Development Bank. Material procured under R-APDRP installed outside ring fence of respective projects.
Bongaigaon Project area – supply and installation of 33KV VCB and 11 KV Outdoor VCB	₹ 6.82 lakh	

MOP stated (March 2016) that PFC appraised projects on the basis of DPRs submitted by the Utilities, adding that the Utilities submit claims in the prescribed formats including a certificate that the same items were not being claimed from any other sources. It was further added that the concerned Utilities need to reply to the specific issues raised by Audit.

While it is true that the responsibility for preparing DPRs rests with the Utility, MOP and PFC need to monitor the implementation of the scheme effectively to avoid such overlapping of schemes to ensure optimal utilisation of the scheme funds.

3.7 Release of funds not in consonance with conditions of agreement

Release of funds were noticed in some States which were not in consonance with the identified milestones/conditions of agreement as given below:

Andhra Pradesh

- An advance of ₹2.83 crore was released to the SCADA / Distribution Management System (DMS) implementing agency – M/s Chemtrols Industries Ltd. without the implementing agency setting up site office as required in the agreement.

Chhattisgarh

- Though an amount of ₹ 27.98 crore was recoverable from the utilities due to cancellation of projects/ other reasons in 32 towns/cases, a further ₹ 545.48 crore was released without adjusting the previous releases.
- A penalty of ₹ 1.31 crore was imposed in six towns/cases of Part B and penalty of ₹ 1.55 crore was imposed on the ITIA of Part A which were not adjusted in funds released subsequently by PFC.
- Earnest Money Deposit (EMD) forfeited from the contractor was not accounted for in the scheme account.

The Ministry did not offer any comments on the audit observation (March 2016).

3.8 Utilisation Certificates (UCs)

The terms & conditions of the sanction of loans to the Utilities under the scheme provided *inter alia*, that each layer of funding should keep a strict monitoring on the funds parked in the accounts of the next lower level. It also stipulated that the details of funds released, actual utilization and physical targets achieved vis-à-vis funds released etc. were required to be furnished to MOP at the end of the year. Moreover, as per Rule 226 of GFR, a UC (in Form 19-B) should be furnished within a reasonable time, not later than 18 months from the expiry of financial year in which loan is disbursed.

It was noticed that PFC submitted two sets of UCs to the MOP; one indicating the total disbursement of GOI funds made by PFC to Utilities and the other indicating the utilisation of funds by the Utilities as received from them periodically by PFC.

Audit observed that :

- As per the UCs furnished by PFC in respect of the GOI loan funds, PFC had fully disbursed the funds released by GOI amounting to ₹ 8,606.62 crore as of March 2016. However, in respect of the funds released to the Utilities by PFC, UCs for an amount of ₹ 4,155.88 crore (48.29 *per cent* of the total funds released) were forwarded by the PFC to MOP. It is pertinent to note here that the loans disbursed during 2013-15 were only ₹ 1,218.47 crore indicating that the UCs in respect of the balance amount of loan disbursed were overdue.
- Instances where UCs had not been received from Utilities up to a period of six years from the release of funds (₹ 706.57 crore) are presented in **Annexure - V**.
- PFC did not maintain the stipulated monthly/ annual project-wise report in respect of funds released, actual utilization and physical targets achieved vis-à-vis funds released.

PFC informed (February 2016) that town-wise expenditure was not separately maintained in their Enterprise Resource Planning (ERP) system. It also stated (March 2016) that progress/ status /issues of project implementation are discussed/ reviewed in various forums /meetings/ regional review meetings etc. and it provided fortnightly MIS reports to MOP. Further, PFC indicated that all India sanctions/ disbursement details are informed to MOP from time to time while requesting further release of funds

and that the utilisation details are submitted for those claims of utilities for which further fund release is sought.

MOP in their reply (March 2016) referred to the fact that the Pay & Accounts office was provided with the UCs of the previous tranche before releasing the next tranche of installment and stated that a system of checks and balances exists at MOP as well as the Pay & Accounts office.

The replies of the PFC and MOP need to be seen in light of the following facts:

- PFC did not provide specific returns as envisaged in the sanction letters issued by MOP.
- The fortnightly MIS reports referred to in the reply did not indicate anything about the release of funds and expenditure incurred.
- In the sample scrutinized by Audit, it was seen that Utilities have not submitted even a single UC for 198 Part A (33.22 *per cent* of sample), 47 SCADA (61.11 *per cent* of sample) and 317 Part B (55.61 *per cent* of sample) projects.
- The reply of MOP is not in accordance with the provisions of Rule 226 of GFR which stipulates that UCs are required to be furnished within a reasonable time not later than 18 months from the expiry of financial year in which loan is disbursed.

3.9 Non-inspection of the books of accounts of State Utilities

Para 14.0 of the QA inter-alia stipulated that the State Utility (SU) shall make available for the inspection of the Central Government / PFC or its nominated agency all its books of account and other documents maintained by it.

It was noticed in Audit that no such inspection was carried out by PFC or its nominated agency to ensure optimum utilization of the funds released under the scheme.

PFC replied (February 2016) that they did not inspect the annual accounts of the Utilities related to R-APDRP scheme implementation due to manpower shortage and being engrossed with activities like operationalization of scheme, resolution of issues, disbursement process etc.

The fact remains that inspection as envisaged under the scheme has not been done.

3.10 Conversion of loan into grant

Responding to the observation of the PAC on the Report of the CAG regarding APDRP Scheme (Report no. 16 of 2007), MOP had stated that conversion of loan into grant has been linked to their timely completion and the Committee expressed hope that this provision shall have salutary effect on the various projects and their timely completion.

Accordingly, the R-APDRP guidelines provided for conversion of loan for Part A projects into grant once the projects were completed within three years of sanction. As per the R-APDRP guidelines, Part A Projects would be considered as completed on establishment of the required system duly verified by an independent agency appointed by the MOP through the nodal agency. From the scrutiny of the records, it was seen that none of the Part-A projects were certified as completed by the independent agency. Consequently, there were no instances of conversion of loans into grants and hence, the provision for conversion of loan into grants could not incentivise timely completion.

MOP stated (March 2016) that conversion of Part-A loan into Grant is to be initiated after verification of Part-A completion by Third Party Independent Evaluation Agency-Information Technology (TPIEA-IT) which is going on in most States where 100 *per cent* towns have been declared Go-Live. It further stated that the CCEA, while considering continuation of R-APDRP in XII Plan, extended Part A completion from three to five years and also delegated powers to the Steering /Monitoring Committee to consider giving further extension of time for completion of projects under R-APDRP on case to case basis.

The extension of completion time from three to five years defeated the purpose of conversion of loan into grant as a motivating factor to get projects completed in time. Further, it is seen that 182 projects sanctioned before 2011 (that is more than five years ago) have not yet been certified as complete (March 2016).

Recommendations

1. Ministry should ensure that Utilities tie-up Counterpart funding before release of funds.
2. Ministry may ensure that Utilisation Certificates are submitted by the concerned Utilities as per timelines prescribed in the General Financial Rules.

Chapter 4

Programme Implementation

Programme Implementation

4 Chapter

The R-APDRP scheme was to be implemented through the execution of Part A and Part B projects as brought out in the preceding Chapters. The Utilities were required to formulate DPRs, on their own or through empanelled consultants, for each of these projects and forward the same to the PFC through Distribution Reforms Committee (DRC). PFC was to present the DPRs to the Steering Committee and get the projects executed through turnkey contracting. Power Finance Corporation (PFC) was required to empanel IT consultants and IT implementing agencies for Part A projects for selection by the Utilities through competitive bidding. The findings of Audit with respect to the implementation of the projects (Part A and B projects) are presented in the following paragraphs.

4.1 Preparatory activities

In the first meeting of the Steering Committee held on 20 October 2008, a schedule was drawn up for carrying out basic activities relating to formulation and implementation of the projects under the Scheme. The completion of these activities as per the decided timelines was important for the timely implementation of the project and the success of the R-APDRP scheme. Delay in the completion of these activities would lead to a cascading delay in the completion of the projects and the realization of the envisaged benefits of the projects.

The schedule for the activities and achievement of targets against the projected schedule are given as under:

Table 5 : Projected schedule of basic activities and achievement thereagainst for formulation and implementation of the projects

Activity	Scheduled date	Actual date of completion
Empanelment of IT Consultants for Part A projects	28 November 2008	9 January 2009
Empanelment of implementing agencies (ITIA)	15 January 2009	20 March 2009

Preparation of Model DPRs for Part A projects	30 November 2008	9 January 2009
Preparation of Model DPRs for Part B projects	30 January 2009	29 June 2009
Empanelment of SCADA consultant	31 March 2009	22 December 2009
Preparation of Model DPRs for SCADA projects	30 September 2009	14 July 2010
Empanelment of Third Party Independent Evaluation Agencies	15 January 2009	30 November 2009
Appointment of consultant for preparation of capacity building programme of distribution personnel	15 April 2009	9 September 2009
Empanelment of Partner Training Institutes	30 September 2010	18 October 2011

There were delays ranging up to 13 months in finalization of preparatory activities for implementation of the programme. The delays in preparatory activities had a cascading effect on the actual implementation of the scheme.

MOP stated (March 2016) that most of the preparatory activities were carried out by PFC with the help of a Process Consultant as R-APDRP was first of its kind of IT enablement initiative by GOI in the urban distribution sector and detailed deliberations and due diligence were required in empanelment of consultants/agencies and preparation of bid documents/ model DPR formats etc. As the IT intervention in distribution was being taken up on a large scale for the first time in the country, delays in implementation of the programme could mainly be attributed to delay in finalization of tenders by utilities; disputes and court cases; difficulty faced in various activities due to complex technical problems as well as skilled manpower constraints etc. and not the preparatory activities for the implementation.

The reply of MOP needs to be viewed in light of the fact that the delays pointed out by Audit were with reference to the target dates fixed by the Steering Committee for various activities to be carried out under the Scheme taking into consideration the nature, scope and quantum of work involved in these activities.

4.2 Appraisal of DPRs

As per clauses 4.0, 10.0 and 10.2 of the R-APDRP Scheme, the Utilities were to prepare the DPRs for the projects either by themselves or through IT consultants appointed for the purpose. The DPRs were then to be presented to the Distribution Reforms Committee (DRC), under the Chairmanship of the Chief Secretary/Principal Secretary/Secretary Power/ Energy, of the respective states for approval. The approved DPRs were to be forwarded to PFC, which was to appraise the DPRs techno-economically before presenting them to the Steering Committee for approval. The Steering Committee under the Chairmanship of the Secretary (Power) would sanction the projects, including modifications or revision of estimates, monitor and review the implementation of the Scheme.

In the CAG's Report No. 16 of 2007, it was observed that an average of 71 projects were sanctioned per meeting of the Steering Committee and it was recommended that the Ministry take steps to ensure critical examination of all the DPRs by the Steering Committee for technical and financial feasibility before approval. Audit noticed that the average number of projects sanctioned per Steering Committee meeting for R-APDRP scheme, had, in-fact, increased to 121 with 2,774 projects costing ₹ 37,427.08 crores being sanctioned in 23 meetings of the Steering Committee held during February 2009 to February 2014 as detailed in *Annexure - VI*.

The observations of Audit with regard to the appraisal of DPRs are presented in the following paragraphs.

4.2.1 Sanctioning of projects not recommended by State DRCs

Audit observed that 553 projects under the Scheme were sanctioned without prior scrutiny/ approval by the State DRCs, as required. The details of the projects so approved are presented as *Annexure - VI*.

MOP stated (March 2016) that the projects were sanctioned by the Steering Committee even when there was no prior scrutiny by DRCs to expedite project implementation and added that the project sanction letters were issued only after submission of DRC recommendations. It was further added in the exit conference (May 2016) that no funds were released for any of the projects without receiving the formal approval of the DRC.

The reply of the Ministry needs to be considered in light of the fact that once the projects were approved by the Steering Committee, approval of DRCs became a mere

formality. Audit could not draw an assurance that project proposals were critically examined at DRC/Steering Committee level.

4.2.2 Non – preparation of DPRs as per the Model DPR

Clause 3.4 of the QA stipulated that PFC would prepare model DPR formats for Part-A and Part-B projects. The model DPRs indicated, *inter alia*, items of work which could be included in the individual projects.

It was, however, noticed that:

- In five³ out of 29 States, DPRs had included inadmissible items of work and excluded required items of work from the scope of the project as indicated in ***Annexure - VII***.
- DPRs in respect of three⁴ states did not indicate implementation schedule required as per the Model DPR.

Audit also noticed in the test checked projects that instead of vetting the facts and figures independently before recommending the projects for approval of Steering Committee, PFC had made certain assumptions such as Utility had followed the DPR Guidelines while preparing the DPRs, Utility had considered approved benchmark prices/scheduled rates in DPR, benchmark cost had been derived (in the absence of awarded cost) based on market data, feedback from Utilities etc.

MOP stated (March 2016) that all Utilities are following R-APDRP guidelines for implementation of Part A projects and that detailed appraisal procedure was followed by PFC and formats/DPRs were standardised. PFC in its reply (November 2015 and February 2016) stated that these were not assumptions but declarations.

The reply of Ministry does not address the anomalies noticed in Audit. Further, the 'Executive Summary' in respect of the DPRs, submitted to the Ministry of Power by the PFC specifically mentioned that PFC had made these assumptions.

4.2.3 Projects under APDRP continued under R-APDRP without being completed / short closed

Clause 2.3 of the R-APDRP guidelines provided for sanction of projects only after completion or short closure of ongoing APDRP projects. The Utilities were required to

³ Assam, Gujarat, Rajasthan, Tripura and Uttar Pradesh

⁴ Meghalaya, Rajasthan and Sikkim

submit completion certificates for the works executed under X Plan APDRP projects which were under implementation.

It was observed that in Jharkhand, Part A projects in 30 towns were sanctioned (September 2009) by MOP after Jharkhand State Electricity Board (JSEB) intimated (February 2009) that all the packages of previous APDRP scheme in respect of the R-APDRP towns have already been completed / short closed. It was, however, observed in Audit that 14 projects undertaken under APDRP were under various stages of completion. Moreover, DPRs for the Part B projects in respect of these towns were approved by MOP in September 2013 although closure plan of the ongoing APDRP projects were not submitted.

MOP stated (March 2016) that R-APDRP projects have been sanctioned based on the certificate given by the Utility that X Plan projects in the concerned project area have been completed/ short closed.

Thus, it is clear that MOP had no independent mechanism to ensure that X Plan APDRP projects were completed/short closed before taking them under R-APDRP although APDRP projects were also sanctioned and implemented under their guidance.

4.3 Delay in calling of tenders and award of work

Audit noticed cases where Part A project DPRs were submitted for approval three years after inception of the scheme, even as the schedule of completion of Part A projects was three years. Delays up to 52 months in calling of tenders and award of work by the Utilities have been noticed in 16 States in Part A and Part B projects. Even DPRs were formulated late. The delay in these activities resulted in delayed completion of projects under the Scheme. The cases of delays noticed in various States are presented as *Annexure - VIII*.

MOP stated (March 2016) that there is no timeline for DPR formulation and that delay in calling of tenders and award of work by the utilities etc. were brought to the Utilities' notice regularly through correspondence/meetings/workshops etc. for expeditious implementation of the programme. PFC conducts monthly review meetings with the representatives of utilities for speedy implementation of the programme. It was further stated that keeping in view the delays faced by the Utilities due to size and complexities involved in the implementation of the programme, an extension in

completion period from 3 to 5 years was accorded by CCEA, which also authorised Steering Committee for grant of further extensions on case to case basis.

While MOP may have taken steps to ensure prompt appraisal of DPRs and the timely completion of project, the fact remains that there were delays of up to 52 months in the formulation of DPRs, calling of tenders and award of work by the Utilities and the projects were not complete even after six years of implementation of the Scheme.

4.4 Non – prioritisation of projects

Para 4 of the scheme guidelines required that the order of priority of the projects was to be indicated by the Utilities while forwarding the DPRs to PFC. However, the basis on which the projects were to be prioritised was not stipulated in the guidelines.

It was observed in audit that in 11 States⁵, priority of the projects was not indicated. Further Audit noticed that in **Jharkhand**, though priority was decided, it was not followed in the execution of the works.

MOP stated (March 2016) that DPRs, as and when received by PFC from the Utilities, were appraised and submitted to the Steering Committee for sanction. Prioritisation was done at the Utilities' end.

While it may be true that the prioritisation of projects is the responsibility of the Utilities, the fact remains that PFC being the Nodal Agency should have ensured the prioritisation of projects as stipulated in the scheme guidelines to ensure optimal utilisation of the scheme funds.

4.5 Non-adherence to the approved DPR (Change in project area)

Audit noticed that one project in Tripura and two projects in Uttar Pradesh were not executed in line with the approved DPR as detailed below:

Table 6 : Projects not executed as per approved DPR

S.No.	State	Proposed Project in DPR	Executed Project
1	Tripura	Augmentation of transformer capacity at Rampur Sub-Station	Augmentation of transformer capacity at Khayerpur sub-station
2	Uttar Pradesh	Construction of Sub-Station at Vikram Colony, Aligarh	Construction of Sub-Station at Lal Diggi, Aligarh
		Augmentation of transformer capacity at Town hall, Hapur town	Augmentation of transformer capacity at Delhi Road, Hapur town

⁵ Assam, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, J&K, Madhya Pradesh (Eastern DISCOM), Maharashtra, Manipur, Kerala and West Bengal

MOP stated (May 2016) that the change in location of a project should not be objected to so long as the project area is the same.

While the project area may be the same, the fact remains that the projects were not executed in line with the approved DPR.

4.6 Delay in start of projects due to non – provision of infrastructure to the contractors

In 11⁶ out of 29 States, works were not started in time as the Utilities did not provide basic infrastructure like land / building required for execution of the projects to the contractor. This had contributed to delay in completion of the projects.

MOP stated (March 2016) that for this reason, the CCEA/Steering Committee granted further extension for completion of these projects.

In view of the significant delays in scheme implementation, MOP should take appropriate steps to ensure minimisation of the delays.

4.7 Revision of costs without the approval of the Steering Committee

The maximum limits for variations in the pre – award stage and the post – award stage under different circumstances and the procedure to be followed in each of the cases were prescribed vide guidelines approved by the Steering Committee in its 14th Meeting held on 26 November 2009. The same are presented as *Annexure - IX*.

However, it was observed in Audit that in seven States⁷, there was variation in excess of prescribed limits in the DPR costs approved by the PFC. The details of these works are given in *Annexure - X*.

MOP stated (March 2016) that they were restricting the release of funds to the sanctioned cost or revised awarded cost whichever is lower and that the Integrated Power Development Scheme⁸ (IPDS) guidelines allowed no further cost escalation/enhancement. As regards the additional quantities approved for implementation, MOP stated that distribution system being dynamic in nature, the

⁶ Andhra Pradesh, Assam, Chhattisgarh, Goa, Jammu & Kashmir, Himachal Pradesh, Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and Uttarakhand.

⁷ Assam, Bihar, Gujarat, Jharkhand, Kerala, Manipur and Uttar Pradesh.

⁸ Government of India had launched a new Scheme 'Integrated Power Development Scheme' (IPDS) in December 2014 and R-APDRP scheme, as approved by CCEA for continuation in XII and XIII Plans, was subsumed in this scheme as a separate component relating to IT enablement of distribution sector and strengthening of distribution network.

requirement of meters / modems etc. varies, depending upon the expansion of the system.

The assurance of MOP regarding correction in IPDS guidelines is noted. While requirements of distribution systems could indeed be dynamic, the limits of such variations had been laid down in the R-APDRP guidelines which ought to have been adhered to.

4.8 Data Centre and Disaster Recovery Centre

In the eighth meeting of Steering Committee held on 13 February 2009, it was decided that each state will have one data centre (DC) for all the Utilities in the state and also one Disaster Recovery Centre (DRC). The DC and DRC were required to be located in different seismic zones to ensure safety of the data in at least one place in case of natural disasters like earthquakes etc. In the 14th meeting of the Steering Committee held on 26 November 2009, it was decided that States falling entirely in one seismic zone may be allowed to have both the DC and the DRC in the same seismic zone provided DRC is hosted in an earthquake resistant building. It was seen that these guidelines were not followed in some states as indicated below:

- The initial proposal was for setting up DRC for **Assam** at Kolkata in a different seismic zone. However, during actual execution, the location of DRC was shifted from Kolkata to Agartala which was in the same seismic zone as the DC (Guwahati). The reason for shifting the location of DRC from Zone-III to Zone-V was not available on record. Further, the capability of the DRC building to withstand the earthquakes was not verified/ certified.

MOP stated (March 2016) that common DC and DRC for NER region are located at Guwahati and Agartala respectively. It was added that the Utility has confirmed to the PFC that the DRC building is structurally sound and would assess the earthquake resistance parameter of the DRC building in consultation with the State Public Works Department (PWD) and take remedial measures as per their suggestions.

- In **Jharkhand**, the DC and DRC were in the same seismic zone. Further, the absence of proper maintenance and deficiency in the infrastructure may impede continuous operation of the DC and DRC.

MOP accepted the facts and stated (March 2016) that the issue may be taken up with the Utility.

4.9 Non – adoption of turnkey contracting

Para 4.3 of the QA envisaged that the Utility shall implement Part A projects sanctioned under this programme on turnkey basis by appointing the IT implementing agency (ITIA). Para 4.4 of the QA envisaged that Part B projects would also be implemented on turnkey basis.

It was, however, observed that in seven States⁹, the Utilities did not award contracts on turnkey basis or got the works executed on partial turnkey basis, thereby negating the purpose of turnkey contracting, viz., identification of single point responsibility. The State wise deficiencies noticed during audit examination are given in *Annexure - XI*. It is pertinent to mention here that non- adoption of turnkey contracting was highlighted in the CAG's Report no. 16 of 2007 on APDRP scheme and the Public Accounts Committee in its 77th Report (14th Lok Sabha) had also recommended that during XI Plan period, the projects should be awarded only on turnkey basis.

MOP, while accepting the observation, stated (March 2016) that under R-APDRP guidelines, Part B projects were to be implemented preferably on turnkey basis. It was added that Utilities decide the mode of implementation of projects based on their experiences/expertise/field conditions/ packaging.

The reply of MOP is not acceptable as Para 4.4 of the Model Quadripartite Agreement clearly stipulated that 'Utility shall prepare DPRs of Part B projects in-house or by appointing the Consultant from the panel prepared by the Nodal Agency and implement the same on turnkey basis'.

4.10 Additional expenditure due to re-tendering

Additional expenditure had to be incurred in three States to the tune of ₹ 61.31 crores due to re-tendering as detailed below:

⁹ Assam, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Telangana and Sikkim

Table 7 : Cases of extra expenditure due to re-tendering**(₹ in crore)**

State	Excess expenditure	Reason for re – tendering
Haryana	55.59	Non – finalisation of tender within the bid validity period due to seeking of clarification on negotiation with L-1 from PFC by DISCOM .
Karnataka	4.70	Earlier tender cancelled by Board of Directors without documenting any reason and same work was awarded on single tender basis.
Tripura	1.02	Utility had erroneously invited restricted tenders which were cancelled on the instructions of Board of Directors.

MOP stated (March 2016) that PFC is restricting release of funds to sanctioned cost or awarded cost, whichever is lower.

While the assurance of MOP is noted, it does not address situations where inefficiency on part of the contracting Utilities has resulted in additional costs though the sanctioned cost for the project has not been breached.

4.11 Different rates for same items

It was seen during Audit that the works were awarded to contractors at different rates for same items of work being executed in the same State at the same time as detailed below:

Table 8 : Extra Expenditure due to different rates for same items**(₹ in crore)**

Sl. No.	State	Work	Extra Expenditure
1	Assam	Dibrugarh and Mangaldoi Electrical Circles (4 project areas each)	3.94
2	Bihar	Part B works of Patna town (Package B & C)	7.07
3	Punjab	Cost of transformers in Ludhiana East and Ludhiana West	4.83
4	Tamil Nadu	Distribution strengthening works for Chennai (North) and Chennai (South)	1.52

MOP stated (March 2016) that PFC had not prescribed any Standard Bidding Documents for Part B works. Utilities are adopting their own Bidding Documents for award of Part B Projects.

The reply needs to be considered in the context of lack of due diligence on part of the Utility before tendering of work. This aspect needs to be adequately identified through the mechanisms laid down by MOP.

4.12 Shortcomings in contract entered into by Utilities

In following cases, the conditions of the contract were not adhered to:

Assam

In Nagaon Electrical Circle, the Utility awarded the work on the basis of lump sum prices. However, during actual execution, material worth ₹ 0.63 crore was not supplied by the Contractor and had to be arranged by the Utility at its own cost. Since, the tenders were evaluated based on the lump sum prices for the entire scope, the decision of the Utility to supply material at its own cost was not justified and resulted in extension of undue benefit to the contractor.

Sikkim

- Energy and Power Department (EPD) had appointed National Power Training Institute (NPTI) for preparation of DPRs for Part B project. The agreement prohibited the transfer or assignment of work either wholly or in part, by any party without the written consent of the other party. However, NPTI assigned the contract to M/s. Feedback Ventures Private Limited.
- EPD awarded the installation of feeder panels at 66/11 KV Switch Yard at 5th Mile and 11/11 KV Switch Yard at Deorali to Sinhal Infrastructure. However, physical verification at Upper Tadong indicated that the work had been done by a contractor, M/s Pema Thutem Sherpa instead of Sinhal Infrastructure in violation of the Agreement.

Tamil Nadu

The strengthening of distribution works at Dindigul, Pudukottai and Aranthangi was awarded to IVRCL Limited for a gross value of ₹ 38.71 crore to be completed by 27 June 2013. As the contractor failed to show any progress even after nine months from the scheduled date of completion, the contract was terminated in November 2014. Subsequently the work was awarded to M/s. Herodex Power System Private Limited, Nasik for ₹ 42.98 crore. However the contract with IVRCL Limited did not provide for recovery of the differential cost from the defaulting contractor and as such, the extra cost incurred by the Utility could not be recovered.

Tripura

The work pertaining to implementation of Part B project under Indranagar Project Area was awarded (14 October 2014) to M/s Horizon Hi-tech Engicon Limited at a cost of ₹ 1.62 crore. The agreement provided that the contractor could not assign or sub-let the contract without obtaining written approval of the Engineer in charge. A scrutiny of the records revealed that some materials were issued to M/s JMP technical services who was the sub-contractor of M/s Horizon Hi-tech Engicon Limited. However, the Utility was unable to produce any document where approval was given to the contractor to sub-let the contract.

MOP (March 2016) did not offer any comments on these observations and stated that they are issues between the Utilities and the Contractor.

The reply of MOP needs to be seen in light of the fact that the breach of contract conditions may lead to cost escalations which would adversely impact the R-APDRP programme. This needs to be monitored by the MOP to ensure effective implementation of the scheme.

4.13 Quality Control

The observations of Audit with respect to the quality of material used in the projects executed under the R-APDRP are presented below:

4.13.1 Concerns regarding procurement of material by Utilities

In the following instances, Audit noticed procurement of material by Utilities which were not as per approved DPR specifications:

- In **Andhra Pradesh**, against the requirement of 92 Category B meters (Boundary Meters) 7,350 Category B meters were procured (July & September 2011). Subsequently it was decided (December 2012) to convert them into Category C meters (HT consumer meters) resulting in avoidable additional cost of ₹ 0.40 crore.
- In **Meghalaya**, Meghalaya Energy Corporation Limited (MeECL) procured Category B meters instead of Category C meters resulting in unfruitful expenditure of ₹ 0.50 crore.
- In **Bihar**, the Utility awarded a contract for supply of 10 MVA power transformers at a cost of ₹ 8.05 crore on the basis of test report of Central Power Research Institute (CPRI) which was found to have been manipulated by the contractor.

- In **Punjab**, for execution of Part B project on turnkey basis, Punjab State Power Corporation Limited (PSPCL) had, inter alia, issued (May 2013) four work orders to M/s L&T Limited which required radiators in the transformers to be Electric Resistance Welded (ERW) elliptical “tube type”. However, at the request of the contractor, the type of radiators of the 500 KVA and 200 KVA transformers were changed from ERW elliptical “tube type” to “fin type” despite the fact that PSPCL had itself stopped purchase of distribution transformers with “fin type” radiators due to oil leakage problems.

MOP did not offer any comments on the audit observations.

4.13.2 Failure of the items/systems leading to delay in completion of the projects

Instances of failure of items/systems leading to delay in completion of projects were noticed in following States as indicated below.

- In **Karnataka**, as per Request For Proposal (RFP), a total of 59,520 GPRS modems had to be supplied by the ITIA for all Electricity Supply Companies (ESCOMs), which increased to 84,640 during survey. After installation of modems, problems were noticed in communication of information through the modems and there was a high failure rate. The matter was referred to Central Power Research Institute by Bangalore Electricity Supply Company (BESCOM) to identify the reasons for failure of modems. Though the Utility followed up the issue of poor quality of modems, the entire process took one year and nine months for new modems to be installed, thereby delaying the Scheme and delaying analysis of the results of meter readings including analyzing AT&C losses.
- In **Meghalaya**, out of 1,467 modems installed, 745 modems were not functioning. Five out of 19 Data Collection Units (DCUs) installed were not sending data to the Data Centre. This has resulted in delay in completion of the project.
- In **Madhya Pradesh**, at selected towns, materials such as distribution transformers (DT), cables, meters, polymer pin insulators etc., valuing ₹ 1.87 crore, installed under Part B works were found to be defective but were not replaced.
- In **Tripura**, in Part B Schemes for three project areas, the distribution transformers (DTs) were guaranteed for a period of 18 months from the date of receipt of

materials in stores or 12 months from the date of installation. Out of the 80 DTs supplied under the agreement, six DTs were found damaged within the guarantee period. However, DTs were not repaired by the supplier (October 2015).

- In **Uttar Pradesh**, several incidents of poor performance of CCB Server had been reported in October 2014, January 2015 and February 2015. By March 2015, the problem had escalated but no Root Cause Analysis (RCA)¹⁰ was done despite recommendation of IT Consultant (ITC).

MOP did not offer any comments on the audit observations.

4.14 Non-obtaining of suitable guarantees

It was seen that suitable guarantees were not obtained from the contractor for satisfactory functioning of the system after completion of the work in three States¹¹.

Manipur

- Letters of Awards (LOAs) for implementation of Part-B projects were issued (September 2013) to nine Turn Key Firms (TKFs) at total contract value of ₹ 357.16 crore, which, *inter alia*, stipulated that 15 *per cent* Contract Performance Guarantee (CPG) were required¹² to be furnished by the executing firms before commencement of work. However, the TKFs were allowed to execute the works without furnishing the required performance guarantee in violation of the terms of LOAs.
- Para 11 of LOA issued to M/s TCS for implementation of Part A projects stipulated that the firm should furnish bank guarantee from any Scheduled Commercial Bank towards performance guarantee at the rate of 10 *per cent* of the contract price. However, M/s TCS did not submit the required bank guarantee.

Utility stated that the TKFs were asked to submit the performance guarantee, failing which an amount equivalent to 15 *per cent* of the contract price will be retained up

¹⁰ Root cause analysis (RCA) is a method of problem solving used for identifying the root causes of faults or problems.

¹¹ Manipur, Rajasthan and Tripura.

¹² Para 7.4 of LOAs for implementation of R-APDRP (Part-B projects) also provides that Contract Performance Guarantee (CPG) at the rate of 15 *per cent* of the contract price shall be furnished by the Turn Key Firms (TKFs) and the guarantee shall be valid up to 90 days after the end of Warranty period as specified in the bidding document.

to 90 days after the end of the warranty period. The reply is not acceptable as the company was required to collect the performance guarantee before commencement of work.

Rajasthan

Jaipur Vidyut Vitran Nigam Limited (JVVNL) in four turnkey contracts and Ajmer Vidyut Vitran Nigam Limited (AVVNL) in two turnkey contracts, accepted a lower composite bank guarantee than the *10 per cent* performance bank guarantee mandated in the model DPR. JVVNL and the Jodhpur Vidyut Vitran Nigam Limited (JdVVNL) also awarded Part B projects on turnkey/ Central Labour Rate Contract (CLRC) basis with work order value of ₹ 78.67 crore where performance guarantee at the rate of five *per cent* of the value of work order was obtained instead of *10 per cent*.

Tripura

- The Utility did not obtain suitable guarantee from the contractors, for satisfactory functioning of the system after completion of the work, as detailed below:
 - Contracts for supply of 6 sq. mm Polyvinyl chloride (PVC) Cable for implementation of Part-B works were awarded (June 2014) to two contractors. Though the Utility allowed its contractors to submit *50 per cent* of the performance guarantee in the form of Bank Guarantee and the balance *50 per cent* as deductions from running bills; the same were not adhered to and these contractors were permitted to remit the entire amount of Contract Performance Guarantee (CPG) by way of pro-rata deductions from their running bills. As the contractors did not supply any material, the Utility did not have any scope for taking action on the contractors.
 - Further, the LOA issued to the contractors for implementation of various works under R-APDRP scheme stipulated, *inter alia*, that the successful bidder has to furnish CPG which was to be kept valid for 12 calendar months commencing immediately upon the satisfactory commissioning. It was observed that in nine out of the 16 project areas, the Bank Guarantees (BG) of ₹ 0.48 crore provided by the contractors expired before completion of the commissioning work.

MOP did not offer (March 2016) any comments on the observations but stated that implementation of Part A projects shall be treated as complete after verification by TPIEA-IT as per guidelines and accordingly conversion of loan into grant will depend upon satisfactory completion as verified by TPIEA-IT. Hence, all the issues related with Part A shall have to be addressed by Utilities before/during verification by TPIEA-IT so as to enable them to avail the benefit of conversion of loan into grant. In respect of Part B projects, it was stated that the conversion of loan into grant will depend upon Utilities achieving the AT&C loss reduction as per guidelines which will be duly verified by the Third Party Independent Evaluation Agency -Energy Accounting (TPIEA-EA) one year after completion of Part A IT and completion of Part B. Therefore, all the issues related with Part B shall have to be addressed by Utilities so as to enable them to avail the benefit of conversion of loan into grant.

The reply of MOP should be seen in light of the fact that bank guarantee was required to be obtained to ensure satisfactory completion of work by the contractors which is necessary for the achievement of the objectives of the scheme.

4.15 Inadequate Training to Employees of State Utilities as Capacity Building measures

As a part of Capacity Building measures, PFC empanelled 10 Partner Training Institutes (PTI) for imparting training to Level A&B employees of State Utilities (SUs) and 24 PTIs for imparting training to Level C&D employees of various SUs on different training themes. Specific themes of training were earmarked for each level of employees.

PFC incurred ₹4.56 crore on training of Level A & B employees and ₹ 17.47 crore on imparting training to Level C & D employees till March 2015. Audit observed that:

- No training was imparted to any Level A & B employee on the theme ‘Disaster Management, Electrical Safety Procedures and Accident Prevention’.
- Similarly, training on ‘Metering technology & Automatic Meter Reading (AMR) Application’ was not imparted to any Level C&D grade employees; and
- In **Gujarat** and **Uttar Pradesh** no Level C&D employees were imparted any training and no training was provided to any of the employees of Level A&B in **Manipur** and **Sikkim**.

Lack of trained employees would affect smooth implementation of the Scheme in the States.

PFC stated (October 2015) that no training was imparted as two PTIs empanelled for the above themes had not shown interest in conducting the programme and also for want of nominations from Utilities. PFC further stated (February 2016) that PFC identified various themes in a holistic manner that would be useful for the personnel of the SU engaged in implementation of scheme. It should be appreciated that themes were identified without taking into account IT capabilities of Utilities which varied from State to State depending upon their existing IT preparedness. It was added that within these identified themes, Utilities decided about their training needs based on their IT preparedness and sought training of their personnel accordingly from PFC. That these programmes helped in implementation of the scheme is visible by the fact that 1,121 towns (in 25 States) out of 1,409 across States have been declared 'Go-Live' under Part-A and 19 out of 21 data centres and 297 out of 1,258 towns have been declared completed under Part-B. Moreover, 14 States (including **Andhra Pradesh** and **Maharashtra**) have since declared 'Go Live' for all their towns which are communicating with Data Centres.

This does not address the concern that trainings which were identified were not imparted. Further, 1,121 towns were declared 'Go-Live' by state Utilities without any TPIEA verification which is still pending and thus the accuracy of the claims cannot be assured.

4.16 'Go Live' projects

Audit noticed that State Utilities had declared a number of Part A projects 'Go Live' though as per the project details available with MOP, none of them had yet been verified by TPIEA which was a pre-requisite for project completion. Of 1,412 towns where Part A projects were implemented, 1,121 towns (79 *per cent*), had been declared 'Go Live' as on November 2015.

Audit noticed the following in the context of declaration of 'Go Live' in these projects on the basis of a test check:

- MOP/ PFC had not set any benchmarks for declaration of ‘Go Live’ for the towns. In the absence of such benchmarks or verification by TPIEAs, the basis for declaration of ‘Go Live’ remained unclear.
- Audit noticed that even projects where expenditure incurred has been lower than 30 *per cent* have been declared ‘Go Live’. The accuracy of the declaration needs to be viewed against the meagre expenditure on the projects.
- The installation of meters was not complete (as elaborated in Para 5.5.1 of the report) in the towns declared ‘Go Live’.
- The percentage of communication of data by meters was found to be less than 85 *per cent* in eight States¹³.
- As per the letter sent by **Telangana** and **Andhra Pradesh** Utilities to PFC intimating the declaration of towns as ‘Go Live’, it was mentioned that they were fine tuning the consumer indexing and handling, rectifying the meter side issues and that the energy audit reports were gradually being streamlined.

MOP stated (March 2016) that as per guidelines, completion of Part A project will be verified by Third Party Independent Evaluation Agency (TPIEA-IT) for declaring completion of Part A projects. The completion of Part A project declaration will have to be done for the whole State by the TPIEA-IT after completion of all towns within a State. Currently, verification process by TPIEA-IT is going-on in various States wherever 100 *per cent* towns have been declared Go-Live. Go-Live declaration made by the Utilities is an intermediate stage towards project completion. Utility being the owner of the project are declaring Go-live to their satisfaction. Payment schedule of ITIAs implementing Part A projects in various States is back loaded to the extent of about 40 *per cent* of contract value, due to which there is a mismatch between physical completion of projects and payments made to ITIA in many States.

The reply of MOP only confirms that neither MOP nor PFC have verified the ‘Go Live’ status in the part A projects but have depended entirely on the statement furnished by the Utility, which does not appear to be reliable as brought out above. Further, though

¹³ Andhra Pradesh, Bihar, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Telangana.

nearly 79 *per cent* of the projects have been declared as ‘Go Live’, it was seen that in a number of projects, the AT&C losses have not been generated or have increased as brought out in the subsequent chapters. Even considering that payments to ITIAs were back loaded up to 40 *per cent*, the actual expenditure in some of the projects declared ‘Go Live’ were as low as 3-19 *per cent* (in 6 projects) and 20-30 *per cent* (183 projects) as detailed in *Annexure – XII*.

Recommendation

3. Ministry should consider evolving a mechanism of reporting of achievement of milestones vis-à-vis targets by state utilities along with reasons for non-achievement and action taken.

Chapter 5

Aggregate Technical & Commercial Losses

Aggregate Technical & Commercial Losses

5 Chapter

5.1 AT&C Losses

The Aggregate Technical & Commercial (AT&C) Losses comprise of two elements:-

- **Technical Losses:** Technical losses primarily take place due to (a) transformation losses (at various transformation levels) and (b) high losses on distribution lines due to inherent resistance and poor power factor in the electrical network.
- **Commercial Losses:** Any illegal consumption of electrical energy, which is not correctly metered, billed and revenue collected, causes commercial losses to the utilities. Commercial losses occur due to (i) discrepancy in meter (ii) theft by direct hooking and (iii) collection inefficiency.

The reduction of the AT&C losses was one of the important objectives of the APDRP scheme. However, the same could not be achieved as brought out in CAG's Report no. 16 of 2007. R-APDRP scheme also aimed at reducing the AT&C losses to below 15 *per cent* on a sustainable basis.

Out of 1,121 towns which had declared 'Go Live', 976 towns had submitted reports on AT & C losses. 749 of these towns (77 *per cent*) had reported a reduction in AT & C losses with reference to base line data. Audit, however, noticed that this information was provided by the Utilities without having been verified by any third party. Even PFC did not have any mechanism to verify the correctness of AT&C losses being reported by state utilities.

In the Audit sample of 596 towns, 'Go-live' had been declared in 444 towns. Audit noticed the following status of AT&C losses in these towns:

- Though baseline data was established in all the 444 towns, AT&C losses were not available/were not generated in 43 towns.

- In the balance 401 towns, the AT&C losses had decreased only in 298 towns. AT&C losses actually increased in 102 towns while it remained unchanged in one town.

In the other 152 towns where 'Go-live' had not been declared, AT&C losses were not available/were not generated in 143 towns (for 43 of which, baseline data was also not established). In the balance nine towns, AT&C losses decreased in three while it increased in the other six towns.

Thus, in the Audit sample, it can be seen that AT&C losses have increased in more than 100 towns (23 *per cent*) relative to the baseline. AT&C losses could not be generated at all in another 43 which rendered the process of declaration of 'Go Live' doubtful.

MOP stated (March 2016) that the high AT&C loss shown in these towns may be due to correct energy data not being captured due to faulty meter, modem and communication failure issues, error in billing and collection data and increase in commercial losses due to pilferage. PFC, however, on its part is monitoring town-wise AT&C losses based on system generated data uploaded by the Utilities on IPDS website and Utilities are informed for sanitization of data as well as taking administrative and other measures for reduction of losses. These reports are also discussed in monthly Review Planning and Monitoring (RPM) meeting of the MOP. Further, regarding non-reliability of Go-Live reports submitted by Utilities, it is stated that after declaration of Go-Live, Utilities are submitting system generated Go-Live reports without any manual interventions thereby giving enough assurance about their reliability.

The reply of MOP suggested that the towns were declared as 'Go Live' without ensuring stability of the systems and verifying that the systems are communicating accurate information. The objective of R-APDRP was to reduce AT&C Losses as well as to have reliable data of AT&C Losses which does not appear to have been achieved. Further, it was noted in many cases that the data is not being communicated automatically.

5.2 Verification of baseline data by the TPIEs

It was seen from the records furnished by the Utilities that the AT&C losses were not completely verified by the TPIEs in five States¹⁴. The verification of the base AT & C losses and the yearly losses was required, to ascertain status before the scheme and the progress under the scheme. The failure to do so would make it difficult to verify the progress of the scheme to ascertain whether any mid-course corrective measures were required.

MOP stated (March 2016) that at present baseline data has been established in all States except Goa (4 Towns), J&K (17 Towns), Puducherry (4 Towns), Bihar (24 Towns), Jharkhand (11 Towns), Arunachal Pradesh (2 Towns), Mizoram (1 Town), Odisha (12 Towns) which are also expected to be completed soon. It was stated that the process is being monitored regularly by PFC/MOP and added that the validation of yearly AT&C loss figures was to be done one year after completion of Part A (IT) as well as completion of Part B for the purpose of conversion of Part B loan into Grant as per R-APDRP guidelines which is not due yet.

In this regard, it is to be noted that the evaluation of the AT&C figures was to be done every year, which was to commence one year after the Part B projects were taken up and not after the completion of the Part B projects as stated by the MOP. Hence, the evaluation of AT&C losses is due but has not yet been done and the baseline data itself has not been collected before the project was taken up. Further, it is seen that the details of the verification of baseline data furnished by the Utilities and by the MOP are not tallying, raising questions about the validity of the data.

5.3 Unreliable data of AT & C losses

The PAC, in their 77th Report (14th Lok Sabha), had expressed displeasure over significant deficiencies in the maintenance of records relating to AT&C losses including absence of proper guidelines and supporting records resulting in the data reported by MOP not being regarded as authentic, accurate and acceptable. Further, the Standing Committee on Energy 2012-13 (15th Lok Sabha), while noting that PFC has been mandated to maintain AT&C losses data, stated that it was unable to comprehend as to whether the data can vary on year to year basis. The Committee directed the

¹⁴ Goa, Jammu & Kashmir, Manipur, Meghalaya and Puducherry.

Ministry to monitor this vital aspect and also include a statement of State-wise AT&C losses in the Annual Report of the Ministry on annual basis as it was the basis for approval of projects under national programmes like R-APDRP, National Electricity Fund Scheme and a new scheme for financial assistance to DISCOMs.

It was, however, observed that despite the observations of the PAC and the Standing Committee on authenticity of AT&C loss data, there were differences in the figures of AT&C losses for the same years reflected in various documents, namely:

- (i) Report of 14th Standing Committee on Energy (2010-11) submitted to Parliament in March 2011¹⁵
- (ii) XII Five Year Plan document,
- (iii) Annex referred to in reply to parts (c) & (d) of unstarred question no. 5892 answered in the Lok Sabha on 02 May 2013 and
- (iv) Report of the 5th Standing Committee on Energy 2014-15 Sixteenth Lok Sabha submitted to Parliament in April 2015
- (v) Report on "The Performance of State Power Utilities for the years 2011-12 to 2013-14" (July 2015)

The data on AT&C losses for the years 2008 – 09, 2009 – 10 and 2010 – 11 is presented as **Annexure - XIII** while the data for the years 2011 – 12 and 2012 – 13 is presented as **Annexure XIV**. Further, the Standing Committee's direction to include a statement of State-wise AT&C losses in the Annual Report of the Ministry on annual basis was not complied with.

It can be concluded from the above that PFC and MOP did not comply with the directions of the PAC and the Parliamentary Standing Committee on Energy and do not yet have authenticated figures of AT&C losses for various states.

MOP stated (March 2016) that though the methodology for calculation of AT&C losses is uniform, the AT&C losses for previous year may undergo changes when:

- The utility sends revised information with respect to parameters not available in the annual accounts.

¹⁵ For 2008-09

- The audited accounts have been received subsequently and the information contained therein is not the same as in the provisional accounts.
- Resource Plans contain information for three years. If there is a change in information for previous two years, the entire data is updated and all parameters including AT&C losses are recalculated.

Since, the information was submitted to Standing Committee/ Ministry of Power/ CEA as per the latest updated information as on date, the AT&C losses vary in different documents.

The reply of MOP needs to be seen in light of the fact that there were differences in the data obtained from different sources pertaining to older periods which was not expected. For instance, the data for the year 2008 – 09 presented in April 2015 (after seven years) was different from the data presented in May 2013 (after four years). Authentic figures of AT&C losses, thus, do not appear to be available with MOP though it was to be the basis for achieving the basic objectives of R-APDRP.

5.4 Discrepancies in computation of AT&C losses

During 22nd Steering Committee Meeting held on 22 February 2011, it was decided that CEA will carry out the sample check of base AT&C loss of towns verified by TPIEA-EA, particularly where the variations are found to be large. CEA had conducted test check of AT&C losses of 243 projects in four states and found variations ranging up to 5 *per cent* in 116 projects and more than 10 *per cent* in 52 projects. The variations were stated to be on account of change in area of computation of AT&C losses, non-completion of ring fencing, variation in computation methods, consideration of different period spells for computation of AT&C losses and time lag between preparation of DPRs and computation of AT&C losses.

Audit observed that the methodology for calculation of AT&C losses was prepared by PFC during September 2009 and circulated to all the State utilities. As such, all utilities should assess AT&C losses in a uniform manner. It was seen that PFC did not verify the adherence to prescribed method for computation of AT&C losses. Audit noticed that the methodology is not being uniformly followed as brought out below:

Andhra Pradesh

In Andhra Pradesh, meters and modems were fixed at 11 KV feeders emerging from 33/11 KV sub-stations instead of at the input points of 33/11 KV sub-stations which was in contravention of clause 3.1.1 of 'Base Line Methodology for calculation of AT&C losses'. Further, this system did not calculate the losses arising due to stepping down the power from 33 KV to 11 KV.

Meghalaya

- In respect of all the towns where base line AT&C losses were fixed by Water and Power Consultancy Services (WAPCOS), it was observed that the collection efficiency was calculated without considering the previous months' arrears which resulted in higher collection efficiency and less AT&C losses than the actual.
- In respect of Jowai, Resubelpara, Williamnagar and Mairang towns, AT&C losses were fixed based on erroneous energy input and output figure as the 33KV & 11 KV CT PT sets were defective.
- In respect of Shillong and Mairang towns, the AT&C losses were fixed based on energy input and output as measured by old meters installed in 11KV and 33KV feeders and export and import points which were not as per the specification approved for R-APDRP projects.

MOP stated (March 2016) that the methodology for establishment of baseline data has been applied uniformly across various States. The baseline of town areas has been established through TPIEA using the same methodology uniformly.

The contention of the Ministry is not acceptable in light of the audit findings listed above.

5.5 Energy Accounting and Audit

Energy accounting involves preparation of accounts of the energy flow to various segments and various categories of consumers and how it has been consumed out of the total available quantum over a specified time period. Energy audit involves analysis of energy accounting data in a meaningful manner to evolve measures to introduce checks

and balances in the system to reduce leakages and losses and also to improve technical performance. In order to achieve effective energy accounting and audit, it is imperative that meters are installed at all levels, i.e., feeder, distribution transformers and consumers, meter readings are taken regularly and reconciled, and proper consumer indexing is done through GIS mapping and linked to the billing system so that loss pockets are identified and corrective measures taken. Energy accounting is not a onetime exercise but is to be done on a continuous basis.

As per the recommendations in CAG's Report no. 16 of 2007, a system of energy accounting and audit was to be developed to ensure that the AT & C losses were estimated correctly and the impact of the corrective measures was measured accurately. The PAC had also, in their 77th Report (14th Lok Sabha), observed that one of the most important pre-requisites for ensuring reduction of commercial losses, with relatively lower capital investment, is comprehensive energy accounting and audit, which would enable quantification of losses in different segments of the system and their segregation into commercial and technical losses. The Committee also observed that effective energy accounting and auditing was not being carried out in most States due to lack of 100 *per cent* system metering, lack of accountability at the circle and feeder level and low progress in respect of IT enabling activities such as consumer indexing, digital mapping, Automated Meter Reading instruments, Data Loggers etc. The metering of all the electricity connections and the subsequent billing on the basis of the units metered rather than lump sum billing on assessment basis would improve the billing efficiency and help in reducing the AT&C losses.

R-APDRP envisaged establishment of authenticated baseline data. All assets and consumers were to be mapped and indexed, Feeder and Distribution Transformer (FDT) meters and bulk consumer meters were to be read remotely and the base-line data was to be validated through independent auditors to be appointed by MOP. Mapping of assets and consumers would enable Utilities identify specific areas where electricity was being pilfered which would, in turn, enable them to take targeted corrective measures for reduction of AT&C losses.

Audit noticed that energy accounting and audit was not being done in 12 States¹⁶ while in another 13 States¹⁷, the data for energy accounting and audit was being collected manually raising concerns about its reliability and accuracy. It was observed that the main reason for not conducting energy accounting and audit was the non – completion of Part A projects and the non – integration of different modules for collection of data.

MOP stated (March 2016) that as of January 2016, Utilities have uploaded IT system generated (without manual intervention) energy audit reports of 1,069 towns out of 1,164 Go-Live towns in 25 States and hence considered as reliable.

The reply of MOP is not tenable in light of audit findings indicated below:

- **Andhra Pradesh and Telangana:** Communication of meters was far less than 100 *per cent* required for transmission of data without human intervention.
- **Madhya Pradesh and Jharkhand:** Communication of DT Meters and Feeder Meters in many cases was zero *per cent*.
- **Chhattisgarh:** Out of 8,165 General Packet Radio Service (GPRS) modems installed under Part A, only 5,733 were communicating energy data compelling the Utility to fill the gaps in the energy data through manual entries.
- **Himachal Pradesh:** 628 PTR/ feeder/ DTR meters were not connected to online communication.
- **Tamil Nadu:** No Energy Audit Reports could be generated through Auto Mode even in February 2016.

The fact is that energy accounting and audit is either not being done or being done with manual intervention raising concern about their authenticity.

The status of the various components required for energy accounting and audit is presented in the following paragraphs:

¹⁶ Bihar, Goa, Haryana, Himachal Pradesh, Karnataka, Meghalaya, Mizoram, Nagaland, Odisha, Puducherry, Sikkim and Uttar Pradesh

¹⁷ Andhra Pradesh, Assam, Chhattisgarh, Jharkhand, Jammu & Kashmir, Kerala, Madhya Pradesh, Manipur, Rajasthan, Tamil Nadu, Telangana, Tripura and West Bengal

5.5.1 Metering

Implementation of 100 *per cent* metering of feeders, Distribution Transformers (DT) and consumers is a pre – requisite to ensure proper energy accounting and auditing. Metering would ensure that energy supplied is properly accounted for and accurately billed. It is essential that metering is at all the levels, namely, the feeder level, the distribution transformer level and the consumer level to ensure a proper trail of the supply of energy which would help in better energy accounting and audit.

The State wise status of feeder, DT and consumer metering is given in **Annexure XV** and **Annexure XVI** respectively. Audit observed that in the 29 States where sample check was carried out, the metering remained incomplete as seen from the table below:

Table 9 : Status of feeder, DT and consumer metering

Sl. No.	Percentage of metering	Number of States		
		11KV feeders metering	DT metering	Consumer metering
1.	0-60	2	8	2
2.	60-80	2	8	2
3.	80-100	24	12	22
4.	Data not available	1	1	3

As can be seen from the table, the metering in some States were below 60 *per cent*.

MOP in their reply (March 2016) stated that under R-APDRP, Part A (IT) projects, online energy accounting up to DT level (feeder metering / boundary metering / DT metering) was envisaged which is monitored by PFC in respect of Part-A (IT) towns of the programme. The details provided by MOP as part of their reply (March 2016) indicated that feeder metering was less than 60 *per cent* in four¹⁸ States while DT metering were less than 60 *per cent* in five¹⁹ States. Further, MOP could not furnish data of feeder metering in respect of four²⁰ States. As regards consumer metering, MOP stated that funding towards consumer metering was only for replacement of electro – mechanical meters/ defective meters and added that Utilities are making every effort to achieve 100 *per cent* consumer metering.

¹⁸ 0 *per cent* in Jharkhand, Puducherry, Rajasthan (two utilities) and 40 *per cent* in Jammu and Kashmir.

¹⁹ Jammu and Kashmir -14 *per cent*, Odisha-40 *per cent*, One utility in Rajasthan -55 *per cent*, One utility in Haryana-56 *per cent* and Chhattisgarh-57 *per cent*.

²⁰ Manipur, Meghalaya, Mizoram and Sikkim.

The reply of MOP only strengthens the audit contention that 100 *per cent* metering is yet to be achieved in all States even after eight years of implementation of the scheme.

5.6 Power sector reforms

The recommendations in the CAG's Report No. 16 of 2007 and the report of the PAC thereon dealt mainly with the restructuring of the Power sector, measures for reducing AT&C losses like formation of vigilance squads, setting up of special courts etc. Since the R-APDRP was also aimed at achieving similar objectives, these measures, though not specifically covered in R-APDRP guidelines, were equally important for ensuring effective implementation of the scheme. The status of achievement of various states in respect of these measures is presented in the following paragraphs.

5.6.1 Special Courts and Vigilance Squads

Unauthorised connections from the electricity supply system, tampering, by-passing of meters by the consumers etc., are different modes of theft of electricity leading to AT&C losses. The theft of electricity can be checked by forming vigilance squads to conduct inspection of connections. The speedy trial of offences relating to theft of power would act as a deterrent to repeated acts of theft of electricity. This can be achieved through the setting up of special courts as the existing judicial system is already burdened with large number of cases leading to delays. The National Electricity Act has also envisaged the setting up of special courts in each state for speedy trial of offences relating to theft of power etc. The formation of vigilance squads and the creation of special courts would help to check theft of electricity and thereby enable reduction of AT&C losses.

5.6.1.1 Special Courts

In the course of audit, it was seen that special courts were not established in **Goa, Haryana, and Jammu & Kashmir**. In Goa, the special courts were not set up as the theft cases were stated to be fractional. The reasons for not setting up of the special courts were not available on record in case of Haryana and Jammu & Kashmir. The state – wise details of setting up of courts, cases of power thefts and other such offences noticed and punished is given in *Annexure XVII*. The status of the cases as observed by Audit in the States were as below:

- In **Chhattisgarh**, 9,460 cases were pending in the special courts while 1,43,678 cases were pending with the special courts in **Madhya Pradesh** and 1,838 cases were pending with the special courts in **Uttar Pradesh**.
- In **Odisha** and **Tamil Nadu**, 2,623 cases and 19 cases were pending in special courts respectively, with some cases pending for five years or more. Instances of pendency of cases for five years or more in special courts were also noticed in **Andhra Pradesh, Gujarat** and **Telangana**.

5.6.1.2 Vigilance Squads

Audit noticed the following discrepancies in functioning of Vigilance Squads in the States:

- Vigilance Squads had not been set up in **Mizoram**. The reasons for not constituting vigilance squads were not available from the records furnished to Audit.
- No targets were fixed for the Vigilance Squads in 10 States²¹. The details of the inspections conducted by the vigilance squads in these States were not furnished.
- In four States²², the number of connections checked by the vigilance squads were less than 2 *per cent* of the total connections.
- Theft cases had increased in **Chhattisgarh**. The trend of theft cases in respect of the other states were not provided to Audit.

Recommendations

4. Ministry may ensure 100 *per cent* completion of metering so that verification of Baseline Data of Aggregate Technical & Commercial losses is completed, annual verification of Aggregate Technical & Commercial losses is done and to enable effective energy accounting and audit.
5. Ministry may encourage States to set up the special courts and vigilance squads, based on population of project area, so that speedy trials of offences act as deterrent to theft of electricity thereby reducing the commercial losses.

²¹ Assam, Bihar, Goa, Jammu and Kashmir, Kerala, Manipur, Puducherry, Punjab, Tamil Nadu and Uttarakhand.

²² Chhattisgarh, Jammu and Kashmir, Kerala and Uttarakhand.

Chapter 6

Consumer Satisfaction

Consumer Satisfaction

One of the objectives of R-APDRP scheme was to improve consumer satisfaction. This was sought to be achieved through the setting up of IT – enabled consumer service centres, establishment of Customer Service System and also by ensuring the quality of the electricity supply to the consumers. The observations of audit in this regard are presented below.

6.1 Computerisation of Commercial Activities (billing, collection etc.)

Computerization of commercial activities like billing, collection etc. have not been completed in two²³ States while in four²⁴ States, it was implemented only partially. Shortcomings in the system were also noticed in **Andhra Pradesh**.

6.2 Establishment of Customer Service System (CSS)

The Customer Service System comprising of computerised logging, tracking and redressal of customer requests was to be established by the Utilities. However, it was seen that the system was not fully established in nine²⁵ States. Audit noticed the following in the CSS established in the States:

- Requests for temporary connections, electric address maintenance, special connection/ disconnection/termination, interface with spot metering and billing systems, interface with other systems, etc. at Customer Service Centres, has not been done in six States²⁶ while in Mizoram, it had been done partially.
- It was not possible to make payment of energy billed through multiple channels in six States²⁷.
- The system did not support expeditious disconnections and dismantling to plug revenue leakage in 11 States.²⁸

²³ Goa and Nagaland.

²⁴ Jammu & Kashmir, Manipur, Rajasthan and Telangana.

²⁵ Assam, Goa, Jammu and Kashmir, Meghalaya, Mizoram, Nagaland, Rajasthan, Sikkim and Tamil Nadu.

²⁶ Goa, Jammu and Kashmir, Kerala, Madhya Pradesh, Nagaland and Rajasthan.

²⁷ Jammu and Kashmir, Puducherry, Uttar Pradesh, Goa, Madhya Pradesh and Nagaland.

²⁸ Andhra Pradesh, Bihar, Goa, Gujarat, Jammu and Kashmir, Kerala, Odisha, Puducherry, Rajasthan, Sikkim and Tamil Nadu.

- Metering system did not support functionalities pertaining to meter reading and generation of exception lists in five States²⁹.

MOP stated (March 2016) that the issues flagged by Audit with regard to consumer satisfaction shall have to be addressed by Utilities before/during verification by TPIEA-IT so as to enable them to avail the benefit of conversion of loan into grant.

The reply of MOP indicates that the establishment of customer service system is not being regularly monitored by Ministry/nodal agency.

6.3 Non-fixation of service connections/replacement with high accuracy/tamper proof meters

High accuracy tamper proof meters were required to be provided for all connections as they would enable more accurate billing without manual intervention. This would also help in plugging leakages of revenue and in improving the commercial viability of the Utilities. It was seen that all the service connections were not fixed /replaced with high accuracy/tamper proof meters, as contemplated in three States³⁰.

MOP stated (March 2016) that all the issues related with Part A and Part B shall have to be addressed by Utilities before/during verification by TPIEA-IT so as to enable them to avail the benefit of conversion of loan into grant.

The reply of MOP suggested lack of constant monitoring, the stress being on corrective action expected to be taken by the utilities for conversion of loan to grant at the end of project.

6.4 Non-supply of proper tail end voltage

The supply of tail end voltage is a measure of the quality of electrical supply. It was seen that proper tail end voltage was not supplied in two States³¹ while in 15 States,³² the projects were yet to start or were in progress.

MOP reiterated (March 2016) that implementation of Part A projects shall be treated as complete after verification by TPIEA-IT as per guidelines and accordingly conversion of loan into grant will depend upon satisfactory completion as verified by TPIEA-IT. Hence, all the issues related with Part A shall have to be addressed by Utilities

²⁹ Jammu and Kashmir, Kerala, Puducherry, Rajasthan and Tamil Nadu.

³⁰ Himachal Pradesh, Meghalaya and Sikkim .

³¹ Meghalaya, and Uttar Pradesh.

³² Andhra Pradesh, Bihar, Goa, Haryana, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Manipur, Mizoram Nagaland, Odisha, Punjab, Rajasthan and Uttarakhand.

before/during verification by TPIEA-IT so as to enable them to avail the benefit of conversion of loan into grant. In case of Part B projects, conversion of loan into grant will depend upon Utilities achieving the AT&C loss reduction as per guidelines which will be duly verified by the TPIEA-EA one year after completion of Part A IT and completion of Part B. Hence, all the issues related with Part B shall have to be addressed by Utilities so as to enable them to avail the benefit of conversion of loan into grant.

The reply of MOP suggested dependence upon corrective action at the end of the project implementation rather than constant monitoring and ensuring that the projects are implemented properly.

Chapter 7

Monitoring and Evaluation

Monitoring and Evaluation

7.1 Overview of monitoring

As per the scheme guidelines, a Steering Committee under Secretary (Power) was to sanction projects including modification or revision of estimates, monitor and review the implementation of the scheme. At the State level, a Distribution Reforms Committee (DRC) under the Chairmanship of the Chief Secretary/Principal Secretary/Secretary (Power/Energy) constituted by the State was to monitor the Scheme.

Para 14 of the QA, *inter-alia*, stipulated that the State Utility shall make available for the inspection of the Central Government / Nodal Agency or its nominated Agency, all the books of accounts and other documents maintained by it. Further, the sanction letters issued by PFC also required the borrowers to maintain proper accounts, furnish unaudited annual accounts within three months and audited accounts within seven months of the close of the year of accounts. Further, Para 12 (h) of the QA, *inter-alia*, stipulated that the Utility would be required to submit monthly progress report to the PFC / MOP through its web portal in respect of progress of execution of the project and fund utilisation. As per Para 3.8 of the QA, PFC was to design monitoring formats for Part A and Part B projects, analyse the reports, monitor the implementation against identified milestones and deliverables in Part A and Part B projects for consideration of the MOP.

From the records examined in Audit, it appears that details of project – wise expenditure were not collected and / or verified. Despite monthly review meetings, UCs were received for only around 50 *per cent* of the disbursement, only the first instalment had been released in a significant number of cases, there were variation in quantities during execution, overlapping of schemes, diversion of funds, increase in AT&C losses as highlighted in the preceding chapters of this report.

The observations of Audit in this regard are presented in the following paragraphs:

7.2 Non-monitoring of milestones and targets etc. by DRC

According to Para 10.2 of the R-APDRP Guidelines, Distribution Reforms Committee (DRC) at the State level under the Chairmanship of the Chief Secretary/Principal Secretary/Secretary (Power/Energy) would monitor the Scheme at the State level. These DRCs had been setup under the Memorandum of Agreement signed by the States for implementation of the X Plan APDRP. DRC was to recommend the project proposals of the distribution companies to the MOP after ensuring that all the required formalities had been complied with, monitor compliance to the conditionalities and monitor the achievement of milestones and targets under the R-APDRP scheme. States were to decide on the periodicity of the meetings of the DRC to ensure the effective discharge of the above functions.

Audit observed that:

- The periodicity of meetings of the DRC varied from once in a fortnight to once in a year across States.
- DRC did not monitor milestones and targets under the scheme or compliance to conditionalities in seven³³ States.
- DRC met twice in **Puducherry** and **Jammu & Kashmir**; three times in **Assam**, **Tripura** and **Manipur**; seven times in **Bihar**; and ten times in **Tamil Nadu** since inception.

MOP (March 2016) did not offer any comments on these observations.

7.3 Other issues observed at the state level

Audit analysed the effectiveness of monitoring of projects at the state level apart from the procedures prescribed in the guidelines. The findings are discussed below:

- There was no system for monitoring the implementation of projects in **Sikkim**.
- In **Assam**, though the projects were being monitored by the officials of the Utility as per requirement, no procedure / system for monitoring had been prescribed.
- In **Manipur**, the Utility created a Project Monitoring Unit (June 2014) to streamline project monitoring with the requirement of fortnightly meetings to be

³³ Andhra Pradesh, Chhattisgarh, Haryana, Himachal Pradesh, Meghalaya, Sikkim and Telangana.

mandatorily taken up at the level of Deputy General Managers (DGMs) with the Turn Key Firms (TKFs). The DGMs were to send copies of the minutes of Fortnightly Meetings to the General Managers, Executive Director (Tech) and Managing Director. Further, the TKFs were to increase their manpower and also induct staff with managerial capabilities and furnish the list of manpower deployed along with the work execution schedule to the DGMs. Test check of records of Divisional offices did not indicate any documentary evidence that fortnightly meetings were conducted or manpower deployed by the TKFs and work execution schedule were collected from the TKFs.

- In **West Bengal**, West Bengal State Electricity Distribution Company Limited (WBSEDCL) constituted (August 2007) Project Appraisal and Monitoring Committee (PAMC) to control the different types of projects executed by WBSEDCL including R-APDRP scheme. Between January 2009 and March 2015, PAMC met on 23 occasions. From a scrutiny of the minutes of PAMC meetings, it was observed that R-APDRP was discussed only perfunctorily.
- The performance parameters of the projects had not been identified in five States³⁴.
- In **Uttar Pradesh**, the minutes of the meetings conducted at Chief Executive Officer (CEO) level had not been maintained due to which remedial action suggested in CEO level monitoring meeting and action taken there against could not be vouchsafed in audit.
- No comparison with benchmarks of performance parameters was carried out and remedial/ corrective action taken in four States³⁵.
- In **Punjab**, as per reply of PSPCL, review meetings with contractors were regularly conducted. No record was, however, produced in respect of comparison sheets of progress *vis-à-vis* benchmark parameters.
- In **Jammu & Kashmir**, representative of PFC did not attend the DRC meeting / review meeting held by the department for monitoring the progress of the implementation of the programme. Though the nodal officer from PFC had been visiting the State, there were no documented observations/ instructions on record.

³⁴ Meghalaya, Mizoram, Nagaland, Rajasthan and Sikkim .

³⁵ Maharashtra, Mizoram, Nagaland and Sikkim.

- In **Jharkhand**, it was seen that commitments made by the utilities in review meeting remained unfulfilled (September 2015).

MOP did not offer any comments on the observation (March 2016).

Recommendation

6. Monitoring and evaluation process, at the level of the Distribution Reforms Committee and Steering / Review Committee, needs to be strengthened to ensure that projects are completed in time.

Chapter 8

Conclusion and Recommendations

Conclusion and Recommendation

8.1 Conclusion

R-APDRP aimed at establishing reliable and automated systems for collection of accurate data through greater adoption of Information Technology. The programme aimed at achieving sustained loss reduction and enforcing internal accountability for better performance through preparation of baseline data for project areas covering consumer indexing, GIS mapping, metering of distribution transformers and feeders, automatic data logging and regular distribution strengthening projects.

The pace of implementation of the scheme was slow with the actual budgeted amount being only 39.32 *per cent* of the amount originally envisaged while the releases were even lower. In a number of projects examined in the selected sample, only the first instalment had been released. The counterpart funding was also not tied up by many Utilities within the prescribed period.

There were shortcomings in appraisal of project DPRs. It was noticed that DPRs were not being prepared in line with the Model DPR. Instances of revision in cost of the projects without approval of the Steering Committee were also noticed. In some cases, the DPRs were appraised and approved by the Steering Committee without recommendation of State DRCs in contravention of the prescribed procedure. Instances of additional expenditure due to re-tendering, deficiencies in quality controls were also noticed.


Though only 50 *per cent* of the sanctioned costs had been disbursed to Utilities, nearly 80 *per cent* of the towns had been declared 'Go Live'. It was noticed that 'Go Live' was declared by the States themselves without verification by or approval of MOP. Further, the AT & C losses had increased relative to the baseline or could not be generated in more than 100 towns which had been declared 'Go Live'. Besides, the methodology used for calculating the AT & C losses, though laid down, was not followed uniformly leading to varying estimates of the AT & C losses. Energy accounting and audit was not being conducted in 12 states as Part A projects were yet to be completed and different modules for data collection were yet to be integrated.

8.2 Recommendations

The recommendations were discussed in the exit conference and most of the recommendations were accepted by the MOP. The audit recommendations are presented below:


1. Ministry should ensure that Utilities tie-up Counterpart funding before release of funds.
2. Ministry may ensure that Utilisation Certificates are submitted by the concerned Utilities as per timelines prescribed in the General Financial Rules.
3. Ministry should consider evolving a mechanism of reporting of achievement of milestones vis-à-vis targets by state utilities along with reasons for non-achievement and action taken.
4. Ministry may ensure 100 *per cent* completion of metering so that verification of Baseline Data of Aggregate Technical and Commercial losses is completed, annual verification of Aggregate Technical and Commercial losses is done and to enable effective energy accounting and audit.
5. Ministry may encourage States to set up the special courts and vigilance squads, based on population of project area, so that speedy trials of offences act as deterrent to theft of electricity thereby reducing the commercial losses.
6. Monitoring and evaluation process, at the level of the Distribution Reforms Committee and Steering / Review Committee, needs to be strengthened to ensure that projects are completed in time.

Dated: 08 November 2016
Place: New Delhi


(NANDANA MUNSHI)
Director General of Audit
(Economic & Service Ministries)

Countersigned

Dated: 08 November 2016
Place: New Delhi


(SHASHI KANT SHARMA)
Comptroller and Auditor General of India

Annexures

Annexure-I
(Refer to Para 2.2)

State-wise List of Number of Projects Sanctioned by MOP/PFC

Sl. No.	State	Part 'A' projects sanctioned	Part 'B' projects sanctioned	SCADA projects sanctioned
1.	Andhra Pradesh	75	46	4
2.	Assam	67	67	1
3.	Bihar	71	64	1
4.	Chhattisgarh	20	19	2
5.	Goa	4	0	0
6.	Gujarat	84	62	6
7.	Haryana	36	34	1
8.	Himachal Pradesh	14	14	0
9.	Jammu & Kashmir	30	30	2
10.	Jharkhand	30	30	3
11.	Karnataka	98	81	0
12.	Kerala	43	43	3
13.	Madhya Pradesh	83	81	5
14.	Maharashtra	128	123	8
15.	Manipur	13	13	0
16.	Meghalaya	9	9	0
17.	Mizoram	9	9	0
18.	Nagaland	9	0	0
19.	Odisha	12	12	2
20.	Puducherry	4	1	1

21.	Punjab	47	46	3
22.	Rajasthan	87	82	5
23.	Sikkim	2	2	0
24.	Tamil Nadu	110	80	7
25.	Telangana	40	38	2
26.	Tripura	16	16	0
27.	Uttar Pradesh	168	167	12
28.	Uttarakhand	31	31	1
29.	West Bengal	61	59	3
Total		1,401¹	1,259	72

¹ Arunachal Pradesh and Chandigarh were not covered in Performance Audit where 10 and 1 projects respectively under Part 'A' and nil project in Part 'B' and 'SCADA' were sanctioned.

Annexure-II
(Refer to Para 2.2)

State wise list of number of projects selected for audit in States and at MOP/PFC

Sl. No.	State	Part 'A' projects		Part 'B' projects		SCADA projects sampled for scrutiny in states and PFC/MOP
		Total No of Projects Sampled for scrutiny in states	No. of Projects Sampled for scrutiny in PFC/MOP	Total No of Projects Sampled for scrutiny in states	No. of Projects Sampled for scrutiny in PFC/MOP	
1.	Andhra Pradesh	25	7	25	7	4
2.	Assam	25	7	25	7	1
3.	Bihar	25	7	25	7	1
4.	Chhattisgarh	20	5	19	5	2
5.	Goa	4	1	0	0	0
6.	Gujarat	25	8	25	4	6
7.	Haryana	25	7	25	7	1
8.	Himachal Pradesh	14	4	14	4	0
9.	Jammu & Kashmir	25	7	25	7	2
10.	Jharkhand	25	7	25	7	3
11.	Karnataka	30	8	26	7	0
12.	Kerala	25	7	25	7	3
13.	Madhya Pradesh	25	7	25	7	5
14.	Maharashtra	32	8	31	8	8
15.	Manipur	13	4	13	4	0
16.	Meghalaya	9	2	9	2	0
17.	Mizoram	9	3	9	3	0
18.	Nagaland	9	3	0	0	0

19.	Odisha	12	3	12	3	2
20.	Puducherry	4	1	1	1	1
21.	Punjab	25	7	25	7	3
22.	Rajasthan	26	7	26	7	5
23.	Sikkim	2	1	2	1	0
24.	Tamil Nadu	28	7	25	7	7
25.	Telangana	25	7	25	7	2
26.	Tripura	16	5	16	4	0
27.	Uttar Pradesh	43	11	42	11	12
28.	Uttarakhand	25	7	25	7	1
29.	West Bengal	25	7	25	7	3
Total		596	165	570	155	72

Annexure III
(Refer to Para 3.3.3)

Instances of release of first installment for Part B funding without tying up of counterpart funding by the Utility with Financial Institutions

(₹ in crores)

Sl. No.	State	Number of cases/ towns	Amount of 1 st Instalment of Part B
1.	Andhra Pradesh	18	13.88
2.	Bihar	25	126.79
3.	Chhattisgarh	19	106.53
4.	J&K	30	499.58
5.	Maharashtra	121	466.71
6.	Manipur	13	119.66
7.	Rajasthan	70	210.62
8.	Uttar Pradesh	42	561.47

Annexure IV
(Refer to Para 3.5)

Cases of diversion of funds noticed during audit

State	Name of Utility	Amount (₹ in crore)	Purpose for which funds (materials) diverted	Steps taken to get back the funds diverted.	Present Status.
Andhra Pradesh	APEPDCL	35.85	Working capital of company	CLTDR Account opened	Now funds spent are more than funds received from PFC
Assam	Assam Power Distribution Company Limited.	1.90 (The value of materials such as DTR meters, VCB panels & APFC)	Areas not covered by the Ring-fenced area under RAPDRP Projects.	Not available on record.	Not available on record
Haryana	DHBVN	27.14	Other than R-APDRP (for making payments to parties and contractors not connected with implementation of R-APDRP.)	Funds now utilized (3/2015) in RAPDRP	Funds now utilized (3/2015) in RAPDRP
Karnataka	BESCOM & CESC	34.25 (Amount of interest)	Treated as own income and not adjusted against the project cost.		
Manipur	MSPDCL	10.52	Payment of NPV & Compensatory Afforestation charge of 2 (two) power projects.	Fund returned to project account	Fund returned and utilized for project.

State	Name of Utility	Amount (₹ in crore)	Purpose for which funds (materials) diverted	Steps taken to get back the funds diverted.	Present Status.
	MSPDCL	119.66	Diverted to State Govt. Account on 3.4.13	₹ 59.00 cr. Released on 12.7.13 and ₹ 60.66 cr released on 7.11.13	Fund returned and utilized for Projects.
Meghalaya	MeECL	29.20	Working Capital	The unauthorised diversion of funds was noticed by audit. No action has been taken to pay back the funds	Diversion of funds yet to be transferred back
Tripura	Utility as a whole	2.11	Diverted to non-RAPDRP works	Not available on record.	Amount of ₹1.02 crore returned to Project account.
Uttar Pradesh	DVVNL	80.37	To meet the power purchase liability of UPPCL	DISCOMs had been writing to UPPCL to return the amount	₹ 100.41 crore still not recovered from UPPCL
	MVVNL	70.64			
	PVVNL	71.12			
	PuVVNL	52.63			

Annexure V
(Refer to Para 3.8)

Cases of non- submission of UCs by Utilities as of March 2015

(₹ in crore)

State	Name of Project	Date of signing of Quadripartite Agreement/ MoA	Approved Project Cost	Release of 1 st Instalment of funds by PFC	
				Date	Amt.
Assam					
Part B	Tinsukia	25-Feb-2010	13.63	30-Dec-2011	4.09
	Guwahati	25-Feb-2010	227.85	19-Jun-2012	68.35
	Diphu	25-Feb-2010	10.52	30-Dec-2011	3.16
	Nalbari	25-Feb-2010	8.95	30-Dec-2011	2.69
Himachal Pradesh					
Part B	Sundarnagar	16-Mar-2009	6.55	18-Feb-2011	1.97
Kerala					
Part A	Cherthala	17-Aug-2009	2.32	04-Jan-2010	0.70
	Alappuzha	17-Aug-2009	4.02	04-Jan-2010	1.21
	Ottapalam	17-Aug-2009	0.73	04-Jan-2010	0.22
	Kannur	17-Aug-2009	5.55	04-Jan-2010	1.67
	Kollam	17-Aug-2009	6.67	04-Jan-2010	2.00
	Kozhikode	17-Aug-2009	13.69	04-Jan-2010	4.11
	Thrissur	17-Aug-2009	4.84	04-Jan-2010	1.45
Part B	Shoranur	17-Aug-2009	3.79	15-Mar-2011	0.57
	Kunnamkulam	17-Aug-2009	5.53	01-Sep-2010	0.83
	Kannur	17-Aug-2009	80.20	29-Oct-2010	2.61
				20-Dec-2010	8.61
				29-Dec-2012	0.82
	Attingal	17-Aug-2009	10.02	29-Oct-2010	0.29
				20-Dec-2010	0.97
				29-Dec-2012	0.24
	Ernakulam-Kochi	17-Aug-2009	207.96	28-Jun-2011	31.19
	Malappuram	17-Aug-2009	7.26	01-Sep-2010	1.09
	Thodupuzha	17-Aug-2009	13.97	29-Oct-2010	0.49
				20-Dec-2010	1.61
Uttarakhand					
	Sitarganj	26-Mar-2009	4.24	16-May-2012	0.23

Part B				17-May-2012	1.04
	Landhora	26-Mar-2009	4.30	16-May-2012	0.23
				17-May-2012	1.06
	Kathima	26-Mar-2009	10.00	16-May-2012	0.54
				17-May-2012	2.46
	Ramnagar	26-Mar-2009	11.65	16-May-2012	0.62
				17-May-2012	2.87
					0.85
Madhya Pradesh					
Part B	Indore	30-Mar-2009	276.24	31-Mar-2010	36.13
				09-Jul-2012	5.32
	Katni	30-Mar-2008	52.45	24-Sep-2010	7.87
	Narsinghpur	30-Mar-2008	15.46	24-Sep-2010	2.32
	Bhind	30-Mar-2008	31.82	22-Sep-2010	4.78
	Ujjain	30-Mar-2009	91.10	31-Mar-2010	10.16
				09-Jul-2012	3.50
	Hoshangabad	30-Mar-2008	15.00	30-Jun-2010	2.25
	Dewas	30-Mar-2009	54.01	24-Sep-2010	8.10
				16-May-2012	0.11
				17-May-2012	0.58
Mizoram					
Part A	Aizawl	14-Sep-2009	25.10	01-Feb-2011	7.53
	Lunglei	14-Sep-2009	3.05	01-Feb-2011	0.92
	Lawngtlai	14-Sep-2009	0.86	01-Feb-2011	0.26
Part B	Champhai	14-Sep-2009	11.93	18-Feb-2014	2.86
				06-Sept-2014	0.72
	Serchhip	14-Sep-2009	8.87	18-Feb-2014	2.12
				06-Sept-2014	0.54
	Aizawl	14-Sep-2009	156.84	18-Feb-2014	37.51
				06-Sep-2014	9.55
Goa					
Part-A	Marmagao	24-Mar-2009	3.65	09-Nov-2009	1.09
Gujarat					
Part B	Wadhwan	3-Sep-2009	31.35	23-Sep-2010	4.70
	Gondal	3-Sep-2009	8.22	23-Sep-2010	1.24
	Vadodara	2-Mar-2009	58.48	01-Jan-2015	8.77
	Godhra	2-Mar-2009	37.60	23-Sep-2010	5.64
Maharashtra					
	Beed	20-Feb-2009	56.23	15-July-2011	3.39
				28-Sept-2011	5.04

Part B	Wardha	20-Feb-2009	25.67	18-Feb-2011	3.85
	Ahmednagar	20-Feb-2009	55.90	15 th JULY-2011	3.37
				28 th Sept -2011	5.01
	Nalasopara	20-Feb-2009	27	18-Feb-2011	4.05
	Vasai	20-Feb-2009	32.88	29-Sep-2011	4.93
	Virar	20-Feb-2009	59.15	18-Feb-2011	8.87
	Solapur	20-Feb-2009	128.47	18-Feb-2011	15.98
				29-Dec-2012	3.29
	GR. Mumbai	20-Feb-2009	1193.91	28-Sept-2011	86.16
				29-Sept-2011	81.00
				29-Dec-2012	11.92
Nagaland					
Part A	Zunheboto	12-Apr-2010	0.82	16-Mar-2011	0.25
	Mokokchung	12-Apr-2010	1.31	16-Mar-2011	0.39
	Tuensang	12-Apr-2010	1.5	16-Mar-2011	0.45
Puducherry					
Part A	Puducherry	14-Jan-2011	20.17	31-Mar-2012	3.45
				08-May-2014	0.72
SCADA		14- Jan-2011	13.89	08- May -2014	4.17
Part B		14- Jan-2011	84.78	08- May -2014	12.72
Rajasthan					
Part A	Pali	13-Feb-2009	3.21	26-Mar-2009	0.54
				31-Mar-2009	0.38
				06-Jul-2009	0.05
	Jhunjhunu	13-Feb-2009	1.77	26-Mar-2009	0.30
				31-Mar-2009	0.21
				06-Jul-2009	0.03
	Sojat city	13-Feb-2009	0.86	26-Mar-2009	0.14
				31-Mar-2009	0.10
				06-Jul-2009	0.01
Part B	Makrana	13-Feb-2009	29.70	09-Mar-2011	4.46
	Jhalawar	12-Feb-2009	7.92	12-Oct-2010	1.19
	Jalore	13-Feb-2009	10.10	29-Sep-2010	1.52
	Bharatpur	12-Feb-2009	35.06	12-Oct-2010	5.26
	Kota	12-Feb-2009	249.70	12-Oct-2010	37.46
	Bhilwara	13-Feb-2009	35.08	31-Mar-2010	4.70
				20-Dec-2010	0.56
West Bengal					
	Haldia	22-Jul-2009	28.88	1-Jan-2015	4.33

Part B	English Bazaar	22-Jul-2009	25.54	01-Mar-2011	3.83
	Darjeeling	22-Jul-2009	10.23	01-Jan-2015	1.54
	Bankura	22-Jul-2009	17.79	01-Mar-2011	2.67
	Raiganj	22-Jul-2009	10.95	01-Mar-2011	1.64
	Bangaon	22-Jul-2009	15.83	01-Mar-2011	2.37
	Diamond Harbour	22-Jul-2009	12.09	01-Mar-2011	1.81
Meghalaya					
Part A	Cherrapunjee	12-Apr-10	0.7	04-Feb-2011	0.21
	Shillong	12-Apr-10	25.02	04-Feb-2011	7.50
Part B	Nongpoh	12-Apr-10	2.49	06-Sep-2014	0.75
	Shillong	12-Apr-10	72.8	06-Sep-2014	21.84
Punjab					
Part B	Faridkot	30-Jul-2009	11.37	31-Mar-2010	1.52
				12-Sep-2012	0.13
				28- Sep -2012	0.05
	Hoshiarpur	30-Jul-2009	38.01	29- Sep -2011	5.70
	Kapurthala	30-Jul-2009	20.35	29- Sep -2011	3.05
	Sunam	30-Jul-2009	12.75	29- Sep -2011	1.91
	Firozpur	30-Jul-2009	20.87	31- Mar -2010	2.79
	Bhatinda.	30-Jul-2009	47.5	31- Mar -2010	6.36
				12-Sep -2012	0.54
				28- Sep -2012	0.22
	Jalandhar Cantt	30-Jul-2009	29.86	19-Jun -2015	4.48
Total					706.57

Annexure VI
(Refer to Paras 4.2 & 4.2.1)

Details of the projects sanctioned during various Steering Committee meetings

Sl. No	Date and no. of the meeting	No. of Projects Sanctioned	Total cost of the Projects Sanctioned (₹ in crore)	No. of Projects Sanctioned without approval of SDRC
1.	8 th Meeting held on 13 th February 2009	256	894.10	127
2.	9 th Meeting held on 20 th February 2009	284	861.44	61
3.	10 th Meeting held on 26 th February 2009	64	196.39	29
4.	11 th Meeting held on 30 th June 2009	423	1,614.23	
5.	12 th Meeting held on 4 th September 2009	109	598.56	53
6.	14 th Meeting held on 26 th November 2009	155	546.43	
7.	15 th Meeting held on 9 th December 2009	61	74.92	
8.	16 th Meeting held on 2 nd March 2010	22	65.52	
9.	17 th Meeting held on 19 th March 2010	251	3,042.67	229
10.	18 th Meeting held on 29 th March 2010	3	65.81	
11.	19 th Meeting held on 2 nd June 2010	152	2,061.12	54
12.	20 th Meeting held on 16 th August 2010	269	5,748.00	
13.	21 st Meeting held on 8 th December 2010	145	4,195.96	
14.	22 nd Meeting held on 22 nd February 2011	58	1,317.68	
15.	23 rd Meeting held on 15 th June, 2011	98	3,706.19	
16.	24 th Meeting held on 18 th October 2011	151	4,694.73	
17.	25 th Meeting held on 20 th January 2012	49	1,083.47	
18.	26 th Meeting held on 3 rd August 2012	48	726.84	
19.	27 th Meeting held on 18 th February 2013	41	2,316.84	
20.	28 th Meeting held on 6 th August 2013	33	1,152.17	
21.	29 th Meeting held on 27 th September 2013	68	1,841.29	
22.	30 th Meeting held on 28 th February 2014	32	571.49	
23.	31 st Meeting held on 9 th July 2014	2	51.16	
Total		2,774	37,427.01	553

Annexure VII

(Refer to Para 4.2.2)

Non-preparation of DPRs in the prescribed formats by the State Utilities resulting in inclusion of inadmissible items of work and exclusion of required items of work

Name of the State	Instances of cases of incorrect preparation of DPRs
Assam	<ul style="list-style-type: none">➤ 15 <i>per cent</i> Supervision charges amounting to ₹10.47 crore included in the estimates of Project Cost.➤ Overloading of 15 <i>per cent</i> additional cost on SOR 2010-11, in contravention to the stated facts in the DPR resulted in overestimation of the Project by ₹62.39 crore on SOR rates of 2010-11.
Gujarat	<ul style="list-style-type: none">➤ Inclusion of Departmental overhead charges in DPR cost estimates➤ Two SCADA projects (one SCADA Part A and other SCADA Part B) were sanctioned for Ahmedabad peripheral area. The population of the project area (3,49,298) was below the prescribed limit of 4,00,000.
Rajasthan	Five Works under progress in two towns involving expenditure of ₹ 3.60 crore were included in proposed DPR of the concerned town.
Tripura	Value of dismantled material was not reduced from the approved Project Cost resulting in undue advantage to the Utility.
Uttar Pradesh	<ul style="list-style-type: none">➤ Inclusion of meter cost of new/unmetered connection.➤ Inclusion of cost of installation of meters.➤ Non-consideration of cost of receipt back items.➤ Non provision and recovery of Labour Cess.

Annexure VIII
(Refer to Para 4.3)

Delay in formulation of DPRs, calling of tenders and award of work

State	Delay in submission/approval of DPRs	Delay in tender/award of works.
Andhra Pradesh	<ul style="list-style-type: none"> ➤ Part B DPRs of APSPDCL: from 205 days (7 months) to 1,266 days (42 months). ➤ Part B DPRs of APEPDCL: from 190 days (more than 6 months) to 1,265 days (42 months) ➤ Supervisor Control and Data Acquisition system/ Distribution Management System (SCADA/ DMS) of APSPDCL and APEPDCL: 333 days (11 months) to 1,258 days (42 months). In 4 cases relating to APSPDCL and APEPDCL, there was delay of 359 days (12 months) in submission of DPRs of Part B SCADA enabling components and works are yet to be awarded (September 2015). 	<ul style="list-style-type: none"> ➤ Part B – APSPDCL: 74 days (more than 2 months) to 617 days (more than 20 months) in respect of 10 towns. ➤ Part B – APEPDCL: From 78 days (more than 2 months) to 1,180 days (more than 39 months) ➤ (SCADA/DMS) of APSPDCL and APEPDCL: 102 (more than 3 months) to 635 days (21 months)
Assam	<ul style="list-style-type: none"> ➤ Part A DPRs (67 Projects): 100 days (3 months) 	<ul style="list-style-type: none"> ➤ Part B DPRs (67 Projects): 7 to 15 months.
Bihar	<p>In all 25 cases</p> <ul style="list-style-type: none"> ➤ Part A: 155 days (5 months) ➤ Part B: 360 days. (12 months) 	<p>In all 25 Cases</p> <ul style="list-style-type: none"> ➤ Part A: 266 days (9 months). ➤ Part B: 235 (more than 7 months) to 539 days (more than 17 months)
Himachal Pradesh	<ul style="list-style-type: none"> ➤ Part A 14 Projects: 427 (14 months) to 505 days (17 months) ➤ Part B 14 Projects: 596 days (20 months) to 638 days (21 months) 	<ul style="list-style-type: none"> ➤ Part A 14 Projects: 61 days(2 months) ➤ Part B 14 Projects (Tendering) :119 (4 months) to 1569 days (52 months) <p>Award of Works</p> <ul style="list-style-type: none"> ➤ Part A: 299 days (10 months) ➤ Part B: 140 (5 months) to 450 days (15 months)
Haryana	<ul style="list-style-type: none"> ➤ 850 days (28 months) to 1,049 days (35 months) 	<ul style="list-style-type: none"> ➤ 431 (more than 14 months) to 990 days (33 months)
Jammu & Kashmir	-	<ul style="list-style-type: none"> ➤ More than 10 months in finalization of tenders for selection of SCADA Consultant. ➤ 28 months in issue of LOA in favour of the selected vendor ➤ 15 months in issue of letter of award to the ITIA vendor

Jharkhand	-	Part A (30 Projects): <ul style="list-style-type: none"> ➤ IT Consultant (4 months) ➤ ITIA (12 months); ➤ Metering of Distribution Transformers (27 months), ➤ Boundary and Feeder Meters (24 months) ➤ Network Bandwidth Service Provider (30 months) ➤ 21 to 33 months in civil works and non IT Infrastructure for DC and DRC.
Kerala	<ul style="list-style-type: none"> ➤ Part B DPRs (43 cases): 150 days (5 months) to 840 days (28 months) 	<ul style="list-style-type: none"> ➤ In 3 cases from 608 days (20 months) to 996 days (33 months).
Madhya Pradesh	<ul style="list-style-type: none"> ➤ 27 projects in Eastern DISCOM: From 12 to 16 months. ➤ 31 projects (Part B) in Central DISCOM: From 12 to 18 months ➤ 23 (Part B) projects in Western DISCOM: From 11 to 12 months. 	<ul style="list-style-type: none"> ➤ 26 projects in Eastern DISCOM: From 19 months to 25 months ➤ Central DISCOM: 19 to 31 months. ➤ Western DISCOM: 21 to 30 months.
Maharashtra	-	<ul style="list-style-type: none"> ➤ Part B One case: More than one year
Mizoram	-	<ul style="list-style-type: none"> ➤ Part B: 9 months
Rajasthan	<ul style="list-style-type: none"> ➤ 81 cases: Up to 162 days (more than 5 months) 	<ul style="list-style-type: none"> ➤ 29 cases: 420 days (14 months) to 1291 days (43 months)
Tamil Nadu	-	<ul style="list-style-type: none"> ➤ IT Implementing Agency: 378 days (12 months)
Tripura	-	<ul style="list-style-type: none"> ➤ Part B projects: 8 to 40 months
Uttar Pradesh	Part A. (43 cases): 51 days (2 months)	<ul style="list-style-type: none"> ➤ Part B (34 cases): 9 to 46 months in initiating tendering process and 18 to 48 months in awards of work.
Uttarakhand	Part B (31 cases): <ul style="list-style-type: none"> ➤ 258 (more than 8 months) to 313 (more than 10 months) 	Part B (31 cases) <ul style="list-style-type: none"> ➤ 309 (10 months) to 576 days (19 months) in calling of tenders ➤ 491 (more than 16 months) to 870 days (29 months) in awards of work.

Guidelines for sanction of Cost variation in appointment of ITIA by Utilities approved by the Steering Committee in its 14th Meeting held on 26^h November 2009

Pre-award stage:

- a) If the lowest quoted / awarded cost is higher than the sanctioned DPR values up to a **maximum of 10 per cent**, the Utility may issue **Letter of Intent (LOI)** and intimate such variation to PFC/ MOP along with proper justification and take approval of their DRC. Such variation in cost was to be put up in the next steering committee for sanction of additional project cost to the Utility.
- b) If the lowest quoted/awarded cost is higher with respect to sanctioned DPR values by **more than 10 per cent**, the Utility was required to provide proper justification of such cost variation/ changes in scope, BOQ, etc. to PFC / MOP along with due approval of State DRC. The cost escalation would be appraised by the PFC and shall be put up to the Steering Committee for their consideration.

Post-award stage:

Quantity variation of individual items may be accepted to the extent of +/- 20 *per cent* of the awarded Bill of quantity subject to 10 *per cent* of the value of the awarded project cost. In such cases, the Utility was required to provide to PFC/ MOP, proper justification of such cost variation for any changes in scope, BOQ, price etc. along with approval of their DRC (within one year from the LOI). In case, the cost increase is found justified, the recommendation of PFC shall be put up to Steering Committee for their consideration and sanction of additional project cost.

Variations in excess/short of prescribed limits

State	Remarks
Assam	During invitation of bids the Utility excluded many jobs which were originally included in the DPRs of Part-B . Against the total project cost of ₹ 589.91 crore (excluding consumer metering cost), the Utility has tendered for an amount of ₹ 476.53 crore with an overall reduction of scope of ₹ 113.38 crore. As regards individual projects (Electrical circle-wise) the reduction was in the range between ₹ 2.69 crore and ₹ 18.69 crore. In all the towns the work relating to 'LT Clean-up' as proposed in the DPRs valuing ₹ 15.98 crore was excluded during actual execution.
Bihar	In all 24 cases there were variations ranging from 100 per cent to below 397 <i>per cent</i> in the approved DPRs and works actually executed, without approval from the PFC.
Gujarat	The details of the expenditure of Part B submitted to Audit revealed that the work executed by the DISCOMs in 14 towns (7 towns in DGVCL, 6 towns in MGVCL and 1 town in UGVCL) exceeded the quantity mentioned in the approved DPR. Even after allowing the increase in quantity by 20 <i>per cent</i> as allowed by PFC, the extra quantity executed by the DISCOMs of these towns worked out to ₹ 26.25 crore. In Jambusar town (in DGVCL) the work executed by the Company was less than 50 <i>per cent</i> value of DPR work.
Jharkhand	In all the 30 projects of Part A : The quantity of Boundary and Feeder meters to be executed increased by 93 <i>per cent</i> over the DPRs quantity with an additional cost of ₹ 8.44 crore (i.e. 170 <i>per cent</i> higher than the DPR cost) due to incorrect assessment of quantity in the DPRs. The quantity of Distribution Transformers installed increased by 158 <i>per cent</i> with an increase of ₹ 15.08 crore i.e. 147 <i>per cent</i> over the DPR cost.
Kerala	Part A work was awarded at quoted price of ₹ 189.94 crore which was lower by 11 <i>per cent</i> of the approved project cost of ₹ 214.38 crores. Difference between sanctioned project cost (₹ 547.51 crores) and awarded project cost (₹ 643.60 crores) in respect of distribution component of three Part B projects of Thiruvananthapuram, Kochi and Kozhikode, awarded on turnkey was higher by 18 <i>per cent</i> .
Manipur	The decision to install prepaid energy meters instead of tamper proof electronics meters as per the DPRs resulted in extra expenditure/liability of ₹ 5726.56 lakh.
Uttar Pradesh	It was noticed that quantity awarded in final BOQ varied by more than 20 <i>per cent</i> in certain components of BOQ of Baghpat Town and ranged between -100 <i>per cent</i> and 683 <i>per cent</i> . We also noticed that certain works had been awarded for which zero quantity was approved in the DPR. This resulted into variation in overall project cost by (-) 16 <i>per cent</i> against the allowable limit of (+/-) 10 <i>per cent</i> in contravention of the guidelines.

Cases of projects not executed on turnkey basis

State	Cases noted in Audit
Assam	The Utility while submitting the DPRs for Part B of R-APDRP included the scope of consumer metering along with the work of System Improvement (SI). However, during actual execution, the company segregated the scope of consumer metering from the works relating to SI.
Karnataka	<ul style="list-style-type: none"> ➤ The DISCOM (CESC) split the Part B works into two parts viz., (a) Electrical works and (b) Metering. Further, Metering was again split into single phase metering and three phase metering. While calling for the tender for electrical works, 12 projects were grouped into six packages based on districts and works were awarded accordingly. ➤ GESCOM, for the purpose of execution, grouped the 21 projects based on the Division and made them into nine packages and tenders were called for on partial turnkey basis. Purchase orders were placed separately for transformers and meters.
Kerala	40 Projects under Part B of the scheme were executed departmentally and not awarded on turnkey basis.
Madhya Pradesh	Works in 23 Part B projects (Central: 2, Eastern: 1 and Western: 20) were not awarded on turnkey basis.
Maharashtra	In procurement of meters, the work was not awarded on the turn key basis, as the Company had procured meters centrally.
Telangana	In 38 (Part A 1 & Part B 37) cases, the work was not awarded on the turn key basis.
Sikkim	The works under Part B were not awarded on turnkey basis as E&PD took up the metering works departmentally.

Annexure XII
(Refer to Para 4.16)

Cases where projects have been declared as ‘Go Live’ despite low expenditure

Sl. No.	State	Utility	Town Name	Go-Live Date	Sanction Cost	Disbursement	Percentage
1.	Uttar Pradesh	DVVNL	Tundla	Nov-13	9.73	0.35	3.60
2.	Uttar Pradesh	MVVNL	Aonla	Feb-14	0.87	0.16	18.39
3.	Uttar Pradesh	MVVNL	Baheri	Feb-14	0.68	0.13	19.12
4.	Uttar Pradesh	MVVNL	Budaun	Feb-14	2.95	0.53	17.97
5.	Uttar Pradesh	MVVNL	Ujhani	Feb-14	0.81	0.15	18.52
6.	Uttar Pradesh	MVVNL	Barabanki	Apr-14	4.91	0.94	19.14
7.	Assam	Assam	Dergaon	Jun-15	0.6	0.18	30.00
8.	Bihar	SBPDCL	Fatuha	Jun-15	0.95	0.28	29.47
9.	Bihar	NBPDCL	Hajipur	Jun-15	2.58	0.77	29.84
10.	Bihar	NBPDCL	Barauli	Jul-15	0.64	0.19	29.69
11.	Bihar	NBPDCL	Sugauli	Jul-15	0.46	0.14	30.43
12.	Bihar	SBPDCL	Makhdumpur	Jul-15	0.48	0.14	29.17
13.	Bihar	NBPDCL	Gopalganj	Jul-15	0.84	0.25	29.76
14.	Bihar	NBPDCL	Raxaul Bazar	Jul-15	0.94	0.28	29.79
15.	Bihar	NBPDCL	Samastipur	Jul-15	1.4	0.42	30.00
16.	Bihar	SBPDCL	Jehanabad	Jul-15	1.51	0.45	29.80
17.	Bihar	SBPDCL	Maner	Jul-15	0.67	0.2	29.85
18.	Bihar	NBPDCL	Darbhanga	Jul-15	3.52	1.06	30.11
19.	Bihar	NBPDCL	Gogri Jamalpur	Jul-15	0.56	0.17	30.36
20.	Bihar	NBPDCL	Khagaria	Jul-15	1.07	0.32	29.91
21.	Bihar	NBPDCL	Kishanganj	Jul-15	1.08	0.32	29.63
22.	Bihar	NBPDCL	Madhepura	Jul-15	0.89	0.27	30.34
23.	Bihar	NBPDCL	Mahnar Bazar	Jul-15	0.47	0.14	29.79

24.	Bihar	NBPDCL	Purnia	Jul-15	2.61	0.78	29.89
25.	Bihar	NBPDCL	Ramnagar	Jul-15	0.78	0.23	29.49
26.	Bihar	NBPDCL	Saharsa	Jul-15	1.12	0.34	30.36
27.	Bihar	SBPDCL	Barahiya	Aug-15	0.46	0.14	30.43
28.	Bihar	SBPDCL	Jamui	Aug-15	0.84	0.25	29.76
29.	Bihar	SBPDCL	Masaurhi	Aug-15	0.92	0.28	30.43
30.	Bihar	SBPDCL	Bakhtiarpur	Sep-15	0.61	0.18	29.51
31.	Bihar	SBPDCL	Lakhisarai	Sep-15	1.2	0.36	30.00
32.	Bihar	SBPDCL	Sheikhpura	Sep-15	0.91	0.27	29.67
33.	Bihar	NBPDCL	Begusarai	Sep-15	1.63	0.49	30.06
34.	Bihar	NBPDCL	Chapra	Sep-15	2.08	0.62	29.81
35.	Bihar	NBPDCL	Katihar	Oct-15	1.99	0.6	30.15
36.	Bihar	NBPDCL	Narkatiaganj	Oct-15	0.77	0.23	29.87
37.	Bihar	NBPDCL	Siwan	Oct-15	1.65	0.49	29.70
38.	Bihar	SBPDCL	Barbigha	Oct-15	0.47	0.14	29.79
39.	Bihar	SBPDCL	Hilsa	Oct-15	0.7	0.21	30.00
40.	Bihar	SBPDCL	Naugachhia	Oct-15	0.83	0.25	30.12
41.	Bihar	SBPDCL	Rajgir	Oct-15	0.88	0.26	29.55
42.	Bihar	SBPDCL	Sultanganj	Nov-15	0.71	0.21	29.58
43.	Bihar	SBPDCL	Barh	Dec-15	0.93	0.28	30.11
44.	Bihar	SBPDCL	Bhabua	Dec-15	0.9	0.27	30.00
45.	Bihar	SBPDCL	Mokama	Dec-15	0.68	0.2	29.41
46.	Jammu & Kashmir	J & K	Bandipore	Oct-15	0.5	0.15	30.00
47.	Jammu & Kashmir	J & K	Ranbirsinghpura	Oct-15	0.76	0.23	30.26
48.	Kerala	Kerala	Shoranur	May-14	0.87	0.26	29.89
49.	Kerala	Kerala	Chalakydy	Feb-15	1.37	0.41	29.93
50.	Kerala	Kerala	Changanassery	Feb-15	1.19	0.36	30.25
51.	Kerala	Kerala	Chockli	Feb-15	1.37	0.41	29.93
52.	Kerala	Kerala	Neyyattinkara	Feb-15	1.21	0.36	29.75
53.	Kerala	Kerala	Ottappalam	Feb-15	0.73	0.22	30.14
54.	Kerala	Kerala	Palakkad	Feb-15	4.78	1.43	29.92
55.	Kerala	Kerala	Payyannur	Feb-15	1.78	0.53	29.78
56.	Kerala	Kerala	Ponnani	Feb-15	1.37	0.41	29.93
57.	Kerala	Kerala	Thiruvalla	Feb-15	2.52	0.76	30.16
58.	Kerala	Kerala	Thodupuzha	Feb-15	1.68	0.5	29.76

59.	Kerala	Kerala	Guruvayoor	Apr-15	2.55	0.77	30.20
60.	Kerala	Kerala	Mattannur	Apr-15	1.25	0.38	30.40
61.	Kerala	Kerala	Nedumangad	Apr-15	1.32	0.4	30.30
62.	Kerala	Kerala	Punalur	Apr-15	1.11	0.33	29.73
63.	Kerala	Kerala	Pathanamthitta	May-15	1.12	0.34	30.36
64.	Kerala	Kerala	Attingal	Jun-15	1.4	0.42	30.00
65.	Kerala	Kerala	Chittur- Thathamangalam	Jun-15	1.81	0.54	29.83
66.	Kerala	Kerala	Kodungallur	Jun-15	1.81	0.54	29.83
67.	Kerala	Kerala	Malappuram	Jun-15	1.74	0.52	29.89
68.	Kerala	Kerala	Perinthalmanna	Jun-15	1.71	0.51	29.82
69.	Kerala	Kerala	Taliparamba	Jun-15	1.43	0.43	30.07
70.	Kerala	Kerala	Kasaragod	Jul-15	1.89	0.57	30.16
71.	Kerala	Kerala	Kunnamkulam	Jul-15	1.78	0.53	29.78
72.	Kerala	Kerala	Pappinisseri	Jul-15	1.03	0.31	30.10
73.	Kerala	Kerala	Varkala	Jul-15	1.19	0.36	30.25
74.	Kerala	Kerala	Aroor	Aug-15	1.22	0.37	30.33
75.	Kerala	Kerala	Kayamkulam	Aug-15	2.54	0.76	29.92
76.	Kerala	Kerala	Kothamangalam	Aug-15	1.11	0.33	29.73
77.	Kerala	Kerala	Paravoor	Aug-15	0.76	0.23	30.26
78.	Kerala	Kerala	Kollam	Sep-15	6.67	2	29.99
79.	Kerala	Kerala	Kanhangad	Sep-15	2.75	0.83	30.18
80.	Kerala	Kerala	Kottayam	Sep-15	5.62	1.69	30.07
81.	Kerala	Kerala	Thrissur	Sep-15	4.84	1.45	29.96
82.	Kerala	Kerala	Tirur	Sep-15	2.65	0.8	30.19
83.	Kerala	Kerala	Kannur	Oct-15	5.55	1.67	30.09
84.	Kerala	Kerala	Koyilandy	Oct-15	1.78	0.53	29.78
85.	Kerala	Kerala	Vadakara	Oct-15	2.74	0.82	29.93
86.	Kerala	Kerala	Alappuzha	Nov-15	4.02	1.21	30.10
87.	Kerala	Kerala	Cherthala	Nov-15	2.32	0.7	30.17
88.	Kerala	Kerala	Kochi	Nov-15	52.49	15.75	30.01
89.	Kerala	Kerala	Kozhikode	Nov-15	13.69	4.11	30.02

90.	Kerala	Kerala	Thiruvananthapuram	Nov-15	61.03	18.31	30.00
91.	Madhya Pradesh	MPPKVVCL - E	Nowgaon	Oct-13	1.03	0.24	23.30
92.	Manipur	Manipur	Ningthoukhong	Nov-14	0.38	0.11	28.95
93.	Manipur	Manipur	Thoubal	Nov-14	0.91	0.27	29.67
94.	Manipur	Manipur	Bishnupur	Feb-15	0.68	0.2	29.41
95.	Manipur	Manipur	Moirang	Feb-15	0.63	0.19	30.16
96.	Manipur	Manipur	Kakching	Dec-15	0.9	0.27	30.00
97.	Meghalaya	Meghalaya	Jowai	Jul-15	1.67	0.5	29.94
98.	Meghalaya	Meghalaya	Cherrapunjee	Dec-15	0.7	0.21	30.00
99.	Mizoram	Mizoram	Kolasib	Jul-15	1.19	0.36	30.25
100.	Rajasthan	JoVVNL	Pipar City	Sep-13	0.74	0.22	29.73
101.	Tamil Nadu	TANGEDCO	Gobichettipalayam	Jan-14	1.17	0.35	29.91
102.	Tamil Nadu	TANGEDCO	Sathyamangalam	17-Feb-14	1.08	0.32	29.63
103.	Tamil Nadu	TANGEDCO	Namakkal	28-Mar-14	1.32	0.4	30.30
104.	Tamil Nadu	TANGEDCO	Rasipuram	28-Mar-14	0.88	0.26	29.55
105.	Tamil Nadu	TANGEDCO	Ambur	07-Apr-14	1.51	0.45	29.80
106.	Tamil Nadu	TANGEDCO	Gudiyatham	07-Apr-14	1.42	0.43	30.28
107.	Tamil Nadu	TANGEDCO	Melvisharam	07-Apr-14	0.66	0.2	30.30
108.	Tamil Nadu	TANGEDCO	Pernampattu	07-Apr-14	0.81	0.24	29.63
109.	Tamil Nadu	TANGEDCO	Arcot	05-May-14	0.9	0.27	30.00
110.	Tamil Nadu	TANGEDCO	Tiruttani	05-May-14	1.03	0.3	29.13
111.	Tamil Nadu	TANGEDCO	Karur	29-May-14	3.74	1.12	29.95
112.	Tamil Nadu	TANGEDCO	Chengalpattu	16-Jun-14	1.16	0.35	30.17
113.	Tamil Nadu	TANGEDCO	Maraimalaiagar	16-Jun-14	1.48	0.44	29.73
114.	Tamil Nadu	TANGEDCO	Tirupathur	27-Oct-14	0.94	0.28	29.79
115.	Tamil Nadu	TANGEDCO	Vaniyambadi	27-Oct-14	1.36	0.41	30.15
116.	Tamil Nadu	TANGEDCO	Mallasamudram	05-Nov-14	0.64	0.19	29.69

117.	Tamil Nadu	TANGEDCO	Tiruchengode	05-Nov-14	2.15	0.65	30.23
118.	Tamil Nadu	TANGEDCO	Chidambaram	10-Nov-14	0.95	0.28	29.47
119.	Tamil Nadu	TANGEDCO	Cuddalore	10-Nov-14	3.34	1.01	30.24
120.	Tamil Nadu	TANGEDCO	Viluppuram	10-Nov-14	1.69	0.5	29.59
121.	Tamil Nadu	TANGEDCO	Chinnamanur	17-Nov-14	0.78	0.23	29.49
122.	Tamil Nadu	TANGEDCO	Gudalur	17-Nov-14	1.08	0.32	29.63
123.	Tamil Nadu	TANGEDCO	Kambam	17-Nov-14	0.85	0.25	29.41
124.	Tamil Nadu	TANGEDCO	Periyakulam	17-Nov-14	0.77	0.23	29.87
125.	Tamil Nadu	TANGEDCO	Sivaganga	17-Nov-14	1.07	0.32	29.91
126.	Tamil Nadu	TANGEDCO	Theni Allinagaram	17-Nov-14	1.62	0.48	29.63
127.	Tamil Nadu	TANGEDCO	Aranthangi	24-Nov-14	0.86	0.26	30.23
128.	Tamil Nadu	TANGEDCO	Manapparai	24-Nov-14	0.87	0.26	29.89
129.	Tamil Nadu	TANGEDCO	Pattukkottai	24-Nov-14	1.3	0.39	30.00
130.	Tamil Nadu	TANGEDCO	Perambalur	24-Nov-14	1.04	0.31	29.81
131.	Tamil Nadu	TANGEDCO	Dharapuram	15-Dec-14	1.01	0.3	29.70
132.	Tamil Nadu	TANGEDCO	Palladam	15-Dec-14	1.75	0.53	30.29
133.	Tamil Nadu	TANGEDCO	Udumalaipettai	15-Dec-14	1.41	0.42	29.79
134.	Tamil Nadu	TANGEDCO	Vellakoil	15-Dec-14	1.35	0.41	30.37
135.	Tamil Nadu	TANGEDCO	Attur	23-Feb-15	1.48	0.44	29.73
136.	Tamil Nadu	TANGEDCO	Edappadi	23-Feb-15	1.06	0.31	29.25
137.	Tamil Nadu	TANGEDCO	Mettur	23-Feb-15	1.25	0.38	30.40
138.	Tamil Nadu	TANGEDCO	Ambasamudram	27-Apr-15	0.82	0.25	30.49
139.	Tamil Nadu	TANGEDCO	Kadayanallur	27-Apr-15	1.39	0.42	30.22
140.	Tamil Nadu	TANGEDCO	Puliyankudi	27-Apr-15	0.99	0.3	30.30

141.	Tamil Nadu	TANGEDCO	Sankarankoil	27-Apr-15	1.22	0.37	30.33
142.	Tamil Nadu	TANGEDCO	Tenkasi	27-Apr-15	1.38	0.41	29.71
143.	Tamil Nadu	TANGEDCO	Vikramasingapuram	27-Apr-15	0.84	0.25	29.76
144.	Tamil Nadu	TANGEDCO	Arani	04-May-15	1.16	0.35	30.17
145.	Tamil Nadu	TANGEDCO	Erode	04-May-15	6.35	1.89	29.76
146.	Tamil Nadu	TANGEDCO	Periyasemur	04-May-15	0.87	0.26	29.89
147.	Tamil Nadu	TANGEDCO	Tindivanam	11-May-15	1.35	0.41	30.37
148.	Tamil Nadu	TANGEDCO	Tiruvannamalai	11-May-15	2.43	0.73	30.04
149.	Tamil Nadu	TANGEDCO	Tiruvethipuram	11-May-15	0.8	0.24	30.00
150.	Tamil Nadu	TANGEDCO	Virudhachalam	11-May-15	1.48	0.44	29.73
151.	Tamil Nadu	TANGEDCO	Kallakkurichi	18-May-15	1.16	0.35	30.17
152.	Tamil Nadu	TANGEDCO	Aruppukkottai	09-Jul-15	1.6	0.48	30.00
153.	Tamil Nadu	TANGEDCO	Sattur	09-Jul-15	0.81	0.24	29.63
154.	Tamil Nadu	TANGEDCO	Srivilliputhur	09-Jul-15	1.42	0.43	30.28
155.	Tamil Nadu	TANGEDCO	Rajapalayam	13-Jul-15	7.08	2.12	29.94
156.	Tamil Nadu	TANGEDCO	Sivakasi	13-Jul-15	1.96	0.59	30.10
157.	Tamil Nadu	TANGEDCO	Virudhunagar	13-Jul-15	1.79	0.54	30.17
158.	Tamil Nadu	TANGEDCO	Tirunelveli	20-Jul-15	8.27	2.48	29.99
159.	Tamil Nadu	TANGEDCO	Bodinayakanur	10-Aug-15	1.06	0.31	29.25
160.	Tamil Nadu	TANGEDCO	Melur	10-Aug-15	0.74	0.22	29.73
161.	Tamil Nadu	TANGEDCO	Thirumangalam	10-Aug-15	1.16	0.35	30.17
162.	Tripura	Tripura	Indranagar (Part)	Nov-13	0.57	0.17	29.82
163.	Tripura	Tripura	Ranirbazar	May-14	0.56	0.17	30.36
164.	Tripura	Tripura	Belonia	Sep-14	0.64	0.19	29.69
165.	Tripura	Tripura	Jogendranagar	Sep-14	0.78	0.23	29.49
166.	Tripura	Tripura	Sonamura	Sep-14	0.69	0.21	30.43

167.	Tripura	Tripura	Agartala	Nov-14	20.71	6.21	29.99
168.	Tripura	Tripura	Pratapgarh	Nov-14	0.48	0.14	29.17
169.	Tripura	Tripura	Teliamura	Nov-14	0.81	0.24	29.63
170.	Tripura	Tripura	Khowai	Mar-15	0.72	0.21	29.17
171.	Tripura	Tripura	Kailasahar	Mar-15	0.83	0.25	30.12
172.	Tripura	Tripura	Gandhigram	Mar-15	0.3	0.09	30.00
173.	Tripura	Tripura	Badharghat	Mar-15	1.67	0.5	29.94
174.	Tripura	Tripura	Dharmanagar	Mar-15	1.06	0.32	30.19
175.	Tripura	Tripura	Kumarghat	Mar-15	3.68	1.1	29.89
176.	Tripura	Tripura	Udai Pur	Mar-15	1.05	0.32	30.48
177.	Uttar Pradesh	PoVVNL	Obra	Jun-13	0.77	0.17	22.08
178.	Uttar Pradesh	MVVNL	Kakrala	Oct-13	0.33	0.09	27.27
179.	Uttar Pradesh	MVVNL	Mahmudabad	Oct-13	0.73	0.21	28.77
180.	Uttar Pradesh	PoVVNL	Kopaganj	Jan-14	1.13	0.3	26.55
181.	Uttar Pradesh	MVVNL	Laharpur	Feb-14	0.67	0.17	25.37
182.	Uttar Pradesh	MVVNL	Palia Kalan	Feb-14	0.93	0.28	30.11
183.	Uttar Pradesh	MVVNL	Bahraich	Apr-14	3.57	1.04	29.13
184.	Uttar Pradesh	MVVNL	Bangarmau	Apr-14	0.78	0.22	28.21
185.	Uttar Pradesh	PaVVNL	Tanda.	Apr-14	0.79	0.23	29.11
186.	Uttar Pradesh	MVVNL	Akbarpur	Jul-14	1.91	0.54	28.27
187.	Uttar Pradesh	PoVVNL	Mughalsarai	May-15	3.06	0.61	19.93
188.	Uttar Pradesh	PaVVNL	Loni	Jun-15	9.59	2.32	24.19
189.	Uttar Pradesh	DVVNL	Mathura	Jul-15	12.48	2.63	21.07

A T&C Losses for the year 2008-09 to 2010-11 (in *per cent*)

S. No	State	2008-09				2009-10			2010-11		
		14 th Standing Committee on Energy (2010-11) March 2011	12 th Five Year Plan (May 2013)	Annex referred to in reply to parts (c) & (d) of un- starred question no. 5892 to be answered in the Lok Sabha on 02.05.2013	5 th Standing Committ ee on Energy 2014-15 16th Lok Sabha April 2015	12 th Five Year Plan (May 2013)	Annex referred to in reply to parts (c) & (d) of un- starred question No. 5892 to be answered in the Lok Sabha on 02.05.2013	5 th Standin g Commit tee on Energy 2014-15 Sixteent h Lok Sabha April 2015	12 th Five Year Plan (May 2013) <u>Provisio nal</u> <u>Figures</u>	Annex referred to in reply to parts (c) & (d) of un- starred question no. 5892 to be answered in the Lok Sabha on 02.05.2013	5 th Standing Committee on Energy 2014-15 Sixteenth Lok Sabha April 2015
1.	Andhra Pradesh	12.99	19.39	12.99	12.99	18.32	16.43	16.43	16.78	17.50	17.50
2.	Arunachal Pradesh	60.15	74.27	60.15	60.15	63.14	58.82	58.82	65.48	61.45	61.45
3.	Assam	20.32	35.37	32.68	32.68	38.24	29.31	56.19	45.13	29.19	28.71
4.	Bihar	34.37	41.66	34.37	34.37	42.39	43.92	43.92	49.99	47.44	47.44
5.	Chhattisgarh	32.45	37.78	32.73	32.73	46.62	36.28	40.04	36.41	28.64	28.84
6.	Delhi	17.97	17.92	17.92	17.92	20.78	20.78	20.78	15.76	15.76	15.76
7.	Goa	17.17	17.81	21.69	21.69	16.18	6.12	6.12	15.57	14.08	14.08
8.	Gujarat	22.05	25.46	22.04	22.04	26.87	22.81	22.81	18.25	16.89	16.89

9.	Haryana	33.29	28.43	33.29	33.29	29.50	29.32	29.32	26.72	28.02	28.02
10.	Himachal Pradesh	12.85	16.20	12.85	12.85	17.39	18.46	18.46	13.53	15.72	14.70
11.	Jammu & Kashmir	69.05	70.69	69.05	69.05	72.03	70.44	70.44	74.30	72.86	72.86
12.	Jharkhand	59.00	54.23	54.16	62.80	49.07	10.21	10.43	45.11	46.79	46.79
13.	Karnataka	25.68	24.79	24.94	24.94	23.69	25.34	25.34	23.64	23.71	23.71
14.	Kerala	21.61	34.98	21.61	21.61	28.81	14.90	14.90	29.72	14.09	14.09
15.	Madhya Pradesh	61.05	45.78	46.61	46.61	42.93	41.03	41.03	41.10	37.28	37.28
16.	Maharashtra	31.19	28.75	31.19	31.19	27.44	25.02	25.02	23.47	23.30	23.30
17.	Manipur	81.01	83.55	81.32	81.32	69.23	47.55	47.55	67.74	40.17	40.17
18.	Meghalaya	43.37	35.27	43.37	43.37	43.19	48.77	48.77	37.93	51.63	51.63
19.	Mizoram	41.01	46.43	41.08	41.08	42.89	38.95	38.95	42.08	41.00	43.09
20.	Nagaland	48.69	55.85	44.12	44.12	58.02	46.16	65.36	55.98	50.07	49.73
21.	Odisha	39.43	42.20	42.20	42.20	39.71	39.70	39.70	44.35	44.35	45.60
22.	Puducherry	18.47	Not available	18.47	18.47	Not available	19.35	19.35	Not available	14.43	14.43
23.	Punjab	18.96	19.76	18.51	18.51	19.97	17.73	17.73	18.35	17.47	19.64
24.	Rajasthan	29.52	32.99	29.83	29.83	33.06	30.07	30.07	25.60	24.19	24.66
25.	Sikkim	56.86	46.81	46.81	46.81	51.37	55.36	59.31	46.81	51.96	65.46
26.	Tamil Nadu	15.33	20.19	14.39	14.39	19.11	18.87	18.87	18.27	19.90	19.49
27.	Tripura	31.98	40.08	31.91	31.91	37.52	29.16	29.16	41.19	34.48	34.48
28.	Uttar Pradesh	40.32	35.29	35.04	34.90	36.69	35.73	34.45	37.86	40.29	42.94
29.	Uttarakhand	35.37	29.35	39.89	39.89	28.61	28.35	28.35	29.17	28.48	28.48
30.	West Bengal	22.73	28.81	25.81	25.81	26.13	33.24	33.24	28.87	27.40	27.40

Annexure – XIV
(Refer to Para 5.3)

AT&C Losses for the year 2011-12 and 2012-13 (in per cent)

Sl No.	States	2011-12		2012-13	
		Fifth Report of Standing Committee on Energy (2014-15) 16th Lok Sabha- Ministry of Power -Demands for grants 2015-16 (April 2015)	Report on "The Performance of State Power Utilities for the years 2011-12 to 2013-14" (July 2015)	Fifth Report of Standing Committee on Energy (2014-15) 16th Lok Sabha- Ministry of Power -Demands for grants 2015-16 (April 2015)	Report on "The Performance of State Power Utilities for the years 2011-12 to 2013-14" (July 2015)
1.	Andhra Pradesh	15.27	15.27	13.63	13.70
2.	Arunachal Pradesh	65.55	65.55	60.26	60.26
3.	Assam	29.47	29.47	31.85	31.85
4.	Bihar	59.24	59.24	54.63	47.44
5.	Chhattisgarh	29.05	29.05	25.12	25.12
6.	Delhi	18.56	18.56	15.22	15.22
7.	Goa	15.12	15.12	14.14	14.14
8.	Gujarat	19.26	19.26	19.87	19.87
9.	Haryana	28.27	28.27	32.55	32.55
10.	H.P.	18.04	18.04	9.53	11.90
11.	J&K	71.16	71.16	60.87	60.87
12.	Jharkhand	42.77	42.76	47.49	47.49
13.	Karnataka	23.29	23.29	20.78	20.78

14.	Kerala	12.17	12.17	10.53	12.32
15.	Madhya Pradesh	38.26	38.26	31.15	31.15
16.	Maharashtra	21.63	21.63	21.95	21.95
17.	Manipur	44.80	44.80	85.49	85.49
18.	Meghalaya	44.85	45.33	26.60	36.25
19.	Mizoram	36.59	36.59	27.55	27.55
20.	Nagaland	22.85	22.85	75.30	75.30
21.	Odisha	44.66	44.66	42.94	42.88
22.	Puducherry	18.91	18.91	9.13	9.13
23.	Punjab	18.96	18.96	17.66	17.52
24.	Rajasthan	24.81	24.81	20.00	20.00
25.	Sikkim	58.32	58.32	53.51	53.51
26.	Tamil Nadu	21.70	21.70	20.72	20.71
27.	Tripura	33.76	33.76	33.85	24.86
28.	Uttar Pradesh	41.95	41.95	42.85	42.85
29.	Uttarakhand	25.84	25.84	23.18	23.18
30.	West Bengal	32.90	32.90	34.43	34.43

Status of DT Metering and Feeder Metering

Sl. No.	Name of States	11kV Feeders						Distribution Transformer					
		2008-09			2014-15			2008-09			2014-15		
		Numbers	Metered	%age	Numbers	Metered	%age	Numbers	Metered	%age	Numbers	Metered	%age
1.	Andhra Pradesh	985	932	94.62	1,484	1,484	100	28,709	5,988	20.86	47,921	49,586	103.47
2.	Assam	R-APDRP works not started			539	539	100	R-APDRP works not started			5,624	5,624	100
3.	Bihar ²	182	102	56.04	755	715	94.70	4,065	1,395	34	15,127	12,473	82.45
4.	Chhattisgarh	500	391	78.20	700	688	98.29	9,201	2,761	30.01	11,214	10,127	90.31
5.	Goa	227	227	100	275	275	100	4,081	0	0	5,900	4,709	79.81
6.	Gujarat	5,895	5,895	100	7,984	7,984	100	2,24,086	1,53,712	68.60	4,31,303	3,43,437	79.63
7.	Haryana	1,452	1,452	100	1,575	1,575	100	18,569	2,828	15.23	35,109	27,076	77.12
8.	Himachal Pradesh	135	135	100	165	165	100	2,015	1,960	97.27	2,906	2,887	99.34
9.	J&K	621	282	45.41	1,371	269	19.62	9,588	0	0	9,588	685	7.31
10.	Jharkhand	342	229	66.96	413	413	100	10,195	6,261	61.41	10,040	10,040	100
11.	Karnataka	1,227	299	24.37	488	1,858	380.74	23,852	8,699	36.47	58,483	53,066	90.74
12.	Kerala	1,752	1,752	100	2,021	2,021	100	46,955	15,943	34	71,199	38,698	54
13.	Madhya Pradesh	26,945	24,467	90.80	42,083	41,640	98.94	1,02,482	25,435	24.82	1,92,317	70,849	36.84

² Information for 2008-09 is only for one utility

14.	Maharashtra ³	9,380	6,851	73.04	17,093	16,156	94.52	3,59,543	2,33,754	65.01	4,50,492	2,31,275	51.34
15.	Manipur	No data available	No data available	No data available	71	71	100	Nil	Nil	-----	1,168	1,081	92.55
16.	Meghalaya	113	75	66.37	122	122	100	928	455	49.03	1,682	1,682	100
17.	Mizoram	147	145	98.64	215	170	79.07	1,273	0	0	1,752	850	49.00
18.	Nagaland	198	80	40	260	158 (including 78 under R- APDRP)	61	1,694	453	27	3,604	1,638 (including 1,185 under R- APDRP)	45
19.	Odisha	Base year is 2012-13. Tenders are in the final stage of award											NA
20.	Puducherry	40	0	0	60	0	0	960	0	0	1,416	950	67.09
21.	Punjab	1,032	1,032	100	1,568	1,568	100	24,301	N.A.	N.A.	39,591	31,358	79.2
22.	Rajasthan	2,064	1,768	85.66	3,058	2,652	86.72	35,204	8,697	24.70	54,398	15,143	27.84
23.	Sikkim	56	23	41.07	65	65	100	237	57	24.05	328	258	78.66
24.	Tamil Nadu	704	704	100	2,285	2,285	100	29,994	NIL	0	48,244	48,244	100
25.	Telangana	1,337	1,337	100	1,787	1,787	100	39,176	7,024	17.92	50,870	50,870	100
26.	Tripura	72	72	100	86	86	100	1,409	1,110	78.77	1,280	1,059	82.73
27.	Uttar Pradesh	4,224	2,322	54.97	3,331	3,065	92.01	1,40,833	1,14,804	81.52	43,441	28,463	65.52
28.	Uttarakhand	519	516	99.42	662	662	100	3,618	1,724	47.65	5,680	4,360	76.76
29.	West Bengal	NA	NA	NA	3,337	3,170	95	85,145	15,000	17.62	1,99,289	38,124	19.13

³ The figures or 2008-09 and 2014-15 pertains to Maharashtra state as a whole.

Status of consumer metering

Sl. No	Name of States	2008-09			2014-15		
		Numbers	Metered	Percentage	Numbers	Metered	Percentage
1.	Andhra Pradesh	12,34,159	12,34,159	100	14,25,368	14,25,368	100
2.	Assam	Consumer metering not started			7,62,101	7,62,101	100
3.	Bihar	3,80,919 ⁴	3,44,902	90.54	24,95,249	23,52,966	94.30
4.	Chhattisgarh	6,76,050	6,76,050	100	8,78,129	8,78,129	100
5.	Goa	5,29,773	5,27,336	99.54	5,83,694	5,81,441	99.61
6.	Gujarat	79,82,367	77,53,964	97.14	1,04,38,509	1,02,13,107	97.84
7.	Haryana	14,92,595	14,92,595	100	17,40,286	17,40,286	100
8.	Himachal Pradesh	2,73,875	2,73,875	100	3,19,538	3,19,538	100
9.	J&K	11,82,548	4,17,077	35.26	15,85,149	8,14,345	51.37
10.	Jharkhand	6,16,322	5,37,252	87.17	N A	N A	N A
11.	Kerala	93,63,461	93,63,461	100	1,14,58,301	1,14,58,301	100
12.	Karnataka	10,13,426	10,13,426	100	20,55,697	20,55,697	100
13.	Madhya Pradesh	23,02,740	22,70,488	98.64	51,01,914	30,33,066	59.45

⁴ Information in respect of one Utility.

14.	Maharashtra ⁵	1,68,09,590	1,53,68,271	91.42	2,30,35,775	2,14,33,928	93.05
15.	Manipur	1,83,686	1,65,270 (i/c defective)	89.97	2,58,484	1,94,867	75.39
16.	Meghalaya	86,683	79,646	91.88	1,28,688	1,26,582	98.36
17.	Mizoram	1,58,289	1,49,186	94.25	2,03,220	1,95,581	96.24
18.	Nagaland	1,80,000	1,75,000	97	2,40,626	2,32,171	96
19.	Odisha	-	-	-	-	-	-
20.	Puducherry	165	66	40	197	125	63.45
21.	Punjab	20,56,262	20,56,262	100	21,97,838	21,97,838	100
22.	Rajasthan	24,19,606	24,19,597	99.99	36,53,583	36,53,154	99.99
23.	Sikkim	12,527	10,131	80.87	15,771	14,459	91.68
24.	Tamil Nadu	63,26,000	63,26,000	100	85,26,000	85,26,000	100
25.	Telangana	34,33,225	34,33,225	100	38,64,941	38,64,941	100
26.	Tripura	1,34,089	1,34,089	100	2,73,247	2,73,247	100
27.	Uttar Pradesh	28,15,611	27,77,384	98.63	37,56,833	37,56,833	100
28.	Uttarakhand	4,41,542	4,41,484	99.99	5,85,247	5,85,247	100
29.	West Bengal	68,35,269	58,09,979	85	1,50,99,540	1,50,91,440	99.94

⁵ The figures of 2008-09 and 2014-15 pertains to Maharashtra state as a whole

Setting up of Special Court

Name of State	Date of Setting up of Special Court	Nos. of offences recorded since April 2008 to March 2015	Nos. of cases in which trial conducted	Nos. of cases in which penalties imposed	Nos. of cases pending for decisions	Duration of pendency of each case.
Andhra Pradesh (APEPDCL)	18.10.2003	26,660	47	22,613	39	7 months to 4 years 10 months
Andhra Pradesh (APSPDCL)	18.10.2003	87,291	0	87,291	2	More than 2 years
Assam	15-10-2005	1,862	154	1,708	Nil	NA
Bihar	20-11-2009	890 ⁶	NA	468	NA	NA
Chhattisgarh	16 and 5 special courts were set up on 5/1/2007 and 22/6/2013 respectively	48,113	9,981	521	9,460	NA

⁶ Special courts have been set up at Gaya, Muzzaferpur and Patna. Information in respect of Gaya and Patna are not available.

Goa	Not Established	Information furnished as 'NIL'	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Gujarat	21-06-04	DGVCL -65,818	1,333	65,818	1,077	1 to 6 years
	21-06-04	MGVCL -35,763	753	34,037	265	1 to 6 years
	21-06-04	PGVCL -143270	17,595	1,43,270	4,256	1 to 6 years
	21-06-04	UGVCL- 11017	135	1,279	126	1 to 6 years
Haryana	Special court not set up in Haryana	N.A.	N.A.	N.A.	N.A.	N.A.
Himachal Pradesh	21-10-2005	Nil	Nil	Nil	Nil	Nil
J&K	No court established	Nil	Nil	Nil	Nil	Nil
Jharkhand	23.7.2010 ⁷	N.A	N.A	N.A	N.A	N.A
Karnataka⁸	10.11.2003	13,523	13,523	13,523	460	1 year to 6 years
Kerala	11.7.2007	22,646	53	3,263	53	From 6 months to 4 years

⁷ 23-07-2010 Special courts have been set up at Ranchi, Jamshedpur, Dhanbad, Hazaribagh, Dumka, Medininagar Districts

⁸ Information pertaining to only one utility BESCO,

Madhya Pradesh⁹	Not furnished	(MPMKVVCL, Bhopal)- 3,35,280 ¹⁰	Not furnished	3,35,280 ¹¹	67,999	Not furnished
	40 numbers of special courts were opened under Eastern Discom during the period from 2004 to 2014-15 as furnished by management	Eastern DISCOM- 84,403	64,466	16,426	67,977	Case wise pendency was not furnished by the management. However it was stated that duration of pendency varies from case to case and generally the cases were decided in three years period
	16-09-2010	(MPPKVVCL, Indore) ¹² 35,118	18,067	8	7,702	
Maharashtra	29-12-05	Kalyan – 28,338	397	0	397	
		Nasik – 12,330	299	0	299	
		Pune – 3,334	355	173	182	
		Latur – 12,363	170	8	162	
		Nagpur – 13,747	479	0	479	
		Jalna – 30,529	597	0	597	
Manipur	Jun-04	489	461	461	28	6-8 months
Meghalaya	03-Aug-06	4	4	4	Nil	--
Mizoram	08 .02.2012	NIL	NIL		NIL	NIL

⁹ Information in respect of establishing the case pending in court in respect of MPMKVVCL was not furnished

¹⁰ From 2009 to 2015

¹¹ From 2009 to 2015 by company

¹² Information in respect of establishing the case pending in court in respect of MPMKVVCL was not furnished

Nagaland	14.08.2006	NIL	NIL		NIL	NIL
Odisha	2007	2881	258	82	2,623	April 2008 to March 2015
Puducherry	08.09.2010	1	---	---	1	48 months
Punjab	3-12-2008	11,987	819	179	434	--
Rajasthan						
	May 2004	Jodhpur-13879	753	12,489	637	NA
	NA	Ajmer-1238	557	132	681	6-7 years
Sikkim	03.05.2006	Nil	Nil	Nil	Nil	Nil
Tamil Nadu	05.10.2006	22	10	3	19	1-6 years
Telangana	18.10.2003	TSSPDCL -2,24,051	228	70	77	1month to 7 years
	2000-03	TSNPDCL -57	56	27	2	0 to 2 years
Tripura	02.08.2004	Not furnished	Not furnished	Not furnished	Not furnished	Not furnished
Uttar Pradesh	31.08.2004	MVVNL -7,213	7,213	5,375	1,838	Establishment of duration of pendency of each cases is not feasible.
	31.08.2004	PVNNL- NA	NA	NA	NA	
	31.08.2004	PuVVNL- NA	NA	NA	NA	
	31.08.2004	DVVNL -NA	NA	NA	NA	
Uttarakhand	24-09-04	4,697	2,542	2,230	419	08 to 36 months
West Bengal	NA	17,410	10,230	90	NA	NA

LIST OF ABBREVIATIONS

ABBREVIATION	FULL FORM
ADB	Asian Development Bank
AMR	Automatic Meter Reading
APCPDCL	Andhra Pradesh Central Power Distribution Company Limited
APDP	Accelerated Power Development Programme
APDRP	Accelerated Power Development and Reforms Programme
APEPDCL	Eastern Power Distribution Company of Andhra Pradesh Limited
APFC	Automatic Power Factor Controller
APSPDCL	Andhra Pradesh Southern Power Distribution Company
ASCI	Administrative Staff College of India
AT & C	Aggregate Technical and Commercial
AVVNL	Ajmer Vidyut Vitran Nigam Limited
BE	Budget Estimates
BG	Bank Guarantee
BESCOM	Bangalore Electricity Supply Company Ltd.
BOQ	Bill of Quantities
CAG	Comptroller and Auditor General of India
CCEA	Cabinet Committee on Economic Affairs
CEA	Central Electricity Authority
CEO	Chief Executive Officer
CESC	Chamundeshwari Electricity Supply Corporation Limited
CLTDR	Corporate Liquid Term Deposit Receipt
CLRC	Central Labour Rate Contract
CPG	Contract Performance Guarantee
CPRI	Central Power Research Institute
CSS	Customer Service System
DC	Data Centre

DCU	Data Collection Unit
DGM	Deputy General Manager
DGVCL	Dakshin Gujarat Vij Company Limited
DHBVN	Dakshin Haryana Bijli Vitran Nigam
DISCOMS	Distribution Companies
DMS	Distribution Management System
DPR	Detailed Project Report
DRC	Disaster Recovery Centre
DRC	Distribution Reforms Committee
DT	Distribution Transformer
DVVNL	Dakshinanchal Vidyut Vitran Nigam Ltd.
EMD	Earnest Money Deposit
EPD	Electricity and Power Department
ERP	Enterprise Resource Planning
ERW	Electric Resistance Welded
ESCOM	Electricity Supply Company
FDT	Feeder and Distribution Transformer
FI	Financial Institution
GBS	Gross Budgetary Support
GESCOM	Gulbarga Electricity Supply Company Limited
GFR	General Financial Rules
GIS	Geographical Information System
GOI	Government of India
GPRS	General Packet Radio Service
IIM	Indian Institutes of Management
IPDS	Integrated Power Development Scheme
IT	Information Technology
ITC	IT Consultant
ITIA	IT Implementing Agency
JVVNL	Jaipur Vidyut Vitran Nigam Limited.
JdVVNL	Jodhpur Vidyut Vitran Nigam Limited

JSEB	Jharkhand State Electricity Board
KV	Kilo Volt
KVA	Kilo Volt Ampere
LOA	Letters of Award
LOI	Letter of Intent
LT	Low Tension
MDAS	Meter Data Acquisition System
MeECL	Meghalaya Energy Corporation Limited
MGVCL	Madhya Gujarat Vij Company Limited
MIS	Management Information System
MoA	Memorandum of Agreement
MOF	Ministry of Finance
MOP	Ministry of Power
MPMKVVCL	Madhya Pradesh Madhya Kshetra Vidyut Vitaran Company Limited
MPPKVVCL	Madhya Pradesh Paschim Kshetra Vidyut Vitaran Company Ltd.
MSEDCL	Maharashtra State Electricity Distribution Company Limited
MSPDCL	Manipur State Power Distribution Company Limited
MVA	Mega Volt Ampere
MVVNL	Madhyanchal Vidyut Vitran Nigam Ltd.
NEF	National Electricity Fund
NER	North Eastern Region
NPTI	National Power Training Institute
NPV	Net Present Value
O&M	Operation and Maintenance
PAC	Public Accounts Committee
PAMC	Project Appraisal and Monitoring Committee
PFC	Power Finance Corporation
PGVCL	Paschim Gujarat Vij Company Limited
PSPCL	Punjab State Power Corporation Limited
PTR	Power Transformer
PTI	Partner Training Institute

PVC	Polyvinyl chloride
PVVNL	Paschimanchal Vidyut Vitaran Nigam Limited
PuVVNL	Purvanchal Vidyut Vitaran Nigam Limited
PWD	Public Works Department
QA	Quadripartite Agreement
R-APDRP	Restructured – Accelerated Power Development and Reforms Programme
R&M	Renovation and Modernization
RE	Revised Estimates
RCA	Root Cause Analysis
REC	Rural Electrification Corporation Limited
RFP	Request For Proposal
RI	Resource Institute
RPM	Review Planning and Monitoring
SBI	State Bank of India
SCADA	Supervisory Control and Data Acquisition System
SDC	SCADA/DMS Consultant
SEB	State Electricity Board
SED	State Electricity Department
SI	System Improvement
SIA	SCADA/DMS Implementing Agency
SOR	Schedule of Rates
SU	State Utility
TANGEDCO	Tamil Nadu Generation and Distribution Corporation Limited
TCS	Tata Consultancy Services
TERI	The Energy and Resources Institute
TKF	Turn Key Firm
TIPIEA	Third Party Independent Evaluation Agency
TIPIEA-EA	Third Party Independent Evaluation Agency -Energy Accounting
TIPIEA-IT	Third Party Independent Evaluation Agency - Information Technology
TSNPDCL	Telangana State Northern Power Distribution Company Limited
TSSPDCL	Telangana State Southern Power Distribution Company Limited

UC	Utilisation Certificate
UGVCL	Uttar Gujarat Vij Company Ltd.
UPPCL	Uttar Pradesh Power Corporation Limited
VCB	Vacuum Circuit Breaker
WAPCOS	Water and Power Consultancy Services
WBSEDCL	West Bengal State Electricity Distribution Company Limited

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