77

ACCELERATED POWER DEVELOPMENT AND REFORM PROGRAMME (APDRP)

MINISTRY OF POWER

PUBLIC ACCOUNTS COMMITTEE 2008-2009

SEVENTY-SEVENTH REPORT

FOURTEENTH LOK SABHA

सत्यमेव जयते

LOK SABHA SECRETARIAT
NEW DELHI

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PUBLIC ACCOUNTS COMMITTEE
(2008-2009)

(FOURTEENTH LOK SABHA)

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AND
REFORM PROGRAMME (APDRP)

MINISTRY OF POWER

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LOK SABHA SECRETARIAT
NEW DELHI

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CONTENTS

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INTRODUCTION

I, the Chairman, Public Accounts Committee, as authorised by the Committee, do present this Seventy-seventh Report relating to "Accelerated Power Development and Reform Programme (APDRP)" on Report of the C&AG of India for the year ended 31st March, 2006 (No. 16 of 2007), Union Government (Civil—Performance Audit).

2. The Report of the C&AG of India for the year ended 31st March, 2006 (No. 16 of 2007), Union Government (Civil — Performance Audit) was laid on the Table of the House on 17th May, 2007.

3. The Committee took evidence of the representatives of the Ministry of Power on the subject at their sitting held on 18th January, 2008. The Committee considered and finalised this Report at their sitting held on 15th September, 2008. Minutes of the sittings form Annexures to the Report.

4. For facility of reference and convenience, the Recommendations and Observations of the Committee have been printed in thick type in the body of the Report.

5. The Committee would like to express their thanks to the Officers of the Ministry of Power for the cooperation extended by them in furnishing information and tendering evidence before the Committee.

6. The Committee place on record their appreciation of the assistance rendered to them in the matter by the Office of the Comptroller and Auditor-General of India.

7. The Committee also place on record their appreciation for the invaluable assistance rendered by the officials of Lok Sabha Secretariat attached with the Committee.

NEW DELHI;
13 *October*, 2008
21 *Asvina,* 1930 (*Saka*)

PROF. VIJAY KUMAR MALHOTRA,
Chairman,
Public Accounts Committee.

REPORT

PART-I

BACKGROUND ANALYSIS

Accelerated Power Development and Reform Programme (APDRP)

This Report is based on the Audit review contained in Report of the Comptroller and Auditor-General of India for the year ended 31st March, 2006, No. 16 of 2007, Union Government (Civil—Performance Audit) relating to "Accelerated Power Development and Reform Programme (APDRP)".

I. Introductory

Power is a critical infrastructure for economic growth. The economic acceleration would greatly depend upon a commercially viable power sector that is able to attract fresh investments. The Government of India regards the restoration of financial viability of the power sector as one of the foremost challenges not only for the sake of the sector but also for the fiscal health of the State Governments and overall performance of the economy. The Power Sector has been receiving adequate priority ever since the process of planned development began in 1950. The Ministry of Power which started functioning independently with effect from 2nd July, 1992 is primarily responsible for the development of electrical energy in the country. The Ministry is concerned with perspective planning, policy formulation, processing of projects for investment decisions, monitoring of the implementation of power projects, training and manpower development etc. In all technical and economic matters, Ministry of Power is assisted by the Central Electricity Authority (CEA).

Generation and Power Supply Position

2. The overall generation in the country has increased from 264 Billion Units (BUs) during 1990-91 to 662.52 BUs during 2006-2007. The overall generation in Public utilities in the country from 2001-02 onwards is as under:—

Year	Generation (BUs)
2001-02	515.2
2002-03	531.6
2003-04	558.3
2004-05	587.4
2005-06	617.5
2006-07	662.52
2007-08	586.00

Power Supply Position

3. The Power supply position from 2001-02 onwards is as under:—

Year	Energy Requirement (MU)	Energy availability (MU)	Energy shortage (MU)	Energy shortage (%)
2001-02	522537	483350	39187	7.5
2002-03	545983	497890	48093	8.8
2003-04	559264	519398	39866	7.1
2004-05	591373	548115	43258	7.3
2005-06	631554	578819	52735	8.4
2006-07	690587	624495	66092	9.6
2007-08	608804	554248	54556	9.0

Peak Demand

4. Shortfalls in electricity supply and power cuts remain a problem in many areas of India. Increase in capacity, through additional generation, transmission and distribution facilities, continue to lag behind growth in demand. The position of peak demand and supply during the period 2001-02 to 2007-08 is as follows:—

Year	Peak demand (MW)	Peak Met (MW)	Peak shortage (MW)	Peak shortage (%)
2001-02	78441	69189	9252	11.8
2002-03	81492	71547	9945	12.2
2003-04	84574	75066	9508	11.2
2004-05	87906	77652	10254	11.7
2005-06	93255	81792	11463	12.3
2006-07	100715	86818	13897	13.8
2007-08	107010	90793	16217	15.2

Capacity Addition

5. While shortages are presently being experienced by each region, it is much more acute in the case of some regions and a large number of states are affected. Substantial capacity is, therefore, added to the Indian Power System. The growth targets for generation capacity in Power sector are set out by the Central Electricity Authority in a series of Five Year Plans. The target fixed for capacity addition in

Central, State and private sectors and the likely achievement thereof during 10th Five Year Plan is as given below:—

(All Figures in MW)

Sector	Hydro		Thermal		Nuclear		Total	
	Target fixed	Likely achievement	Target fixed	Likely achievement	Target fixed	Likely achievement	Target fixed	Likely achievement
Central	8742	4495	12790	7830	1300	1400	22832	13725
State	4481	2991	6676	4604	0	0	11157	7595
Private	1170	700	5951	1230	0	0	7121	1930
Total	14393	8186	25417	13664	1300	1400	41110	23250

6. The achievement of the Ministry *vis-à-vis* the targets during the 8th , 9th and 10th Plans is, however, as follows:—

(in MW)

Plan wise	Target	Actual	Percentage
8th	30538	16423	(54%)
9th	40245	19015	(47%)
10th	41110	23250 (likely)	(56%)

7. It would reveal from the above figures that as against the target of 41110 MW fixed for the 10th Plan only 23250 MW (56% of the target) has been achieved. The reasons for shortfall in achieving 10th plan targets are as follows:—

(i) Delay in technology tie-ups.

(ii) Pre-implementation stage delay —

(a) Delay in award of works.

(b) Projects not taken up/financial closure not achieved/funds not tied up.

(c) Delay in project clearance/investment decision.

(iii) Delay during implementation by suppliers/contracting agencies.

(iv) Reasons beyond control of project authorities—

(a) Delay in environmental clearance/geological surprises/ R&R/ litigation.

(b) Law and order problems.

(v) Non-availability of gas.

(vi) Nuclear projects identified.

(vii) Adjustment due to change of size of units.

Capacity Addition Programme in the 11th Plan

8. The National Electricity Policy (NEP) envisages demand for power to be fully met by 2012 and energy and peaking shortages to be overcome. This entails provision of adequate reliable power, at affordable cost with access to all citizens. To fulfil the objectives of the NEP, a capacity addition of 78,577 MW has been proposed for the 11th Plan. This capacity addition is expected to provide a growth of 9.5% to the power sector.

9. The capacity addition programme is being continuously kept under watch by the Central Government in consultation with the State Governments. A number of specific action points have been identified to achieve this extremely large capacity addition programme. All out efforts are being made to complete the ordering of the projects, wherever it is yet to be done so as to achieve the 11th Plan Target.

II. Accelerated Power Development and Reform Programme

10. The Ministry of Power has already initiated several measures towards reforms and other policy measures for helping the State power utilities to bring improvement in their efficiency towards bringing about commercial viability in the power sector. Some of the major initiatives were establishment of regulatory mechanism at Central and State level, restructuring of the State power utilities, metering of feeders and consumers, energy accounting and auditing etc.

11. Due to the inability of State power utilities to systematically fund essential activities relating to the upgradation of the sub-transmission and distribution system and renovation and modernisation of old plants, developmental activities in the power sector had not taken place in an organised and comprehensive manner, resulting in shortages, poor quality of supply and frequent interruptions. The commercial losses of the State Electricity Boards had been escalating. In order to address these issues, the Government of India (GoI), in February 2001, launched the Accelerated Power Development Programme (APDP).

The APDP was formulated to finance specific projects relating to:—

- Renovation and Modernisation (R&M)/life extension/uprating of old power plants (thermal and hydel); and
- Upgrading and strengthening of sub-transmission and distribution network (below 33KV or 66 KV), including energy accounting and metering in the distribution circles in a phased manner.

Of this, the upgradation of sub-transmission and distribution network was considered most important component of the APDP. This programme was to continue till the end of the 11th Five Year Plan *i.e.* 2012. An amount of Rs. 1000 crore was budgeted as APDP funds among the States in 2000-01 for various schemes under the above categories.

12. Since the implementation of APDP has several shortcomings GoI decided to restructure the concept of APDP from merely an investment window to also a mechanism for supporting power sector reforms in the States linked to the fulfilment of performance criteria by way of benchmarks. To "incentives" the reform process, it was proposed to

reward the actual improvement in the performance of the utilities by way of reduction in commercial losses and increased revenue realisation. Therefore, APDP was renamed as "Accelerated Power Development and Reforms Programme" (APDRP) in the Union Budget 2002-03.

13. The Accelerated Power Development and Reforms Programme (APDRP) was launched, with the primary objective of reduction in the Aggregate Technical and Commercial Losses and significant improvement in revenue realisation by the State Utilities, in 2002-03 as additional Central Assistance to finance projects relating to the upgradation of sub-transmission and distribution network and renovation and modernization of old plants, developmental activities in the power sector. The Government of India approved Additional Central Assistance of Rs. 40,000 crore during 10 Plan under APDRP, out of which Rs. 20,000 crore was towards Investment component (Grant + Loan), and Rs. 20,000 crore (Grant) under Incentive component. As of March 2006, the Ministry had released a total amount of Rs. 6131.70 crore on 583 projects involving a total project cost of Rs. 19180.46 crore, of which the reported utilization was Rs. 9507.20 crore (including counter part funding).

Organisational set-up for APDRP

- At the Central level, the Distribution Division in the Ministry of Power (MoP), under the overall charge of the Joint Secretary, is responsible for release of funds, approval of projects, signing of Memoranda of Agreement (MoA), monitoring, processing of incentive claims etc.
- In addition, a Steering Committee, chaired by Secretary (Power) and comprising members from the Central Electricity Authority (CEA), Ministry of Finance (MoF), Planning Commission, National Thermal Power Corporation (NTPC), Power Grid Corporation of India Limited (PowerGrid), Power Finance Corporation (PFC) and Rural Electrification Corporation (REC), has been constituted to consider the proposals under APDRP and to review the implementation of the programme.
- NTPC and Power Grid have been designated as the Lead Advisor-cum-Consultants (Lead AcCs).
- At the State level, the projects sanctioned under APDRP are implemented by the State Electricity Boards (SEBs)/State Utilities/State Electricity Departments (SEDs).

Aims and Objectives of APDRP

14. The main aims and objectives behind the initiation of the programme, are as follows:—

(a) Reduction of AT&C losses from the existing around 60% to around 15% in five years to begin within the urban areas and high density/consumption areas.

(b) Significant improvement in revenue realization by reduction in commercial losses leading to additional realization of an additional Rs. 20,000 crore approximately over a period of 4-5 years.

(c) Reduction of technical losses would result in additional energy of nearly 6,000 – 7,000 MW to the system, avoiding the need of 9,000 to 11,000 MW of fresh capacity addition besides avoiding investments to the tune of Rs. 40,000 to Rs. 60,000 crore.

(d) Quality of supply and reliable, interruption-free power will encourage usage of energy efficient equipments/appliances, which will further lead to improvement in availability of energy.

(e) Reduction in cash losses on a permanent basis to the tune of Rs.15,000 crore.

(f) Distribution reform will help States to avoid heavy subsidies, which are given to SEBs/State Utilities by State Governments. They would be able to invest this amount for providing basic services like Health, Education, and Drinking Water etc.

APDRP Components

15. The programme has two components:—

(A) An investment component for strengthening and upgradation of the sub-transmission and distribution system; and

(B) An incentive component to motivate Utilities to reduce cash losses.

Details of these components are given below:—

A. Investment Component

16. Under this component, network strengthening works were to be financed in a ratio of 25:25:50 (25% grant and 25% loan from Government of India, and 50% loan from financial institutions). For special category States, financing was in a ratio of 90:10 (90% grant and 10% loan from Government of India). From 2005-06 onwards, on the recommendation of the 12th Finance Commission, the loan component from GoI was withdrawn, making it a 25:75 scheme for non-special category States. The allocation of funds to the States was not based on State quota but on the basis of their preparedness towards reforms, preparation of projects and their implementation.

B. Incentive Component

17. Incentive in the form of grant was to be paid to Utilities, which actually reduced their cash losses. With 2000-01 as the base year, 50% of the amount by which a Utility was able to reduce its cash losses was to be paid as incentive. It was felt essential to integrate the investment programme in the distribution segment with an incentive mechanism linked to efficiency improvement. It was envisaged that it will help the Utilities to bring about commercial viability through improvement in billing and collection efficiency, which were considerably low at the time of introduction of the programme.

Funding Mechanism

Non-Special Category States

- 25% of the project cost is met by GoI in form of grant.
- Remaining 75% is met by the Utility in form of counterpart funding from PFC/REC or other FIs.

Special Category States

- 90% cost of the projects is met by GoI in form of grant.
- Remaining 10% is met by the Utility in form of c/part funding from PFC/REC or other FIs.
- The States of J&K, Himachal Pradesh, Sikkim, Uttaranchal and constitutent States of NER fall under this category.
- GoI provided 25% loan to non-special category and 10% to special category States upto 2004-05. It was discontinued after that on recommendations of 12th Finance Commission.

Conditions for availing benefits under APDRP

Memoranda of Understandings (MoUs)

18. As part of the six-level strategy, at the State level, the MoP insisted on signing of MoUs covering the following major reforms:—

- Setting up of State Electricity Regulatory Commissions (SERCs);
- Restructuring of SEBs, *viz.* unbundling into separate entities for generation, transmission and distribution and corporatisation of unbundled entities;
- Removing cross subsidies and tariff anomalies, and providing budgetary support to SEBs towards subsidies;
- Introduce private participation in generation, transmission and distribution;
- Filing of first tariff petition by SEB/ Utility with SERC, and implementation of tariff orders of the SERC; and
- Securitisation of dues of Central Public Sector Undertakings (PSUs) to the SEBs/ Utilities

Memoranda of Agreements (MoAs)

19. In order to enable the SEBs/Utilities to manage distribution on a profit centre approach and to improve their performance on the basis of certain benchmarks, the signing of a Memorandum of Agreement (MoA) by them with the MoP for power reforms was made a pre-requisite for release of funds under APDRP. The key reforms envisaged through the MoA were as follows:—

- 100 per cent metering for each 11 KV feeder and also for consumers;

- Energy accounting and audit;
- Distribution Circles to be operated as independent profit centres with adequate delegation of powers, with the Superintending Engineer as the Circle Chief Executive Officer (CEO);
- 11 KV feeders to be operated as business units, with the Junior Engineer as the feeder manager; and
- Turnkey contracting system to be adopted by the SEBs/Utilities.

Procedure for Sanction, Implementation and Monitoring

20. In brief, the procedure for sanction and implementation of projects under APDRP is as follows:—

- SEBs/Utilities prepare Detailed Project Reports (DPRs), containing the activities to be implemented by the utilities, which are submitted to the AcCs.
- The DPRs are scrutinized and vetted by the AcCs, and submitted to the MoP for the consideration of the APDRP Steering Committee.
- After the proposal is approved by the Steering Committee, the MoP approaches the MoF for release of funds.
- MoF releases funds to the States. SEBs/Utilities obtain counterpart funds from Financial Institutions and open escrow account.
- SEBs / Utilities take up the tendering process and award contracts.
- Monitoring of the programme is done by MoP, Lead AcCs/local AcCs, State level/ District level Distribution Reforms Committees.

(i) Audit Examination

21. A performance audit of APDRP, covering the period from 2002-2003 to 2005-2006, was taken up with the objectives of assessing whether:—

- The intended objectives of APDRP *viz.* reduction in AT&C losses, 100 per cent system and consumer metering, improvement in quality and reliability of power supply, energy accounting and audit, and reduction in the gap between Average Revenue Realisation (ARR) and Average Cost of Supply (ACS) have been effectively achieved.
- There was adequate and effective control over the release and utilisation of APDRP funds.
- The incentive mechanism envisaged under APDRP has been successfully implemented.
- The reforms sought to be achieved through the MoUs and MoAs with the State Governments and SEBs/Utilities has been effectively implemented.
- The process for planning, implementation of APDRP was adequate and effective, and the projects were executed economically and efficiently.

- Information Technology (IT) applications and Computer Aided Tools were effectively implemented for improving distribution performance.
- There was a system of adequate monitoring to evaluate the programme and take corrective steps.

22. For this purpose, Audit selected a sample of 294 projects in 29 States/UTs having a total approved cost of Rs. 10255.21 crore for detailed examination. Audit has reviewed the performance of APDRP with the objectives of assessing whether the intended objectives of APDRP have been effectively achieved. The process for planning, implementation of APDRP was adequate and effective, and the projects were executed economically and efficiently etc.

(ii) Gist of Audit Findings

23. The Audit have noticed the following significant weaknesses in the project planning, management and implementation process of APDRP:—

- The primary objective of APDRP of reducing Aggregate Technical and Commercial Loss (AT&C Loss) by 9 per cent per annum was not achieved, as the reduction between 2001-02 and 2004-05 was just 1.68 per cent per annum.
- The progress in metering of Distribution Transformers (DTs), was not adequate as only 3 States had shown 80 to 100 per cent metering.
- The number of feeder trippings and duration of outage, as well as failure rate of DTs, was much higher than permissible in most States.
- Effective energy accounting and auditing had not been possible in most States, primarily due to lack of 100 per cent system metering, lack of accountability at the circle and feeder levels, and inadequate computerisation.
- Only 3 out of 29 States had achieved the target of elimination of the gap between Average Revenue Realization (ARR) and Average Cost of Supply (ACS) and in fact, in 8 States, this gap had shown a deteriorating trend.
- 17 out of 29 States either did not operate separate account heads and bank accounts for APDRP funds, or did not operate them correctly.
- Audit of 294 projects involving utilisation of funds revealed instances of incorrect financial reporting amounting to Rs. 676.09 crore.
- There were instances of diversion of funds amounting to Rs. 181.78 crore by 10 States for unauthorised purposes, and diversion of Rs. 432.23 crore by 7 States for adjustment against various dues of the Utilities.
- As of March 2006, three States did not return surplus funds amounting to Rs. 51.07 crore, while eight States failed to release Rs. 412.03 crore of APDRP funds to the SEBs/Utilities.
- The percentage of registering theft cases was low ranging between 0.28 per cent to 14.08 per cent, and the percentage of conviction was even lower, ranging between zero and 10.61 per cent.

- Most SEBs/Utilities had not adopted turnkey contracting, and had executed the works departmentally or on semi-turnkey basis.
- There was lack of direct linkage between physical and financial progress of APDRP projects at the Ministry's level. The mechanism for inspection of APDRP implementation was inadequate.

24. Deposing before the Committee during evidence, the Secretary Ministry of Power conceded that there were some drawbacks in the formulation of the scheme. The Committee have examined in detail the various issues raised by the Audit in their Report. The same have been discussed in detail in the succeeding paragraphs.

III. Audit Paragraphs

(i) Aggregate Technical and Commercial (AT&C) Losses

25. AT&C Loss is considered a clearer measure of the overall efficiency of power distribution, since it measures technical and commercial losses.

AT&C Loss is calculated as

$$\frac{(\text{Energy Input} - \text{Energy Realised}) \times 100}{\text{Energy Input}}$$

Where

Energy Realised = Energy Billed x Collection Efficiency, and

$$\text{Collection Efficiency} = \frac{\text{Amount Realised} \times 100}{\text{Amount Billed}}$$

26. While launching APDRP in March 2003, it was envisaged that AT&C Losses would be brought down from the existing level of about 60 per cent to around 15 per cent in five years, to begin with in the urban areas and high density/consumption areas. This implied that reduction of AT&C Loss @ 9 per cent per annum was targeted.

27. Audit analysis of the State-wise AT&C Loss for the years 2001-02 and 2005-06, revealed that it was still very high, and ranged between 15.86 per cent in Goa and 72.74 per cent in Mizoram. Except in the States of Goa, Andhra Pradesh and Tamil Nadu, the AT&C Losses continued to be very high in other States. The reduction in AT&C Loss in most States was marginal. Thus, the primary objective of APDRP of reducing AT&C Loss by 9 per cent per annum had not been achieved.

28. As per the data compiled by the Ministry, AT&C Loss at the national level came down from 38.86 per cent in 2001-02 to 33.82 per cent in 2004-05. The reduction in AT&C Loss of 5.04 per cent during three years implied a reduction of 1.68 per cent per annum against the target of 9 per cent per annum. As per the report, AT&C Loss had, in fact, gone up between 2001-02 and 2004-05 in the States of Bihar, Jharkhand, Assam,

Manipur, Meghalaya, Jammu & Kashmir, Kerala and Pondicherry. The region-wise position of AT&C Loss, as per the report, was as follows:—

Region-wise position of AT&C losses (in per cent)

Region	2001-02	2004-05
East	47.34	44.85
North-East	40.65	41.59
North	46.01	40.64
South	27.63	23.81
West	39.60	32.73

29. To a query of the Committee as to how do the Ministry plan to achieve the targeted reduction of AT&C losses at 9 per cent per annum the Ministry of Power replied as under:—

> "The losses in any system would, however, depend on the pattern of energy use, intensity of load demand, load density, and capability and configuration of the transmission and distribution system that vary for various system elements.
>
> However, taking into consideration the Indian conditions such as development in the transmission and distribution sector to far flung rural areas, quality of T&D equipment and meters available in the country, maintenance practices, configuration of system, its spatial jurisdiction, nature of loads etc., it would be reasonable to aim for the energy losses between 10 – 15 % in different States.
>
> The Ministry plans to target 15% AT&C in the urban areas and high density/consumption areas."

30. When asked about the formulation of any base line data on the basis of which Ministry of Power envisaged that AT&C losses would be brought down from 60 percent to around 15 percent in 5 years, the Ministry informed that no base line data was available and it is being proposed to establish base line data system under Part-A of the re-structured APDRP for 11th Plan. Once baseline data is established and verified by independent agency, 15% AT&C loss in the project area shall be targeted through system strengthening projects under Part-B.

31. In response to the Committee's query about the Ministry's current projected time frame for achievement of AT&C loss of 15 percent nationally, the Ministry replied that the target is to achieve 15% AT&C loss in the project area by the end of the 11th Plan. According to the Ministry of Power, since it is proposed to include rural areas also under APDRP, the extent of implementation in a state depends on the concerned State Government Utilities.

32. In connection with the achievement of AT&C loss of 15 percent, the Secretary MoP deposed before the Committee during evidence that:—

> "This 15 percent reduction may not be possible across the country. But at least in areas where the APDRP programme is going to be implemented, we

expect that this should be the expected baseline level. The performance in some of the States have been patchy according to the varied levels of administration and superintendence, while some States have, by and large, confirmed to the form that is required of that, the content and the spirit certainly found missing."

33. As regards the steps taken to ensure that the States re-orient their efforts under APDRP towards reduction of AT&C losses, the Ministry replied that:

> "The APDRP in XI Plan is being revised as Centrally sponsored scheme. In the revised APDRP, it is proposed to establish the system for base line data and IT applications for energy accounting/auditing first under the Part – A shall be in the form of loan. The loan shall be converted into grant once the establishment of the required system is achieved and verified by an independent agency, and the target of 15% AT&C loss in project area is attained. The system strengthening & up-gradation projects shall be taken up under the Part-B of the programme. Funds for Part-B shall also be provided initially as loan. Conversion of 50% (90% for special category States) of loan to grant will take place on achieving State-specific milestones of the second phase of reforms and on reaching and maintaining the target of 15% AT&C losses in the programme areas. Conversion of loan to grant will take place in five equal annual tranches on third-party verification that the AT&C losses continue to be below 15% in each of the five years. Any slippage in a particular year will disqualify the Utility from conversion of that year's tranche into grant."

(ii) Billing/Metering done on assessment basis

34. Audit Paragraph revealed that despite the stated objectives of 100 per cent system metering as well as consumer metering, a significant number of installations remained unmetered, and the computation of energy consumed was made on "assessment" basis, consequently adversely affecting the veracity of the source data for computation of AT&C loss.

Audit examination at the State level revealed the following:—

- **In Kerala,** the energy metered and billed included the unmetered energy consumption under 'Kutir Jyothi Scheme' and public lighting taken on assessment basis.
- **In Jharkhand**, unmetered supply, in four sampled circles, ranged between 67.8 per cent and 39.93 per cent of total energy, as stated by the SEB. However, the basis of calculation of unmetered supply was not made available and thus the estimation of unmetered energy was purely a hypothetical exercise.
- **In Uttaranchal**, test check of records revealed that in four implementing units in Haldwani, Roorkee, Ranikhet and Srinagar Circles, billing continued to be made for 'Public Lamps' and 'Public Water Works' on assessment basis in the absence of metering details.

- **In Karnataka**, even after four years of signing of MOA, large numbers of installations were yet to be metered (March 2006). As against 10,59,366 Irrigation Pumpsets (IP sets), 4,41,843 Bhagya Jyothi (BJ)/ Kutir Jyothi (KJ) installations, and 26,570 street lights where meters were to be fixed as on 31 March 2005, only 98,892 IP sets (9.3 per cent), 2,14,067 BJ/KJ installations (48 per cent) and 11,918 street lights (44 per cent) could be metered.

- **In Tripura**, a fair amount of supplied energy was not metered but accounted for on the basis of assessment. During 2005-06 about 10-14 per cent of the energy billed was unmetered and was being accounted for on the basis of assessment. There were no prescribed norms for assessment of unmetered consumers. The criteria for assessment was not uniform among various billing authorities (average for last three months, connective load, minimum charge or even lump sum), which was bound to be deficient in correct and accurate assessment of losses.

35. Replying to a query as to whether the Ministry have ascertained the reasons from the SEBs for resorting to billing/metering done only on assessment basis, they stated that billing/metering of electrical energy is the responsibility of State power Utilities. Ministry of Power has not ascertained the reasons from SEBs for resorting to billing/metering on assessment basis. However, SEBs resort to billing/metering on assessment basis either due to non-availability of metering or defective/damaged metering system.

36. As regards the steps taken by the Ministry to minimize the extent of billing on assessment basis, so as to improve the authenticity of AT&C loss data, the Committee have been informed:

> "Billing on assessment basis can be minimized only with the improvement in metering of all segments of consumers. Under 5.55 of Electricity Act 2003, metering has been made mandatory after two years from the approved date (i.e. after 9th June 2005) except if this period is extended by the SERC. In the proposed APDRP Phase II, power Utilities shall establish reliable and automated systems for sustained collection of accurate base line data through Automatic Meter Reading (AMR) on feeders & DTs and IT adopted energy accounting system first under the Part-A of the project. The loan for establishing the Base-line Data System shall be converted into grant only after verification by an independent agency."

37. On being asked as to how the Ministry ensure 100 per cent feeder, DT and consumer metering, they stated in a written note as under:—

> "Metering of Distribution Transformers was not targeted earlier under APDRP as it was envisaged to carry out energy accounting & auditing at 11 KV feeder level. However, subsequently, it was felt that for fixing accountability at the lowest level, energy auditing at DT level will be better. Therefore, monitoring of metering at DT level was started in 2004-05. It is proposed to give high priority to DT metering during XI Plan. Under the proposed APDRP II, automated IT enabled energy accounting systems based on DT metering will be encouraged in big way."

38. Audit also highlighted that there were no prescribed norms for assessment of unmetered consumers and the criteria for assessment was not uniform among various billing authorities.

39. The Committee desired to know as to whether any attempt has been made to make the assessment procedure uniform among various billing authorities. In view of this, the Ministry of Power stated that there has not been any attempt to make the assessment procedure uniform.

(iii) Incorrect Reporting of Losses

40. Audit examination revealed significant instances of incorrect reporting of AT&C losses by the States/ Utilities, which were not detected by MoP due to lack of verification and validation of compiled data as detailed below:—

- In Kerala, the AT&C losses reported to MoP for the year 2005-06 were less than the actual AT&C losses, with the difference in the figures ranging between 2 to 24 per cent in respect of 9 projects.
- In Chhattisgarh, the details of AT&C loss of the State reported to ACCs/ Ministry by the SEB, and those furnished to the State Electricity Regulatory Commission (SERC) were inconsistent for the period 2001-02 to 2004-05.
- In Arunachal Pradesh, the figures of AT&C losses for the years 2002-06 with the State Electricity Department (SED) and Power Grid were not in agreement, and the figures reported by the SED were higher by 2 to 9 per cent.
- The collection efficiency is to be worked out as a percentage of the amount realized against amount billed. However, it was observed in Kerala (10 divisions), Maharashtra (one division) and Meghalaya that the amount billed as generated by the computerized billing system did not include arrears, while the amount realized included the arrears. The above inaccuracy in calculating the collection efficiency results in lowering the AT&C loss percentage.
- In West Bengal, the SEB (eight selected circles/towns) had not disclosed AT&C losses aggregating to Rs. 25 crore to the GoI during 2005-06. Against the actual AT&C losses of 552.87 million Kilowatt Hours (Kwh), it had reported only 474.18 million Kwh to the GoI.
- Due to incorrect reporting of energy billed in respect of 5 sampled circles in Himachal Pradesh, the AT&C losses as reported by the Circles to the SEB and as reported by the SEB to the MoP for the years 2002-03 to 2005-06 were not in agreement, with the differences ranging between 6 and 33 per cent.
- In Madhya Pradesh, the figures relating to Energy Input, Energy Metered, Energy Billed, Revenue Billed and Revenue Collected furnished to NTPC (ACC) by the SEB varied from those received from the field offices in respect of 3 towns (Chhatarpur, Damoh and Balaghat).

41. When enquired as to whether any study has been conducted regarding incorrect reporting of losses, the Ministry stated that they have not conducted any study in this regard. Loss data reported by States are scrutinized by ACCs before the same are compiled at Ministry.

42. Informing about the measures taken to streamline the procedures so as to make verification and validation of compiled data fool proof, the Ministry of Power *inter-alia* stated as under:—

> "The physical verification & validation of data can be done on sample basis for very few scheme areas. Information Technology could play a major role to make collection of base line data reliable and verifiable. Ministry of Power in the next phase of APDRP is considering creation of IT based system which will collect all meter information through automatic system without manual intervention. The basic business processes of the Utility will also be IT enabled and all customers of the Utility will be indexed and mapped to the distribution assets. This will enable to create reliable baseline data without human intervention. The system after completion will be verified by third party evaluator and they will certify the creation of reliable baseline data.''

(iv) System and Consumer Metering

43. Audit review indicated that the progress in metering of DTs, which is an essential tool to control AT&C losses, was not adequate as only 3 States had shown 80 to 100 per cent metering. As regards feeder and consumer metering, despite the Ministry's reports showing a high percentage of metering in most States, audit examination at the State level showed significant deficiencies, in addition to misreporting of data on installation of meters.

44. While offering their comments on the Audit Observation that only three States had shown 80 to 100 percent metering, the Ministry of Power stated:—

> "The progress of DT metering is indeed not up to the expected level mainly due to reluctance from the middle level executive citing the reason of increase in meter reading load which they are unable to manage even for the existing customers. As AMR system has not developed in the country at the initial stage of APDRP due to interoperability issues of different meters and penetration of GSM/ CDMA network for collecting meter data mainly from the DT meters. However it is expected the interoperability issues are likely to be resolved as meter manufacturers are likely to agree for sharing of protocol with Utilities and converting of meter data into common format and also at present the telecommunication network has spread to entire country and communication cost has also decreased drastically which will support AMR program for system meters as envisaged in proposal of 11th plan APDRP."

45. While giving justification for high percentage of feeder and consumer metering in most States when there are significant deficiencies, in addition to misreporting of data on installation of meters, the MoP stated that due to dynamic nature of the business the percentage completion as reported by ministry and the same verified in

the field may vary. Moreover meters removed due to errors or defect are not reported to MoP. The Utilities will be forced to install and maintain the system meters due to performance base conditionality for converting loan to grant as proposed for 11th plan APDRP. As AT&C loss to be brought down to the desired level, the Utilities has to improve consumer metering status as well.

(v) Periodical checking of metering

46. The purpose of installation of meters would be served only if the SEB/ Utility conducted checks as per the prescribed periodicity to verify that the installed meters were not being tampered with and were working efficiently. Audit examination, however, revealed that in Jharkhand, Punjab, Assam, West Bengal, Karnataka, Haryana and Manipur, periodical checking of meters was not a regular feature and the shortfall in checking of meters in these States ranged between 13 and 96 per cent during 2005-06.

47. On being asked as to whether the Ministry have sought explanation from the concerned States for not conducting periodical checking of meters, the MoP replied:—

> "Ministry has not sought any direct explanation from the concerned States for not conducting periodical checking of meters. However, Ministry has been insisting/advising all States through signing of MOA under APDRP; review meetings taken by Ministry with State officials; formal interactions of ACCs with State officials to carry out periodical energy accounting and auditing to pin point / analyse reasons of the AT&C loss so that the corrective actions can be taken by them for reducing the same. One of the corrective measures is the checking of meters and replacement / rectification of defective meters."

(vi) Reliability and quality of power supply

48. One of the expected benefits of APDRP was improved quality and reliability of power supply, which would encourage usage of energy efficient equipment/ appliances, which would further lead to improvement in availability of energy. The key performance parameters for quality and reliability were:—

- Frequency of feeder tripping (number of trippings per feeder per month), and average duration of feeder outages (average outage duration per feeder per month);
- Failure rate of DTs;
- Average Power Factor; and
- Consumer Complaints and Disposal Time.

49. Audit scrutiny highlighted significant deficiencies in the quality and reliability of power supply. The number of feeder trippings and duration of outage, as well as failure rate of Distribution Transformers, was much higher than permissible in most States.

50. While spelling out their views in regard to the deficiencies in the quality and reliability of power supply, the MoP in their written note submitted to the Committee,

stated that it was due to deficiencies in the quality and reliability of Power supply, old and overloaded distribution systems, lack of proper maintenance of distribution system, no proper MIS etc.

51. On being asked as to why the cases pointed out by the Audit were not noticed by the Internal Audit Wing, the MoP stated in a note that no Audit has been carried out by the Internal Audit wing. However, ACCs appointed by the Ministry have pointed out the similar cases during their random field inspections in the States.

(vii) Lack of improvement in respect of Consumer Complaints

52. Reduction in the number of consumer complaints is one of the benchmarks for improved quality and reliability of power supply. This, coupled with effective redressal of complaints, would reflect better customer satisfaction.

53. Audit examination however revealed significant deficiencies in this area, as summarized below:—

- In Chhattisgarh, the DPRs provided for establishment of 26 consumer complaint centres at a cost of Rs 0.59 crore in all the APDRP circles and towns. However, it was observed in audit that the SEB had not taken up this work as of September 2006.
- In Tamil Nadu, there was a significant increase in the number of consumer complaints in 2005-06 as compared to pre-APDRP levels in 2001-02, in respect of Chennai Metro circle and it increased from 44,798 (2001-02) to 99,807 (2005-06).
- A system for recording consumer complaints, and recording of corrective and preventive actions was not developed in Assam.
- In West Bengal, the number of consumer complaints in 8 selected projects was 3,181 against the target of 2,349 during 2005-06.
- In Gujarat, in three projects (Baroda, Himmatnagar and Surat) out of the selected five projects, the number of consumer complaints received during 2002-06 was 81,254, 30,000 and 1,12,130 against the target of 70,000, 45,000 and 1,25,000 respectively.
- In Andhra Pradesh, there was only 13 percent and 70 percent reduction in consumer complaints as against the targets of 50 percent and 85 percent in Tirupati and Warangal Circles respectively.

54. While furnishing details of the system prevailing in the Ministry/States to promptly attend to and redress the complaints of the consumers, the MoP stated as under:—

> "Section 42 of the Electricity Act 2003 provides for establishment of a forum for redressal of grievances of the consumers in accordance with the guidelines as may be specified by the State Commission. Any consumer, who is aggrieved by non-redressal of his grievance has also the option to represent his grievance to an authority known as Ombudsman, who shall settle the

grievance of the consumer within such time and in such manner as may be specified by the State Commission.

Further, State Power Utilities have been advised to establish consumer care centres for addressing consumer grievances / complaints related to no supply, metering, billing, payments, delay in new connections etc. Utilities in the State of Andhra Pradesh, Delhi, Gujarat, Maharashtra, Uttar Pradesh, Karnataka, Haryana, Himachal Pradesh, Goa, Assam, Punjab, Rajasthan, Jharkhand, Orissa, Madhya Pradesh, Tamil Nadu, Tripura & West Bengal have established customer care centres in their select towns.''

55. The Committee sought to know the reasons for increase in the number of consumer complaints. The MoP in their written submission stated:—

"With the increase in consumer base, improved procedures for receiving the complaints at customer care centres and mass awareness about the customer care centres, number of registered complaints may have increased but at the same time complaints are being attended more effectively and promptly.''

(viii) Energy Accounting and Audit

56. One of the most important measures to ensure 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.

57. 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.

58. Audit, however, observed that effective energy accounting and auditing was not being carried out in the States. Effective energy accounting and auditing had not been possible in most States, primarily due to lack of 100 percent system metering, lack of accountability at the circle and feeder levels and inadequate computerization.

59. The Committee desired to know about the steps taken to ensure that States carry out effective energy accounting & Auditing at the feeder and DT level and that necessary pre-requisites for such auditing and accounting *viz.* 100 per. cent system & consumer metering, regular/automatic system for meter reading, reconciliation consumer indexing and other IT related activities are put in place, the Ministry informed as under:—

"The Utilities were to carry out energy accounting and auditing at 11 kv feeder level after installing meters on all the feeders and consumers. Energy accounting in APDRP towns have been started by most of the Utilities. However, for effective energy audits, it has been felt that consumer indexing and DT metering will be required. The work has been taken up subsequently by some of the Utilities. Keeping in view the poor progress by Utilities in this area, the Ministry is proposing highest importance to the energy auditing during XI Plan. Investment under APDRP during XI Plan (except works required for effective energy audit) will not be allowed before establishment of energy audit procedures and validation of base-line data in APDRP covered towns.''

60. The Committee further sought to know as to whether the cases of lack of 100 percent system metering, lack of accountability at the circle and feeder levels and inadequate computerization have been examined by the Ministry in consultation with concerned States. The MoP stated in a note that these issues are discussed/consulted regularly with State power Utilities in various review meetings taken by the Ministry officials / ACCs.

61. As regards the steps taken to improve the system metering and to maintain linkages between feeder, DT and consumer metering, the Ministry informed the Committee as under:—

"For effective energy audits, it has been felt that consumer indexing and DT metering will be required. The work has been taken up subsequently by some of the Utilities. Keeping poor progress by Utilities in this area, the Ministry has also felt a need for better maintenance and authenticity of base-line data and is proposing to establish authenticated baseline data as one of the objectives of restructured APDRP during XI Plan. Utilities will be required to place meters at all feeders, distribution transformers and consumers in the towns to be covered under APDRP. All the assets and consumers will be mapped and indexed. Feeder & DT meters and bulk consumer meters will be read remotely and the base-line data shall be established. This base-line data will have to be got validated through independent auditors to be appointed by the Ministry.''

62. Specifying the reasons for low progress made in respect of IT enabling activities which will be helpful in effective and meaningful energy audit and accounting, the MoP stated:—

"Ministry had constituted an IT Task Force headed by Sh. Nandan Nilekani, Chief Executive Officer (CEO), Infosys. This Task Force recommended a clear cut roadmap for distribution Utilities for adoption of IT based on their present status. Ministry also emphasized on implementation of computerised billing, data logging, MIS, SCADA etc.

However, Utilities were of the view that the distribution infrastructure was weak and that infrastructure building was required initially in the distribution and that modernization activities can be taken up only after the existing network was brought to a certain level. Keeping this in view the Utilities took up strengthening of electricity network and gave a secondary treatment to IT enabling. Some of the Utilities adopted IT enabling activities for implementation in selected areas and were able to reap the benefits in form of better consumer services and efficient working.

The Ministry is proposing to give higher importance to Information Technology especially in the areas of energy accounting & auditing and consumer care during XI Plan."

(ix) Gap between Average Revenue Realisation (ARR) and Average Cost of Supply (ACS) not eliminated

63. One of the objectives of APDRP was the 'narrowing and ultimate elimination of the gap between unit cost of supply and revenue realization within a specified time frame'. Further, as per the instruction of Ministry of Power, the ARR should be rupee one above the per unit ACS. An analysis of the Audit revealed that this objective was far from being achieved, as of March 2006. Only 3 out of 29 States (Chhattisgarh, Goa and Delhi) had achieved the target of elimination of the gap between ARR and ACS. Further, in Bihar, Maharashtra, Jharkhand, Rajasthan, Assam, Uttar Pradesh, Mizoram and Nagaland, the gap between ARR and ACS had shown a deteriorating trend.

64. Attributing the reasons for the gap between ARR and ACS, the Ministry informed as under:—

"High cost of generation, high cost of power purchase, high maintenance cost, poor billing and metering, high AT&C loss beyond the levels allowed by the regulator etc., are the main reasons for the gap between ARR and ACS. With the improved operation efficiency maintenance cost may be reduced to some extent. To meet the growing demand for the power, State power Utilities have to purchase high cost power which increases the ACS."

65. Further, regarding the measures taken to reduce the gap between ACS & ARR, the MoP submitted as under:—

"Additional Central Assistance was provided under APDRP to States for taking up following technical, commercial and management measures to reduce the gap between ACS & ARR:

(a) Technical Measures

- Upgradation and strengthening of the weak distribution system
- Relocation of distribution sub-stations and /or provision of additional distribution sub-stations
- Installation of lower capacity distribution transformers to serve a smaller number/cluster of consumers and substitution of distribution transformers with those having lower no-load losses
- Installation of shunt capacitors
- Adoption of High Voltage Distribution System (HVDS)
- Regular maintenance of distribution network

- GIS mapping of sub transmission and distribution network including compilation of data.
- IT intervention.

(b) Commercial Measures

- Improvement in metering and billing (Efforts for metering all feeders & consumers, computerization of billing system, using spot billing machines).
- Improvement in revenue collection (Customer care centres with various improved and easy methods of collection, e-payment facilities, Customer information about metering billing and collection on websites introduced, Disconnection of defaulters, Faster settlement of billing complaints).
- Timely filing of Annual Revenue Realisation (ARR) with SERC.
- Adoption of Multi Year Tariff.

(c) Management Measures

- Adoption of energy accounting and auditing.
- Proper network planning for future expansion.
- Preparation of long-term plans on regular basis for phased strengthening and improvement of the distribution systems along with associated transmission system.
- Training of employees."

(x) Release and Utilisation of APDRP Funds

Funds not released and monitored project-wise

66. The APDRP guidelines stipulated that funds should be released in separate tranches individually for each project, linked to the release of counter part funds and project spending. However, the MoP did not recommend release of funds project-wise, but recommended lump sum releases for each State as a whole on the basis of the total projects approved by the Steering Committee. Further, there was no system for monitoring utilisation of APDRP funds on a project-wise basis; the monitoring reports on utilisation showed project cost and total reported expenditure (APDRP and counter part funds put together). Hence, there was also no mechanism for detecting cases of diversion of funds between different APDRP projects.

67. Elaborating on the existing monitoring mechanism for release and utilization of APDRP funds on a project-wise basis, the Ministry stated as under:—

> "Ministry has a system for monitoring release and utilization of APDRP funds on a project-wise basis. APDRP funds are released in three tranches. The first tranche is released as 10% of the project cost on sanction of the project (s). The subsequent tranches are recommended for release to MoF on utilisation of first tranche along with equal amount of fund project-wise and not on lump sum basis. However, MoF restricts the release depending upon the availability

of allocation to the State and availability of budget. In such circumstances, it is not possible to allocate restricted released fund to all or limited projects eligible for next tranche.

The above distortion has crept in due to the fact that in X Plan APDRP was a Centrally Assisted Programme. In the proposed re-structured APDRP for XI Plan, it has been recommended to convert it into a Central Sector Scheme. Also in the proposed scheme for XI Plan, funds shall initially be released to Utilities by institutions in the form of loan which shall be converted into grant after achieving the pre-determined targets."

(xi) Non-opening of separate accounts for APDRP funds

68. In terms of the APDP/ APDRP guidelines, States receiving APDP/ APDRP assistance would have to open a separate account / sub account head immediately for separate accounting classification. A separate account in a Scheduled Bank/ Nationalized Bank was also required to be opened. Funds required to implement projects under APDP/APDRP schemes were to be released by the Ministry of Finance, on the recommendation of the MoP, directly to this separate account. States which did not open a separate account for this purpose were not entitled to receive any funds under APDRP. However, the MoP continued to recommend release of funds without the stipulated certificates from the State Governments regarding opening of a separate account head and expenditure statements prepared from the State monthly accounts. Even the MoF did not object to such recommendations and released funds in the absence of the stipulated requirements.

69. Audit examination of the records of the State Governments and SEB/Utilities confirmed non-compliance with these conditions. 17 out of 29 States where the programme is being implemented, either did not operate separate account heads and bank accounts for APDRP funds, or did not operate them correctly.

(xii) Utilisation of funds

No requirement for statements of Expenditure (SOEs) and Utilization Certificates (UCs)

70. In respect of APDRP, no conditions regarding either UCs or SOEs were incorporated in the guidelines, despite requirement of UCs in the prescribed proforma specified in the GFR.

Audit examination further revealed that:

- SEBs/ Utilities/ SEDs did not submit UCs regularly, nor were they furnishing the status of funds utilisation in a consistent format. Further, these were being intimated only while requesting release of the next installment of funds.
- The Ministry of Power did not maintain any consolidated record of UCs received against each sanction/ release, and consequently, was not in a position to verify the actual quantum of funds utilised for implementation of APDRP.

- Though the Ministry had released Rs. 6131.70 crore up to 31st March 2006, UCs in the format prescribed in the GFR for only Rs. 103.52 crore (1.7 per cent) were found in the records of the MoP.

(xiii) Incorrect Reporting of Expenditure

71. Audit examination revealed that the expenditure reported by SEBs / Utilities to the Ministry / ACCs was not correct, mainly due to the following reasons:

- Expenditure was booked at DPR rates, even though actual procurement cost was lower.
- The reported expenditure was inflated by inclusion of works not in DPR, quantities in excess of DPR provision, incomplete works, works done under normal development schemes, works done with old/ repaired equipment, and centage / consultancy charges. Audit examination of 294 projects in 29 States with a total project cost of Rs. 10255.21 crore, in respect of which the reported utilisation of funds (as of March 2006) was Rs. 5617.64 crore, revealed instances of incorrect financial reporting, amounting to Rs. 676.09 crore, which constituted 12 per cent of the reported utilisation.

72. On being enquired as to whether the Ministry have a system for verification of expenditure reported by State Governments/Utility, the Ministry informed that:

> "The expenditure under APDRP is auditable by the statutory auditors of the Utilities. Ministry does not have resources to audit each and every expenditure made by Utilities under the programme. However, ACCs do randomly check the bookings and point out discrepancies found to the Utilities."

73. While specifying the reasons mainly responsible for instances of incorrect financial reporting amounting to Rs. 676.00 crore, the MoP stated:

(a) "Expenditure booked at DPR rates, though actual cost of procurement/ execution was lower mainly for downward trend of rates of static meters.

(b) Some of the Utilities like Karnataka awarded projects at 30-40% higher rates than sanctioned DPR rates and booked the expenditure at actual whereas same was to be restricted to DPR rates or at actual whichever is lower.

(c) Inclusion of new works not covered under DPR and quantities executed in excess of DPR provisions.

(d) Works done under normal maintenance/capital works booked under APDRP.

(e) Use of Old and repaired equipments.

(f) ACCs are reconciling the inconsistencies in the financial reporting with the State Power Utilities further regular or action for recovery shall be recommended only after completion of the reconciliation".

74. As regards the measures contemplated to curb the tendency of incorrect financial Reporting, the MoP submitted:

> "During inspection of APDRP implementation on random basis, a number of deviations in cost and quantity executed as compared to DPR provisions

were noted and based on extent of deviations, utilization figures as submitted by Utilities were restricted / disallowed by the ACCs / MoP. The amount disallowed was only a rough estimate by lead ACCs and the States have been advised to submit reconciliation of expenditure as per APDRP guideline and sanctioned DPR provisions. Most of the Discoms are yet to submit the same.

Further, APDRP guideline as well as MOA conditions envisages execution of APDRP Projects on turnkey basis, but only a few Utilities adopted turnkey concept of execution. Contemplating the difficulties in traceability of materials under departmental execution of APDRP schemes well in advance, the model procedure for maintaining records and booking of cost in case of departmental execution has been handed over to States during review meetings. The same was done with a purpose to curb the tendency of incorrect financial reporting by Utilities executing APDRP projects on departmental basis."

(xiv) Improper maintenance/non-availability of accounting records at State level

75. Audit examination revealed that proper accounting and related records in respect of APDRP projects were not maintained in almost all the States, which affected the authenticity of the reported expenditure.

76. On being asked as to what action has been taken to ensure proper maintenance of accounting and related records, the Ministry replied in a note:—

"The maintenance of records was in a bad shape earlier. Only some of the utilities were having procedures in place. With the assistance of ACCs and close monitoring of APDRP by Ministry, the procedures have improved significantly in all the Utilities with varying degree. The employees of the Utilities have come to know about various Key Performance Indicators on which performance of the networks have to be recorded & monitored, which was not existing earlier. The improvement in record maintenance has been appreciated by the independent evaluators."

77. Further as regards the system for verification of expenditure reported by the State Governments, the Ministry stated:—

"Under the guidelines/MOA, utilities are required to submit bi-monthly reports for utilisation. The reports are submitted project-wise to ACCs/MoP and compiled. Further, utilisation is submitted by CEOs of the utilities from time to time for release of next tranche. The utilities are having their own audit procedures and practices of internal & Government audits. ACCs do randomly check the bookings and point out discrepancies found to the utilities."

(xv) Surplus Funds

78. Audit examination revealed that surplus funds amounting to Rs. 51.07 crore in respect of the Haryana, Andhra Pradesh and Karnataka States were not returned by the States to the Government of India.

79. The Committee desired to know as to whether there is any mechanism in the Ministry to ensure that surplus funds are returned to Government of India within a specified time frame. The MoP, in this regard stated as follows:—

> "States have been asked to submit the utilization certificates in the prescribed format of the Ministry of Finance for the funds released under APDRP. Also ACCs are reconciling the inconsistencies in the financial reporting with the State Power Utilities. Further action for recovery shall be recommended only after the completion of the reconciliation."

(xvi) Diversion and Parking of Funds

80. Audit examination revealed numerous instances of diversion of funds, amounting to Rs. 181.78 crore in ten States, for various unauthorised purposes such as payment of salaries for work charged employees, clearing past liabilities of the SEBs/ Utilities, expenditure on items not related to APDRP, renovation of guest house etc. Further, the State Governments diverted a total of Rs. 432.23 crore by adjustment against various dues of the Utilities, which was effectively equivalent to short release of funds for APDRP projects.

81. In their reply to the Committee's query regarding seeking explanation from the concerned States for diversion of funds, the Ministry Stated that the States have been asked to submit the utilization certificates for the funds released under APDRP and they have started submitting the same.

82. As regards the checks exercised to obviate the instances of diversion of funds for unauthorized purposes, the MoP informed that State Utilities have been asked to open separate account for APDRP fund. However, many of the Utilities either did not open the separate account or did not operate these accounts due to various problems in their accounting procedures.

(xvii) Non-release/Delayed release of funds by States to SEBs/Utilities and non-levy of consequent penalty

83. The APDRP Guidelines stipulate that:—

- The State Government shall release the funds provided under APDRP to the State Power Utilities within a week of its credit to the State Government account and send a confirmation to the GoI; otherwise, it would be treated as diversion of funds.
- If any State Government/ Utility diverts or is deemed to have diverted such funds, the equivalent amount would be adjusted with 10 per cent penal interest against the next installment of Central Plan Assistance to be released to that State Government in that year or in the subsequent year.

84. A review of various reports of the MoP confirmed that one of the reasons for delayed implementation of APDRP projects was delay in release of APDRP funds by the State Governments to the State Power Utilities/ SEBs. However, audit examination revealed that:—

- The Ministry was not monitoring the details of delay in transfer of funds by the State Government to the SEBs/ Utilities in respect of each release by the Central Government.

- The Ministry did not levy penal interest in even a single case of delayed release of APDRP funds.

- In the absence of any deterrent action, the State Governments continued to delay the transfer of APDRP funds to the implementing agencies, adversely affecting the progress of APDRP projects.

85. Further, during the test check of records relating to release of funds to SEBs/ Utilities by the State Governments, it was observed that in many cases the State Government did not release the entire funds released by GOI, thereby defeating the purpose for which APDRP was introduced.

86. As of March 2006, a total of Rs. 412.03 crore were yet to be released by various State Governments: **Maharashtra** (Rs. 75.97 crore), **Nagaland** (Rs. 15.99 crore), **Arunachal Pradesh** (Rs.15.13 crore), **Karnataka** (Rs. 12.52 crore), **Assam** (Rs. 15.00 crore), **Mizoram** (Rs. 7.10 crore), **Andhra Pradesh** (Rs. 265.10 crore) and **Sikkim** (Rs. 5.22 crore). Further, Audit examination revealed significant delays in release of APDRP funds ranging from 7 days to 1095 days, by the State Governments.

87. The Committee enquired as to how the Ministry justify the proper utilization of APDRP funds when there were significant delays in release of APDRP funds ranging from 7 days to 1095 days by the State Governments to the SEBs/Utilities. The Ministry stated in a note:—

> "Under the Additional Central Assistance (ACA) by GOI, funds are released to the State Govt. for further transfer to the implementing agencies. There have been reports of delay in transfer of APDRP fund by State Governments to the Utilities. The matter was taken up by MoP with MoF for direct release to the Utilities. MoF informed that under the provisions of ACA, fund can be directly released to the Utilities only on specific request by State Govt. The matter was then referred to the State Govt., which did not agree to do so.
>
> Issue of delay in transferring the funds from State Governments to State Power Utilities had been taken up with the State Governments during review meetings and through letters held at various levels with Ministry of Power."

88. The Ministry further stated that longer delay was noticed in the beginning of the programme, but due to the close monitoring by Ministry & ACCs the situation improved later on. Keeping this delay in view, MoP is proposing taking up of APDRP under Central Scheme during XI Plan.

89. The Committee further sought to know as to how would the taking up of APDRP as a central sector scheme overcome delayed release of funds by the States to the Utilities. The Ministry stated as follows:—

> "In the proposed Central Sector Scheme, funds shall be released directly to the State Power Utilities where as in the present case of ACA, Ministry of Finance release the funds to the State Government and the State Government further releases funds to the State Power Utilities. Long delays in transferring the funds from State Government to State Power Utilities can be avoided by

releasing funds directly to the State Power Utilities under the proposed Central Sector Scheme."

90. On being asked as to what steps have been taken by the Ministry to ensure that the funds of Rs. 412.03 crore which were yet to be released by the State Governments as of March 2006 have actually been released, the Ministry stated that the States have been asked to submit the utilization certificates for the funds released under APDRP. If States do not submit the utilization certificate of full amount released under APDRP, steps for recovering the unutilized funds with the States shall be taken up.

91. The Committee again asked the Ministry to ensure immediate calculation and recovery of penal interest from the State Governments for delay in release of funds, the MoP stated that calculation and recovery of penal interest shall be done through Ministry of Finance.

(xviii) Incentive mechanism

92. The older Accelerated Power Development Programme (APDP) was project based and input focused rather than performance/output oriented. The 'Expert Committee on State-specific Reforms – Structuring of APDRP, Reform Framework and Principles of Financial Restructuring of SEBs' headed by Deepak S. Parekh felt that unless incentive was given towards achieving lasting improvements, the results were not likely to be sustainable in the long run. The incentive scheme was conceived to make MoAs more successful and conducive for effective implementation. Under the scheme, the State Government would be incentivised upto 50 per cent of the actual total loss reduction by SEBs/ Utilities.

(xix) Incentive mechanism has not taken off

93. The incentive scheme was conceived to make MoAs more successful and conducive for effective implementation. Under the scheme, the State Government would be incentivised upto 50 per cent of the actual total loss reduction by SEBs/ Utilities.

94. The incentive mechanism of APDRP was not successful, with just Rs. 1575.02 crore released as of January 2007, against the 10th Five Year Plan provision of Rs. 20,000 crore. Further, most of the claims pertained to the years 2001-02 to 2003-04, which indicated that the objective of reducing cash losses of SEBs/Utilities through an incentive mechanism had largely not been achieved. Audit examination also revealed a number of deficiencies, such as allowing an ineligible claim, disallowance of incentive claims on grounds not reflected in the guidelines, and lack of a mechanism for verifying utilisation of the incentive grant for improvement of the power sector.

95. Apprising the Committee of the mechanism in the Ministry for ensuring that the incentives are actually utilized for improvement of power sector, the Ministry informed that there is no mechanism in the Ministry for this purpose. States shall be asked to submit the details of utilization of funds released against incentive also.

96. On being asked as to why only Rs. 1,575.02 crore were released as incentive as of January 2007 against the 10th Five Year Plan provision of Rs. 20,000 crore, the Ministry stated as under:

> "Financial year 2000-01 was kept base year for incentive calculations. However, many of the States declared free power afterwards to agriculture thereby increasing the subsidy. This resulted in increase of cash loss (net of subsidy) by such States and inspite of showing significant improvement; many Utilities could not become eligible for incentive.
>
> It may be clarified that incentive claims are filed by Utilities after statutory audit is completed and because of this claims for a particular year is received quite late from the Utilities.
>
> Nine States have shown reduction of cash loss amounting to Rs. 5753.22 crore and became eligible for APDRP incentive of Rs. 2876.61 crore. Government has released Rs. 1959.70 crore. Balance could not be released by the Ministry of Finance due to low allocation of budget. State-wise details are given below:—

(Rs. in crore)

Sl. No.	State	Cash Loss Reduction	Eligibility	Incentive Released
1.	Andhra Pradesh	530.22	265.11	265.11
2.	Gujarat	2078.62	1039.31	533.81
3.	Haryana	210.98	105.49	105.49
4.	Kerala	289.82	144.91	109.27
5.	Maharashtra	275.78	137.89	137.89
6.	Punjab	503.88	251.94	145.05
7.	Madhya Pradesh	595.02	297.51	114.95
8.	Rajasthan	275.42	137.71	137.71
9.	West Bengal	993.48	496.74	410.42
	Total	5753.22	2876.61	1959.70"

97. The Committee desired to know about the mechanism prevalent in the Ministry for ensuring that the incentives are actually utilized for improvement of power sector. The MoP in their written information submitted to the Committee stated that there is no such mechanism in the Ministry. As per APDRP guidelines the grant under incentive component shall be utilized in improvement of power sector only. States shall be asked to submit the details of utilization of funds released against incentive also.

(xx) Reform Measures

Non-accountability of Circles and Feeders

98. A key administrative intervention under APDRP was ensuring accountability at the circle and the feeder level by:

- Redesignating Distribution Circles as independent profit centres (with adequate delegation of powers) and the Superintending Engineer as the CEO.
- 11 KV feeders to be operated as business units, with the Junior Engineer designated as the feeder manager.
- Ensuring accountability by having MOUs, setting out specific targets to be achieved, executed by the SEBs/Utilities with the CEOs of the Circles, who, in turn were to execute MOUs with their subordinate officials, who would ultimately execute MOUs with the Feeder Manager.

99. Audit review of APDRP highlighted that the administrative intervention envisaged under APDRP of ensuring accountability at the circle and feeder level by redesignating Distribution Circles as independent profit centres and feeders as business units was not successful. While many States had designated the Circle Superintending Engineer and Junior Engineer as Circle CEO and Feeder Manager, no administrative measures were taken to ensure accountability and responsibility.

100. The Committee asked the Ministry as if they have contemplated any measures to ensure accountability and responsibility among the circles Superintending Engineer and Junior Engineer who have been redesignated as Circle CEO and Feeder Manager. The MoP in their note stated that they are proposing new measures to bring better accountability during XI Plan APDRP. It is proposed to bring higher accountability by way of incentivizing the APDRP project areas in form of conversion of loan into grant against achieving target reduction of loss. The employees of the Utilities shall also be eligible for additional incentive on achieving the targets.

(xxi) Unbundling of SEBs

101. Audit Paragraph revealed that Transmission and Distribution and corporatisation of unbundled entities, had not taken place as of March 2006 in **Arunachal Pradesh, Bihar, Chhattisgarh, Goa, Jharkhand, Manipur, Nagaland, Punjab** and **Sikkim**. Further, in **Kerala** and **Tamil Nadu,** although the State Electricity Boards were functionally segregated into three profit centres namely Generation, Transmission and Distribution, the annual accounts had, however, not been prepared separately for each profit centre. In the absence of separate profit centres for Generation, Distribution and Transmission and determination of transfer pricing etc., the separate Profit and Loss accounts prepared at the circles of Distribution wing merely represented ad hoc management information, and the purpose of distinct profit centres had not largely been achieved.

102. While offering their comments on the Audit observation, the MoP stated that 14 States have unbundled/corporatised. **Himachal Pradesh, Punjab, Chhattisgarh, Kerala, Tamil Nadu, Bihar, Jharkhand** and **Meghalaya** have taken extension for different

reasons as per the provisions in the Act. The basic objective of unbundling/ corporatisation is to bring more accountability and better control in the power business.

103. The Committee desired to know as to whether the Ministry have sought explanation from the State for not proposing the annual accounts separately for each profit center namely Generation, Transmission and Distribution. The Ministry informed in this regard that they have not sought any explanation from the concerned States in this regard. However, they have been insisting for unbundling/Corporations of the State Power utilities according to the provisions in the Electricity Act.

(xxii) Formation of State Electricity Regulatory Commission (SERC) and Formation of State level Distribution Reforms Committee (DRC)

104. Audit examination reveals that State Electricity Regulatory Commission (SERC) was constituted in 23 out of 29 States. In Jammu & Kashmir and Goa, though the SERCs had been constituted, they were not functional as no Tariff Orders had been issued as of March, 2006. Further, the Distribution Reforms Committees (DRCs) were constituted in various States with delays ranging upto 731 days.

105. In this connection, the Ministry have stated that SERCs have been constituted in 25 States. Mizoram and Manipur have notified the Joint ERC. Distribution Reforms Committee (DRC) has been constituted in the States and regular meetings are taking place. DRC has not been constituted in J&K, the review meetings are being held regularly in coordination with Central Electricity Authority, which is assisting the State as AcC.

(xxiii) Ineffective Vigilance and legal measures to prevent theft of energy

106. Theft of electricity, in the form of unauthorized connections from the electricity supply system, tampering, by-passing of meters by the consumers etc. constitutes a substantial part of commercial loss. Hence, vigilance and legal measures to prevent theft are critical to reduce non-technical losses/commercial losses. The "Guidelines for reduction of Transmission and Distribution Losses" issued by the CEA and the MOAs prescribe various measures for reducing commercial/non-technical losses, e.g. setting up of vigilance squads, framing suitable policies and mechanisms for detection and follow-up of cases involving theft of energy, making full use of legal provisions for launching prosecution against offenders and conducting periodic review of cases, and imposing severe penalties for tampering with meter seals.

107. Audit Paragraph highlighted that the MoP's monitoring was confined to setting up of special courts and special Police Stations by the States. They did not have a mechanism for monitoring periodically the effectiveness of vigilance and legal measures in different States to prevent theft of energy. The percentage of registering theft cases was low ranging between 0.28 per cent to 14.08 per cent, and the percentage of conviction was even lower, ranging between zero and 10.61 per cent.

108. Audit examination at the State level also revealed ineffective vigilance and legal measures to prevent theft of energy, as detailed below:—

- "Though envisaged under the Electricity Act, 2003, special police stations were set up only in seven States (Gujarat, Karnataka, Orissa, Rajasthan, Tripura, West Bengal and Delhi). Also, special courts were not established in Arunachal Pradesh, Bihar, Goa, Haryana, Jammu & Kashmir, Jharkhand, Kerala, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tripura and Tamil Nadu.
- Vigilance squads were not strengthened/set up in Assam, Rajasthan and Sikkim.
- In Chhattisgarh, only 39 FIRs were lodged during three years ending 2004-05. During 2005-06, 694 FIRs were lodged. However, not a single conviction has taken place so far."

109. As regards the measures adopted by Utility for preventing theft of energy, the Ministry informed:—

> "Under MOA, Utilities were required to set up vigilance teams and take effective measures towards reduction of theft and pilferage of electricity. However, only few of the States took up effective measures and succeeded in significant reduction of theft. To further emphasize on reduction of theft, legal provisions have been provided in the Electricity Act, 2003. Under the Electricity Act, 2003 theft of electricity has been made a cognizable offence. Under Section 135 of the Electricity Act, 2003 whoever dishonestly taps lines or cables or service wires, tampers, damages or destroys meters etc., shall be punishable with imprisonment for a term, which may extend to three years or with fine or with both. In accordance with the provisions of the Act, States are required to constitute special courts and special police stations to handle cases related to theft of electricity. Ministry is monitoring action taken by States in this respect.
>
> Theft control measures adopted by power Utilities are discussed and appropriate remedial actions suggested in the monitoring & review meetings taken by Ministry officials."

110. On being asked that mere setting up of special courts and special police stations by the States would prevent the theft of energy, the MoP replied that setting up of special courts and special police stations are the provisions in the Electricity Act to help the States in dealing effectively with the cases of energy theft. Technical and administrative measures are also needed to control the theft of energy.

111. While providing details of improvements brought about by these measures in minimizing the theft of energy, the MoP stated that States have reported the detection of 15,19,020 cases of theft during last four years. Out of this 1,61,372 cases have been

reported convicted and Rs. 1,091.15 crore has been realized. State-wise details in this regard are given below:—

Action Taken by States for Theft Control

State	Special Court	Special Police Stations	Theft cases detected (Nos.)	Cases convicted (Nos.)	Amount released (in Cr.)
A.P.	Yes	Yes	416434	157692	53.19
Arunachal Pradesh	Yes	No			
Assam					
Bihar			2116		2.13
Chhattisgarh	Yes	No	5448	1	42.55
Delhi	Yes	Yes	52993		138.50
Goa					
Gujarat	Yes	Yes	201662	299	123.40
Haryana	Yes	No	125504	2858	58.05
H.P.	Yes	Yes	1337		0.81
J&K					
Jharkhand			3501		1.27
Karnataka	Yes	Yes			
Kerala					
M.P.	Yes	Yes			
Maharashtra	Yes	Yes	167705	130	103.24
Orissa	No	Yes			
Punjab			150387		73.44
Rajasthan	Yes	Yes	241382	98	118.75
Tamil Nadu	Yes	No	8892		23.10
U.P.	Yes		86033	194	351.10
Uttaranchal	Yes				
West Bengal	Yes	Yes	1552	566	13.04
Manipur			880		
Meghalaya	Yes				
Mizoram			3856		0.07
Nagaland	Yes				
Sikkim	Yes				
Tripura	Yes		48135	97	1.27
Total			1476122	1611938	922.90

(xxiv) Project Planning, Management and Implementation

112. Audit review of the APDRP pointed out significant weakness in the project planning, management and implementation process. Some of those are illustrated below:

(i) There was inadequate examination of DPRs by the Steering Committee, with 641 projects being approved in just 9 meetings,

(ii) Frequent modifications were made in the scope of work under the approved DPRs, without obtaining prior or Post-facto approval from the GoI,

(iii) Significant deficiencies in DPRs covering issues such as incorrect cost estimation, incorrect quantity estimation, excess use of material, unrealistic setting of targets,

(iv) Most SEBs/Utilities had not adopted turnkey contracting, and had executed the works departmentally or on semi-turnkey basis,

(v) In some cases, the turnkey packing was so distorted that it negated the concept of single point responsibility, which was the objective of turnkey contracting.

113. In addition, the Audit also detected numerous deficiencies in individual projects across different aspects, covering execution of out-of-scope items, lack of economy in procurement and execution, excess payments to contractors and other inefficiencies in execution of works/items of work etc.

114. Replying to the Audit objections, the Ministry have explained as under:—

"AcCs and Utilities have been informed not to book any expenditure on activities not covered in the sanctioned projects and reconcile the project progress in view of audit findings. States have also been asked to submit the utilization certificates in the prescribed format of the Ministry of Finance for the funds released under APDRP. Further action for recovery shall be recommended only after the completion of the reconciliation."

115. Reasons for shortfall in APDRP implementation as stated by the MoP during the presentation made before the Committee are as follows:—

(i) Reduced project cycle;

(ii) slow implementation of the programme by States;

(iii) inadequate Project Management skills;

(iv) delay by States in Passing on funds;

(v) delay in awarding the contracts by States;

(vi) non-availability of required quantity of material and contractors due to high demand; and

(vii) increase in prices of raw material.

116. As regards the Action Taken to plug the loopholes in the project, planning management and implementation process, the MoP stated:—

> "APDRP guideline as well as MOA conditions envisages execution of APDRP Projects on turnkey basis, but only a few Utilities adopted turnkey concept of execution. The Utilities who adopted turnkey concept, performed better with faster pace of progress, eliminated chances of use of old/repaired equipments and better quality of execution.
>
> For better project planning, management and implementation process, CEA has issued guidelines for preparation of schemes for ST&D projects. Moreover, Lead AcCs prepared standard bidding documents for turnkey execution of Sub-Transmission & Distribution works as well as specifications for special projects *e.g.* pre-paid metering system, data acquisition system, GIS based consumer indexing and asset mapping etc.
>
> Lead AcCs also carry out inspection of APDRP implementation on random basis as per direction of Steering Committee for the purpose of better monitoring of implementation process. Further, the deviations found, if any, had been taken up in DRC meetings and also at various review meetings held by MoP.
>
> To make APDRP more meaningful & result oriented during XI Plan, It is proposed to re-structure APDRP with revised terms and conditions as a Central Sector Scheme. The focus of the programme shall be on actual, demonstrable performance in terms of loss reduction. Establishment of reliable and automated systems for sustained collection of accurate base line data, and the adoption of Information Technology in the areas of energy accounting will be essential before taking up the regular distribution strengthening projects. This will enable objective evaluation of the performance of Utilities before and after implementation of the programme, and will enforce internal accountability leading to pressure to perform on officers and staff.
>
> Initially funds for projects under both the parts shall be provided through loan. GOI shall provide the necessary grant money as and when it becomes payable on eligibility based on outcome."

(xxv) Information Technology (IT) enabling

117. According to the APDRP guidelines, IT and Computer Aided Tools for revenue increase, outage reduction, monitoring and control played a vital role in distribution management. IT applications would be used in such processes in the distribution sector to ensure higher revenues as a result of segregation of T&D losses, and controlling commercial losses, especially for metering, meter reading, billing, collection and outage reduction. However, Audit examination revealed poor progress in IT works, in particular those relating to customer indexing, digital mapping, and Supervisory Control and Data Acquisition (SCADA).

118. On being asked as to what steps the Ministry have taken to ensure effective implementation of IT enabling tools by the Utilities, the MoP replied as under:—

> "Ministry had constituted an IT Task Force headed by Sh. Nandan Nilekani, CEO, Infosys. This Task Force recommended a clear cut roadmap for distribution Utilities for adoption of IT based on their present status. Ministry also emphasized on implementation of computerised billing, data logging, MIS, SCADA etc.
>
> However, Utilities were of the view that the distribution infrastructure was weak and that infrastructure building was required initially in the distribution and that modernization activities can be taken up only after the existing network was brought to a certain level. They also were of the view that the payback period for investment in these areas was higher. Keeping this in view the Utilities took up strengthening of electricity network and gave a secondary treatment to IT enabling. Some of the Utilities adopted IT enabling activities for implementation in selected areas and were able to reap the benefits in form of better consumer services and efficient working.
>
> The Ministry is proposing to give higher importance to Information Technology especially in the areas of energy accounting & auditing and consumer care during XI Plan."
>
> In this connection, representative of the MoP added during evidence that:—
>
> "IT-enable baseline data system is very essential. We are going to fund this one hundred percent. The loan given for this purpose will be converted one hundred percent into a grant because otherwise we believe that the States will not be incentivised to invest into an IT framework. IT infrastructure which is absolutely essential."

(xxvi) Monitoring, Evaluation and Reporting

119. Audit Paragraph indicated that while the APDRP guidelines stipulated that the projects were to be completed within at most 36 months of the date of sanction, the financial progress of APDRP projects, as reported by the Ministry was way behind schedule.

120. An analysis of delays in completion reveals the following position:—

Sl. No.	Date of Projects Sanctioned	Number of Projects Sanctioned	Scheduled Completion date (assuming maximum of 36 months	Number of Projects completed as of October 2006	Percentage of completed projects
1.	16.07.2002	57	7/05	05	9
2.	25.09.2002	72	9/05	03	4
3.	20.11.2002	203	11/05	21	10
4.	20.05.2003	66	5/06	04	6
5.	28.11.2003	08	11/06	NIL	0
6.	20.09.2004	93	9/07	NIL	NA
7.	23.03.2005	69	3/08	NIL	NA
8.	03.08.2005	15	8/08	NIL	NA

121. The delay in progress of works and failure to complete works in time would result in non-achievement or partial achievement of the desired objectives, and further time and cost over-runs. Analysis of the reasons for slow progress revealed **that there was no shortage of funds for implementation,** as nearly 54 per cent of the 10th Five Year Plan provision of Rs. 20,000 crore was still available for sanction. Instead, the delays were mainly due to poor planning and execution, and lack of commitment and involvement of the implementing agencies.

122. In their reply submitted to Audit in February, 2007, the MoP stated that:—

- The execution of projects was delayed due to various reasons on the part of the State Governments not transferring the APDRP funds in timely fashion to the Utilities, and delayed action on the part of the implementing Utilities. The low allocation of budget by the Government during 2005-06 and 2006-07 also affected the implementation to some extent.
- Some of the projects where implementation had not started long after sanction had been closed by the Steering Committee in its meeting in November 2006, and some other projects had been short closed due to various reasons.
- Many of the projects showed 90 per cent completion on the basis of financial progress even after completion of the project on physical term for want of final reconciliation and non-payment of final bills for want of completion of performance guarantee period.

123. As regards the steps taken to remedify the situation, the MoP informed the Committee that the APDRP for XI Plan has been proposed as Central Sector Scheme where funds shall be released directly to State Power Utility. Information Technology shall be adopted extensively to make it self regulated and result oriented.

124. On being asked as to whether the Ministry has undertaken evaluation study by independent agency regarding implementation of APDRP projects, the Ministry in their note furnished to the Committee stated as follows:—

> "The Ministry took up an evaluation exercise of the programme through independent agencies such as Indian Institute of Management Ahmedabad (IIMA), Administrative Staff College of India, Tata Consultancy Services, The Energy and Resources Institute (TERI), and SBI Caps.
>
> The evaluators observed that there were considerable improvements in the quality of DPR preparations, awareness towards commercial aspects of the business, theft control and in respect of improvement in meeting, billing & collection efficiencies. However, they were of the opinion that there was scope of further improvements. The evaluators recommended continuation of the programme beyond X Plan. However, they suggested a number of conditions/initiatives, which may be made in the programme and its guidelines, so that better results can be derived out of APDRP. The main suggestions were as follows:
>
> (a) Direct release of APDRP fund to SEB/Utilities;

(b) concrete action plan with implementation strategy was required for the quick and fast implementation of IT initiatives;

(c) adherence to reform conditions mentioned in the MoA's signed by the Utilities need to be further defined in terms of specific milestones which must be strictly adhered to deadlines may be chalked out for each milestone with the condition that funding would be stopped in case of milestones were not met;

(d) the DPR should be supported by historical data and reliable forecast of long term demand. This will ensure that capacity planning was in line with expected load growth;

(e) more attention needs to be paid to the preparation of realistic DPRs and these should be based on proper system studies after looking at actual field conditions;

(f) the Utilities may be given some flexibility to alter schemes;

(g) there was need for providing detailed specification in the contracts/ agreement to ensure quality of material/equipment. Test certificates for major materials should be insisted and inspection of equipment/material has should be carried out at manufacturer's works;

(h) undertake anti-theft measures more vigorously to curb commercial losses;

(i) world class IT organizations should be Commissioned directly by MoP to drive the IT initiatives in distribution sector;

(j) improving project management procedures-reporting, risk management, project planning and monitoring;

(k) outsourcing of project implementation on a turnkey basis to speed up implementation;

(l) improving the data quality and availability of MIS data in electronic format at the Circle offices;

(m) monitoring could be on fewer and more important parameters. Monitoring of APDRP should be the key responsibility of SEBs/Utilities and not just the AcCs;

(n) third party assistance needs to be adopted for assessment of quality and progress;

(o) detailed audits need to be undertaken after completion of all the works to realistically assess cost and time overruns (if any) and reasons for the same;

(p) cash incentive by the Central Government for better performing states should continue to motivate them for improving their performance. However, calculation of the financial performance of SEB/Utilities should be simplified; and

(q) more emphasis on training of the distribution companies personnel.''

(xxvii) Lack of direct linkage between physical and financial progress

125. The MoP's monitoring and reporting of progress of APDRP projects in terms of percentage completion was based on the reports of utilisation of funds from the State Governments *vis-à-vis* the project outlay, rather than on actual physical progress. While the Monthly Progress Reports (MPRs) from the State Governments did give details of physical progress, the Ministry's status reports did not involve compilation of the data on physical progress, but was restricted to financial utilisation. This gives a misleading picture of the status of implementation of APDRP.

126. Replying to the Audit observation, the MoP stated:—

> "The monitoring of the APDRP projects is based on physical as well as financial parameters. The reports from the Utilities are compiled by AcCs both on financial and the physical basis and examined by them. Physical data, being voluminous, is being examined by Ministry & Steering Committee from time to time."

(xxviii) Inspection of APDRP Projects

127. Audit Paragraph highlighted that the mechanism for inspection of APDRP implementation was inadequate, the MoP did not have a consolidated record of all such inspections by the AcCs, and Audit could not ascertain whether any corrective action was taken on the findings/recommendations of such inspection reports by the Ministry and SEBs/Utilities.

128. While informing about the extant mechanism prevalent in the MoP to review the APDRP Projects, the Ministry stated in a note as under:—

> "All State Electricity Boards (SEBs)/Utilities are required to submit monthly progress report in respect of progress of execution of Accelerated Power Development and Reforms Programme (APDRP) projects, funds utilisation etc. In addition, the Steering Committee under the chairmanship of Secretary (Power), Ministry of Power and State level Distribution Reforms Committees, reviews the progress of works under APDRP and proper utilisation of funds released under APDRP from time to time.
>
> Secretary (Power) and other senior officers of the Ministry of Power also reviews the progress of the projects sanctioned during their visit to the States and convening meetings with the States/SEBs/Utilities officers. In the review meetings, the reasons for slow progress are identified and States are requested to take remedial measures to speed up implementation of APDRP projects."

In order to make monitoring system strong, the Ministry stated:—

> "Ministry appointed NTPC, POWERGRID, CPRI, MECON and National Productivity Council as Advisor cum Consultant, which are monitoring the implementation of APDRP schemes on continuous basis. In addition, they pursue critical issues directly with the SEBs/Utilities and bring it to the notice of Ministry of Power. JS (Distribution) regularly reviews APDRP with the

AcCs. These issues are being taken up with the SEBs/Utilities by the Ministry during various reviews taken by Minister of Power / Secretary (Power) / Joint Secretary (Distribution) from time to time. Number of such meetings has taken place at Joint Secretary (D) level specifically for APDRP related issues and at Secretary (Power) level for comprehensive review of state power sector including APDRP."

129. While submitting information regarding the number of inspections conducted during the past three years, and the action proposed during these inspections for overcoming the shortfalls, the MoP stated as follows:—

"155 random inspections have been conducted through lead AcC NTPC during the past three years in various States.

Corrective action proposed in each Inspection Reports are compiled and feedback provided to the Chairperson of the Utility, CEO of the project area along with photographic evidence of the field condition for corrective action which thereafter is being taken up at each of the reviews and at times follow up from MoP. The objective of random inspection had been :

(a) Scheme implementation in the project is in line with sanctioned DPR.

(b) Field Quality and adherence to standard engineering practices including adherence to national codes.

(c) Methodology adopted for booking of cost to the APDRP schemes.

(d) Traceability of the equipment installed to letter of award/purchase order.

(e) To ensure only new equipment is provided for repair/renovated equipments are not used since the cost estimates in the DPRs had been based on the new purchase by the Utilities.

(f) MoA implementation in the scheme area.

(g) Creation of APDRP objective and reform awareness in the field staff.

Findings during the inspection had been based on the above mentioned objectives which differ from Utility to Utility and scheme area to scheme area within the Utility."

130. The Committee enquired as to whether the MoP keep record of such inspections, the Ministry informed:—

"MoP, though is not having full record of such inspections, the same is available with respective ACCs. ACCs appraise MoP about the salient findings of the field inspection. The same are taken up / discussed at appropriate level during review meetings / correspondence from MoP.

Moreover, ACCs have been asked to provide copy of the inspection reports to Ministry also and this is made available by the ACCs."

(xxix) Monitoring by State Level Distribution Reforms Committee (DRC)

131. Audit Scrutiny revealed that a State Level Distribution Reforms Committee was required to be constituted within one month of signing of the Memorandum of Agreement with the MoP. The Committee was to meet once in two months and review the progress of project implementation, compliance of MoU / MoA conditions, performance against targets and benchmarks. Audit scrutiny at the State level further revealed that the required number of meetings of DRC to review the progress of project implementation etc. was not held, with the shortfall in holding the specified number of meetings ranging up to 80 per cent in various States. The CEO of the Circle, along with AcCs, was to monitor and review the achievements on technical, commercial and benchmarks every month. The records of such reviews along with the reasons and action proposed for overcoming shortfall were to be intimated to the MoP, but the same was not done and the MoP did not have any such records.

132. As regards the composition of the State Level Distribution Reform Committee, it is stated that in accordance with the requirement of Memorandum of Agreement signed by the Utilities, State Governments have constituted Distribution Reforms Committees (DRC), chaired by State Government Representative from Energy Department and Members *i.e.* Chairperson from the Utility, MoP/its representative and other concerned members from distribution and finance for periodic evaluation of programme, progress and the benefits.

133. State Level Distribution Reform Committee discusses the State specific issues and time bound action plan is made to resolve the issues. Formal record notes or minutes of meeting are circulated among the participants and copy of the same is also sent to MoP. The unresolved issues are taken up during high-level meetings by MoP. MoP / AcC writes letter to the concerned to resolve the issue at the earliest and take up the issue to the State highest level.

134. The Committee have been informed that 68 meetings of DRC have taken place in various States during the last three years.

(xxx) APDRP Phase -II

135. Details of the APDRP Phase-II are as follows:—

> "It is proposed to continue APDRP during the XI Plan with revised terms and conditions as a Central Sector Scheme. The focus of the programme shall be on actual, demonstrable performance in terms of loss reduction. Establishment of reliable and automated systems for sustained collection of accurate base line data, and the adoption of Information Technology in the areas of energy accounting will be essential before taking up the regular distribution strengthening projects. This will enable objective evaluation of the performance of Utilities before and after implementation of the programme, and will enforce internal accountability leading to pressure to perform on officers and staff. It is also proposed to extend the programme to rural areas and take up feeder separation & HVDS projects in high-load density rural areas.

Projects under the scheme shall be taken up in Two Parts. Part-A shall include the projects for establishment of baseline data and IT applications for energy accounting/auditing & IT based consumer service centers. Part-B shall include regular distribution strengthening projects. The activities to be covered under each part are as follows:

Part–A: Preparation of Baseline data for the project area covering Consumer Indexing, GIS Mapping, Metering of Distribution Transformers and Feeders, and Automatic Data Logging for all Distribution Transformers and Feeders and SCADA / DMS system for big cities only. It would include Asset Mapping of the entire distribution network at and below the 11 KV transformers and include the Distribution Transformers and Feeders, Low Tension lines, poles and other distribution network equipment. It will also include adoption of IT applications for redressal of consumer grievances, meter reading, billing & collection, establishment of IT enabled consumer service centers etc. The baseline data shall be verified by an independent agency appointed by the Ministry of Power, based on which the Steering Committee will fix the targets for reduction of AT&C loss.

Part–B: Renovation, modernization and strengthening of 11 KV level Substations, Transformers/Transformer Centers, Re-conductoring of lines at 11 KV level and below, Load Bifurcation, Load Balancing, HVDS, installation of capacitor banks and mobile service centers etc. In exceptional cases, where sub-transmission system is weak, strengthening at 33 KV or 66 KV levels may also be considered.

Initially funds for projects under both the parts shall be provided through loan. GoI shall provide the necessary grant money as and when it becomes payable on eligibility based on outcome."

136. Intimating about the specific steps taken to monitor the effectiveness of the proposed measures, the Ministry stated as under:—

"A Steering Committee under Secretary (Power) comprising of representatives of Ministry of Finance, Planning Commission, Central Electricity Authority, Power Finance Corporation, Rural Electrification Corporation, selected State Governments (on one year rotation basis) and of Ministry of Power will

(a) Sanction projects, including modification or revision of estimates;

(b) Monitor and review the implementation of the Scheme;

(c) Approve the guidelines for operationalisation of various components of the scheme;

(d) Appoint agencies for verification and validation of baseline data systems, for verifying the fulfilment of programme conditions by Utilities; and

(e) Approve conversion of loan into grant upon fulfilment of the necessary conditions.

Distribution Reforms Committee (DRC) at the State level under the Chairmanship of the Chief Secretary/Principal Secretary/Secretary Power/ Energy constituted by the State will monitor the Scheme at the State level."

137. As far as privatization of this sector, the representative of MoP deposed before the Committee as under:—

"There is an alternative to this system in the Electricity Act, 2003, that is a franchise you can give out a licensed area to a franchise for a particular period rather than giving or privatizing it for eternity where you cannot take back if there is a lack of performance. Under the franchise system, you can give it for a particular number of years. This new innovation has taken place. We are closely looking at the performance of this new system and we are quite hopeful about it."

PART- II

RECOMMENDATIONS AND OBSERVATIONS

138. The Ministry of Power (MoP) is primarily responsible for the development of electrical energy in the country. The Ministry is concerned with perspective planning, policy formation, processing of projects for investment decisions, monitoring of the implementation of power projects etc. The Ministry also provides financial support in the form of grants to the States. The Committee note that as against the sanctioned allocation of funds, the Ministry of Power had been able to spend 92.21% during the year 2004-05, 87.98% during 2005-06 and only 57.60% in 2006-07. The Committee are concerned that the funds allocated to the Ministry of Power have not been fully utilized during these three years. The utilization of funds sharply decreased from 92.21% in 2004-05 to 57.60% in 2006-07. The poor utilization of the earmarked funds by such an important Ministry, resulting in non-achievement of targets set under various programmes is indeed disconcerting. The Committee cannot but express their displeasure over the lackadaisical approach of the Ministry, as many schemes/programmes for power reforms could not make proper progress and the funds remained idly parked year after year, which would have been gainfully utilized for the fund-starved schemes/programmes. The Committee desire that the Ministry of Power should examine critically the reasons responsible for such a dismal situation, and evolve realistic parameters to avoid such wide variations between the sanctioned provisions and actual expenditure.

[Sl. No. 1]

139. The Committee note with concern that there has been an increase in energy shortage during the Xth Five Year Plan ranging from 7.5% in 2001-02 to 9.6% in 2006-07. The peak power shortage has also increased from 11.8% in 2001-02 to 15.2% in 2007-08. Power capacity addition targets have also not been achieved during Xth Plan period, as against the target of capacity addition of 41110 MW, only 23250 MW has been achieved. The reasons responsible for shortfall in achieving 10th Plan targets have been cited as delay in technology tie-ups, delay in award of works, projects not taken up, financial closure not achieved, delay in project clearance/investment decision etc. As the problem has assured serious proportions, the Committee recommend that a thorough review should be conducted by the Government to remedy the situation. The Ministry of Power should work out a strategy to bridge the energy gap and meet the ever-increasing demand of energy, while supplementing strongly the efforts at the State level. In this context, the Government should also undertake a comprehensive programme to renovate and modernize old power plants located in different States.

[Sl. No. 2]

140. With a view to addressing the issues of inability of State Power Utilities to systematically fund essential activities relating to the upgradation of the sub-transmission and distribution system and renovation and modernization of old plants which resulted in shortages, poor quality of supply, frequent interruptions and escalation in commercial losses to the State Electricity Boards, the Government of India in February, 2001 launched the Accelerated Power Development Programme (APDP). The APDP could not produced the desired results during the first year of its initiation. Therefore, for quick turnaround of the power sector and to reward the actual improvement in the performance of the Power Utilities by way of reduction in commercial losses and increased revenue realization, it was renamed as "Accelerated Power Development and Reform Programme (APDRP)" in the Union Budget 2002-03. The project had an outlay of Rs. 40,000 crore as Additional Central Plan Assistance to the State Governments during the 10th Five Year Plan (2002-2007). Of this amount, the investment component was for Rs. 20,000 crore, with the remaining Rs. 20,000 crore for the incentive component.

[Sl. No. 3]

141. The basic objectives of the programme were:—

(i) Reduction of Aggregate Technical and Commercial Losses (AT & C Losses) from around 60 percent to around 15 percent in five years, to begin with in the urban areas and high density/consumption areas, which implied a targeted reduction of 9 percent per annum.

(ii) Significant improvement in revenue realization by reduction in commercial losses leading to additional realization of Rs. 20,000 crore approximately over a period of 4-5 years.

(iii) Reduction of technical losses which would result in additional energy of nearly 6,000-7,000 MW to the system.

(iv) Improvement in quality of supply and reliable, interruption free power.

(v) Reduction in cash losses on a permanent basis.

(vi) To help States to avoid heavy subsidies, which are given to SEBs/State Utilities by State Governments.

[Sl. No. 4]

142. The operation of the programme was governed by the conditions laid down in the Memoranda of Understanding (MoU) and Memoranda of Agreement (MoA) signed between the State Electricity Boards (SEB)/Utilities and the Ministry of Power. The major conditions for availing benefits under APDRP are as follows:—

(i) Setting up of State Electricity Regulatory Commissions (SERCs);

(ii) Restructuring of SEBs, *viz.* unbundling into separate entities for generation, transmission and distribution and corporation of unbundled entities;

(iii) Removing cross subsidies and traffic anomalies and providing budgetary support to SEBs towards subsidies;

(iv) Introduce private participation in generation, transmission and distribution;

(v) 100 percent metering for each KV feeder and also for consumer;

(vi) Energy accounting and audit;

(vii) Distribution Circles to be operated as independent profit centers, with Superintending Engineer as Circle Chief Executive Officer (CEO);

(viii) 11 KV feeders to be operated as business units, with the Junior Engineer as the feeder Manager; and

(ix) Turnkey contracting system to be adopted by the SEBs/Utilities.

[Sl. No. 5]

143. The Committee's examination of the subject is based on the Audit review of the performance of programme in 294 approved APDRP projects during the period 2002-03 to 2005-06. Examination of the subject by the Committee in detail has revealed that the avowed objectives of the APDRP have not been fully achieved. There have been significant deficiencies in the implementation of the programme. The Committee have dealt with these deficiencies and various aspects of the programme in the succeeding paragraphs.

[Sl. No. 6]

144. One of the basic objectives of APDRP was to reduce Aggregate Technical and Commercial Losses (AT&C Losses) from the existing level of about 60 percent to around 15 percent in five years which implied reduction of AT&C Losses @ 9 percent per annum. The Committee, however are constrained to observe that as against the targeted reduction of 9 percent per annum in AT&C Loss, a reduction of only 1.68 percent per annum has been achieved between 2001-02 and 2004-05. The figure was still very high, and ranged between 15.86 percent in Goa and 72.74 percent in Mizoram. It is thus evident that the objective of reduction of AT&C Losses, as envisaged in the programme, remained largely unfulfilled. The Committee are dismayed that the Ministry of Power have not elaborated convincingly the reasons for not achieving the targeted reduction in AT&C Losses. Although the Secretary, Ministry of Power conceded in this regard during evidence that the goal of 15 percent loss may not be possible, as the performance in some of the States have been patchy due to varied levels of administration and superintendence. What is astonishing is the fact that there were significant deficiencies even in the maintenance of records relating to AT&C Losses including absence of proper guidelines and supporting records. Consequently, the data reported by the Ministry could not be regarded as authentic, accurate and acceptable. The Committee are dismayed that the Ministry of Power did not have any mechanism at all to assess and monitor the significant reduction in AT&C losses, which is considered a wherent measure of the overall efficiency of power distribution. Further, as regards formulation of any baseline data on the basis of which Ministry of Power could envisage that the AT&C losses would be brought down to 15%, the Committee have been informed that the Ministry have proposed to establish the same under the re-structured APDRP for XI Plan. Considering the fact

that APDRP was meant for quick turnaround of the power sector, the Committee consider it unfortunate that no worthwhile efforts were made by the Ministry with a view to ensuring that the programme was actually implemented in consonance with the envisaged objectives during X Five Year Plan. They did not yet have any mechanism to ensure that the objectives of the APDRP are met even after the completion of fifth year of the programme. The Committee strongly recommend the Ministry to take corrective measures now with a view to ensure that the programme is properly implemented at least in the XI Five Year Plan and to re-evaluate the targets for AT&C Losses so that the targeted reduction in these losses is achieved in the reformulated APDRP in XI Plan.

[Sl. No. 7]

145. One of the key reforms envisaged through the Memorandum of Agreements with the Ministry of Power indicated 100 percent metering for each 11 KV feeder and also for consumers. The Committee, however, note that a significant number of installations remained unmetered, and the computation of energy consumed was made on assessment basis, consequently affecting the veracity of the source data for computation of AT&C losses. In case of Jharkhand, unmetered supply in four sample circles, ranged between 67.8 percent and 39.93 percent of total energy. The States did not have any basis of calculation of unmetered supply and thus the estimation of unmetered energy was reduced to a purely hypothetical exercise. The Committee are surprised to note that the Ministry of Power have also not ascertained the reasons from SEBs for resorting to billing/metering on assessment basis. There were also no prescribed norms for assessment of unmetered consumers and the criteria for assessment was not uniform either among various billing authorities, which was bound to result in deficiencies in making accurate assessment of losses. It is, thus, evident that the Ministry of Power have not made any earnest attempt to make the assessment procedure uniform. Various bottlenecks such as non-availability of metering or defective/damaged metering system etc that come in the way of correct and accurate assessment of supply could have been very-well removed by taking timely remedial action. While deploring the laxity on the part of the Ministry of Power in taking corrective measures to minimize the practice of billing on assessment basis by improving the metering system for various segments of consumers, the Committee would like the Ministry to issue fresh directions to the State Governments for making the assessment procedure more organized and uniform with significant reduction in the AT&C Losses.

[Sl. No. 8]

146. Another objective of APDRP was to make 100 percent metering of feeders, Distribution Transformers (DTs) and consumer connections. The Committee find that while there was considerable improvement in terms of reported feeder and consumer metering, the progress in metering of Distribution Transformer was not adequate as only 3 States had shown 80 to 100 percent metering, whilst there was no information in respect of 10 States, with consequent lack of control on AT&C losses and inadequate energy accounting and auditing. Feeder and consumer metering at the State level also showed significant deficiencies, in addition to misreporting of

data on installation of meters. While conceding that the progress of Distribution Transformer metering was indeed not upto the expected level, the Ministry have informed that it was mainly due to the middle level executives pleading increase in meter reading load and their inability to manage even for the existing customers. The Committee fail to understand as to why no advance action was taken for the posting of additional personnel which were badly needed for installation and maintenance of meters and to ease the meter reading load. At least now they would expect that early action would be taken to fulfil the requirement of additional personnel at all the levels so that implementation of the programme does not suffer.

The Committee have now been informed in this regard that the Utilities will be forced to instal and maintain the system meters due to performance base conditionality for converting 'loan' to 'grant' as proposed for 11th Plan APDRP. Since the Distribution Transformer metering is an essential tool to control AT&C losses, the Committee hope that the Ministry will closely monitor the installation and maintenance of system meters in 11th plan in a time-bound manner including augmenting the strength of the middle level executives so that the SEBs/Utilities complete 100 percent feeder, Distribution Transformer and consumer metering in all ongoing and completed APDRP projects within a clearly defined time frame. They should also ensure that the funds for APDRP projects should be released only after completion of 100 percent metering. The Committee would also like to be apprised of the details of installation of meters during XI Plan under APDRP and action taken against the defaulting States which only can serve as an objective index of the efforts made by the Ministry of Power in this direction in the revised APDRP during XI Plan.

[Sl. No. 9]

147. The Committee find that in States like Jharkhand, Punjab, Assam, West Bengal, Karnataka, Haryana and Manipur, periodical checking of meters was not a regular feature and the shortfall in checking of meters in these States ranged between 13 and 96 percent during 2005-06. Although the Ministry have been advising the States through review meetings etc. to carry out periodical energy accounting and auditing, evidently, these measures have not produced the desired results. Since the purpose of installation of meters would be served only if the SEB/Utility conducted its periodical checking so as to ensure that installed meters were not being tampered with and were working efficiently, the Committee desire that the Ministry of Power should pursue the matter forcefully with all concerned State Governments to mitigate this serious problem.

[Sl. No. 10]

148. 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 have, however, observed that effective energy accounting and auditing was not being carried out in the States. It had not been possible in most States due to lack of 100 percent 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 Committee have been informed that keeping in view the poor progress by Utilities in this area, the Ministry are proposing to establish authenticated baseline data as one of the objectives of restructured APDRP during XI Plan, through which all the assets and consumers will be mapped and indexed. Feeder and Distribution Transformer (DT) meters and bulk consumer meters will be read remotely and the base-line data will have to be got validated through independent auditors to be appointed by the Ministry. The Committee would welcome and await the implementation of these measures. Since the whole purpose of metering was defeated in the absence of linkages between feeder, Distribution Transformer and consumer metering, the Committee desire that the Ministry should work out the modality of regular and effective monitoring of the programme in consultation with SEBs so as to ensure that all States carry out effective energy accounting and auditing at the feeder and Distribution Transformer levels.

[Sl. No. 11]

149. The Committee's examination further revealed that one of the objectives of APDRP was the narrowing and ultimate elimination of the gap between unit cost of supply and revenue realization within a specified time frame. The Committee find that the objective of elimination of the gap between Average Revenue Realisation (ARR) and Average Cost of Supply (ACS) remained a distant goal. Only 3 out of 29 States had achieved this target, and in fact, in 8 States, the gap between ARR and ACS had shown a deteriorating trend. According to Ministry of Power, as many of the Utilities had increased the subsidy over the years, monitoring of ARR on subsidy and revenue realized basis would show the correct status. Audit did not accept the reply of the Ministry on the ground that since the reduction of subsidies to SEBs/Utilities is one of the key objectives of APDRP, using ARR on subsidy realized basis would not be appropriate. Moreover, high cost of generation, high cost of power purchase, high maintenance cost, poor billing and metering, high AT&C loss beyond the levels allowed by the regulator etc. are stated to be the main contributory reasons for the gap between ARR and ACS. During the course of examination of the subject by the Committee, several technical, commercial and managerial measures were stated to have been taken by the Ministry to reduce this gap, such as, upgradation and strengthening of the weak distribution system, relocation of distribution sub-stations, provision of additional distribution sub-stations, improvement in metering and billing, timely filling of Annual Revenue Realisation with State Electricity Regulatory Commissions and proper network planning for future expansion etc. The Committee desire that these well-conceived measures ought to be implemented earnestly in letter and spirit, which would surely go a long way in eliminating the gap between Average Revenue Realisation and Average Cost of Supply in future. The Committee may be apprised of the results achieved therefrom.

[Sl. No. 12]

150. In terms of the APDRP guidelines, States receiving assistance under this programme would have to open a separate account/sub-account head for separate

accounting classification. States which did not open a separate account for this purpose were not entitled to receive any funds under APDRP. However, the Ministry of Power continued to recommend release of funds without the stipulated certificates from the State Governments regarding opening of a separate account head and expenditure statements prepared from the State monthly accounts. The Committee find that 17 out of 29 States where the programme was being implemented, either did not operate separate account heads and bank accounts for APDRP funds, or did not operate them correctly. The Ministry of Power have tried to explain that many of the Utilities could not open separate accounts due to various problems in their accounting procedures. Evidently, there is no mechanism presently available with the Ministry to assess actual utilization of funds released for this programme. The Committee also wonder as to how in the absence of separate accounting classification, the Ministry could ensure that the funds earmarked for APDRP were not being spent for other purposes. While strongly disapproving the failure of the Ministry to act sternly against such financial irregularities, the Committee recommend that the matter should be enquired into and responsibility be fixed for the lapses. The Ministry should henceforth ensure that the accounts of APDRP funds are maintained separately, reconciled periodically with banks and got audited regularly.

[Sl. No. 13]

151. The Committee find it strange that in respect of APDRP no conditions regarding Utilization Certificates (UCs) or Statements of Expenditure (SOEs) were incorporated in the guidelines, despite requirement of UCs in the prescribed proforma specified in the GFR. Further, the expenditure reported by SEBs/Utilities to the Ministry was not correct on the ground that expenditure was booked at Detailed Project Report (DPR) rates, even though actual procurement cost was lower. The reported expenditure was inflated by inclusion of works not in Detailed Project Reports, incomplete works, work done under normal development schemes, work done with old/repaired equipment etc. Audit of 294 projects in 29 States with a total project cost of Rs. 10255.21 crore, involving utilization of funds reported to be Rs. 5617.64 crore as of March 2006, revealed instances of incorrect financial reporting amounting to Rs. 676.09 crore, which constituted 12 percent of the reported utilization. The Committee express their dissatisfaction in the matter and recommend that responsibility of the officers be fixed for the lapses in maintenance of records, its compilation and incorrect reporting of figures.

As regards the system for verification of expenditure reported by State Governments/Utilities, the Committee have been informed that the Ministry does not have the resources to audit each and every expenditure made by Utilities under the programme. However, Advisor cum Consultants (AcCs) do randomly check the bookings and point out the discrepancies to the Utilities. But with a view to curbing the tendency of incorrect financial reporting by Utilities executing APDRP projects on departmental basis, the model procedure for maintaining records and booking of cost has been handed over to States during review meetings. From these facts it is abundantly clear that the procedure for verification of the expenditure reported by State Governments/Utilities leaves a lot to be desired. Considering the fact that the

Ministry does not have resources to audit every expenditure of the Utilities, and the fact that there are several cases of default, the Committee recommend that the Ministry of Power and the SEBs/Utilities should evolve a coordinated and integrated system of record-keeping and reporting with periodical reconciliation of figures in order to avoid incorrect financial reporting by the State Governments/Utilities.

[Sl. No. 14]

152. During the course of examination, the Committee have come across several instances of inadequacies in some of the States regarding utilization of funds. Some of the major deficiencies/irregularities noticed are as follows:

(i) Expenditure reported by SEBs/Utilities to the Ministry/AcCs was not correct, in respect of 29 States, there were instances of incorrect financial reporting.

(ii) Proper accounting and related records in respect of APDRP Projects were not maintained in almost all the States.

(iii) Surplus funds amounting to Rs. 51.07 crore not returned by the States to the Government of India.

(iv) Instances of diversion of funds amounting to Rs. 181.78 crore in ten States.

(v) Non-release/Delayed release of funds by States to SEBs/Utilities and Non-levy of consequent penalty.

[Sl. No. 15]

153. There were also instances of diversion of funds by 10 States amounting to Rs. 181.78 crore for unauthorized purposes, and diversion of Rs. 432.23 crore by 7 States for adjustment against various dues of the Utilities, which was effectively equivalent to short release of funds for APDRP projects. With regard to seeking explanation from the concerned States for diversion of funds, the Ministry have merely stated that the States have been asked to submit the Utilization Certificates for the funds released under APDRP. The State Utilities have also been asked to open separate account for APDRP funds. However, many of the Utilities either did not open separate account or did not operate these accounts due to various problems in their accounting procedures. Undoubtedly, such cases not only reveal inadequacies in the governmental machinery but also leave scope for proliferation of corrupt practices in the system. This therefore, underscores the need for streamlining the procedures for utilization of funds. The Committee, therefore, recommend that the entire matter of diversion of funds should be thoroughly looked into and responsibility be fixed for the lapses in maintaining the funds.

[Sl. No. 16]

154. As regards the release of funds by States to SEBs/Utilities, the APDRP guideline stipulate that the State Governments shall release the funds provided under APDRP to the State Power Utilities within a week of its credit to the State Government Account and send a confirmation to the Government of India. The Committee find as of March, 2006 eight States failed to release Rs. 412.03 crore of APDRP funds to the SEBs/Utilities. There were significant delays on the part of the State Governments in

release of APDRP funds ranging from 7 days to 1095 days. The Ministry was not monitoring the details of such delays, nor did they levy penal interest even in a single case of delayed release of APDRP funds. In many cases, the State Governments did not release the entire funds released by the Union Government. Evidently, there was no proper system in Ministry of Power to ensure timely release of funds to the State Governments or their early utilization. The Committee have been informed that keeping such delays in view, Ministry of Power is proposing to take up APDRP under Central Sector Scheme during 11th Plan, under which, funds shall be released directly to the State Power Utilities. The Committee deplore the fact that till now no procedure has been evolved by the Ministry nor prescribed by the State Governments for management of grants. With regard to the funds of Rs. 412.03 crore which were yet to be released by the State Governments, the Ministry have stated that the States have been asked to submit the Utilization Certificates for the funds released so far. The Ministry have apparently taken this action only now after the matter was considered by the Committee. Had these steps been initiated earlier, the delay in release of funds could have been easily avoided. Again, in regard to the calculation and recovery of penal interest from the State Governments for delay in release of funds, the Ministry stated that it will be done through Ministry of Finance. Considering the fact that delayed implementation of APDRP projects was due to delayed/non-release of funds by the State Governments to the State Power Utilities/SEBs, the Committee recommend that the Ministry should devise a sound mechanism for release of Grants to the State Governments. Further, immediate onward release of the funds to the SEBs/Utilities by the State Governments also warrants urgent attention of the Ministry.

[Sl. No. 17]

155. The Committee find that the incentive mechanism of APDRP was not successful, with just Rs. 1575.02 crore released as of January, 2007 against the provision of Rs. 20,000 crore envisaged in the 10th Five year Plan. Further, most of the claims pertained to the years 2001-02 to 2003-04, which indicated that the objective of reducing cash losses of SEBs/Utilities through an incentive mechanism had largely not been achieved. Audit examination also revealed a number of deficiencies like allowing ineligible claims, disallowance of incentive claims on the grounds not reflected in the guidelines, and lack of mechanism for verifying utilization of the incentive grant for improvement of the power sector. While responding to these shortcomings, the Ministry have clarified that many States had shown increase in cash loss and as such they could not become eligible for incentive. The Committee are surprised to note that there is no mechanism in the Ministry of Power for ensuring that the incentives are actually utilized for improvement of power sector only. It is obvious that the incentive mechanism has not been working under this programme, indicating that the actual cash loss reduction in most States has been rather poor. Further, it is a matter of serious concern that the Ministry released incentive claims to the SEBs/Utilities without satisfying themselves that the incentives were being utilized for the power sector only. As the incentive scheme was conceived to make the MOAs more successful and conducive for effective implementation of the programme, any flaw in this process will vitiate its very objective. The Ministry of Power should, therefore, establish a sound mechanism for ensuring that the incentive claims of

States/Utilities are scrutinized properly in the Ministry before establishing eligibility and realization of the incentive. The Ministry should also consider withholding the claims of the defaulter States who have been utilizing the incentives for other purposes. The release of incentive claims should be subject to physical target achievement and not to financial targets alone.

[Sl. No. 18]

156. The Committee note that the administrative intervention envisaged under APDRP of ensuring accountability at the circle and feeder level by re-designating distribution circles as independent profit centres and feeders as business units was not successful. The Committee regret to note that while many States had designated the Circle Superintending Engineer and Junior Engineer as Circle CEO and Feeder Manager, no administrative measures were taken to ensure accountability and responsibility. In Arunachal Pradesh, Punjab, Meghalaya, Nagaland, Rajasthan and Uttar Pradesh, even the designation of the JEs as Feeder Manager has not been done. With a view to ensuring accountability and responsibility among the circle CEOs and Feeder Managers, the Committee desire that a system of disincentive/incentive should be introduced at the distribution circle and feeder level for achievement of targets.

[Sl. No. 19]

157. Theft of electricity, in the form of unauthorized connections from the electricity supply system, tampering, by-passing of meters by the consumers etc. constitute a substantial part of commercial loss. The Committee find that the Ministry did not have a mechanism for monitoring periodically the effectiveness of vigilance and legal measures in different States to prevent theft of energy. The percentage of registering theft cases was low ranging between 0.28 percent to 14.08 percent, and the percentage of conviction was even lower, ranging between zero and 10.61 percent. According to the Ministry, setting up of special courts and special police stations are the provisions in the Electricity Act to help the States in dealing effectively with the cases of energy theft. The Committee have been informed that as a result of these measures, detection of 15,19,020 cases of theft during last four years have been reported by the States, out of which 1,61,372 cases have been reported convicted and Rs. 1091.15 crore has been realised. The Committee are not satisfied with the number of cases reported and convicted during the past four years, as out of more than 15 lakh cases detected only 1,61,372 cases have been convicted which implies that no serious efforts have been made by the State Utilities to address this issue. The Committee have been informed that Ministry of Power was monitoring action taken by States for constituting Special Courts and Special Police Stations to handle cases related to theft of electricity, and this was proposed to be made as a condition for eligibility for APDRP funds during the 11th Plan. As theft of energy constitutes a substantial part of commercial loss, the Committee would like the Ministry to ensure adherence to the guidelines in this regard, namely, setting up vigilance squads, detection and follow-up of cases involving theft of energy, making full use of legal provisions for launching prosecution against offenders and conducting periodic review of cases and imposing severe penalties for tampering with meter seal. Installation of automated systems and application of Information Technology for recording of data should also be accorded priority for this purpose.

[Sl. No. 20]

158. The Committee's examination of the subject has revealed that there were significant weaknesses in the project planning, management and implementation process. There was inadequate examination of Detailed Project Reports (DPRs) by the Steering Committee, with 641 projects being approved in just 9 meetings. Clearly, this would not have enabled the Steering Committee to exercise detailed scrutiny of the project before according approval. Most SEBs/Utilities had not adopted turnkey contracting, and had executed the works departmentally or on semi-turnkey basis; in some cases the turnkey packaging was so distorted that it negated the concept of single point responsibility which was the objective of turnkey contracting. Obviously, this was a clear case of negligence on the part of the Ministry which overlooked this lapse and which resulted in lack of coordination while carrying out the works. The Committee therefore, recommend that during 11th Plan period, the projects under the programme should be awarded only on turnkey basis as originally stipulated in the scheme, so that the problems arising out of lack of coordination between civil works and electrical works are avoided.

The audit also detected numerous deficiencies in individual projects across different aspects, covering execution of out-of-scope items, lack of economy in procurement and execution excess payments to contractors and other inefficiencies. The contributory reasons as adduced by the Ministry for shortfall in APDRP implementation are reduced project cycle, slow implementation of the programme by States, inadequate project management skills, delay by States in passing on funds, delay in awarding the contracts by States, non-availability of required quantity of materials and contractors etc. The Committee find the reply of the Ministry hardly convincing as these are the reasons which are rather routine in nature and could have been taken care of, if timely steps were taken. The Committee consider it unfortunate that the Ministry had left the entire programme at the mercy of the State Governments, although the monitoring of the implementation of the programme was the responsibility of the Ministry. Considering the fact that the APDRP was launched for quick turnaround of the power sector, the Committee are dismayed that no urgency was showed by the Ministry for evolving a monitoring mechanism.

[Sl. No. 21]

159. According to APDRP guidelines, Information Technology (IT) and Computer Aided Tools for revenue increase, outage reduction, monitoring and control play a vital role in distribution management. The performance Audit of APDRP and the Committee's examination of the issues raised by Audit has revealed poor progress in IT works, in particular those relating to customer indexing, digital mapping and Supervisory Control and Data Acquisition, which could play a vital role in revenue increase, reduction in AT&C losses, and controlling commercial losses especially for metering, meter reading, billing, collection and outage reduction. Although, IT task force constituted by the Ministry had recommended a clear cut roadmap for distribution Utilities for adoption of IT based on their present status. However, the Utilities did not accept the said proposal on the ground that the distribution infrastructure was weak. They therefore, gave preference to strengthening the electricity network and gave secondary treatment to IT enabling. The reply of the

Ministry is not tenable, as it confirms lack of adequate efforts by the Ministry of Power in ensuring the actual implementation of IT tools, which resulted in the lack of effective energy accounting and auditing, which was critically dependent on IT. Considering the fact that the IT applications would be used in the distribution sector to ensure higher revenues as a result of segregation of Transmission & Distribution Losses (T&D Losses) and controlling commercial losses, especially for metering, meter reading, billing, collection and outage reduction, the Committee recommend that the Ministry should take up IT enablement on priority in order to ensure that the envisaged objectives of power distribution reform are achieved. They should fix up a deadline for this purpose, by which if the States do not adopt the IT based system, they should be disallowed not only sanction of funds but also the availability of more power in their States. Stringent guidelines are also required to be issued by the Ministry to State Governments in this regard. The Committee would like to be apprised of the outcome of the steps taken in the matter.

[Sl. No. 22]

160. The Committee find that though the APDRP guidelines stipulated that the projects were to be completed within at least 36 months of the date of sanction, the progress of APDRP projects was way behind schedule, resulting in non/partial achievement of the desired objectives, even though nearly 54 percent of the 10th Five year plan provision of Rs. 20,000 crore was still available for sanction. The factors cited by the Ministry for this are non-transferring the APDRP funds in timely manner to the Utilities and delayed action on the part of the implementing Utilities. In this regard, the Committee have been apprised that many of the projects showed 90 percent completion on physical terms, pending final reconciliation and non-payment of final bills for want of completion of performance guarantee period. The Committee are not inclined to accept the explanation given by the Ministry on the ground that majority of projects were sanctioned between 2002 and 2003 and issues like final reconciliation and completion of performance guarantee period should have been settled by now. The Committee feel that the delays were mainly due to poor planning, execution and lack of commitment of the implementing agencies. Since the delay in progress of works and failure to complete works in time would result in non/partial achievement of the desired objectives and further time and cost over-runs, the Committee would emphasize the need to take effective steps for stricter monitoring and control over the APDRP projects.

[Sl. No. 23]

161. Yet another case of APDRP implementation which required attention is the system of evaluation and the follow-up action thereafter. Evaluation of APDRP is stated to be undertaken by the Ministry through independent agencies such as Indian Institute of Management, Ahmedabad, Administrative Staff College of India, Tata Consultancy Services, Tata Energy and Resources Institute and SBI Caps. The aforesaid Evaluators have observed that though there were considerable improvements in the billing, metering and collection efficiencies, there was scope for further improvements. They have, therefore, recommended continuation of the programme beyond 10th Five Year Plan. However, they have suggested a number of initiatives to

be included in the programme so as to derive better results. The main suggestions of the Evaluators in this regard included direct release of APDRP funds to SEBs/Utilities, concrete action plan for quick and fast implementation of IT initiatives, preparation of realistic Detailed Project Reports, undertaking anti-theft measures more vigorously, out sourcing of project implementation on a turnkey basis, improving the data quality and availability of MIS data in electronic format at the Circle Office etc. Keeping in view the grave nature of irregularities, the large scale misuses and also taking into account the enormous amount of revenue foregone, the Committee regret to note that the follow-up action of the suggestions made by the Evaluators was highly inadequate. The Ministry of Power should overcome their laxity on this count and act promptly on the findings of the evaluation study commissioned by the Ministry themselves.

[Sl. No. 24]

162. The Committee's examination has revealed that the mechanism for inspection of APDRP projects by the Ministry of Power was inadequate. The Committee are perturbed to note that even though 155 random inspections have been conducted through lead Advisor cum Consultants *viz.,* NTPC during the past three years in various States, the Ministry did not have a consolidated record of all such inspections. According to the Ministry, the record is available with respective Advisor cum Consultants, who apprise Ministry of Power about the salient findings of field inspection. The Committee note that the reports of these inspections were not provided to Audit also. In the absence of such reports, the objectives of the field inspections, findings of the AcCs and the follow-up action taken thereon by the State Utilities could not be ascertained at all. This also dis-enabled the Ministry of Power to monitor the status of implementation and bring about requisite improvements in the systems and procedures. The Committee are therefore, of the view that stringent measures are urgently required to revamp the existing monitoring/supervisory mechanism prevailing in the Ministry.

[Sl. No. 25]

163. The Committee note that while the State level Distribution Reforms Committee (DRC) was to meet once in two months to review the progress of project implementation, compliance of MoU/MOA conditions, performance against targets and benchmarks, the required number of meetings of DRC was not held, with the shortfall in holding the specified number of meetings ranging up to 80 percent in various States. The Committee have been informed that State level DRC discusses the State specific issues and time bound action plan is made to resolve the issues. Formal record notes or minutes of the meeting are circulated among the participants and copy of the same is also sent to Ministry of Power. The Committee note that this procedure is not being followed, as the records of such reviews along with the reasons for not following the procedures and action proposed for overcoming shortfall were not intimated to the Ministry of Power. Since serious deficiencies have been noticed in the implementation of the APDRP, the Committee recommend that the Ministry of Power must review the situation and take immediate steps so that the State level Distribution Reform Committee is made functional and its working supervised in an effective manner.

[Sl. No. 26]

164. To sum up, the facts stated in the foregoing paragraphs revealed several shortcomings in the implementation of APDRP. The primary objective of the programme of reducing Aggregate Technical and Commercial Losses (AT&C Losses) by 9 percent per annum had not been achieved. There were serious deficiencies in system metering (in particular Distribution Transformer metering) and consumer metering. There were also major shortcomings in the quality and reliability of power supply. Besides, effective energy accounting and auditing had not been possible in most States, primarily due to lack of 100 percent system metering, lack of accountability at distribution circle and feeder levels and inadequate computerization. Significant deficiencies were noticed in the systems and procedures for release and utilization of APDRP funds. There were instances of incorrect financial reporting by the States to the Central Government. In addition, instances of irregular diversion of funds, and non-return of surplus funds were noticed. The incentive mechanism was not successful, there were weaknesses in the project planning, management and implementation process as well as in the mechanism for reporting, monitoring and inspection. The Committee regret to conclude that the APDRP did not succeed fully in achieving its objectives. The Committee have been informed that the APDRP will be continued during the 11th plan with revised terms and conditions as a central sector scheme. According to the Ministry of Power establishment of reliable and automated systems for sustained collection of accurate base line data and the adoption of Information Technology in the areas of energy accounting in 11th Plan will enable objective evaluation of the performance of State Power Utilities before and after implementation of the programme, and will enforce internal accountability.

Considering the fact that a considerable amount has already been spent on the programme during 10th Five Year Plan, the Committee take a serous view of the failures in fully achieving the objectives of such a laudable and crucial programme. The Committee desire that in the light of the facts brought out in this Report and the suggestions made, Government should take corrective action now with a view to ensuring that the scheme is properly implemented at least in the 11th Five Year Plan.

[Sl. No. 27]

NEW DELHI;
13 *October*, 2008
21 *Asvina,* 1930 (*Saka*)

PROF. VIJAY KUMAR MALHOTRA,
Chairman,
Public Accounts Committee.

ANNEXURE-I

MINUTES OF THE EIGHTEENTH SITTING OF THE PUBLIC ACCOUNTS COMMITTEE (2007-2008) HELD ON 18th JANUARY, 2008

The Committee sat from 1100 hrs. to 1250 hrs. on 18th January, 2008 in Committee Room "D", Parliament House Annexe, New Delhi.

PRESENT

Prof. Vijay Kumar Malhotra — *Chairman*

MEMBERS

Lok Sabha

2. Shri R.L. Jalappa
3. Shri Brajesh Pathak
4. Shri K.S. Rao
5. Shri Mohan Singh
6. Shri Rajiv Ranjan 'Lalan' Singh
7. Shri Kharabela Swain
8. Shri Tarit Baran Topdar

Rajya Sabha

9. Prof. P.J. Kurien
10. Shri Prasanta Chatterjee
11. Dr. K. Malaisamy

SECRETARIAT

1. Shri S.K. Sharma	—	*Additional Secretary*
2. Shri A. Mukhopadhyay	—	*Joint Secretary*
3. Shri Brahm Dutt	—	*Director*
4. Shri M.K. Madhusudhan	—	*Deputy Secretary*

OFFICERS OF THE OFFICE OF C&AG OF INDIA

1. Shri Vinod Rai	—	Comptroller and Auditor General
2. Shri B.K. Chattopadhyay	—	ADAI (RC)
3. Shri A.N. Chatterji	—	DG (PA)
4. Shri K.R. Sriram	—	Pr. Director (ESM)

REPRESENTATIVES OF MINISTRY OF POWER

1. Shri Anil Razdan	—	Secretary (Power)

2. Shri S.M. Dhiman	—	Member, (GO&D) Central Eectricity Authority
3. Shri Jayant Kawale	—	Joint Secretary, (Distt.)

REPRESENTATIVES OF NATIONAL THERMAL POWER CORPORATION LTD.

1. Shri R.S. Sharma	—	Director, (Commercial)
2. Shri R.C. Dhup	—	General Manager, (APDRP)

REPRESENTATIVES OF POWER GRID CORPORATION OF INDIA LTD.

1. Shri R.P. Singh	—	Chief Managing Director
2. Shri V.K. Sharma	—	Additional General Manager, (APDRP)

REPRESENTATIVE OF POWER FINANCE CORPORATION

Dr. V.K. Garg	—	Chief Managing Director

2. At the outset, the Chairman, welcomed the Members and Audit Officers to the sitting of the Committee. The Chairman informed the Members that the sitting has been convened to take oral evidence of the representatives of the Ministry of Power on C&AG's Report No. 16 of 2007 (Civil —Performance Audit) relating to **"Accelerated Power Development and Reform Programme (APDRP)".** Thereafter, the Officials of the C&AG of India briefed the Committee on the points arising out of the Audit Report.

3. Then, the representatives of the Ministry of Power were called in. The Chairman read out the contents of the Direction 58 by the Speaker regarding secret nature of the proceedings of the Committee.

4. Thereafter, the Secretary, Power introduced his colleagues to the Committee. The officials of the Ministry made a brief Power Point Presentation on the points arising out of the Audit Report. The witnesses also replied to some of the queries raised by the Members of the Committee. As the witnesses could not complete their replies to all queries raised by the Members, the Honb'ble Chairman directed the Ministry to furnish the information as desired by the Members in writing at the earliest, particularly in regard to:—

(i) Non-achievement of primary objective of APDRP of reducing Aggregate Technical and Commercial Loss (AT&C Loss) by 9 percent per annum;

(ii) Deficiencies in the maintenance of records relating to AT&C losses;

(iii) Steps taken to ensure 100% metering at the levels of feeder, Distribution Transformers (DTs) and consumers;

(iv) Mechanism to verify correctness of data in respect of AT&C losses, metering billing etc. furnished by the States;

(v) Diversion of APDRP funds for unauthorised purposes by the States, and the system prevalent in the Ministry to prevent the same;

(vi) Delayed release of funds by the States to the utilities;

(vii) Measures taken to prevent theft of energy;

(viii) Weakness in the project planning, management and implementation process, especially with regard to turn-key contracting;

(ix) Poor-progress in implementation of APDRP projects; and

(x) Reason for shortfall in APDRP implementation and revised steps proposed to be taken for achieving all the objectives of APDRP during 11th Five Year Plan.

5. A copy of the verbatim proceedings of the sitting has been kept on record.

The Committee then adjourned.

ANNEXURE-II

MINUTES OF THE SEVENTH SITTING OF THE PUBLIC ACCOUNTS COMMITTEE (2008-2009) HELD ON 15th SEPTEMBER, 2008

The Committee sat from 1100 hrs. to 1230 hours in Committee Room 'B', Parliament House Annexe, New Delhi.

PRESENT

Prof. Vijay Kumar Malhotra — *Chairman*

MEMBERS

Lok Sabha

2. Shri Furkan Ansari
3. Shri Vijay Bahuguna
4. Shri Khagen Das
5. Shri Sandeep Dikshit
6. Shri Brajesh Pathak
7. Shri Rajiv Ranjan 'Lalan' Singh
8. Shri Sita Ram Singh
9. Shri Tarit Baran Topdar
10. Shri Arun Yadav

Rajya Sabha

11. Shri Raashid Alvi
12. Shri Prasanta Chatterjee
13. Prof. P.J. Kurien
14. Dr. K. Malaisamy
15. Sardar Tarlochan Singh

SECRETARIAT

1. Shri S.K. Sharma	—	*Secretary*
2. Shri A. Mukhopadhyay	—	*Joint Secretary*
3. Shri Gopal Singh	—	*Director*
4. Shri M.K. Madhusudhan	—	*Deputy Secretary-II*
5. Shri Ramkumar Suryanarayanan	—	*Deputy Secretary-II*
6. Shri Sanjeev Sharma	—	*Deputy Secretary-II*

REPRESENTATIVES OF THE OFFICE OF THE COMPTROLLER AND AUDITOR GENERAL OF INDIA

1. Shri Anupam Kulshreshtha	—	ADAI (RA)
2. Shri Nand Kishore	—	Director General of Audit (Performance Audit)
3. Ms. Mahua Pal	—	Principal Director of Audit (DT)
4. Shri P.K. Kataria	—	Principal Director of Audit (Report Central)

REPRESENTATIVES OF MINISTRY OF FINANCE (DEPARTMENT OF EXPENDITURE)

1. Smt. Sushma Nath	—	Secretary (Expenditure)
2. Smt. L.M. Vas	—	Additional Secretary
3. Shri V.N. Kaila	—	Controller General of Accounts

REPRESENTATIVE OF MINISTRY OF RAILWAYS (RAILWAY BOARD)

Smt. Sudha Chobe	—	Financial Commissioner (Railways)

REPRESENTATIVES OF MINISTRY OF FINANCE (DEPARTMENT OF REVENUE)

1. Shri P.V. Bhide	—	Secretary (Revenue)
2. Shri N.B. Singh	—	Chairman (CBDT)
3. Shri Ajai Singh	—	Member (L&C)
4. Shri S.S. Khan	—	Member (IT)
5. Shri S.S.N. Moorthy	—	Member (A&J)
6. Shri Shaikh Naimuddin	—	Member
7. Shri Arbind Modi	—	Joint Secretary (TPL-I)
8. Shri R.K. Tiwari	—	CIT (A&J)

2. At the outset, the Chairman, PAC welcomed the Members and Audit Officers to the sitting of the Committee. The Chairman informed the Members that the sitting has been convened for a briefing by the Secretary, Ministry of Finance (Department of Expenditure) on **"Inadequate monitoring and delay in submission of remedial/ corrective Action Taken Notes"** by the concerned Ministries/Departments on the various paragraphs/subjects contained in the Reports of the C&AG of India; and non-submission of Action Taken Replies on 54th Report of PAC on **"Excesses over Voted Grants and Charged Appropriation (2005-2006)".**

3. Then the representatives of the Ministry of Finance (Department of Expenditure) were called in. The Chairman read out the provisions of *Direction 58* of the **Directions by the Speaker** regarding confidentiality of proceedigns. The Secretary, Ministry of Finance (Department of Expenditure) explained to the Committee the reasons

for non-submission of Action Taken Notes on 54th Reprot of PAC on "Excesses over Voted Grants and Charged Appropriation (2005-2006)" and assured the Committee that the same will be furnished shortly after vetting by Audit. As regards, delay in submission of remedial/corrective "Action Taken Notes" by the concerned Ministries/Departments on the various paragraphs/subjects contained in the Reports of the C&AG of India, the Secretary stated that the Ministry is seized of the matter and steps are being taken for effective monitoring and timely submission of Remedial/Corrective Action Taken Notes. The Hon'ble Chairman directed the Secretary (Expenditure) that all the pending Remedial/Corrective Action Taken Notes should be furnished within a period of three months along with the reasons for such delay. The Chairman also asked Audit officials to furnish Ministry-wise position of the paras on which Action Taken Notes are awaited from the concerned Ministries/Departments.

4. The representatives of the Ministry of Finance (Department of Expenditure) then withdrew.

5. Thereafter, the Committee proceeded to take oral evidence of the representatives of the Ministry of Finance (Department of Revenue) and Central Board of Direct Taxes (CBDT) on Chapter-I (Paragraph Nos. 1.9.1 to 1.9.6, 1.10.1 to 1.10.4, 1.21.1 to 1.21.3 and 1.24.1 to 1.24.4) and Chapter-II (Paragraph Nos. 2.7.1 to 2.7.2, 2.8.1 to 2.8.3.1 and 2.9.1 to 2.9.3.1) of C&AG's Report No. PA 7 of 2008 for the year ended March, 2007, Union Government (Direct Taxes) relating to (i) **"Review on Assessments of Banks";** and (ii) **"Review on Appreciation of Third Party Reporting/Certification in Assessment Proceedings"** respectively. Then the representatives of the Ministry of Finance (Department of Revenue) were called in and the Committee commenced oral evidence on the subjects. The Secretary, Department of Revenue and the Member, CBDT explained in detail the position of the Ministry on the Audit findings and remedial action taken thereon. To certain queries for which the witnesses could not give satisfactory replies, the Hon'ble Chairman directed the representatives of the Ministry to furnish the requisite information in writing at the earliest.

6. The Committee then took up for consideration and adoption the Draft Report on C&AG's Report No. 16 of 2007 (Entire Report), Union Government (Civil— Performance Audit) relating to **"Accelerated Power Development and Reform Programme (APDRP)"** and adopted the same without any amendments/modifications and authorized the Chairman to finalize and present the Report to Parliament in the light of factual verification, if any, done by the Audit.

7. A copy of the verbatim proceedings of the sitting has been kept on record.

The Committee then adjourned.

Performance Audit

of

Accelerated Power Development and Reform Programme

(Ministry of Power)

Report of the Comptroller and Auditor General of India for the year ended March 2006

UNION GOVERNMENT (CIVIL)

NO. 16 OF 2007

(PERFORMANCE AUDIT)

CONTENTS

PREFACE

This report of the Comptroller and Auditor General of India containing the results of performance audit of Accelerated Power Development and Reform Programme (APDRP) has been prepared for submission to the President of India under Article 151 of the Constitution.

The audit was conducted through test check of records of the Union Ministry of Power, Union Ministry of Finance and State Electricity Boards/Utilities/Departments in 29 States/Union Territories during the period June to October 2006. The period covered under the audit was 2002-03 to 2005-06.

OVERVIEW

The Accelerated Power Development and Reform Programme (APDRP) was launched, with the primary objective of reduction in the Aggregate Techical and Commercial Losses and significant improvement in revenue realisation by the State utilities, in 2002-03 as additional Central Assistance to finance projects relating to the sub-transmission and distribution network. The project had a total outlay of Rs. 40,000 crore— Rs. 20,000 crore each for the investment and incentive components— for the 10th Five Year Plan Period. As of March 2006, the Ministry had released a total amount of Rs. 6131.70 crore on 583 projects involving a total project cost of Rs. 19180.46 crore, of which the reported utilisation was Rs. 9507.20 crore (including counter part funding).

A Performance Audit of the Scheme revealed that the primary objective of APDRP of reducing AT & C Loss by 9 per cent per annum had not been achieved. There were serious deficiencies in system metering (in particular Distribution Transformer metering) and consumer metering. There were also significant deficiencies in the quality and reliability of power supply, which was targeted under APDRP. Also, effective energy accounting and auditing had not been possible in most States, primarily due to lack of 100 per cent system metering, lack of accountability at the distribution circle and feeder levels, and inadequate computerisation.

The audit also showed significant deficiencies in the systems and procedures for release and utilisation of APDRP funds. There were instances of incorrect financial reporting amounting to Rs. 676.09 crore by the States to the Central Government. In addition, instances of irregular diversion of funds amounting to Rs. 614.01 crore, and non-return of surplus funds of Rs. 51.07 crore were noticed.

The incentive mechanism which was a part of APDRP was not successful, with just Rs. 1575.02 crore released as of January 2007, as against the 10th Five Year Plan provision of Rs. 20,000 crore. Further, most of the incentive claims pertained to the years 2001-02 to 2003-04.

There were significant weaknesses in the project planning, management and implementation process, as well as in the mechanisms for reporting, monitoring and inspection.

The Ministry needs to take major and effective steps to exercise stricter monitoring and control under APDRP to ensure that the envisaged objective of distribution reform is achieved.

MINISTRY OF POWER

Performance Audit of Accelerated Power Development and Reform Programme

Highlights

- **The primary objective of ARDRP of reducing Aggregate Technical and Commercial Loss (AT& C Loss) by 9 per cent per annum was not achieved, as the reduction between 2001-02 and 2004-05 was just 1.68 per cent per annum. Further, there were significant deficiencies in the maintenance of records relating to AT&C Loss, including absence of proper guidelines and supporting records, billing on assessment basis and incorrect reporting of AT&C Loss by the States. Consequently, the data reported by the Ministry could not be regarded as authentic and accurate.**

  (Paragraphs 6.1.1 and 6.1.2)

- **The programme envisaged 100 per cent metering of feeders, Distribution Transformers (DTs) and consumer connections. The audit showed that the progress in metering of DTs, which is an essential tool to control AT&C losses, was not adequate as only 3 States had shown 80 to 100 per cent metering. As regards feeder and consumer metering, despite the Ministry's reports showing a high percentage of metering in most States, audit examination at the State level showed significant deficiences, in addition to misreporting of data on installation of meters.**

  (Paragraph 6.2)

- **There were significant deficiencies in the quality and reliability of power supply, which was targeted under APDRP. The number of feeder trippings and duration of outage, as well as failure rate of Distribution Transformers, was much higher than permissible in most States.**

  (Paragraph 6.3)

- **Effective energy accounting and auditing had not been possible in most States, primarily due to lack of 100 per cent system metering, lack of accountability at the circle and feeder levels, and inadequate computerisation.**

  (Paragraph 6.4)

- **The objective of elimination of the gap between Average Revenue Realisation (ARR) and Average Cost of Supply (ACS) was far from being achieved. Only 3 out of 29 States had achieved this target, and in fact, in 8 States, the gap between ARR and ACS had shown a deteriorating trend.**

  (Paragraph 6.5)

- **There was no mechanism for release and monitoring of APDRP funds on a project-wise basis. 17 out of 29 States where the programme was being implemented, either did not operate separate account heads and bank accounts for APDRP funds, or did not operate them correctly.**

  (Paragraph 7.1)

- **The Guidelines did not specify submission of Utilisation Certificates, supported by detailed Statements of Expenditure. Audit of 294 projects involving utilisation of funds reported to be Rs. 5617.64 crore as of March 2006, revealed instances of incorrect financial reporting amounting to Rs. 676.09 crore.**

  (Paragraphs 7.2.1 and 7.2.2)

- **Audit revealed instances of diversion of funds amounting to Rs. 181.78 crore by 10 States for unauthorised purposes, and diversion of Rs. 432.23 crore by 7 States for adjustment against various dues of the utilities, which was effectively equivalent to short release of APDRP funds.**

  (Paragraph 7.2.5)

- **As of March 2006, three States did not return surplus funds amounting to Rs. 51.07 crore, while eight States failed to release Rs. 412.03 crore of APDRP funds to the SEBs/utilities.**

  (Paragraphs 7.2.4 and 7.2.6)

- **The incentive mechanism of APDRP was not successful, with just Rs. 1575.02 crore released as of January 2007, against the 10th Five Year Plan provision of Rs. 20,000 crore. Further, most of the claims pertained to the years 2001-02 to 2003-04, which indicated that the objective of reducing cash losses of SEBs/Utilities through an incentive mechanism had largely not been achieved. Audit examination also revealed a number of deficiencies, such as allowing an ineligible claim, disallowance of incentive claims on grounds not reflected in the guidelines, and lack of a mechanism for verifying utilisation of the incentive grant for improvement of the power sector.**

  (Paragraph 8)

- **The administrative intervention envisaged under APDRP of ensuring accountability at the circle and feeder level by redesignating Distribution Circles as independent profit centres and feeders as business units was not successful. While many States had designated the Circle Superintending Engineer and Junior Engineer as Circle CEO and Feeder Manager, no administrative measures were taken to ensure accountability and responsibility.**

  (Paragraph 9.1)

- **The Ministry did not have a mechanism for monitoring periodically the effectiveness of vigilance and legal measures in different States to prevent theft of energy. The percentage of registering theft cases was low ranging**

between 0.28 per cent to 14.08 per cent, and the percentage of conviction was even lower, ranging between zero and 10.61 per cent.

(Paragraph 9.5)

- **There were significant weaknesses in the project planning, management and implementation process. There was inadequate examination of DPRs by the Steering Committee, with 641 projects being approved in just 9 meetings. Most SEBs/Utilities had not adopted turnkey contracting, and had executed the works departmentally or on semi-turnkey basis; in some cass, the turnkey packaging was so distorted that it negated the concept of single point responsibility, which was the objective of turnkey contracting. In addition, the audit also detected numerous deficiencies in individual projects across different aspects, covering execution of out-of-scope items, lack of economy in procurement and execution, excess payments to contractors and other inefficiencies.**

(Paragraph 10)

- **There was lack of direct linkage between physical and financial progress of APDRP projects at the Ministry's level. The mechanism for inspection of APDRP implementation was inadequate.**

(Paragraphs 12.2 & 12.3)

Summary of Recommendations

- **Ministry may take steps to (a) ensure that States re-orient their efforts under APDRP towards reduction of AT&C Loss; (b) independently verify the authenticity of reported AT&C Losses; and (c) minimise the extent of billing/ metering done on assessment basis.**
- **Ministry may ensure that (a) SEBs/Utilities complete 100 per cent feeder, DT and consumer metering in all ongoing and completed APDRP projects within a clearly defined time frame; (b) such metering data is fully validated in an independent fashion; and (c) further funds for APDRP projects are released only after 100 per cent metering is validated.**
- **Ministry may take steps to ensure that all States carry out effective energy accounting and audit at the feeder and DT levels, and necessary pre-requisites for such auditing and accounting *e.g.* 100 per cent system and consumer metering, regular/automated system meter reading and reconciliation and consumer indexing and other IT enabling activities are implemented immediately.**
- **In order to have a comprehensive monitoring of the programme, the MoP should monitor together the release of funds and progress on a project-by-project basis.**
- **Ministry should ensure that the separate identity of APDRP funds is maintained, and that separate accounts are opened not only by the State Government but also the SEB/utility concerned.**
- **Ministry should ensure that annual annual Utilisation Certificates, duly supported by detailed Statements of Expenditure, are submitted by the concerned State Governments in the prescribed formats in respect of each APDRP project.**
- **Ministry may insist on immediate onward release of the funds retained by the State Governments, ensuring, that in the process, the State Governments make no adjustments or deductions from APDRP releases. Ministry may also ensure immediate calculation and recovery of penal interest from the State Governments for delay in release of funds. Further, the Ministry may also institute a formal mechanism for monitoring the delay in release of funds by the State Governments.**
- **Ministry may ensure that States comply with the letter and spirit of the MOA and ensure target-based accountability at the Distribution circle and feeder level.**
- **Ministry may set up a mechanism for monitoring the effectiveness of legal and vigilance measures adopted by SEBs/Utilities for preventing theft of energy.**

- **Ministry's monitoring and reporting mechanism should capture both physical and financial progress, facilitating direct linkage and comparison, and corrective action in case of wide variations between physical and financial progress.**
- **Ministry may take steps to ensure (a) that all DPRs are subjected to critical examination by the Steering Committee for technical and financial feasibility before approval (b) the independent, advisory role of ACCs is clearly demarcated as opposed to implementation responsibilities, and (c) there is a well-defined mechanism for inspection of APDRP projects by ACCs and review of corrective action thereon.**

Ministry of Power

Performance Audit Report of Accelerated Power Development and Reform Programme

1. Distribution Reforms—Background

1.1 Electricity Generation, Transmission and Distribution

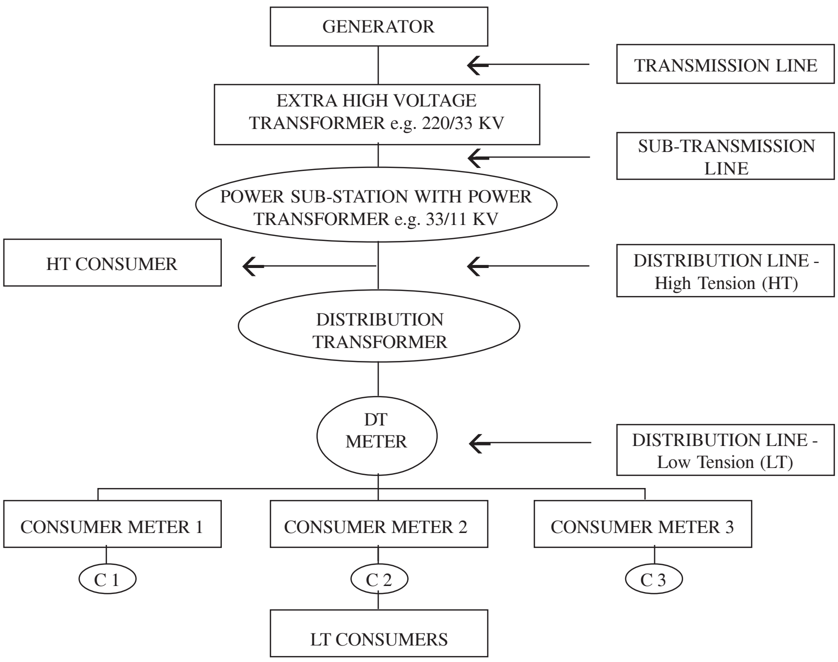
Generation, transmission and distribution are the three main commercial aspects related to production and distribution of electricity:

> Electricity is **generated** or produced in different types of thermal, hydro-electric and nuclear power plants.

> The generated electricity is then **transmitted** at high voltages (generally 110 KV or above) through a network of transmission lines, and is then passed through step down transformers that lower the voltage, and **distributed** to various consumers at different voltages.

A brief diagram showing the generation, transmission and distribution of electricity is given below:

Figure 1: Generation, Transmission and Distribution of Electricity



1.2 Accelerated Power Development Programme (APDP)

Due to the inability of State power utilities to systematically fund essential activities relating to the upgradation of the sub-transmission and distribution system and renovation and modernisation of old plants, developmental activities in the power sector had not taken place in an organised and comprehensive manner, resulting in shortages, poor quality of supply and frequent interruptions. The commercial losses of the State Electricity Boards had been escalating. In order to address these issues, the Government of India (GoI), in February 2001, launched the Accelerated Power Development Programme (APDP). The scheme would finance specific projects relating to:

- Renovation and Modernisation (R&M)/life extension/uprating of old power plants (thermal and hydel); and
- Upgrading and strengthening of sub-transmission and distribution network (below 33KV or 66 KV), including energy accounting and metering in the distribution circles in a phased manner.

APDP was to continue till the end of the 11th Five Year Plan *i.e.* 2012. An amount of Rs. 1000 crore was budgeted as APDP funds among the States in 2000-01 for various schemes under the above categories.

1.3 Accelerated Power Development and Reform Programme (APDRP)

For quick turnaround of the power sector, GoI decided to restructure the concept of APDP from merely an investment window to also a mechanism for supporting power sector reforms in the States linked to the fulfilment of performance criteria by way of benchmarks. To "incentivise" the reform process, it was proposed to reward the actual improvement in the performance of the utilities by way of reduction in commercial losses and increased revenue realisation. Therefore, APDP was renamed as "Accelerated Power Development and Reforms Programme" (APDRP) in the Union Budget 2002-03.

1.4 Expected Benefits from APDRP

The following major benefits of the programme were envisaged:

- Reduction of Aggregate Technical and Commercial Losses (AT&C Losses)[1] from around 60 per cent to around 15 per cent in five years, to begin with in the urban areas and high density/consumption areas, which implied a targeted reduction of 9 per cent per annum in AT&C Losses.
- Significant improvement in revenue realization by reduction of commercial and technical losses
- Improved quality of supply and reliable interruption-free power.
- Decrease in the burden of heavy subsidies to SEBs/Utilities.

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[1] Aggregate Technical and Commercial Loss (AT&C Loss) is considered the clearest measure of the overall efficiency of power distribution as it measures technical and commercial losses. By contrast, Transmission and Distribution Loss (T&D Loss) does not capture losses on account of non-realisation of payments.

2. APDRP—Salient Features

2.1 Organisational Setup

- At the Central level, the Distribution Division in the Ministry of Power (MoP), under the overall charge of the Joint Secretary, is responsible for release of funds, approval of projects, signing of Memoranda of Agreement (MoA), monitoring, processing of incentive claims etc.
- In addition, a Steering Committee, chaired by Secretary (Power) and comprising members from the Central Electricity Authority (CEA), Ministry of Finance (MoF), Planning Commission, National Thermal Power Corporation (NTPC), Power Grid Corporation of India Limited (Power Grid), Power Finance Corporation (PFC) and Rural Electricification Corporation (REC), has been constituted to consider the proposals under APDRP and to review the implementation of the programme.
- NTPC and Power Grid have been designated as the Lead Advisor cum Consultants (Lead ACCs).
- At the State level, the projects sanctioned under APDRP are implemented by the State Electricity Boards (SEBs)/State Utilities/State Electricity Departments (SEDs).

2.2 APDRP Components

APDRP has two components:

- An investment component for strengthening and upgradation of the sub-transmission and distribution system; and
- An incentive component to motivate utilities to reduce cash losses.

2.3 Investment Component

APDRP has an outlay of Rs. 40,000 crore as Additional Central Plan Assistance to the State Governments during the 10th Five Year Plan (2002-07). Of this amount, the investment component was for Rs. 20,000 crore, with the remaining Rs. 20,000 crore for the incentive component.

The funding mechanism under the investment component was as follows:

- For Special Category States[2], APDRP would finance 100 per cent project cost in the ratio of 90 per cent grant and 10 per cent soft loan.
- For other States, APDRP would finance 50 per cent of the project cost (ratio of grant and loan would be 1:1 *i.e.* 25 per cent grant and 25 per cent loan) and the SEBs/Utilities would have to arrange the remaining 50 per cent of the funds from PFC/REC or other financial institutions as counter part funds.

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[2] Arunachal Pradesh, Assam, Jammu & Kashmir, Himachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, Sikkim and Uttaranchal are Special Category States.

With effect from November, 2005, the loan component of 10 per cent for Special Category States and 25 per cent for other States was dispensed with.

The release of funds is in instalments, linked with the release of counter part funds and project spending; the pattern differs for Special Category States and other States. Details of the pattern of release of funds are given in **Annexure-I.**

2.3.1 APDRP Interventions

The technical, commercial and administrative interventions under APDRP were prioritised into Category A and Category B items, as follows:

Table 1: Category A and B Items under APDRP

Category-A Items	Category-B Items
Targeted to reduce commercial losses and increase reliability by:	Targeted to reduce technical losses and capacity augmentation by:
> Feeder Metering	> New Sub-Stations
> Distribution Transformer (DT) Metering	> New Lines
> Sub-Station R&M (Renovation and Modernisation)	> Bifurcation of Feeders
> Capacitor Placement	> Reconductoring
> Distribution Transformer R&M	
> Service Connection Improvement	
> IT enabling, including Sub-station Automation	

2.3.2 Procedure for Sanction, Implementation and Monitoring

In brief, the procedure for sanction and implementation of projects under APDRP is as follows:

- SEBs/Utilities prepare Detailed Project Reports (DPRs), containing the activities to be implemented by the utilities, which are submitted to the ACCs.
- The DPRs are scrutinized and vetted by the ACCs, and submitted to the MoP for the consideration of the APDRP Steering Committee.
- After the proposal is approved by the Steering Committee, the MoP approaches the MoF for release of funds.
- MoF releases funds to the States. SEBs/Utilities obtain counterpart funds from Financial Institutions and open escrow account.
- SEBs/Utilities take up the tendering process and award contracts.
- Monitoring of the programme is done by MoP, Lead ACCs/local ACCs, State level/District level Distribution Reforms Committees.

2.4 Incentive Component

Under the incentive component, the State Governments would be incentives upto 50 per cent of the actual total loss reduction by SEBs/Utilities. The grant under this component was to be utilised exclusively for the improvement of the power Sector. The salient features of the incentive scheme are as follows:

> The year 2000-01 would be taken as the base year for calculation of loss reduction in subsequent years.

> Losses would be calculated net of subsidy.

> Revenue would be considered on net realization basis (*i.e.* increase in receivables would be factored into the calculation).

> Incentive in subsequent years would be given on the incremental loss reduction (disallowing regression, if any).

> All qualifications on the audited accounts in the audit report having a bearing on reduction of expenses or inflation of income would be factored in. Similarly, any change in accounting policy having the effect of decreasing expenses or increasing the period of amortization/depreciation would also be factored in.

2.5 Conditions for availing benefits under APDRP

2.5.1 Memoranda of Understanding (MoUs)

As part of the six-level strategy, at the State level, the MoP insisted on signing of MoUs covering the following major reforms:

> Setting up of State Electricity Regulatory Commissions (SERCs);

> Restructuring of SEBs, *viz.* unbundling into separate entities for generation transmission and distribution and corporatisation of unbundled entities;

> Removing cross subsidies and tariff anomalies, and providing budgetary support to SEBs towards subsidies;

> Introduce private participation in generation, transmission and distribution;

> Filing of first tariff petition by SEB/Utility with SERC, and implementation of tariff orders of the SERC; and

> Securitisation of dues of Central Public Sector Undertakings (PSUs) to the SEBs/Utilities.

2.5.2 Memoranda of Agreements (MoA)

In order to enable the SEBs/Utilities to manage distribution on a profit centre approach and to improve their performance on the basis of certain benchmarks, the signing of a Memorandum of Agreement (MoA) by them with the MoP for power reforms was made a pre-requisite for release of funds under APDRP. The key reforms envisaged through the MoA were as follows:

> 100 per cent metering for each 11 KV feeder and also for consumers;

* Energy accounting and audit;
* Distribution Circles to be operated as independent profit centres with adequate delegation of powers, with the Superintending Engineer as the Circle Chief Executive Office (CEO).
* 11 KV feeders to be operated as business units, with the Junior Engineer as the feeder manager; and
* Turnkey contracting system to be adopted by the SEBs/Utilities.

2.6 APDRP Expenditure

The progress of expenditure as of 31st March, 2006 under the investment component was as follows:—

Table 2: Year-wise details of Project Cost, APDRP Component, Release and Utilisation

(All figures in Rs. Crore)

Year	Project Cost	Revised APDRPComponent			Release Investment			Counter Part Fund sanctioned	Counter Part Fund drawn	Utilisation
		Grant	Loan	Total	Grant	Loan	Total			
2002-03	14051.44	4534.87	725.48	5260.35	1030.04	725.48	1755.52	4562.64	493.70	586.81
2003-04	1777.52	721.09	993.99	1715.08	1362.52	993.99	2356.51	1211.39	1315.71	2718.97
2004-05	3054.63	1652.39	554.75	2207.14	873.98	554.75	1428.73	977.46	1042.42	3390.66
2005-06	296.87	82.08	0.00	82.08	590.94	0.00	590.94	292.85	1235.21	2810.76
TOTAL	19180.46	6990.43	2274.22	9264.65	3857.48	2274.22	6131.70	7044.34	4087.04	9507.20

State-wise details are given in **Annexure-II.**

3. Audit Objectives and Scope

A performance audit of APDRP, covering the period from 2002-2003 to 2005-2006, was taken up with the objectives of assessing whether:—

* The intended audit of APDRP *viz.* reduction in AT&C losses, 100 per cent system and consumer metering, improvement in quality and reliability of power supply, energy accounting and audit, and reduction in the gap between ARR and ACS have been effectively achieved.
* There was adequate and effective control over the release and utilisation of APDRP funds.
* The incentive mechanism envisaged under APDRP has been successfully implemented.
* The reforms sought to be achieved through the MoUs and MoAs with the State Governments and SEBs/Utilities has been effectively implemented.
* The process for planning, implementation of APDRP was adequate and effective, and the projects were executed economically and efficiently.

* Information Technology (IT) applications and Computer Aided Tools were effectively implemented for improving distribution performance.

* There was a system of adequate monitoring to evaluate the programme and take corrective steps.

4. Audit Criteria

The main audit criteria used for the performance audit were:—

* Guidelines for implementation of APDRP issued by the MoP;

* MoUs and MoAs with the State Governments and SEBs/Utilities;

* Guidelines for Reduction of T&D Losses issued by the CEA (February 2001);

* Guidelines for Development of Sub-Transmission and Distribution Systems by Committee of Experts and CEA (November 2001); and

* DPRs for APDRP Projects.

5. Audit Methodology

The Performance Audit of the Programme commenced with an entry conference with the MoP in February 2006, in which the audit methodology, scope, objectives and criteria were explained. During this meeting, the MoP also made a presentation on the status of APDRP.

The period covered under the audit was 2002-03 to 2005-06. Field audit of the relevant records of the MoP, MoF, and SEBs/Utilities/SEDs was conducted at the Ministry and 29 States/UT[3] between June and October 2006.

An exit conference was held in January 2007 with the MoP, where the audit findings were discussed in detail. Representatives of NTPC, Power Grid and CEA were also present at this conference.

The draft audit report was issued to the Ministry in January 2007. Replies were received from the Ministry, as well as from NTPC and Power Grid, in January/February 2007, which have been suitably incorporated in the report.

Audit gratefully acknowledges the cooperation and assistance extended by the MoP, NTPC, Power Grid and CEA, and their officials at various stages of conduct of the performance audit.

5.1 Sample Selection

Of the 583 approved APDRP projects (as of March 2006) in 29 States/UT, a sample of 294 projects was selected for detailed examination. These projects had a total approved cost of Rs. 10255.21 crores (including counter part funding), and as of

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[3]Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, Uttaranchal and West Bengal.

March 2006, the reported utilisation of funds was Rs. 5617.64 crore. The process of sample selection is summarised below:—

* In every State, 25 per cent of the Circles (subject to increase in order to cover the required number of projects) were selected.
* From within the selected Circles, the projects were stratified into two categories (a) projects which had been evaluated by external agencies, and (b) other projects, and the required sample of projects selected separately from each stratum.

Details of the sampling procedure followed are given in **Annexure-III.**

6. Achievement of APDRP Objectives

6.1 Aggregate Technical and Commercial (AT&C) Losses

6.1.1 Projected Reduction in AT&C Losses not achieved

Hitherto, T&D Loss (Transmission & Distribution Loss) was being used to measure the efficiency of power distribution. However, this measure has the following anomalies:—

* T&D loss does not capture losses on account of non-realisation of payments.
* In absence of feeder metering in the past, a substantial portion of T&D loss, including theft of electricity, was attributed to agricultural consumption. Utilities were overestimating agricultural consumption, and showing a lower value for T&D Loss.

By contrast, AT&C is considered a clearer measure of the overall efficiency of power distribution, since it measures technical and commercial losses.

AT&C Loss is calculated as

$$\frac{(\text{Energy Input} - \text{Energy Realised}) \times 100}{\text{Energy Input}}$$

where

Energy Realised = Energy Billed x Collection Efficiency, and

$$\text{Collection Efficiency} = \frac{\text{Amount Realised} \times 100}{\text{Amount Billed}}$$

While launching APDRP in March 2003, it was envisaged that AT&C Losses would be brought down from the existing level of about 60 per cent to around 15 per cent in five years, to begin with in the urban areas and high density/consumption areas. This implied that reduction of AT&C Loss @ 9 per cent per annum was targeted.

The State-wise details of AT&C Loss for the years 2001-02 and 2005-06, which came to light in the audit, are given in **Annexure-IV.** Analysis revealed that AT&C Loss was still very high, and ranged between 15.86 per cent in Goa and 72.74 per cent in Mizoram. Except in the States of Goa, Andhra Pradesh and Tamil Nadu, the AT&C

Losses continued to be very high in other States. The reduction in AT&C Loss in most States was marginal. **Thus, the primary objective of APDRP of reducing AT&C Loss by 9 per cent per annum had not been achieved.**

Audit examination of the AT&C Loss in States on a circle/project-wise basis revealed the following:—

* In respect of **Assam, Chhattisgarh, Haryana, Gujarat, Karnataka** (5 out of 14 projects test checked), **Madhya Pradesh** (12 towns), **Manipur** and **Meghalaya,** the losses increased as compared to the base year, indicating that SEBs/Utilities had not taken adequate steps to reduce the AT&C losses.

* In **Delhi,** the AT&C Losses ranged from 47.3 per cent to 66.1 per cent (5 districts of BYPL) and 49.5 per cent to 73.1 per cent (3 districts of BRPL) and as high as 53.93 per cent in Mangolpuri (NDPL).

* In **Himachal Pradesh,** the AT&C Losses for 2005-06 in 6 circles test checked in Audit ranged from 24.33 to 70.43 per cent.

Audit findings narrated above are corroborated by the October 2006 Report of the Task Force of the MoP on Restructuring of APDRP, which indicated that as per the data compiled by the Ministry, AT&C Loss at the national level came down from 38.86 per cent in 2001-02 to 33.82 per cent in 2004-05. The reduction in AT&C Loss of 5.04 per cent during three years implied a reduction of 1.68 per cent per annum against the target of 9 per cent per annum. As per the report, AT&C Loss had, in fact, gone up between 2001-02 and 2004-05 in the States of Bihar, Jharkhand, Assam, Manipur, Meghalaya, Jammu & Kashmir, Kerala and Pondicherry. The region-wise position of AT&C Loss, as per the report, was as follows:—

Table 3: Region-wise position of AT&C losses (in per cent)

Region	2001-02	2004-05
East	47.34	44.85
North-East	40.65	41.59
North	46.01	40.64
South	27.63	23.81
West	39.60	32.73

6.1.2 Data regarding AT&C losses not authentic

Audit examination also revealed significant deficiencies in the maintenance of records relating to calculation of AT&C losses as explained in the succeeding paragraphs. Hence, the data reported by the MoP on AT&C Losses could not be regarded as authentic, accurate and acceptable.

6.1.2.1 Absence of proper guidelines/procedures and supporting records

Audit examination revealed that:—

* SEBs/Utilities had not issued any detailed guidelines to the field offices regarding calculation of AT&C losses.
* SEBs/Utilities had not evolved any system for study and correct assessment of technical and commercial losses separately at the State, circle, feeder and Distribution Transformer (DT) levels.
* Automated Data Logger System had not been implemented in all sub-stations, and computerization of Low Tension (LT) Billing and consumer indexing was sporadic.
* There was no evidence of verification of AT&C data by the Ministry, or a uniform approach for collecting and compiling the source data and calculating AT&C losses.

Audit examination also revealed systemic, deficiencies in record maintenance in several States, as detailed below:—

* In **Arunachal Pradesh, Bihar, Chhattisgarh, Meghalaya, Mizoram** and **Sikkim,** the data relating to Input Energy, Metered and Billed Energy, etc. was not supported by any working details, in the absence of which it was not possible to ascertain the veracity of the reported figures and the resultant AT&C losses.
* In **Maharashtra,** the metered units compiled from the computerized billing system did not exclude the assessed, door locked, and provisional billing units. To that extent, the metering efficiency reported was incorrect.
* In **Kerala,** the billed energy included the consumption by High Tension (HT) consumers, but the revenue billed and realized did not include the energy consumed by the HT consumers. Further, in the absence of 100 per cent metering of feeders and DTs and large number of un-metered LT domestic and agricultural consumers, the authenticity of the reported AT&C losses could not be vertified in audit. Also, the quantum of energy transmitted from 11 KV feeders outside the jurisdiction of a circle/division into its distribution system could not be ascertained. The input energy in all the circles/divisions covered by APDRP was accordingly worked out, based on a pre-fixed load sharing proportion.

6.1.2.2 Billing/Metering done on assessment basis

Despite the stated objectives of 100 per cent system metering as well as consumer metering, a significant number of installations remained unmetered, and the computation of energy consumed was made on "assessment" basis, consequently adversely affecting the veracity of the source data for computation of AT & C loss.

Audit examination at the State level revealed the following:—

* In **Kerala,** the energy metered and billed included the unmetered energy consumption under 'Kutir Jyothi Scheme' and public lighting taken on assessment basis.

* In **Jharkhand,** unmetered supply, in four sampled circles, ranged between 67.8 per cent and 39.93 per cent of total energy, as stated by the SEB. However, the basis of claculation of unmetered supply was not made available and thus the estimation of unmetered energy was purely a hypothetical excercise.

* In **Uttaranchal,** test check of records revealed that in four implementing units in Haldwani, Roorkee, Ranikhet and Srinagar Circles, billing continued to be made for 'Public Lamps' and 'Public Water Works' on assessment basis in the absence of metering details.

* In **Karnataka,** even after four years of signing of MoA, large numbers of installations were yet to be metered (March 2006). As against 10,59,366 Irrigation Pumpsets (IP sets), 4,41,843 Bhagya Jyothi (BJ)/ Kutir Jyothi (KJ) installations, and 26,570 street lights where meters were to be fixed as on 31 March 2005, only 98,892 IP sets (9.3 per cent), 2,14,067 BJ/KJ installations (48 per cent) and 11,918 street lights (44 per cent) could be metered.

* In **Tripura,** a fair amount of supplied energy was not metered but accounted for on the basis of assessment. During 2005-06 about 10-14 per cent of the energy billed was unmetered and was being accounted for on the basis of assessment. There were no prescribed norms for assessment of unmetered consumers. The criteria for assessment was not uniform among various billing authorities (average for last three months, connective load, minimum charge or even lump sum), which was bound to be deficient in correct and accurate assessment of losses.

6.1.2.3 Incorrect reporting of losses

Audit examination revealed significant instances of incorrect reporting of AT & C losses by the States/Utilities, which were not detected by MoP due to lack of verification and validation of compiled data as detailed below:—

* In **Kerala,** the AT& C losses reported to MoP for the year 2005-06 were less than the actual AT&C losses, with the difference in the figures ranging between 2 to 24 per cent in respect of 9 projects.

* In **Chhattisgarh,** the details of AT&C loss of the State reported to AcCs/Ministry by the SEB, and those furnished to the State Electricity Regulatory Commission (SERC) were inconsistent for the period 2001-02 to 2004-05.

* In **Arunachal Pradesh,** the figures of AT&C losses for the eyar 2002-06 with the State Electricity Department (SED) and Power Grid were not in agreement, and the figures reported by the SED were higher by 2 to 9 per cent.

* The collection efficiency is to be worked out as a percentage of the amount realized against amount billed. However, it was observed in Kerala (10 divisions), **Maharashtra** (one division) and **Meghalaya** that the amount billed as generated by the computerized billing system did not include arrears, while the amount realized included the arrears. The above inaccuracy in calculating the collection efficiency results in lowering the AT&C loss percentage.

* In **West Bengal,** the SEB (eight selected circles/towns) had not disclosed AT&C losses aggregating to Rs. 25 crore to the GoI during 2005-06. Against the actual AT&C losses of 552.87 million Kilowatt Hours (Kwh), it had reported only 474.18 million Kwh to the GoI.

* Due to incorrect reporting of energy billed in respect of 5 sampled circles in **Himachal Pradesh,** the AT&C losses as reported by the Circles to the SEB and as reported by the SEB to the MoP for the years 2002-03 to 2005-06 were not in agreement, with the differences ranging between 6 and 33 per cent.

* In **Madhya Pradesh,** the figures relating to Energy Input, Energy Metered, Energy Billed, Revenue Billed and Revenue Collected furnished to NTPC (AcC) by the SEB varied from those received from the field offices in respect of 3 towns (Chhatarpur, Damoh and Balaghat).

6.1.3 Poor Metering and Collection Efficiency

Audit examination at the State level revealed that the metering and collection efficiencies were also poor, as detailed below:—

* In **Manipur,** collection efficiency varied from 46 to 76 per cent during 2001-02 to 2005-06 and consequently AT & C losses were higher, ranging from 13 to 18 per cent over the corresponding T&D losses.

* In **West Bengal,** the AT&C losses (in respect of 8 selected projects) were higher by 19 per cent over the corresponding T&D losses, indicating a low Collection Efficiency.

* In **Chhattisgarh,** the LT arrears of the SEB increased to Rs. 192.13 crore by the end of March 2006 as against Rs. 131.43 crore at the end of March 2005, registering an increase of 46 per cent and the LT arrears in respect of all the four APDRP circle/town schemes test checked in audit registered abnormal increase ranging from 53 per cent to 368 per cent, thereby indicating poor collection efficiency.

* In **Haryana,** collection efficiency in Tohana, Hissar-II and Fatehabad towns decreased to 88 per cent, 91.82 per cent and 87.27 per cent during 2005-06 against the collection efficiency of 97.52 per cent, 94.98 per cent and 94.59 per cent respectively in the base year *i.e.* 2001-02.

* In **Jharkhand,** in the 4 sampled divisions, the collection efficiency ranged between 56.77 and 79.90 per cent during 2005-06.

* In **Punjab,** out of 11 test-checked projects, the targeted metering efficiency of 100 per cent was not achieved in any of the projects. Actual metering efficiency ranged between 36.73 and 91.15 per cent and, in fact, decreased from the base year in seven projects. Similarly, the targeted collection efficiency was not achieved in six projects during 2005-06, and actual collection efficiency had decreased from the base year in four projects.

* In **Karnataka,** the average metering efficiency and average collection efficiency during 2005-06 in the 11 test checked projects were 74.46 per cent and 89.17 per cent against the targeted 89.91 per cent and 100 per cent respectively.

* In **Andhra Pradesh,** Warangal, Tirupati and Eluru circles could achieve only 33.37 per cent, 46 per cent and 60.50 per cent metering efficiency against the targets of 90 per cent, 78 per cent and 70 per cent respectively.
* In **Madhya Pradesh,** in 19 towns the metering efficiency ranged from 40 per cent (Rewa) to 82 per cent (Mandla). In 15 towns, metering efficiency declined from 60 per cent in 2001-02 to 58 per cent in 2005-06 after the implementation of APDRP schemes. In Katni and Satna towns, the billing efficiency deteriorated from 80 per cent and 95 per cent respectively during 2002-03 to 55 per cent and 44 per cent respectively during 2005-06.
* In **Jammu & Kashmir,** test check of the records revealed that despite substantial increase in the infrastructure[4], revenue realisation during 2002-03 to 2005-06 continued to fall short of the amount recoverable and the arrears on this account increased to Rs. 899.88 crore in 2005-06 from Rs. 540.88 crore in 2002-03 due to a poor collection efficiency of 33 per cent.

Reply of MoP

In its reply (February 2007), the MoP stated that:—

* Reduction in losses could be expected in such areas where APDRP work had been taken up and sufficient work completed; APDRP should not expected to reduce the AT&C loss by the same amount at the State or national level.
* The APDRP Task Force mentioned that the reduction of AT&C loss at the national level from 38.86 per cent in 2001-02 to 33.82 per cent in 2004-05 could not be considered as small, as the actual implementation of programme started quite late due to delay in preparation of projects by the Utilities and then in the implementation of the sanctioned schemes.
* The independent evaluators observed that reduction in AT&C loss was significant at the majority of the places where sufficient work was completed.
* The Ministry and AcCs had issued clear guidelines/methodology for calculating AT&C loss and they were regularly monitoring the progress on reduction of loss at the project and utility level.
* Ministry had also felt the need for better maintenance and authenticity of base-line data and was proposing to establish authenticated baseline data as one of the objectives of the restructured APDRP during the 11th Plan.
* As regards incorrect reporting of losses, the Ministry was proposing to appoint independent validators during the 11th Plan.

The reply of the MoP is not tenable for the following reasons:—

* Ministry's contention that a reduction of AT&C loss of 5 per cent in 5 years could not be considered small is not justified as the APDRP envisaged a reduction of 45 per cent in 5 years. The gap is too wide for any satisfaction.
* The MoP and AcCs should have ensured the timely completion of work in the APDRP projects, especially those which were sanctioned upto 2003. The Ministry did not yet have a mechanism to ensure that the stated objectives of the APDRP are met even after the completion of five years of the programme.

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[4]Out of Rs. 408.50 crore released, Rs. 321.92 crore was utilized.

* The guidelines/methodology for calculation of AT&C Loss specified by MoP/AcCs may be considered in the context of the incorrect reporting of AT&C Losses by the SEBs/ Utilities to the MoP.

Recommendations

Ministry may take steps to (a) ensure that States re-orient their efforts under APDRP towards reduction of AT&C Loss; (b) independently verify the authenticity of reported AT&C Losses; and (c) minimise the extent of billing/metering done on assessment basis.

6.2 System and Consumer Metering

6.2.1 Status of Feeder, Distribution Transformer (DT) and Consumer Metering

At the time of formulation of APDRP, implementation of 100 per cent system metering and consumer metering was envisaged with a view to ensure proper energy accounting and auditing. In particular, metering of feeders and DTs were prioritised as Category-A items, as these were points of bulk deliveries.

Table 4: Status of feeder, consumer and DT metering as of March 2006[5]

Percentage of Metering	Feeder Metering Number of States		Consumer Metering Number of States		Distribution Transformer Metering Number of States	
	2001-02	2005-06	2001-02	2005-06	2004-05	2005-06
100-80	18	25	14	20	4	3
80-60	-	1	7	5	-	-
60-40	3	1	7	4	2	2
40-20	6	1	-	-	4	5
Below 20	1	-	-	-	6	9
No data available	1	1	1	-	13	10

It can be seen from the above table that while there was considerable improvement in terms of reported feeder and consumer metering, as regards DT metering, only 3 States had shown 80 to 100 per cent metering and there was no information in respect of 10 States, with consequent lack of control on AT & C losses and inadequate energy accounting and auditing.

Details of State-wise metering status in respect of 11 KV Feeders, Distribution Transformer and Consumers, compiled from the status report supplied by the Ministry, are given in **Annexure-V (a&b).**

An examination of the status of metering in the States indicated significant deficiencies, which are discussed in the succeeding paragraphs.

6.2.2 DT Metering

* The installation of DT meters *vis-a-vis* target was low in **Maharashtra** (71 per cent), **Uttaranchal** (61 per cent), **Uttar Pradesh** (40 per cent), and **Madhya Pradesh** (12 per cent).

[5] As compiled on the basis of information made available by the MoP.

* The DPRs did not cover requirement of meters for achieving 100 per cent metering. In **Chhattisgarh,** though there were about 19547 DTs in the APDRP Circles and Towns during 2002-03, DPRs covered only 6957 DTs for metering, indicating deficient estimation.

* In **Kerala,** against the requirement of 6789 DT meters, only 5506 meters had been installed in the three short closed circle schemes.

* In **South Goa,** the DPR envisaged 1436 system trivector meters to be installed on DTs by October 2005; however, as of October 2006, these were under the process of tendering by the SED.

6.2.3 Feeder Metering

Despite the Ministry's reports showing a high percentage of feeder metering in most States, examination of the records at the State level revealed significant deficiencies in feeder metering, as summarised below:

* In **Rajasthan,** out of 10,594 feeders under the three Discoms, only 9,254 feeders were metered as on March, 2006. However, as per the MoP, the State had 100 per cent feeder metering.

* In **Bihar,** though 1140 feeder meters were required for eight circles and orders had been placed in advance, only 752 meters had been supplied as of February 2007, of which only 428 meters had been installed. In respect of 33 KV feeders alone, out of 237 meters required in respect of seven circles, only 105 meters had been installed as of February 2007.

* In **Jharkhand,** against 121 feeders in the four sampled circles which were required to be metered, 112 feeders were metered as of March 2006.

* In **Jammu and Kashmir,** out of 1558 CT operated trivector meters procured at a cost of Rs. 2.14 crore for metering 1524 feeders, only 711 meters (46 per cent) were commissioned.

6.2.4 Consumer Metering

Despite the Ministry's records showing a relatively satisfactory position in terms of consumer metering, audit examination at the State level revealed several deficiencies:

* Audit noticed that the DPRs did not cover requirement of meters for achieving 100 per cent consumer metering, defeating the APDRP objective of 100 per cent metering of consumers. In **Chhattisgarh,** the DPRs provided for only replacement of existing electro-mechanical meters with Static Electronic meters. Consequently, the un-metered free domestic consumers and agricultural consumers remained un-metered.

* As per MoA, no new connections were to be provided without meters. However, connections were released in **Chhattisgarh and Assam** without meters, even after the MoA.

* In **Assam,** out of 12,09,900 consumers, 66,567 consumers remained unmetered as of 31 March 2006. Further, the tariff issued by the Board with regard to unmetered consumers, were also not fully implemented by the Circle authorities, as a result of which unmetered consumers were short billed to the extent of Rs. 7.55 crore for the period from June 2005 to March 2006.

* In **Maharashtra,** against the requirement of 7.99 lakh single/three phase meters in Nashik town, Nashik rural, Malegaon, Nagpur rural Nagpur urban and Jalgaon projects, only 3.84 lakh meters were received. Further, 1.18 lakh meters received under the programme were diverted to other schemes or utilised for new connections (which is not permitted under APDRP). It was further observed that as against metering target fixed for agricultural consumers in Pune town (3302 meters), Pimpri-Chinchwad (3423 meters) and Nagpur rural (33077 meters), the achievement was nil as of September 2006.

* In **Orissa,** the physical achievement varied from 1.02 per cent to 18.83 per cent in respect of three phase meters (in three Discoms). As a result, the actual consumption of HT consumers had not been metered. Further, 22 per cent of all consumers of two Discoms were without meters, or had defective meters as of March 2006.

* In **Bihar,** out of 16 circles.

    * in four circles where metering is being done by the SEB itself, 90 per cent of the ordered meters were installed as of September 2006;

    * in eight circles (the work being executed by Power Grid), only 5 per cent of the ordered quantity had been installed as of September 2006;

    * in remaining four circles, no consumer meters had been installed as of September 2006.

> In **Jharkhand,** no consumer meter was actually installed as of August 2006 in respect of two circles (Dumka and Hazaribagh) out of 4 test checked circles against the targeted 15344, 458 and 13 numbers of single phase, three phase and HT trivector meters.

> In **Punjab,** though meters were to be provided to all the customers by December 2001 and computerized billing of all the consumers was to be done by March 2002, as many as 8.32 lakh agricultural power consumers were still unmetered and their billing was not computerized (March 2006).

> In **Uttar Pradesh,** against the projected quantity of 5,20,929 single phase electronic energy meters, agreement for procurement of only 2,63,000 meters were executed of these, only 1,64,000 meters were supplied by the firms (upto June 2006), of which Management could install only 84,003 meters (only 16 per cent of projected quantity) upto June 2006.

> In **Gujarat,** the original DPR computed an aggregate requirement of 24,23,021 static meters, which was later reduced to 13,63,834 meters without any recorded justification. Further, test check in five selected projects revealed that there were abnormal delays, ranging between 1 to 37 months, in installation of static meters.

> In **Jammu and Kashmir,** against the target of metering 9,70,386 domestic and 17,487 industrial/commercial consumer installations under the programme, only 59,452 domestic (6 per cent) and 4803 industrial/commercial (27 per cent) installation were metered (March 2006) due to inadequate purchase of meters.

> In **Karnataka,** though MoP intimated (July 2003) KPTCL that only static/electronic meters should be procured from the funds under the APDRP/PFC/REC, only 3.80 per cent and 0.36 per cent electronic meters (out of total meters installed) were installed by BESCOM and HESCOM.

> In **West Bengal,** contrary to programme guidelines and despite the availability of superior static meters at cheaper rates, the SEB procured electro-mechanical energy meters at an extra expenditure of Rs. 0.82 crore.

6.2.5 Periodical checking of metering

The purpose of installation of meters would be served only if the SEB/Utility conducted checks as per the prescribed periodicity to verify that the installed meters were not being tampered with and were working efficiently. Audit examination, however, revealed that in **Jharkhand, Punjab, Assam, West Bengal, Karnataka, Haryana and Manipur,** periodical checking of meters was not a regular features and the shortfall in checking of meters in these States ranged between 13 and 96 per cent during 2005-06.

6.2.6 Misreporting of data on installation of meters

Audit examination at the State level revealed several instances where the SEBs/Utilities reported incorrect data in respect of meter installation to the MoP:

> In **Tamil Nadu,** in 4 test checked distribution circles of Chennai Metro, though 843 DT meters remained to be installed as on 31st March 2006, the SEB, in its monthly report to MoP, reported that all DT meters contemplated in the DPR had been installed.

> In **Jharkhand,** 95 per cent consumer metering, 86 per cent 11 KV feeder metering and 91 per cent DT metering was reported by the SEB. However, test check of four circles revealed that the physical progress of metering was virtually nil.

> In **Assam,** there was no co-ordination between the Board's headquarters office and field offices. Progress of metering actually achieved under different sub-divisional offices did not tally with the progress reports furnished by the Circle CEOs to headquarters office.

> In **Andhra Pradesh,** CPDCL actually procured 8,02,950 meters but reported procurement of 10,45,896 meters to the DRC. Similarly, SPDCL reported procurement of 278 feeder meters against the actual quantity of 30 and reported installation of 1,820 DT meters against the actual installation of only 478.

Reply of MoP

In its reply (February 2007), the MoP stated that:

> The national figure for feeder metering and consumer metering rose from 81 per cent and 87 per cent in 2001-02 to 96 per cent and 93 per cent respectively in 2005-06. When close monitoring started under APDRP, various States reduced their figures for feeder metering.

> Consumer metering did not reach the desired level due to State policies on free/flat electricity supply to agriculture and other categories of consumer without installing meters. However, APDRP focus was on towns, where unmetered categories of consumers were very minimal.

> Earlier, metering of DTs was not targeted, as energy accounting and audit was envisaged at 11 KV feeder level, and hence DPRs prepared earlier were not covering DT metering. However, subsequently, it was felt that energy auditing at DT level would be better for fixing accountability at the lowest level, and hence monitoring of DT metering was started in 2004-05.

> The Ministry planned to implement a restructured APDRP in two stages during the XI Plan. In the first stage, (a) all feeders, DTs and consumers in the APDRP towns would be metered; (b) all assets and consumers would be indexed; (c) feeder, DT and bulk consumer meters would be read remotely, and baseline data established and validated through independent auditors; and (d) based on baseline data, loss reduction targets would be fixed. Upgradation and strengthening of electricity network would be taken up only in the second stage.

The response of the MoP is to be considered in the context of the deficiencies noticed in audit examination at the State level.

Recommendation

Ministry may ensure that (a) SEBs/Utilities complete 100 per cent feeder, DT and consumer metering in all ongoing and completed ARDRP projects within a clearly defined time frame; (b) such metering data is fully validated in an independent fashion; and (c) further funds for APDRP projects are released only after 100 per cent metering is validated.

6.3 Reliability and Quality of Power Supply

One of the expected benefits of APDRP was improved quality and reliability of power supply, which would encourage usage of energy efficient equipment/appliances, which would further lead to improvement in availability of energy. The key performance parameters for quality and reliability were:

> Frequency of feeder tripping (number of trippings per feeder per month), and average duration of feeder outages[6] (average outage duration per feeder per month);

> Failure rate of DTs;

> Average Power Factor; and

> Consumer Complaints and Disposal Time

> Audit scrutiny, however, revealed significant deficiencies in this area, which are described in the succeeding paragraphs.

6.3.1 Feeder Tripping and Outages

While the MoP had prescribed that feeder outage should be less than one per feeder per month, audit examination at the State level revealed that the actual outage was much higher than the prescribed level, as summarised below:

> In **Punjab,** trippings per feeder per month during 2005-06 were more than one in four out of seven test checked schemes, and trippings per feeder per month ranged between 1.81 and 32.50.

> In **Jharkhand,** the number of trippings per feeder per month and average feeder

[6]Feeder outages do not include shutdowns due to loadshedding.

outage duration in four test checked circles was much more than the prescribed level as shown below:—

Table 5 (a): Number of trippings per feeder per month and average feeder outage duration in test checked circles of Jharkhand

Circle	2001-02		2002-03		2003--04		2004-05		2005-06	
	Trippings per feeder per month	Average feeder outage duration in hours per month	Trippings per feeder per month	Average feeder outage duration in hours per month	Trippings per feeder per month	Average feeder outage duration in hours per month	Trippings per feeder per month	Average feeder outage duration in hours per month	Trippings per feeder per month	Average feeder outage duration in hours per month
Dumka	16	26	16	25	15	24	56	32	54	29
Dhanbad	101	40	96	39	94	39	92	37	83	39
Daltonganj	152	142	183	153	183	133	176	104	167	135
Hazaribagh	11	1	11	1	11	0	19	0	23	3

- In **Kerala,** even in the completed projects, the target set for the number of feeder trippings was not achieved and was as high as 13,173 against the set limit of 300 trippings.

- In respect of 6 projects in **Kerala,** 8,365 number of feeder trippings were reported to the MoP as against the actual 11,226 trippings reported by circles/division, during 2005-06. Similarly, the duration of feeder trippings, of 19 projects for 2005-06 was reported to MoP as 1,18,838 minutes as against 6,60,298 minutes reported by the circles/division.

- In **Andhra Pradesh,** though the target envisaged was to reduce the feeder trippings to 21 and 50 in Tirupati and Warangal Circles respectively, the actual numbers of trippings were 97,163 and 3,179 in 2005-06 respectively. Similarly, in all the 22 towns of SPDCL (TBP), feeder trippings ranged from 48 to 3,660 as against the target of 12 to 420.

- In **West Bengal,** feeder outages during 2005-06 ranged between 2946 and 110 against the targeted 2000 and 115 in 8 selected projects. In six projects, it had, in fact, increased in comparison to the existing level at the start of the project and exceeded the targets by 47 to 970 per cent.

- In **Sikkim**, outage duration per feeder per month increased from 11 hours in 2003-04 to 33 hours in 2005-06.

- In **Gujarat,** the feeder outages in Surat Town exceeded the target by 63 percent in 2005-06.

- In **Goa,** though a register was maintained at Sub-Division level to record details of outages and power factor, the data collected was not being processed or sent to Division/Circle or CEE Office for monitoring and analysis. Further, the details of duration of outages etc.,were not being sent/reported to the GoI as required.

- In **Tripura,** outage duration per feeder per month worked out for Agartala Town projects for the period from September 2005 onwards ranged from 36 to 80 hours.

- In **Haryana** (UHBVNL), average outage duration per feeder per month increased from 1.7 hours in 2002-03 to 3.6 hours in 2005-06.

- In **Chhattisgarh,** trippings per feeder per month during 2005-06 were more than 1 in all the four schemes test checked and ranged between 2 and 41.

6.3.2 High DT Failure Rate

The Distribution Transformer is a key component of the distribution network, and its failure not only results in financial loss to the utility but also adversely affects consumer satisfaction due to interruption in supply. The high failure rate of DTs is caused by a combination of factors *viz.* over loading of DTs, improper earthing and protection, improper fuses, inadequate preventive maintenance etc. For proper reliability, DT failure rate of less than 1.5 per cent per annum was indicated by MoP. Audit examination, however, revealed that most States had DT failure rates which were much higher than this benchmark, as described below:—

> In respect of **Chhattisgarh** and **Goa**, there was lack of substantial improvement in the DT failure rate between 2001-02 and 2005-06, as shown below:

Table 6: DT failure rates in respect of Goa and Chhattisgarh

Name of the State	2001-02	2002-03	2003-04	2004-05	2005-06
Chhattisgarh	15.30	16.33	16.34	18.38	16.47
Goa	6.73	6.27	5.7	6.14	5.30

> In **Chhattisgarh,** the DT failure rate was 16.47 per cent during 2005-06, despite installation of 1120 new DTs at a cost of Rs. 10.62 crore in the APDRP circles and towns till end of March 2006.

> In **Rajasthan,** the DT failure rates ranged between 7 and 30 per cent. Further, even the targets were fixed between 4 and 18 per cent, which were much higher than the 1.5 per cent target fixed by MoP.

> In **Uttaranchal,** the DT failure rate was 16.2 per cent during 2005-06.

> In **Punjab,** the target of failure rate of DTs was not achieved in eight projects and it had increased during 2005-06 from 2001-02 in five projects. Audit noticed that failure rate of DTs was more than the prescribed limit of 1.5 per cent in all seven schemes and ranged between 2.73 and 27.10 per cent during 2002-06.

> In **Karnataka,** the DT failure rate in respect of Mangalore and Raichur showed an increasing trend to 7.95 per cent and 7.52 per cent in 2005-06 against 4.96 per cent and 6.50 per cent in 2003-04 respectively.

In **West Bengal,** the DT failure rate ranged from 5 to 22 per cent against the targeted 5 to 14 per cent during 2005-06.

> In **Gujarat,** the DT failure rates in five selected projects exceeded the targets set by 1.20 to 38 per cent during 2005-06, despite the fact that the targets were fixed upto 20 per cent higher than the stipulated norm.

> In **Himachal Pradesh**, the overall failure rate of the Board was 4.04 per cent in 2005-06 as against the bench mark of 1.5 per cent.

6.3.3 Lack of improvement in respect of Consumer Complaints

Reduction in the number of consumer complaints is one of the benchmarks for improved quality and reliability of power supply. This, coupled with effective redressal of complaints, would reflect better customer satisfaction.

> Audit examination however revealed significant deficiencies in this area, as summarised below:

> In **Chhattisgarh,** the DPRs provided for establishment of 26 consumer complaint centres at a cost of Rs. 0.59 crore in all the APDRP circles and towns. However,

it was observed in audit that the SEB had not taken up this work as of September 2006.

> In **Tamil Nadu,** there was a significant increase in the number of consumer complaints in 2005-06 as compared as pre-APDRP levels in 2001-02, in respect of Chennai Metro circle and in increased from 44,798 (2001-02) to 99,807 (2005-06).

> A system for recording consumer complaints, and recording of corrective and preventive actions was not developed in Assam.

> In **West Bengal**, the number of consumer complaints in 8 selected projects was 3,181 against the target of 2,349 during 2005-06.

> In **Gujarat,** in three projects (Baroda, Himmatnagar and Surat) out of the selected five projects, the number of consumer complaints received ruring 2002-06 was 81,254, 30,000 and 1,12,130 against the target of 70,000, 45,000 and 1,25,000 respectively.

> In **Andhra Pradesh,** there was only 13 percent and 70 percent reduction in consumer complaints as against the targets of 50 percent and 85 percent in Tirupati and Warangal Circles respectively.

Reply of MoP

In reply (February 2007), the MoP stated that:

> Quality and reliability of supply had improved in general in the areas where sufficient work had been completed, and this should have reduced the consumer complaints also. The monitoring of tripping and outages had resulted in improvement of reliability of supply in areas where sufficient work had been completed. In some utilities, reliability had suffered badly due to non-availability of power from the grid. For better consumer care, Consumer Sewa kendras were envisaged in all district headquarters during the XI Plan.

> In the majority of towns where sufficient work had been completed under APDRP, DT failure rate had come down significantly, though the degree of improvement varied from place to place. Reducing the DT failure rate to the desired level of 1.5 per cent would take a lot of work and efforts by the utilities over a long period.

The reply of the MoP is general and does not address the specific issue identified during audit examination at the State level. Further, it was the MoP's responsibility to ensure timely completion of APDRP projects, with consequential impact on reliability of supply.

6.4 Energy Accounting and Audit

6.4.1 Introduction

One of the most important measures to ensure 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.

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 one time exercise but is to be done on a continuous basis.

6.4.2 Effective Energy Accounting and Auditing not carried out

Logically, with 100 per cent system metering at the feeder and DT levels, energy accounting at the feeder and DT levels should be feasible, provided meter readings are being taken at the prescribed intervals. Audit, however, observed that effective energy accounting and auditing was not being carried out in the States.

The main reasons for lack of an effective energy accounting and auditing were as follows:

* **Lack of system metering**—for proper energy accounting and auditing, installation of tamper proof meters at all levels of transformation (including DT metering) was required. However, audit observed that the utilities failed to bring in a high level of DT metering. Only 10 per cent of the States had reported DT metering between 80 and 100 per cent as of 2005-06 as brought out in para 6.2.1. Even where feeder and DT meters had been installed, the lack of energy accounting at the feeder/DT levels is indicative of lack of regular readings of such meters. Test check of records and physical verification of one power sub station of test checked Supply Division in **Jharkhand,** revealed that though some 11 KV feeders and the connected distribution transformers were metered, neither were regular recording of feeder meters taken, nor were the feeder meter readings reconciled with meter readings of distribution transformers and meter readings of consumer meters. Thus, the whole purpose of metering at 11 KV feeder level was defeated in the absence of linkages between feeder, DT and consumer metering.

* **Lack of accountability at the circle and feeder level—**as brought out in para 9.1, the administrative intervention under APDRP of designating Distribution Circles as independent profit centres and feeders as business units, and ensuring accountability through a chain of MOUs from the circle level down to the feeder level, has not been successful.

* **Computerization—**as brought out in para 11, low progress in respect of IT enabling activities such as consumer indexing, digital mapping, Automated Meter Reading instruments, Data Loggers etc. contributed to non-implementation of effective and meaningful energy audit and accounting.

Deficiencies in energy accounting and audit in 19 States are summarised below.

Table 7: Status of Energy Accounting and Audit as observed in Audit

S.No.	State	Audit Findings on Energy Accounting and Audit (EAA)
1	2	3
1.	Assam	Feeder metering was not yet completed and a large number of meters remained non-functional; hence, effective EAA was not possible.
2.	Bihar	EAA was not being done, due to inadequate feeder metering.
3.	Chhattisgarh	Though the SEB had achieved up to 90 per cent metering of 33 Kv and 11 Kv feeders by March 2006, the progress in respect of DT and consumer metering was far from satisfactory, and hence effective energy audit was not possible.
4.	Gujarat	Consumer indexing had not yet started.
5.	Himachal Pradesh	Though energy audit was being conducted, energy audit data was not being prepared strictly as per the billing cycle and compared with the consumption of the DT for the same period (March 2006).
6.	Jharkhand	Neither were regular recording of feeder meters being taken nor were the feeder meter readings reconciled with meters reading of distribution transformers and meter readings of consumer meters, thus ruling out EAA.
7.	Karnataka	Though feeder-wise energy audit was being done, no commercial accounting (to segregate commercial and technical losses) had been initiated.
8.	Madhya Pradesh	Installation of DT meters was as low as 12 per cent.
9.	Maharashtra	Out of 55,080 DT meters, energy audit was done in respect of only 50,880 meters as of August 2006.
10.	Manipur	Twenty three per cent of the total consumers were without meters or had defective meters.
11.	Meghalaya	Three phase consumer meters and wedge type UDC connectors were not installed due to non-availability of fronts, with consequential impact on EAA.
12.	Orissa	In respect of three phase consumer meters, the physical achievement ranged from 1.03 per cent to 37.09 per cent. hence, EAA was not effective.

1	2	3
13.	Punjab	The SEB had not evolved any system for EAA at distribution level.
14.	Rajasthan	There was significant shortfall in the installation of DT meters, with consequential impact on EAA
15.	Sikkim	In 18 out of 24 Sub-divisions, no consumer indexing had been done. Even in 6 sub-divisions where consumer indexing had been done, EAA had not been initiated as of September 2006.
16.	Tamil Nadu	There was a shortfall in achievement of 100 per cent metering of consumer.
17.	Tripura	EAA was initiated only in January 2005, but there were no prescribed norms for assessment of unmetered consumers. Different billing authorities applied different criteria in such assessment.
18.	Uttar Pradesh	Neither at DT level nor at the Consumer level was 100 per- cent metering done. Therefore, position of DT wise loss of energy could not be ascertained in Audit.
19.	Uttaranchal	Against a target of 14,777 DTs, only 9,080 meters were installed. Further a sum of Rs. 139.66 lakh was spent towards consumer indexing. However, EAA could not be taken up at any DT so far.

Further, CRISIL and ICRA, which had been mandated by PFC at the instance of MoP to carry out a performance rating of the State power sector across all States, in their report in June 2006 pointed out ineffectiveness of energy audit in all States (except Goa, Himachal Pradesh, Meghalaya, Madhya Pradesh and Mizoram where no comments were made in respect of energy audit).

Reply of MoP

In reply (February 2007), the MoP stated that:

* Energy accounting in APDRP towns had been started by most of the utilities. However, for effective energy audits, it had been felt that consumer indexing and DT metering would be required, and this work had been taken up subsequently by some utilities.

* In view of the poor progress by utilities, the MoP was proposing the highest importance to energy auditing during the XI Plan, and the investment under APDRP during the XI Plan (Except works required for effective energy audit) would not be allowed before establishment of energy audit procedures and validation of baseline data in APDRP covered towns.

The reply of MoP is general and does not address the specific deficiencies highlighted by audit.

In their reply (January, 2007), NTPC stated that for energy accounting and audit, APDRP guidelines provided consumer indexing and system metering as a mandatory component for offline/online auditing on a continuous basis. This involved (a) regular reading of meters and the downloaded data through Meter Reading Instruments (MRI) to be brought to a central location with the help of software to bring out exception reports without human intervention; and (b) correlation with revenue data to identify loss pockets, besides identification of overloaded feeders and DTs.

The deficiencies identified through audit examination only serve to confirm non-adherence with the procedures indicated by NTPC.

Recommendation

Ministry may take steps to ensure that all States carry out effective energy accounting and audit at the feeder and DT levels, and necessary pre-requisites for such auditing and accounting e.g. 100 per cent system and consumer metering, regular/automated system meter reading and reconciliation and consumer indexing and other IT enabling activities are implemented immediately.

6.5 Gap between Average Revenue Realisation (ARR) and Average Cost of Supply (ACS) Not Eliminated

One of the objectives of APDRP was the 'narrowing and ultimate elimination of the gap between unit cost of supply and revenue realization within a specified time frame'. Further, as per the instruction of MoP, the ARR should be rupee one above the per unit ACS.

An analysis of the information provided by the MoP revealed that this objective was far from being achieved, as of March 2006. Only 3 out of 29 States (**Chhattisgarh, Goa** and **Delhi**) had achieved the target of elimination of the gap between ARR and ACS. Further in **Bihar, Maharashtra, Jharkhand, Rajasthan, Assam, Uttar Pradesh, Mizoram** and **Nagaland,** the gap between ARR and ACS had shown a deteriorating trend. State-wise details of the gap between ARR and ACS are enclosed in **Annexure-VI.**

Deficiencies noticed during audit examination in individual States are summarised below:—

* In **Tamil Nadu,** the revenue gap had been determined by adoption of a uniform rate for the ACS for all the circles, which is not an appropriate method as the cost structure of various circles would vary depending on the assets and other infrastructure in the respective circles. In the absence of determination of circle-wise actual ACS, the correctness of the revenue gap could not be verified. Further, in eight out of 25 circle schemes where APDRP was being implemented, the revenue gap had increased between 2001-02 and 2005-06.

* In **Haryana,** ARR (in rupees per unit) was 2.83 on billed energy and 1.89 on input energy (on the basis of test checked 7 circles/towns) against the targeted ARR of 3.70 and 3.14 respectively.

* In **Jharkhand,** despite implementation of APDRP since 2003, the cash losses of JSEB have been increasing every year and the increase in cash losses in 2005-06 was 204 per cent of cash losses in 2001-02.

* In **Uttaranchal**, the ARR was Rs. 0.43 below the ACS during 2005-06.

* In **Punjab,** the targeted ARR was not achieved in any of the 11 test-checked schemes and in four schemes the ARR had decreased from the base year instead of increasing. The average ARR for the 11 schemes was Rs. 2.57 against the ACS of Rs. 3.29 for the year 2005-06. Further, despite the tariff orders of PSERC to continue the levy of surcharge for large supply consumers, test check in audit revealed six cases where surcharge was not levied, resulting in a loss of revenue of Rs. 7.74 crore during July 2003-December 2005.

  Higher AT&C losses at 44.1 per cent in the Himmatnagar project in **Gujarat** resulted in realization of average selling price at Rs. 2.02 (with a billing efficiency of just 30.82 per cent) as against the average cost of the energy at Rs. 2.92.

* In **Andhra Pradesh,** as against a target of bringing the gap between ARR and ACS to 'Nil', the gap was 9 paise and 18 paise in Warangal and Tirupati Circles respectively.

* In **Sikkim,** despite four years of implementation of APDRP, the gap marginally improved from Rs. 1.25 unit to Rs. 1.16 per unit but the percentage cost recovery decreased from 60.97 per cent in 2001-02 to 56.39 per cent in 2005-06.

* In **Himachal Pradesh,** the average gap in 5 test check circles was Rs. 1.10 during 2005-06.

* In **Nagaland,** the gap between ARR and ACS was high and increased from Rs. 2.82 during 2001-02 to Rs. 3.27 during 2005-06.

Reply of MoP

In reply (February 2007), the MoP stated that as many of the utilities had increased the subsidy over the years, monitoring of ARR on subsidy and revenue realised basis would show the correct status. As per PFC data, the gap between ARR and ACS on a subsidy and revenue realised basis had come down from Rs. 0.56 in 2001-02 to Rs. 0.19 in 2005-06. Also, the gap had narrowed in the majority of APDRP towns where sufficient work had been completed.

The reply of the MoP is not tenable, since the reduction of subsidies to SEBs/ Utilities is one of the key objectives of APDRP and using ARR on subsidy realised basis would not be appropriate. Further, APDRP emphasises exclusion of subsidy for calculating the incentive component.

7. Release and Utilisation of APDRP Funds

7.1 Funds Released

7.1.1 Funds not released and monitored project-wise

The APDRP guidelines stipulated that funds should be released in separate tranches individually for each project, linked to the release of counter part funds and project spending. However, the MoP did not recommend release of funds project-wise, but recommended lump sum releases for each State as a whole on the basis of the total projects approved by the Steering Committee.

Further, there was no system for monitoring utilisation of APDRP funds on a project-wise basis; the monitoring reports on utilisation showed project cost and total reported expenditure (APDRP and counter part funds put together). Hence, there was also no mechanism for detecting cases of diversion of funds between different APDRP projects.

Reply of MoP

In its reply (February 2007), the MoP stated that the Ministry of Finance restricted the release depending on availability of allocation to the State and availability of budget. Hence, it was not possible to allocate restricted released funds to all or limited projects eligible for the next tranche. Some flexibility was required during execution; otherwise projects would suffer for want of funds. Further, there had been no report of diversion of funds between different APDRP projects, and the monitoring of such diversions would be cumbersome and would not serve much purpose.

Recommendation

In order to have a comprehensive monitoring of the programme, the MoP should monitor together the release of funds and progress on a project-by-project basis.

7.1.2 Non-opening of separate accounts for APDRP Funds

In terms of the APDP/APDRP guidelines, States receiving APDP/APDRP assistance would have to open a separate account/sub account head immediately for separate accounting classification. A separate account in a Scheduled Bank/Nationalized Bank was also required to be opened. Funds required to implement projects under APDP/APDRP schemes were to be released by the MoF, on the recommendation of the MoP, directly to this separate account. States which did not open a separate account for this purpose were not entitled to receive any funds under APDRP.

However, the MoP continued to recommend release of funds without the stipulated certificates from the State Governments regarding opening of a separate account head and expenditure statements prepared from the State monthly accounts. Even the MoF did not object to such recommendations and released funds in the absence of the stipulated requirements.

Audit examination of the records of the State Governments and SEB/Utilities confirmed non-compliance with these conditions as summarised below:

* No separate bank account was opened in **Arunachal Pradesh, Himachal Pradesh, Goa, Gujarat, Kerala, Meghalaya, Mizoram, Nagaland, Rajasthan (Jodhpur and Ajmer Discoms), Sikkim** and **Tripura.**
* In **Assam** and **Chhattisgarh,** although a bank account was opened in a nationalized bank, the APDRP funds were not transferred/credited to this account, rendering the bank accounts inoperative.

* In **Haryana** and **Tamil Nadu,** a separate bank account was opened only for receipt of APDRP funds. Thereafter, the funds were transferred to a general/ common account. Similarly, in **Karnataka,** though a separate bank account was opened by the utility, funds were utilised for making payments to parties and contractors not connected with implementation of APDRP and huge amounts were transferred to different bank accounts.
* In **Himachal Pradesh,** the funds were kept in the existing current account of the SEB, instead of a separate savings bank account.

Reply of MoP

In its reply (February 2007), the Ministry confirmed that many of the utilities either did not open separate accounts or did not operate these accounts due to various problems in their accounting procedures. APDRP funds were nevertheless released so that implementation of the sanctioned projects did not suffer. Keeping in view the accounting problems of the State utilities, the Ministry felt that the opening of separate accounts would not be feasible.

The reply is tenable, since maintenance of separate head of account would help in keeping accurate accounts of the expenditure under a particular programme. Further, the detailed nature of the accounting problems which would inhibit separate accounting for APDRP was not specified. In any case, the release of funds in full knowledge of non-adherence to stipulated procedures is not justified.

Recommendation

Ministry should ensure that the separate identity of APDRP funds is maintained, and that separate accounts are opened not only by the State Government but also the SEB/utility concerned.

7.2 Utilisation of funds

7.2.1 No requirement for Statements of Expenditure (SOEs) and Utilisation Certificates (UCs)

In respect of APDP, the States/Utilities were required to submit audited SOEs in respect of each project within 9 months of completion of the financial year. But the APDP guidelines stipulated submission of UCs within 9 months from the completion of the scheme or the financial year, whichever was earlier.

However, in respect of APDRP, no conditions regarding either UCs or SOEs were incorporated in the Guidelines, despite requirement of UCs in the prescribed proforma specified in the GFR.

Audit examination further revealed that:

* SEBs/Utilities/SEDs did not submit UCs regularly, nor were they furnishing the status of funds utilisation in a consistent format. Further, these were being intimated only while requesting release of the next instalment of funds.
* The MoP did not maintain any consolidated record of UCs received against each sanction/release, and consquently, was not in a position to verify the actual quantum of funds utilised for implementation of APDRP.

* Though the Ministry had released Rs. 6131.70 crore up to 31st March 2006, UCs in the format prescribed in the GFR for only Rs. 103.52 crore (1.7 per cent) were found in the records of the MoP (**Mizoram—**Rs. 28.96 crore—10.8.2006, **Bihar—**Rs. 50 crore—17.3.2004, **Nagaland**—Rs. 21.89 crore—28.9.2006 and **Sikkim**—Rs. 2.67 crore—11.12.2002).

7.2.2 Incorrect Reporting of Expenditure

Audit examination revealed that the expenditure reported by SEBs/Utilities to the Ministry/AcCs was not correct, mainly due to the following reasons:

* Expenditure was booked at DPR rates, even though actual procurement cost was lower.

* The reported expenditure was inflated by inclusion of works not in DPR, quantities in excess of DPR provision, incomplete works, works done under normal development schemes, works done with old/repaired equipment, and centage/consultancy charges.

Audit examination of 294 projects in 29 States with a total project cost of Rs. 10255.21 crore, in respect of which the reported utilisation of funds (as of March 2006) was Rs. 5617.64 crore, revealed instances of incorrect financial reporting, amounting to Rs. 676.09 crore, which constituted 12 per cent of the reported utilisation. A State-wise summary of incorrect financial reporting is given below:

Table 8: Incorrect Financial Reporting

(Rs. in crore)

Sl.No.	State	Amount of Incorrect Financial Reporting
1.	Chhattisgarh	87.49
2.	Maharashtra	37.56
3.	Kerala	39.64
4.	Haryana	76.53
5.	Rajasthan	21.66
6.	Karnataka	68.06
7.	Tamil Nadu	274.89
8.	Mizoram	24.58
9.	Sikkim	10.56
10.	Uttaranchal	35.12
	Total	676.09

Details of the instances of incorrect reporting noticed during audit examination are given below:

> For **Chhattisgarh,** GoI released Rs. 53.07 crore towards 25 per cent of APDRP funds between April 2002 and October 2003. For claiming further release of 50 per cent of APDRP funds, the SEB had to complete works valued at

Rs. 106.15 crore (*i.e*. 25 per cent of the total project cost). Audit observed that, based on a SEB report of February 2005 to MoP that as of December 2004, it had incurred an expenditure of Rs. 160.28 crore in identified APDRP schemes, GoI released Rs. 106.14 crore in March 2005. Subsequently, the SEB prepared a revised progress report in May/June 2006, in which the progress of expenditure up to March 2005 was reported as Rs. 72.79 crore. Thus, the actual expenditure on APDRP up to March 2005 works out to only 17 per cent of the project cost against required achievement of 25 per cent for release of the second instalment.

> In **Maharashtra,** the utilisation certificate furnished by MSEDCL to GoI through NTPC showed the expenditure on purchase of meters under the programme as Rs. 77.97 crore but the actual expenditure made was Rs. 40.41 crore as of March 2006, as the APDRP cell in the Head office, while calculating the cost of meters purchased based on the details furnished by the Accounts section, wrongly considered the cumulative figures in the calculation of cost of meters purchased.

> In **Kerala,** in respect of consumer meters, the expenditure reported to MoP was Rs. 85.61 crore against the actual expenditure, as indicated in purchase orders of meters, of Rs. 45.97 crore *i.e.* higher by Rs. 39.64 crore.

> In **Haryana,** excess expenditure of Rs. 56.35 crore was reported to GoI by utilities showing the procurement of meters at higher rates instead of actual cost incurred. Further, against the reported expenditure of Rs. 1.09 crore as on 31 March 2006 on 33 KV sub-station Barwala Road, Hansi, the actual expenditure as per records of Hansi Operation Division was Rs. 0.76 crore. Scrutiny of records of sub-divisions/divisions revealed that the actual progress of replacement of consumer meters in respect of selected circles/towns (Hissar-II, Tohana, Fatehabad, Hansi) was only 15,684 meters valued at Rs. 1.36 crore as per the Divisional Records against the reported figure of 87,722 meters of Rs. 8.29 crore, indicating overstatement of fund utilisation by Rs. 6.93 crore. Also, utilisation had been inflated by Rs. 12.92 crore by inclusion of interest during the years 2003-06.

> In **Rajasthan,** expenditure reported under APDRP to MoP was Rs. 831.06 crore up to 31 March 2006 on all the schemes sanctioned under APDRP whereas the acutal expenditure as per records maintained at circle level, was only Rs. 809.40 crore up to 31 March 2006, indicating over reporting of Rs. 21.66 crore. This over reporting pertained to Bhilwara (Rs. 17.48 crore), Jhunjhu (Rs. 3.96 crore) and Sikar (Rs. 0.06 crore) in Ajmer Discom, and Rs. 0.16 crore to Jodhpur Discom.

> In **Karnataka,** a review of the records of expenditure disclosed that BESCOM included the cost of 5,72,611 consumer meters valued at Rs. 56.83 crore pertaining to new installations which were fixed with meters purchased by the customers; this inflated the financial progress and the claims preferred under APDRP. Similarly, in Hubli circle, 86,576 new connections were provided against deposits from customers or purchased by the customers themselves which inflated the financial progress by Rs.11.23 crore.

> In **Tamil Nadu,** the instances of the work reported as completed but not actually completed and financial achievement as reported but not actually incurred are shown under:

Table 9: Instances of Incorrect Reporting in Tamil Nadu

(Rs. In Crore)

Name of Circle	CEDC			Virudhachalam		Chennai Metro Circles			
	North	South	West			North	South	West	Central
Name of items	DT Meters	Distribution transformer	LT Capacitors	Single Phase meters	Three phase meters	Sub-stations			
Quantity as per DPR (Numbers)	226	218	936	4435	1901	8	10	4	7
Quantity reported to MoP as completed as on 31.3.06 (Numbers)	226	218	936	4435	1901	6	6	4	3
Quantity actually completed as on 31.03.06 (Numbers)	126	362	907	4435	1901	3	6	1	2
Cost estimate as per DPR (Rs. in crore)	44.09	791.09	74.88	32.553	34.788	31.04	79.88	39.01	66.03
Cost incurred as per return sent to MoP (Rs. in crore)	36.13	576.34	74.88	32.553	34.788	19.80	64.24	32.75	14.59
Expenditure actually incurred as on 31.03.06 (Rs. in crore)	32.56	384.13	60.26	*32.553	*34.788	10.03	33.91	18.17	07.78
Expenditure reported in excess (Rs. in cr.)	03.57	192.21	44.62	-	-	09.77	30.33	14.58	06.81

*Actuals yet to be finalized in Accounts.

> Coimbatore Metro Circle in **Tamil Nadu,** reported installation of Digital Interface Data Loggers in sub-stations at a cost of Rs. 3 crore though the same had not been installed.

> In **Mizoram,** seven divisions were allotted Rs. 27.16 crore for executing APDRP works under 4 selected circles. Though the entire amount was debited towards execution of APDRP works, payment vouchers for only Rs. 2.58 crore were available.

> In Sikkim, the project cost was inflated by Rs. 10.56 crore by irregular inclusion of various extraneous components not related to APDRP—on account of establishment charges (Rs. 8.47 crore), audit and accounts and losses on stock (Rs. 1.36 crore) and tools and plant charges (Rs. 0.73 crore).

> In **Uttaranchal,** the value of completed projects were worked out after including centage charges of Rs. 21.34 crore and consultancy charges of Rs. 0.38 crore, contrary to the accounting principles and decision taken in the 9th Meeting of the Steering Committee (3 August 2005). Similarly, though the materials were to be charged at landed cost, they were issued at issue rates which included cost towards carriage, godown maintenance, handling and wastage etc. resulting in overcharging of the projects by Rs. 13.40 crore.

Further, audit examination revealed numerous discrepancies in the expenditure reported by the States, as detailed below:

> **Rajasthan—**Rajasthan Rajya Vidyut Prasaram Nigam Limited (RRVPNL) had not furnished any UC as of October 2006 for the expenditure incurred upto 31st March 2006. Secretary Energy, Government of Rajasthan reported in March 2006 the expenditure upto January 2006 as Rs. 896.38 crore (including counter part funds). However, the Chairman & Managing Director of RRVPNL, in September 2006 reported an expenditure of only Rs. 831.06 crore including counter part fund upto March 2006.

> **Jharkhand—**As per the SEB's records, a sum of Rs 161.97 crore had been utilised up to 31 March 2006 whereas the figure reported to GoI for the same period was Rs 146.26 crore. Further, as per letter dated 11th October 2004 of the Joint Secretary (Distribution), MoP to Secretary Jharkhand State Electricity Board (JSEB), the State of Jharkhand had spent only Rs. 12.77 crore during 2004-05. However, on 14th February 2005 Joint Secretary (Distribution), MoP, while recommending for further release of APDRP funds to JSEB, informed Ministry of Finance that the State had utilised Rs. 104.73 crore. Further, on 16th February 2005, Chairman JSEB, informed the lead ACC *i.e.* NTPC, that the State had utilised Rs. 102.41 crore as of November 2004.

> **Chhattisgarh—**Utilisation of funds since inception of the scheme up to March 2005 was furnished to the NTPC only in March/April 2006, which was still under scrutiny. UC for the expenditure incurred up to end of March 2006 was not submitted completely. In the absence of complete entries in the work register, UCs could not be vouchsafed by audit.

> In **Punjab,** there was a difference of Rs. 35.38 crore in reported expenditure between figures of two sets of records maintained by the Accounts Wing and the APDRP Cell of the SEB during 2001-06.

7.2.3 Improper maintenance/non-availability of accounting records at State level

Audit examination revealed that proper accounting and related records in respect of APDRP projects were not maintained in almost all the States, which affected the authenticity of the reported expenditure. A State-wise summary of deficiencies notices in audit examination is as follows:

> In **Chhattisgarh,** a test check of records of 8 divisions revealed that separate work registers were not maintained in 4 divisions, and the entries in the work register, wherever maintained, were incomplete. There were discrepancies in entries relating to quantity and value of material, between work register and utilisation certificate furnished to NTPC. Further, while works valued Rs 21.34 crore relating to other schemes were transferred to APDRP, the expenditure incurred on these works were not included in the reported APDRP expenditure, due to failure to change scheme codes. Also, there were discrepancies in the details of progress of APDRP works as reported by APDRP cell of the SEB and corresponding expenditure booked by the concerned Regional Accounts Offices.

> In **Uttaranchal,** non-maintenance of separate basic records *viz.* cash book, stores records for APDRP projects resulted in the project funds being mixed up with general funds, and an amount of Rs. 3.52 crore remained unreconciled. Lack of proper stores records resulted in absence of authentic data regarding materials received/issued for the project.

> In **Jammu and Kashmir,** five Nodal Officers for APDRP advanced (2003-06) Rs. 63.39 crore to the Procurement and material Management (PMM) wing for supply of material. However, the quantity of material received there against and the balance to be supplied by the PMM wing was not on record, as no separate stock accounts in respect of APDRP were maintained either by the PMM Wing or by the utilities.

> In **Rajasthan,** the purchases of equipments and material for regular and APDRP schemes were combined without any specific mention at any level about the quantity being purchased for various APDRP schemes.

Recommendation

Ministry should ensure that annual Utilisation Certificates, duly supported by detailed Statements of Expenditure, are submitted by the concerned State Governments in the prescribed formats in respect of each APDRP project.

7.2.4 Surplus funds

Audit examination revealed the following instances of surplus funds amounting to Rs. 51.07 crore not returned by the States to the GoI:

> Due to decline in the procurement price, the project cost of single phase meters decreased by Rs. 20.10 crore (UHBVNL) and Rs. 32.23 crore (DHBVNL) in **Haryana.** Thus, GoI had released excess funds (loan and grant) of Rs. 20.50 crore on inflated project cost. The companies had neither refunded the surplus funds to GoI nor taken steps to revise the DPRs downward or formulate any other project to utilise the differential cost.

> In **Andhra Pradesh,** CPDCL received an amount of Rs. 58.63 crore from GoI towards 25 per cent grant for High Voltage Distribution Scheme which was in excess of the eligible amount of grant by Rs. 28.63 crore as the scheme had already been short closed (September 2004) with an expenditure of Rs. 106.38 crore (January 2006). The excess grant was not returned.

> In **Karnataka,** the works amounting to Rs. 10.34 crore relating to Hubli Town under Hubli Circle project in respect of which funds amounting to Rs. 3.88 crore (Rs. 1.94 crore grant and Rs. 1.94 crore loan) had been released in March 2003 and June 2004 by GoI were not taken up as of October 2006 due to non availability of land, upgrading of sub station to 110/11 KV and establishment of additional sub station of 220 KV. However, the grant of Rs. 1.94 crore had not been refunded by Karnataka Power Transmission Corporation Limited (KPTCL)/Hubli Electricity Supply Company Limited (HESCOM).

7.2.5 Diversion and Parking of Funds

Audit examination revealed numerous instances of diversion of funds, amounting to Rs. 181.78 crore in ten States, for various unauthorised purposes such as payment of salaries for work charged employees, clearing past liabilities of the SEBs/Utilities, expenditure on items not related to APDRP, renovation of guest house etc. as detailed below:

Table 10: Instances of diversion of the funds for purposes other than prescribed in APDRP

(Rs. in crore)

S. No.	Name of the State	Amount	Purpose for which funds diverted
1.	Arunachal Pradesh	0.35	Purchase of Vehicles, fax machine and for meeting committed liabilities
2.	Haryana	32.09	> Purchase of Power
		31.25	> Repayment of loans
		9.76	> Advance payment of loan instalment to Bank
3.	Himachal Pradesh	0.47	Sub-maintenance service overheads, purchase of vehicles and fax machines
4.	Jammu and Kashmir	4.04	Cleaning of equipments, painting, repair of fencing, bush cleaning etc.

S. No.	Name of the State	Amount	Purpose for which funds diverted
5.	Karnataka	38.42	> Payment to parties/contractors not connected with APDRP implementation
		1.59	> Interest earned by investing APDRP funds in short term deposits not treated as APDRP funds.
6.	Nagaland	0.63	> Salaries of work charges employees
		0.89	> Past liabilities of Likhimro Hydro Electric Project
		0.40	> Renovation of Guest House & construction of dormitory
7.	Orissa	3.95	> SOUTHCO-Repairing and maintenance, non-APDRP metering, PMU projects and other expenses
		1.43	> WESCO-O & M work not related to APDRP
		6.07	> NESCO-Material not utilised for APDRP purposes and material less received and utilised in APDRP.
		3.67	> CESCO-Material diverted to other works
8.	Sikkim	0.28	> Cost of templates for erection of towers already included in the erection charges
		0.29	> Contingency Expenditure for electricity bill forms etc.
9.	Uttar Pradesh	11.89	> Payment of interest to PFC
10.	Uttaranchal	13.93	> Interest earned on unutilised project funds and not transferred to project funds
		20.38	> Procurement of materials for works other than APDRP.
	TOTAL	181.78	

Further, the State Governments diverted a total of Rs. 432.23 crore by adjustment against various dues of the utilities, which was effectively equivalent to short release of funds for APDRP projects. Details of such diversion are summarised below:

> A sum of Rs. 39.36 crore was sanctioned by the Government of **Kerala** (without corresponding sanction from GoI) in March 2006 as loan (at 9 per cent interest) under APDRP by adjustment against the guarantee commission (Rs. 20 crore) and taxes on consumption and sale of electricity (Rs. 19.36 crore) payable by the SEB to the State Government.

> Government of **Chhattisgarh** released only Rs. 128.48 crore to the SEB against Rs. 169.47 crore received under APDP/APDRP, after adjusting Rs. 40.99 crore towards dues payable by the SEB to various Central PSUs (Rs. 34.58 crore) and principal and interest on APDRP loan of 2001-02 & 2002-03 (Rs. 6.41 crore)

> In **Maharashtra** funds amounting to Rs. 110.79 crore was released by the State Government to MSEDCL by way of adjustment against other dues payable by the company to the State Government.

> The **Andhra Pradesh** Government released (March 2004) a grant of Rs. 186.17 crore to four Discoms and APTRANSCO as equity. This amount was utilised by the Discoms for payment of dues to APTRANSCO against bulk supply of power to these distribution companies, thus diverting the scheme funds for other purposes.

[7] Four circles-Solan, Nahan, Rampur and Bilaspur

> In **Meghalaya**, while releasing the grant portion in August 2004 received from GoI, the State Government deducted Rs. 15.29 lakh on account of interest on the loan portion. Though the loan released by GoI in October 2003 was further released by State Government in February 2004, it deducted interest with effect from October 2003 to August 2004.

> In **Madhya Pradesh**, the State Government released the loan portion received from the GoI at a higher rate of interest by 0.50 to 1.00 per cent per annum.

> In **Delhi,** DPCL deducted Rs. 39.63 crore on account of outstanding dues while releasing the grant to the Discoms.

7.2.6 Non-Release/Delayed release of funds by States to SEBs/Utilities and Non-levy of consequent Penalty

The APDRP Guidelines stipulate that:

> The State Government shall release the funds provided under APDRP to the State Power Utilities within a week of its credit to the State Government account and send a confirmation to the GoI; otherwise, it would be treated as diversion of funds.

> If any State Government/Utility diverts or is deemed to have diverted such funds, the equivalent amount would be adjusted with 10 per cent penal interest against the next instalment of Central Plan Assistance to be released to that State Government in that year or in the subsequent year.

A review of various reports of the MoP confirmed that one of the reasons for delayed implementation of APDRP projects was delay in release of APDRP funds by the State Governments to the State Power Utilities/SEBs. However, audit examination revealed that:

> The Ministry was not monitoring the details of delay in transfer of funds by the State Government to the SEBs/Utilities in respect of each release by the Central Government.

> The Ministry did not levy penal interest in even a single case of delayed release of APDRP funds.

> In the absence of any deterrent action, the State Governments continued to delay the transfer of APDRP funds to the implementing agencies, adversely affecting the progress of APDRP projects.

Further, during the test check of records relating to release of funds to SEBs/Utilities by the State Governments, it was observed that in many cases the State Government did not release the entire funds released by GoI, thereby defeating the purpose for which APDRP was introduced.

As of March 2006, a total of Rs. 412.03 crore were yet to be released by various State Governments: **Maharashtra** (Rs. 75.97 crore), **Nagaland** (Rs. 15.99 crore), **Arunachal Pradesh** (Rs. 15.13 crore), **Karnataka** (Rs. 12.52 crore), **Assam** (Rs. 15.00 crore), **Mizoram** (Rs. 7.10 crore), **Andhra Pradesh** (Rs. 265.10 crore), and **Sikkim** (Rs. 5.22 crore).

Further, audit examination revealed significant delays in release of APDRP funds ranging from 7 days to 1095 days, by the State Governments, as shown in **Annexure-VII.**

Reply of MoP

In its reply (February 2007), the Ministry statd that:

* They considered the utilisation certificates issud by the CEOs of the utilities as reliable. So far, utilisation reports for Rs. 10,139 crore had been received from the utilities so far.

* The expenditure under APDRP was auditable by the statutory auditors of the utilities, were having their own audit procedures and practices of internal and Government audits. The Ministry did not have the resources to audit each and every item of expenditure made by the utilities under the programme. However, ACCs did randomly check the booking and point out discrepancies found in the utilities

  Excess amounts released from projects which has been short closed by the Steering Committee in November 2006 would be utilised for balance projects.

* Instances of diversion of APDRP funds had not come to their notice.

* There were reports of delay in transfer of APDRP funds by the State Governments to the utilities. However, under the provisions of Additional Central Assistance, APDRP funds could not be directly released to the utilities in the absence of specific requests by the State Governments. Also, longer delays in transfer were noticed in the beginning of the programme, but due to close monitoring, the situation improved later on. Further, in view of these delays, the MoP was proposing taking up of APDRP under Central Scheme during the XI Plan.

The reply of the MoP is not tenable for the following reasons:

* As indicated in para 7.2.1, audit examination showed that out of Rs. 10,139 crore reported as utilised by SEBs/Utilities as indicated in the Ministry's reply, utilisation certificates in the format prescribed in the GFRs had been received only for Rs. 103.92 crore. This format includes a formal certification by the State Government of the amount of funds utilised for the specified projects, a confirmation that the conditions associated with the sanction had been fulfilled and also a certification that certain checks (typically verification with vouchers and books of accounts, measurement books, expenditure registers etc.) had been exercised to see that the money was actually utilised for the purpose for which it was sanctioned.

* The incorrect financial reporting of Rs. 676.09 crore noticed by audit confirm that the MoP's stand of considering the SEBs/Utility's utilisation report (as opposed to utilisation certificate) as reliable is incorrect and inappropriate.

* The statutory auditors of the SEBs/Utilities are responsible for expressing an audit opinion on the financial statements as a whole, not on the correctness (or otherwise) of the APDRP utilisation reports submitted to the MoP. The MoP

and its agencies are responsible for putting in place an adequate and effective mechanism for verification of APDRP expenditure claims and compliance with stipulated procedures. It need not be done by MoP along. Lack of adequacy of manpower is an area of concern, in view of the huge amounts released under APDRP.

* In view of the absence of any mechanism for verification of reported APDRP expenditure, instances of diversion of funds would obviously not come to the notice of MoP.

Recommendations

Ministry may insist on immediate onward release of the funds retained by the State Governments, ensuring, that in the process, the State Governments make no adjustments or deductions from APDRP releases. Ministry may also ensure immediate calculation and recovery of penal interest from the State Government for delay in release of funds. Further, the Ministry may also institute a formal mechanism for monitoring the delay in release of funds by the State Governments.

8. Incentive Mechanism

8.1 Background

The older Accelerated Power Development Programme (APDP) was project based and input focused rather than performance/output oriented. The 'Expert Committee on State-specific Reforms-Structuring of APDRP, Reform Framework and Principles of Financial Restructuring of SEBs' headed by Deepak S. Parekh felt that unless incentive was given towards achieving lasting improvements, the results were not likely to be sustainable in the long run.

The incentive scheme was conceived to make MoAs more successful and conducive for effective implementation. Under the scheme, the State Government would be incentivised upto 50 per cent of the actual total loss reduction by SEBs/ Utilities.

8.2 Incentive Mechanism has not taken off

Against the provision of Rs. 20,000 crore for the 10th Plan Period 2002-07, only Rs. 1575.02 crore (less than 8 per cent of the total outlay) had been released to eight States as of January 2007, as detailed below:

Table 11: Incentive Released as of January 2007

Sl. No.	State	Claim Years	Total amount released (Rs. in Crore)
1	2	3	4
1.	Andhra Pradesh	2002-03	265.11
2.	Gujarat	2001-02 and 2002-03	384.46
3.	Haryana	2001-02	105.49

1	2	3	4
4.	Kerala	2002-03 and 2004-05	84.94
5.	Maharashtra	2001-02	137.89
6.	Punjab	2003-04	77.78
7.	Rajasthan	2001-02	137.71
8.	West Bengal	2002-03, 2003-04 and 2004-05	381.64
		Total	1575.02

8.3 Inadmissible Incentive Claims—Rajasthan

Government of Rajasthan (GoR) had loged a claim for incentive of Rs. 144.45 crore in February 2003 being 50 per cent of losses reduced (Rs. 288.90 crore) during 2001-02 from the base year of 2000-01. The Ministry of Finance had sanctioned an incentive claim of Rs. 137.71 crore in December 2003 on the recommendation of the MoP.

However, audit examination revealed that there was no loss reduction during 2001-02 as compared to the base year of 2000-01, as the cash loss of Rs. 1055.39 crore of the base year *i.e.* 2000-01 had increased to Rs. 1179.91 crore during 2001-02. The loss of base year was inflated due to inclusion of expenditure of more than Rs. 284 crore pertaining to a period prior to the base year in respect of the SEB. Further, revenue was not considered on net realization basis and the figures furnished in respect of sundry debtors were also not in accordance with the above provision and hence not correct for the purpose of incentive claim. The cash losses had not decreased, even when the working of individual Discoms was considered separately. Also, the impact of auditor's qualification on the accounts of 2001-02, which resulted in further increase in cash loss, has also not been considered. Thus, an irregular and inadmissible incentive of Rs. 137.71 crore had been paid by the MoF on the basis of inappropriate claims of Rajasthan, which were not adequately verified by the MoP.

8.4 Not Allowing Incentive Claims

Incentive claims of Goa, Tripura, Punjab and Maharashtra were disallowed/ partly allowed on grounds which were not reflected in the guidelines, as summarised below:

* **Goa Electricity Department (GED)** submitted its incentive claim for the years 2001-02 and 2002-03 in February 2004. After examination of claim by M/s CARE, APDRP Cell and Internal Finance Wing of MoP, the Ministry recommended release of Rs. 8.95 crore incentive to the State. However, the MoF decided not to release the claim on the ground that the GED had not been corporatised, and it was not possible to know whether the losses in the case of elecricity business had decreased or not. It may be noted that corporatisation was not indicated as a pre-condition for release of incentive in the guidelines.
* **Tripura State Electricity Corporation Limited (TSECL)** submitted its incentive claim of Rs. 33.80 crore for FY 2003-04 in January 2006. The claim was examined

and approved by the CARE and the APDRP Cell in the MoP. Though the TSECL had been corporatised in January 2005 and it was found to be eligible for an incentive of Rs. 33.22 crore, the same was not agreed to in the MoP on the grounds that the claim pertained to the year 2003-04, when the distribution of power was being handled by Tripura State Electricity Department, and it has not been corporatised at that time and a similar claim of Goa, where corporatisation had not taken place, had been rejected by the Ministry of Finance.

* **Punjab State Electricity Board** submitted (March 2005) a claim of Rs. 243.10 crore under the incentive scheme for the year 2003-04, which was increased to Rs. 251.94 crore by the MoP. The MoF returned (August 2005) the claim to the MoP as the Punjab Government intended to give free power to the farmers, which was against the spirit of APDRP. However, after persuasion by the Punjab Government, GoI released Rs. 77.78 crore as of January 2007.

* The MoP received annual acccounts from **Maharashtra State Electricity Board (MSEB)** for the years 2000-01 and 2001-02 audited and certified by Comptroller and Auditor General of India. The Ministry calculated the total loss reduction amounting to Rs. 578.55 crore in the year 2001-02 and hence found Maharashtra eligible for an incentive claim of Rs. 289.27 crore. However, the MoF released incentive amounting to Rs. 137.89 crore only and desired to get the accounts scrutinised by a professional Chartered Accountant for release of incentive. The reasons for release of part incentive were not on record.

8.5 No mechanism for ensuring utilisation of incentives for improvement of power sector

The APDRP Guidelines stipulated that the grant under incentive component was to be utilised in the improvement of the power sector only. However, the MoP had not system to verify or confirm that this grant was being utilised for the improvement of the power sector. In fact, audit examination at the State level revealed utilisation of the incentive for other purposes, as summarised below:

* In **Rajasthan,** the incentive component of Rs. 137.71 crore was accounted as revenue grant in the Profit and Loss account of the Discoms, thus reducing the revenue gap and consequently subsidy receivable from the State Government.

* In **Kerala,** out of the incentive received, a sum of Rs. 1.05 crore was paid to the employees of the Board as a gift and Rs. 1 crore was donated to the Malabar Cancer Society. The balance was utilised for meeting working capital requirements.

* GoI provided **Haryana** Government Rs. 105.49 crore as incentive. The same was released to the companies after delay ranging from 1 to 15 months. The utilities also did not formulate any scheme for utilisation of the incentive for improvement of the power sector and appropriated this money towards their revenue expenditure.

* In **West Bengal,** out of Rs. 375.76 crore received as incentive, the SEB utilised (March, October 2005) Rs. 133 crore to pay interest accrued on State Government loans.

Reply of MoP

In reply (February 2007), the MoP stated that :—

* Incentive claims of Gujarat (2004-05), Kerala (2004-05), Punjab (2003-04), and Madhya Pradesh (2002-03), amounting to Rs. 898.46 crore are pending release, while claims of Andhra Pradesh (2005-06), Himachal Pradesh (2004-05), Madhya Pradesh (2004-05) and West Bengal (2005-06), are under examination.
* The incentive claim of Rajasthan was scrutinized and discussed at various levels in the MoP and MoF, before establishing eligibility and releasing the incentive.
* Claims of Goa and Tripura were not accepted, as it was not possible to verify reduction of losses from the non-corporatised accounts.
* The incentive component in its present form was proposed to be discontinued during the XI Plan.

The reply of the Ministry shows that the larger objectives of the incentive scheme have not been achieved.

9. Reform Measures

9.1 No accountability of Circles and Feeders

A Key administrative intervention under APDRP was ensuring accountability at the circle and the feeder level by:

* Redesignating Distribution Circles as independent profit centres (with adequate delegation of powers) and the Superintending Engineer as the CEO.
* 11 KV feeders to be operated as business units, with the Junior Engineer designated as the feeder manager.
* Ensuring accountability by having MOUs, setting out specific targets to be achieved, executed by the SEBs/Utilities with the CEOs of the Circles, who, in turn were to execute MOUs with their subordinate officials, who would ultimately execute MOUs with the Feeder Manager.

Audit examination, however, revealed that this intervention was not successful. In **Assam, Bihar, Chhattisgarh, Haryana, Himachal Pradesh, Goa, Jharkhand, Kerala, Punjab, Rajasthan, Sikkim, Uttar Pradesh,** and **West Bengal,** though the SEBs designated the Superintending Engineer of the Circle as Chief Executive Officer (CEO) and issued orders appointing JEs as Feeder Managers, in some States no administrative measures were taken to operate the distribution circle as independent profit centre/ complete business unit. In **Arunachal Pradesh, Punjab, Meghalaya, Nagaland, Rajasthan** (partly done), and **Uttar Pradesh,** even the designation of the JEs as Feeder Manager has not been done.

Recommendation

Ministry may ensure that States comply with the letter and spirit of the MOA and ensure target-based accountability at the Distribution circle and feeder level.

9.2 Unbundling of SEBs

Reorganization of SEBs involving unbundling into separate entities for Generation, Transmission and Distribution and corporatisation of unbundled entities, had not taken place as of March 2006 in **Arunachal Pradesh, Bihar, Chhattisgarh, Goa, Jharkhand, Manipur, Nagaland, Punjab** and **Sikkim.**

Further, in **Kerala** and **Tamil Nadu,** although the State Electricity Boards were functionally segregated into three profit centres namely Generation, Transmission and Distribution, the annual accounts had, however, not been prepared separately for each profit centre. In the absence of separate profit centres for Generation, Distribution and Transmission and determination of transfer pricing etc., the separate Profit and Loss accounts prepared at the circles of Distribution wing merely represented *ad hoc* management information, and the purpose of distinct profit centres has not largely been achieved.

9.3 Formation of State Electricity Regulatory Commission (SERC)

SERC was constituted in 23 out of 29 States. In **Arunachal Pradesh, Meghalaya, Manipur, Mizoram, Nagaland** and **Sikkim,** SERC/JERC[8] was not constituted. Further, in **Jammu and Kashmir** and **Goa,** though the SERCs had been constituted, they were not functional as no Tariff Orders had been issued as of March 2006.

9.4 Formation of State Level Distribution Reforms Committee (DRC)

The Memorandum of Agreement stipulated constitution of state level Distribution Reforms Committee (DRC) within a stipulated time period. The DRCs were, however, constituted in various States with delays ranging up to 731 days, as detailed in **Annexure-VIII**.

9.5 Ineffective vigilance and legal measures to prevent theft of energy

Theft of electricity, in the form of unauthorized connections from the electricity supply system, tampering, by-passing of meters by the consumers *etc.* constitutes a substantial part of commercial loss. Hence, vigilance and legal measure to prevent theft are critical to reduce non technical losses/commercial losses. The "Guidelines for reduction of Transmission and Distribution Losses" issued by the CEA and the MOAs prescribe various measures for reducing commercial/non-technical losses, *e.g.* setting up of vigilance squads, framing suitable policies and mechanisms for detection and follow-up of cases involving theft of energy, making full use of legal provisions for launching prosecution against offenders and conducting periodic review of cases, and imposing severe penalties for tampering with meter seals.

However, audit scrutiny revealed that the MoP's monitoring was confined to setting up of special courts and special police stations by the States. The Ministry did not have a mechanism for periodically monitoring of the details of cases registered,

[8]State Electricity Regulatory Commission/Joint Electricity Regulatory Commission.

convictions, penalty recovered *etc.* in different States. The limited data collected and provided by one of the AcCs (NTPC) showing details of theft cases detected, cases registered/convicted, penalty recoverably/recovered *etc.* is given in **Annexure-IX;** the gaps in data are purportedly on account of non-availability of complete details even with the utilities. On the other hand, the other AcC (Power Grid) did not maintain any such data and stated that such information might be available with the Utilities/Discoms.

The data presented in the Annexure shows that though utilities were detecting theft cases, the percentage of registration of cases was very low in **Haryana** (5.79 per cent for DHBVN), **Chhattisgarh** (0.28 per cent) and **Kerala** (14.08 per cent). Further, the percentage of conviction was low, ranging from zero per cent to 10.61 per cent (except CESE **Kernataka—**84 per cent and Jodhpur-**Rajasthan** 47 per cent). Also, the utilities did not accord due cognizance to the financial implications involved, as they were not having such details. In **Jharkhand,** the SEB could realize only Rs. 1.38 crore out of Rs. 13.32 crore recoverable as penalty, for theft cases during 2005-06, which was also a reason for the high AT&C losses of 62.3 per cent in 2005-06.

Audit examination at the State level revealed ineffective vigilance and legal measures to prevent theft of energy, as detailed below:—

* Though envisaged under the Electricity Act, 2003, special police stations were set up only in seven States (**Gujarat, Karnataka, Orissa, Rajasthan, Tripura, West Bengal** and **Delhi**). Also, special courts were not established in **Arunachal Pradesh, Bihar, Goa, Haryana, Jammu & Kashmir, Jharkhand, Kerala, Manipur, Meghalaya, Mizoram, Nagaland, Punjab, Sikkim, Tripura** and **Tamil Nadu.**

* Vigilance squads were not strengthened/set up in **Assam, Rajasthan** and **Sikkim.**

* In **Chhattisgarh,** only 39 FIRs were lodged during three years ending 2004-05. During 2005-06, 694 FIRs were lodged. However, not a single conviction has taken place so far.

Reply of MoP

In its reply (February 2007), the MoP stated that :

> Only a few States took effective measures resulting in significant reduction of theft. MoP was monitoring action taken by States for constituting Special Courts and Special Police Stations to handle cases related to theft of electricity, and this was proposed to be made as a condition for eligibility for APDRP funds during the 11th Plan.

The reply is general, and does not address the specific audit findings.

Recommendation

Ministry may set up a mechanism for monitoring the effectiveness of legal and vigilance measures adopted by SEBs/Utilities for preventing theft of energy.

10. Project Planning Management and Implementation

10.1 Project Planning and Approval

10.1.1 Inadequate examination of DPRs by Steering Committee

Audit examination revealed that in 9 meetings[9] between July 2002 and November 2006, the APDP/APDRP Steering Monitoring Committee approved as many as 641 Projects, which work out to an average of 71 projects per meeting in addition to other items like review and monitoring of project progress. Details of the projects sanctioned during each meeting are available in **Annexure-X.** Clearly this would not have allowed the Committee to exercise detailed scrutiny of the project, before according approval.

Audit examination revealed that the AcCs were providing brief snapshots of the projects to the Steering Committee, However it is doubtful if even the snapshots of 71 projects on an average were subjected to detailed scrutiny by the Steering Committee.

10.1.2 Revision of costs without Steering Committee approval

Audit examination of work execution at the State level revealed that frequent modifications were made in the scope of work under the approved DPRs, without obtaining prior or post-facto approval from the GoI.

- In **Bihar**, Power Grid unilaterally modified and reduced the scope work and quantity materials against those originally sanctioned by the Ministry, ranging between 6 to 64 per cent, (despite the fact that the original DPRs were vetted by Power Grid itself). The SEB, however, was doubtful as to whether the reduced scope would fulfil the objectives of the programme.
- In **Uttar Pradesh,** the works were being executed by the contractors without finalizing the bills of quantities jointly with the management and these had to be revised several times, even beyond the scheduled completion date.
- In **Maharashtra** (Jalgaon town), due to discrepancies in activity schedule, activities amounting to Rs. 3.82 crore were deleted from the scope of tender after receipt of snap bid relating to the work of supply, erection, testing and commission of HT/LT line work *etc*. Similarly, in Pune town, the 68KM, 22KV/11KV reconductoring work was revised to 46.5 KM and the actual work executed was 32.30 KM.

In **Sikkim,** there were cost overrun of Rs. 20.32 crore in 19 work over and above the projected cost of Rs. 68.78 crore as per DPRs and sanctioned by the GoI, primarily owing to higher rates quoted by the contractors and also due to subsequent increase in scope of works.

Reply of MoP

In reply (February 2007), the MoP stated that positive variations were limited to the sanctioned value by AcCs during reconciliations, while in the case of negative variations, the projects were short closed. Further in November 2006, it was decided by the APDRP Steering Committee that any escalation in the cost of the sanctioned projects would be borne by the utilities.

[9] This excludes two meetings, where no projects were approved.

The reply does not address the fact that variations (whether positive or negative) are indicative of deficient estimation. Further, the lack of adequate systems for validation and reconciliation of reported expenditure have been highlighted in paragraph 7 of this report.

10.1.3 Deficiencies in Individual DPRs

Audit scrutiny revealed significant deficiencies in DPRs in **Haryana, Himachal Pradesh, Madhya Pradesh, Maharashtra, Rajasthan, Tripura** and **Sikkim** covering issue such as incorrect cost estimation, excess use of material, unrealistic setting of targets *etc.* as summarised in **Annexure XI.**

10.2 Project Implementation

10.2.1 Implementation by AcCs

Audit observed that instead of providing guidance and assisting the SEBs/ Utilities in executing the APDRP works on their own and thus ensuring capacity building, Power Grid (one of the Lead AcCs) took up the implementation work in **Bihar** (11Circles), **Goa** (North Goa, South Goa), **Meghalaya** (Western Circle, Jowai Town and Shillong), **Uttar Pradesh** (Raibareli and Sultanpur Town), **Tripura** and **Gujarat** (work of SCADA in Baroda). As per the Agreements between Power Grid and the respective State Governments Power Grid charged implementation/Execution charges @ 13.5 per cent to 15 per cent of the Project Cost.

This led to a serious conflict of interest, as on the one hand, the MoP was relying almost exclusively on the AcCs for vetting of DPRs and independent review of projects before approval, as also monitoring and review of progress of implementation, while on the other hand, Power Grid was executing the work as in implementing agency in several States.

Reply of MoP

In reply (February 2007), the MoP stated that Power Grid had informed them that they had taken up execution work of APDRP only on specific requests from some States, in view of their difficulties. Further, Power Grid had a separate AcC Cell in their Corporate Centre, which was in no way connected with site execution of their work.

They reply is not tenable, since in s such States, the MoP should have arranged for a different AcC.

10.2.2 Non-adoption of Turnkey contracting/Distorted Turnkey Packaging

As per the GoI Guidelines of February 2001 and the MOA, SEBs had to invite tenders for turnkey implementation of the APDRP projects with a view to maintain a rigid completion schedule and for identification of single point responsibility for execution. The project execution mechanism should have been finalized by the SEBs/ Utilities and informed to the Ministry within six months of signing the MoA. However, audit observed that most SEBs/Utilities executed the work departmentally or on semi-turnkey basis. Even where turnkey contracting was adopted, the projects were split into separate packages, which negated the purpose of turnkey contracting *viz.* identification of single point responsibility for adherence to a rigid time schedule. A State-wise summary of deficiencies noticed during audit examination is given in **Annexure XII.**

Non-adoption of turnkey contracting was also highlighted in the 'Report for Restructuring of ADPDRP' as one of the reasons for slow progress of work.

10.2.3 Instances of Delay

Various cases of abnormal delays ranging, between 10-36 months, after approval of the DPRs, resulting in consequential delay in completion of the projects were noticed in **Madhya Pradesh, Maharashtra,** and **Uttar Pradesh** as detailed in **Annexure XIII.**

10.2.4 Execution of items outside APDRP scope

Audit scrutiny revealed that works valuing Rs. 324.92 crore were executed in **Himachal Pradesh, Jammu & Kashmir, Jharkhand, Kerala, Maharashtra, Orissa, Punjab, and Tamil Nadu** and which were not covered under the scope of APDRP *e.g.* replacement of functioning meters, underground cable system for power supply, works related to the transmission network *etc.,* detailed in **Annexure XIV**.

10.2.5 Execution of items outside DPRs

Audit also showed that various works/items of works. valuing Rs. 43.10 crore, which were not covered/included in the approved DPRs, were executed by the SEBs,Utilities in **Assam, Haryana, Himachal Pradesh, Jammu & Kashmir, Orissa, Punjab, Mizoram,** and **Uttar Pradesh** as detailed in **Annexure XV**.

10.2.6 Economy in procurement and execution

Cases of lack of economy in procurement and execution in **Assam, Andhra Pradesh , Maharashtra** and **Sikkim** were observed, as a result of which the SEBs/Utilities incurred an avoidable expenditure of Rs. 11.19 crore, as indicated in **Annexure XVI.**

10.2.7 Excess payments to contractor

Audit scrutiny revealed cases of excess payments, amounting to Rs. 13 crore, to contractors in **Andhra Pradesh, Assam, Arunachal Pradesh, Himachal Pradesh, Mizoram, Orissa, Sikkim, Tripura and West Bengal** as detailed in **Annexure XVII.**

10.2.8 Other cases of inefficient /ineffective execution

Various others cases of ineffective and inefficient execution of works/items of work *viz.* non-utilisation of material due to non completion of related works, installation of old/repaired equipments, irregular award of work, improper reporting of completion of works, extension of scheduled completion period for reasons attributable to inefficiencies of the management etc. were observed during test check of records in Audit in **Assam, Andhra Pradesh, Bihar, Chhattisgarh, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, Mizroam** and **Uttar Pradesh** as detailed in **Annexure XVIII.**

11. Information Technology (IT) enabling

According to the APDRP guidelines , IT and Computer Aided Tools for revenue increase, outage reduction, monitoring and control played a vital role in distribution management IT applications would be used in such processes in the distribution sector to ensure higher revenues as a result of segregation of T&D losses, and controlling commercial losses, especially for metering, meter reading, billing, collection and outage reduction. However, audit examination revealed poor progress in IT works, in particular those relating to customer indexing, digital mapping, and Supervisory Control and Data Acquisition (SCADA), as detailed below:—

> In **Rajasthan**, out of a proposed expenditure on IT interventions of Rs. 5.81 crore constituting 5.87 per cent of total expenditure of Rs. 967.85 crore of selected schemes, actual expenditure during the period from 2003-04 to 2005-06 was only Rs. 0.81 crore which was less than 2 per cent to the planned expenditure.

> In **Haryana,** the utilities had not formulated and implemented an integrated programme for execution of works relating to computerization and IT, though Rs. 18.11 crore where to be spent on consumer indexing, GIS mapping, call centres, and data logging of 33 KV sub stations.

> In **Kerala**, audit scrutiny revealed that the LT Billing system lacked the provision to capture the parameters relating to energy Audit, the data relating to installation of capacitors by industrial consumers, meter reading exception report, consumption comparison report, invoice comparison report in respect of spot bill etc. as also the facility to generate reports of revenue such as Monthly Report of Revenue required to be forwarded to the Division.

> In **Tamil Nadu**, the progress of LT computerized billing and IT enabling including data loggers, was only 23.76 per cent and 24.13 per cent in physical terms and 42.22 per cent and 27.58 per cent in financial terms respectively.

> In **Jharkhand**, GIS mapping and setting up of online MIS for decision making covering technical commercial and management functions had not been done as no provisions for computerization was made in the work order issued by the Board. Even though the billing process was computerized, it would have limited utility until consumer indexing and GIS mapping was taken up, and linked with billing data.

> In **Uttaranchal**, though UPCL spent Rs. 1.40 crore on consumer indexing, it could not take up energy audit at any DT in the absence of any consumer mapping details.

> In **Punjab**, implementation was very slow as only Rs. 6.82 crore out of Rs. 64.31 crore were incurred on IT upto March 2006.

> In **Assam**, though online billing through computerization was to be done, the same had not been implemented, and linking consumer index to the computerized billing database was done in one circle, out of 14 circles.

- In **Karnataka**, financial progress in respect of IT related works was a meagre 39.14 per cent.
- In **Gujarat** (test checked Himmatnagar Project), though an expenditure of Rs. 53.35 crore was incurred on the project till 31 March 2006, no expenditure had been incurred on consumer indexing work.
- In **Tripura** and **Sikkim,** IT systems for addressing customer complaints/ grievances as trouble call management centres, computer cell *etc.* were not yet developed.
- In **Sikkim**, though the entire provision of Rs. 0.72 crore was exhausted, computerized billing could be implemented in only two out of 24 revenue sub-divisions. Further, computer indexing was complete in only 6 out of 24 revenue sub-divisions.
- In **Jammu and Kashmir**, against a project outlay of Rs. 21.18 crore for modernization works such as computerized billing, communication facilities, and SCADA, a meagre amount of Rs. 82.75 lakh (4 percent) had been spent as of March 2006, which was mainly on installation of computer systems in Nodal Offices and Chief Engineers offices at Jammu and Srinagar.

Reply of MoP

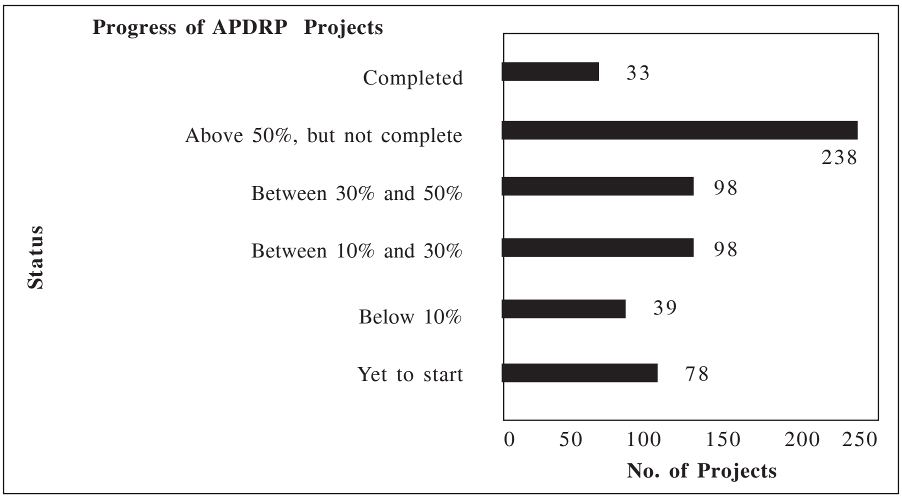
In reply (February 2007), the MoP stated that:

- They had constituted an IT task force, which recommended a clear cut road map for distribution utilities for adoption of IT, based on their present status and had laid emphasis on the implementation of computerized billing, data logging, MIS, SCADA etc.
- The utilities felt that modernization activities could be taken up only after the existing distribution network was brought to a certain level, and also that the payback period for such investments was higher. Consequently, they accorded secondary treatment to IT enabling. Utilities had now started adopting IT and other technology options in selected areas. However, the grant under APDRP covered ony 25 per cent of the cost, with the rest to be arranged as loan, and the utilities already had a high loan burden.
- They (the MoP) proposed to give higher importance to IT, especially in the context of energy accounting and audit, during the XI Plan.
- The reply confirms lack of adequate and effective efforts by the MoP in ensuring the actual implementation of IT tools, and consequently, the lack of effective energy accounting and auditing, which is critically dependent on IT.

12. Monitoring, Evaluation and Reporting

12.1 Summary of reported financial progress

While the APDRP guidelines stipulated that the projects were to be completed within at most 36 months of the date of sanction , the financial progress of APDRP projects, as reported by the Ministry[10] was why behind schedule, as depicted below:



An analysis of delays in completion reveals the following position:

Table 12 : Details of completion against targeted dates

Sl. No.	Date of Projects Sanctioned	Number of Projects Sanctioned	Scheduled Completion Date (assuming a maximum of 36 months)[11]	Number of Projects completed as of October, 2006	Percentage of completed projects
1.	16.07.2002	57	7/05	05	9
2.	25.09.2002	72	9/05	03	4
3.	20.11.2002	203	11/05	21	10
4.	20.05.2003	66	5/06	04	6
5.	28.11.2003	08	11/06	NIL	0
6.	20.09.2004	93	9/07	NIL	NA[12]
7.	23.03.2005	69	3/08	NIL	NA[11]
8	03.08.2005	15	8/08	NIL	NA[11]

State-wise details of financial progress are enclosed in Annexure-XIX, which is summarised below:

* Of the 33 completed projects, 16 projects were in Andhra Pradesh, and 3 each in Tamil Nadu and West Bengal.

[10]Based on reported utilisation of funds (and not physical progress).
[11]While individual APDRP projects have separate schedules for completion, these are not tracked by the MoP. Hence, the maximum timeframe of 36 months has been used for computing delay.
[12]Completion date not yet over.

* In respect of all projects, **Andhra Pradesh, Delhi, Gujarat, Himachal Pradesh, Karnataka, Sikkim, Tamil Nadu,** and **Uttaranchal** report a relatively high utilisation of funds, while **Madhya Pradesh, Manipur, Jammu and Kashmir, Orissa** and **Tripura** reported very poor utilisation of funds.

The delay in progress of works and failure to complete works in time would result in non-achievement or partial achievement of the desired objectives, and further time and cost over-runs. Analysis of the reasons for slow progress revealed that **there was no shortage of funds for implementation,** as nearly 54 per cent of the 10th Five Year Plan provision of Rs. 20,000 crore was still available for sanction. Instead, as discussed elsewhere in the report, the delays were mainly due to poor planning and execution, and lack of commitment and involvement of the implementing agencies.

Reply of MoP

The MoP replied (February 2007) that:

* The execution of projects was delayed due to various reasons on the part of the State Governments not transferring the APDRP funds in timely fashion to the utilities, and delayed action on the part of the implementing utilities. The low allocation of budget by the Government during 2005-06 and 2006-07 also affected the implementation to some extent.

* Some of the projects where implementation had not started long after sanction had been closed by the Steering Committee in its meeting in November 2006, and some other projects had been short closed due to various reasons.

* Many of the projects showed 90 per cent completion on the basis of financial progress even after completion of the project on physical term for want of final reconciliation and non-payment of final bills for want of completion of performance guarantee period.

This reply is not tenable, as majority of projects were sanctioned between 2002 and 2003, and in case these projects had indeed been completed in all respects, issues like final reconciliation and performance guarantee should have been resolved well in time.

12.2 Lack of direct linkage between physical and financial progress

The MoP's monitoring and reporting of progress of APDRP projects in terms of percentage completion was based on the reports of utilisation of funds from the State Governments *vis-a-vis* the project outlay, rather than on actual physical progress. While the MPRs (Monthly Progress Reports) from the State Governments did give details of physical progress, the Ministry's status reports did not involve compilation of the data on physical progress, but was restricted to financial utilisation. This gives a misleading picture of the status of implementation of APDRP.

Reply of MoP

The MoP replied (February 2007) that the reports were being compiled by the AcCs, both on financial and physical basis, and being examined by them, while the physical data, being voluminous, was being examined by the Ministry and the Steering Committee from time to time. NTPC stated (January 2007) that the condition for release of funds was based on financial, and not physical progress.

The response is not satisfactory, since there needs to be clear and direct linkage between physical and financial progress at the Ministry level.

Recommendation

Ministry's monitoring and reporting mechanism should capture both physical and financial progress, facilitating direct linkage and comparison, and corrective action in case of wide variations between physical and financial progress.

12.3 Inspection of APDRP Projects

The APDRP Steering Committee, in its sixth meeting in April 2004, showed concern about the quality of equipments being procured and execution of the projects under APDRP and desired that the lead AcCs should closely monitor the progress of implementation of APDRP.

On enquiry by audit regarding inspection by the AcCs of the APDRP projects, one AcC (NTPC) intimated that the inspection reports were handed over to the Head of concerned utility for corrective action, and, as such, these could not be provided to Audit (except a few sample reports without name of the project and utility). In its further response (January 2007), NTPC requested audit to collect the inspection reports from the respective utilities Records relating to inspections, if any, carried out by the other Lead AcC (Power Grid)—were not provided to Audit.

The MoP did not have a consolidated record of all such inspections by the AcCs, and audit could not ascertain whether any corrective action was taken on the findings/recommendations of such inspection reports by the Ministry and SEBs/ utilities. In response to an audit memo, the MoP stated that the inspection reports were flagged only during the Review Meetings at the Ministry level. However, a review of the minutes of such meeting indicated only one reference by NTPC to the lack of turnkey approach in Madhya Pradesh and a dispute between NTPC and the SEB in Chhattisgarh on issue and finalisation of NITs and no reference to any inspection reports by the AcCs.

12.4 Very few projects evaluated

Evaluation of the APDRP projects by an independent agency was an integral part of the scheme. Initially, projects which were at least 50 per cent complete were to be selected for evaluation and the work of evaluation was assigned to five consultants namely TERI, SBI CAPs, TCS, IIM-Ahmedabad and ASCI. However, the evaluation covered ony 67 APDRP projects in 11 States **(Andhra Pradesh, Delhi, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, Rajasthan, Sikkim, Tamil Nadu** and **Uttaranchal)** out of the total 583 approved projects in 29 States, of which 271 projects were reportedly more than 50 per cent financially complete as of March 2006.

12.5 Monitoring by State Level Distribution Reforms Committee (DRC)

A State Level Distribution Reforms Committee was required to be constituted within one month of signing of the Memorandum of Agreement with the MoP. The Committee was to meet once in two months and review the progress of project implementation, compliance of MoU/MoA conditions, performance against targets and Benchmarks. Audit scrutiny by the State Level further revealed that the required number of meetings of DRC to review the progress of project implementation etc. was not held, with the shortfall in holding the specified number of meetings ranging up to 80 per cent in various States. Details are given in **Annexure VIII.** The CEO of the Circle, along with AcCs, was to monitor and review the achievements on technical, commercial and benchmarks every month. The record of such reviews along with reasons and action proposed for overcoming shortfall were to be intimated to the MoP, but the same was not done and the MoP did not have any such records.

Recommendation

Ministry may take steps to ensure (a) that all DPRs are subjected to critical examination by the Steering Committee for technical and financial feasibility before approval, (b) the independent, advisory role of AcCs is clearly demarcated as opposed to implementation responsibilities, and (c) there is a well-defined mechanism for inspection of APDRP projects by AcCs and review of corrective action thereon.

13. Conclusion

APDRP was launched in 2002-03 with a total provision of Rs. 40,000 crore— Rs. 20,000 crore each for the investment and incentive components-for the 10th Five Year Plan Period. As of March 2006, only about 30 per cent and 8 per cent of the provisions on the investment and incentive components have been released. Financial management under the programme has been poor and the expenditure reported by the States is unreliable, in the absence of Utilisation Certificates and Statements of Expenditure. Audit examination detected several cases of incorrect financial reporting, short release/diversion of funds by the State Governments, with the Ministry of Power taking no corrective action in this regard.

The main objectives of APDRP are far from being achieved. Against the targeted reduction of 9 per cent per annum in AT&C loss, a reduction of only 1.68 per cent per annum, between 2001-02 and 2004-05, has been achieved, as indicated in a recent report of MoP Task Force. Audit scrutiny further revealed serious deficiencies in the authenticity of data regarding AT&C Loss being reported to the MoP. Energy auditing and accounting has not taken off, primarily on account of lack of system metering (in particular Distribution Transformer metering) and inadequate computerisation efforts. The efforts to improve accountability at the circle and feeder levels through a chain of target-based MoUs have not been successful. The incentive mechanism has not been successful, and most of the claims pertain to the year 2001-02 to 2003-04, indicating that actual cash loss reduction in most States has been poor.

Progress in implementation of APDRP projects was poor, with only 33 out of 583 projects reported as financially completed as to March, 2006. There were significant deficiencies in the project approval and monitoring processes at the MoP. Audit examination also threw up numerous cases of deficient DPRs, project execution and implementation, and lack of economy and efficiency in procurement and contracting.

The Ministry needs to take major and effective steps to exercise stricter monitoring and control over implementation of APDRP, in particular on implementation of 100 per cent metering, energy accounting and audit and IT enabling to ensure that the envisaged objective to distribution reform is achieved.

Sd/-

(K. R. SRIRAM)
Principal Director of Audit,
Economic and Service Ministries.

New Delhi
Dated: 12th March, 2007

Counter signed

Sd/-

(VIJAYENDRA N. KAUL)
Comptroller and Auditor General of India.

New Delhi
Dated: 13th March, 2007

ANNEXURE I
(refer to para 2.3)

Statement showing the funding pattern for release of APDRP funds as per the Guidelines issued by Ministry of Power

As per guidelines issued on 11th June 2003

Sl.No.	Conditionality	Percentage of APDRP funds to be released by GoI	
		Non-Special Category States	Special Category States
1.	Up front on approval of project under APDRP and on tie up of Central Plan Fund from financial institutions.	25 per cent	50 per cent
2.	Release of matching fund by financial institutions (FIs)	—	—
3.	After spending 25% of the project cost* (*i.e.* 25% APDRP+25% of counterpart fund from FIs)	50 per cent	50 per cent
4.	Progressive release of 50 per cent of the project cost by FIs/own resources	—	
5.	After spending 75% of the project cost (*i.e.* 75% APDRP+75% of counterpart fund from FIs)	25 per cent	—
6.	Progressive release of the balance 25% of the counterpart fund by FIs	—	—

As per guidelines issued on 7th November 2005 (effective from 2005-06)

1.	Up front on approval of Project under APDRP	10 per cent	30 per cent
2.	Release of 30% Project cost by Financial Institutions (FIs)/own resources	—	—
3.	After spending 40% of the project cost[13] (*i.e.* 10% of the project cost as APDRP grant+30% of loan component from FIs/own resources)	10 per cent	40 per cent
4.	Progressive release of the 30%[14] of the Project cost by FIs/own resources.	—	—

*50 per cent in case of Special Category States.
[13] 30 per cent for Special Category States.
[14] 10 per cent for Special Category States.

S.No.	Conditionality	Percentage of APDRP funds to be released by GoI	
		Non-Special Category States	Special Category States
5.	After spending 80% of the Project Cost[15] (*i.e.* 20% of the project cost as APDRP grant +60% of loan component from FIs/own resources) balance APDRP amount *i.e.* 5% of the project cost would be released.	5 per cent	20 per cent
6.	Progressive release of the balance 15% of the Project cost by FIs/own resources	—	—

[15] 70 per cent + 10 per cent of GoI share for Special Category States.

ANNEXURE II
(refer to para 2.6)

Statement showing State-wise Project Outlay, Releases by Government of India, Counterpart Funds Sanctioned/Drawn and Percentage of Utilisation *vis-a-vis* Project outlay as of 31st March 2006*

Rs. in Crore

Sl. No.	Utilisation	State outlay	Project Component			Revised APDRP			Release		C/Part Fund	
			Grant	Loan	Total	Grant	Loan	Total	Sanctioned	Drawn	Total	%
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Andhra Pradesh	1458.49	364.62	283.38	648.00	283.38	283.38	566.76	744.78	436.53	967.52	66.34
2.	Bihar	854.05	213.51	156.59	370.10	156.59	156.59	313.18	377.75	121.48	309.72	36.26
3.	Chhattisgarh	407.70	101.93	79.61	181.53	79.61	79.61	159.21	65.99	65.99	133.28	32.69
4.	Delhi#	922.61	230.65	52.76	283.41	52.76	52.76	105.51	767.72	767.72	863.23	93.56
5.	Goa	294.01	73.50	56.70	130.20	56.70	56.70	113.40	62.70	44.87	129.09	43.91
6.	Gujarat	1083.22	270.81	200.13	470.94	200.13	200.13	400.26	480.54	372.44	818.12	75.53
7.	Haryana	431.95	107.99	84.50	192.48	84.50	84.50	168.99	225.34	104.56	210.79	48.80
8.	Jharkhand	423.65	105.91	76.94	182.85	76.94	76.94	153.87	222.42	65.54	146.26	34.52
9.	Karnataka	1186.31	296.58	217.73	514.30	230.25	217.73	447.97	668.97	496.41	798.69	67.33
10.	Kerala	863.63	215.91	115.28	331.18	115.28	115.28	230.55	175.18	142.55	294.03	34.05
11.	Madhya Pradesh	663.20	165.80	64.94	230.74	64.94	64.94	129.87	339.54	127.37	184.90	27.88

*Source-Ministry of Finance.
#Funds to Delhi are released by Ministry of Home Affairs.

1	2	3	4	5	6	7	8	9	10	11	12	13
12.	Maharashtra	2231.58	557.90	134.12	692.01	214.90	134.12	349.01	713.64	265.37	891.32	39.94
13.	Orissa	592.22	148.06	37.01	185.07	37.01	37.01	74.02	296.11	35.52	59.47	10.04
14.	Punjab	715.57	178.89	89.37	268.26	89.37	89.37	178.74	353.19	148.73	278.43	38.91
15.	Rajasthan	1193.25	298.31	192.92	491.23	192.92	192.92	385.83	417.92	188.13	710.79	59.57
16.	Tamil Nadu	948.12	237.03	220.91	457.94	220.91	220.91	441.82	484.09	392.77	724.14	76.38
17.	Uttar Pradesh	1091.30	272.83	67.26	340.09	106.75	67.26	174.01	438.17	245.91	491.99	45.08
18.	West Bengal	442.20	110.55	20.09	130.64	72.84	20.09	92.92	210.29	65.15	225.63	51.02
	Sub Total	**15803.06**	**3950.77**	**2150.19**	**6100.96**	**2335.73**	**2150.19**	**4485.92**	**7044.34**	**4087.04**	**8237.40**	**52.13**
19.	Arunachal Pradesh	82.69	74.42	3.67	78.09	33.01	3.67	36.68	NIL	NIL	12.49	15.10
20.	Assam	650.73	585.66	15.89	601.54	262.63	15.89	278.51	NIL	NIL	237.91	36.56
21.	Himachal Pradesh	322.78	290.50	16.39	306.89	225.94	16.39	242.33	NIL	NIL	214.71	66.52
22.	Jammu & Kashmir	1100.13	990.12	31.50	1021.61	377.00	31.50	408.50	NIL	NIL	308.88	28.08
23.	Manipur	141.62	127.46	0.27	127.73	2.40	0.27	2.67	NIL	NIL	2.67	1.89
24.	Meghalaya	227.43	204.69	5.84	210.52	52.54	5.84	58.38	NIL	NIL	41.46	18.23
25.	Mizoram	108.74	97.87	2.90	100.76	75.11	2.90	78.01	NIL	NIL	28.96	26.63
26.	Nagaland	122.27	110.04	4.28	114.33	64.30	4.28	68.58	NIL	NIL	42.84	35.04
27.	Sikkim	164.19	147.77	15.47	163.24	139.26	15.47	154.73	NIl	NIL	134.83	82.12
28.	Tripura	146.74	132.07	3.76	135.83	33.88	3.76	37.64	NIL	NIL	24.58	16.75
29.	Uttaranchal	310.08	279.07	24.08	303.15	255.68	24.08	279.76	NIL	NIL	220.47	71.10
	Sub Total	**3377.40**	**3039.66**	**124.04**	**3163.7**	**1521.74**	**124.04**	**1645.78**	**NIL**	**NIL**	**1269.80**	**37.60**
	Total	19180.46	6990.43	2274.23	9264.65	3857.47	2274.23	6130.70	7044.34	4087.04	9507.20	49.57

ANNEXURE III
(refer to para 5.1)

Details of sampling procedure

Selection of Units

(a) All the relevant records of the MoP/MoF and SEBs/Utilities/SEDs, Distribution Companies (Discoms), at the Centre and State level were audited.

(b) In every State, 25% of the Circles were to be selected on the basis of Probability Proportion to Size with Replacement (PPSWR) method of statistical sampling with size measure as total number of projects in each Circle. However, in case of those States where the total number of projects required to be selected were not covered in the 25 per cent selected circles, then the number of circles selected was to be increased to cover the sufficient number of projects, even if the percentage of thus selected circles crossed 25 per cent.

Selection of Projects

583 numbers of projects were being implemented in 29 States. Out of which a sample size of 236 numbers of projects was found to be reasonable with 5 per cent margin of error, 95 per cent confidence level and 50 per cent occurrence rate of non-completion of Projects in the population. This sample size had been allocated proportionately over the States.

Once the projects had been selected from the circles selected by the State AsG, these **projects were divided into two categories/strata** namely (a) projects which have been evaluated by external agencies like ASCI, TCS, TERI etc., and (b) projects which had not been evaluated by such external agencies. 25 per cent of the projects were to be selected from stratum (a) and the remaining 75 per cent of the projects, subject to a minimum of 2, from stratum (b).

Selection of Towns

In addition to selection of Circles and Projects, Best/Worst Performing Towns were also to be selected, for detailed examination, as under:

- **Best performing towns—**Out of 15 numbers of town indicated by Ministry of Power as best towns in respect of AT&C losses, during 2003-04, which ranged between 7.52 to 10.68 per cent, towns namely Chennai in Tamil Nadu and Uppal, Malkajigiri and Nizamabad in Andhra Pradesh, were selected using Simple Random Sampling without Replacement Technique for detailed examination.

- **Worst performing towns—**All the 15 worst performing towns, where AT&C loss ranged between 59.85 per cent to 80.35 per cent during 2003-04 as indicated in the records of Ministry, namely Jamtara, Garwha, Latehar, Daltonganj, Sahibganj, Dumka and Pakur in Jharkhand, Naharlagun in Arunachal Pradesh, Osmanabad in Maharashtra, Darbhanga, Pesu (West) and Gaya in Bihar, Chhatarpur in Madhya Pradesh, Roorkee in Uttaranchal and Aizawl in Mizoram, were selected for examination in detail.

Statement showing the details of Sampling

S.No.	Name of State	Total Number of projects	Reasonable sample size of projects	Number of projects to be taken up for detailed examination	Number of projects actually taken up for detailed examination
1.	Andhra Pradesh	101	40.88	15	101
2.	Arunachal Pradesh	4	1.62	4	4
3.	Assam	15	6.07	6	6
4.	Bihar	15	6.07	6	6
5.	Chhattisgarh	7	2.83	4	4
6.	Delhi	6	2.42	4	4
7.	Goa	7	2.83	4	4
8.	Gujarat	13	5.26	5	5
9.	Haryana	18	7.28	7	7
10.	Himachal Pradesh	12	4.86	5	5
11.	Jammu & Kashmir	6	2.43	4	4
12.	Jharkhand	8	3.23	4	4
13.	Karnataka	35	14.17	14	14
14.	Kerala	52	21.05	15	13
15.	Madhya Pradesh	48	19.43	15	16
16.	Maharashtra	35	14.17	14	14
17.	Manipur	5	2.02	4	4
18.	Meghalaya	9	3.64	4	4
19.	Mizoram	7	2.83	4	4
20.	Nagaland	3	1.21	3	2
21.	Orissa	7	2.83	4	4
22.	Punjab	26	10.52	11	13
23.	Rajasthan	29	11.74	11	11
24.	Sikkim	4	1.62	4	4
25.	Tamil Nadu	41	16.60	15	7
26.	Tripura	7	2.83	4	4
27.	Uttar Pradesh	36	14.57	14	14
28.	Uttaranchal	6	2.43	4	4
29.	West Bengal	21	8.50	8	8
	Total	583	235.94	216	294

ANNEXURE IV

(refer to para 6.1.1)

Statement showing AT&C Losses for the year 2001-02 and 2005-06

Sl. No.	Name of the State	AT&C Losses (in percentage)$		Basis of Average in case of Percentage of AT&C losses calculated on the basis of average of circle/towns
		2001-02	2005-06	
1	2	3	4	5
1.	Andhra Pradesh	22.74#	18.06#	Average of 3 Model Circles # T&D Losses
2.	Arunachal Pradesh*	68	54.76	State as a whole
3.	Assam*	41.48 (2002-03)	42.10	Average of total 14 Projects
4.	Bihar	65.74*	55.68**	*Average of 4 Circles **Average of 6 Circles
5.	Chhattisgarh	34.07	34.87	Average of 6 test checked Circles
6.	Delhi	DNA	59*	Average of 8 districts under BYPL & BRPL
7.	Goa	29.41	15.86	State as a whole
8.	Gujarat	17.63(2002-03)*	21.21*	Average of 3 Circles and 2 cities (test checked)
9.	Haryana	38.35(2002-03)	40.52	*Average of 2 companies
10.	Himachal Pradesh*	48.46(2002-03)	30.98	State as a whole
11.	Jammu & Kashmir*	46(2002-03)#	45#	#T&D Losses AT&C Losses in 7 circles ranged between 47% & 72% in 2005-06
12.	Jharkhand	63.24	62.39	State as a whole
13.	Karnataka	42.39	37.81	State as a whole
14.	Kerala	NA	32.79*	*Average of 9 Projects
15.	Madhya Pradesh	45.49 (2003-04)*	43.77*	*Average of 36 towns under APDRP
16.	Maharashtra	44.11(2003-04)	35.70	State as a whole

$Figures based on audit scrutiny at the State Level, except Assam where the figures have been taken from the Monthly Progress Report of Powergrid as of March 2006.

1	2	3	4	5
17.	Manipur*	80.69	85.41	State as a whole
18.	Meghalaya*	35.37	42.96	State as a whole
19.	Mizoram*	84.94	72.74	State as a whole
20.	Nagaland*	61	59	State as a whole
21.	Orissa	55.50 (2000-01)	44-75	State as a whole
22.	Punjab	26.86	24.02	State as a whole
23.	Rajasthan	42.27 (2003-04)	41.56	Average of 3 Discoms
24.	Sikkim*	63.93	41.19	State as a whole
25.	Tamil Nadu	18.87	16.33	Average of 25 circles
26.	Tripura*	40.63 (2002-03)	32.40	State as a whole
27.	Uttar Pradesh	44.50*	43.38**	* Average of 3 Circles
		(2003-04)		** Average of 11 Circles
28.	Uttaranchal*	45.07	38.80	State as a whole
29.	West Bengal	45.41	35.28**	**Average of 2 Circles and 6 towns test checked

*Special category States.

ANNEXURE V (A)

(refer to para 6.2.1)

Status of Consumer Metering for the Years 2001-02 and 2005-06*

Sl.No.	State	Consumer Metering (In Lakhs) 2001-02			2005-06		
		Numbers	Metered	Percentage	Number	Metered	Percentage
1	2	3	4	5	6	7	8
1.	Andhra Pradesh	113.20	90.50	80	157.46	150.47	96
2.	Arunachal Pradesh	1.30	0.70	54	1.13	0.52	46
3.	Assam	9.50	6.50	68	11.77	10.56	90
4.	Bihar	23.76	17.16	72	12.50	6.23	50
5.	Chhattisgarh	18.70	11.20	60	22.91	15.81	69
6.	Delhi	27.10	26.26	97	26.65	26.65	100
7.	Goa	4.00	3.80	95	3.96	3.86	97
8.	Gujarat(GEB)	69.21	63.55	92	74.77	69.57	93
9.	Haryana	35.11	32.65	93	39.17	36.12	92
10.	Himachal Pradesh	16.50	15.10	92	16.97	16.97	100
11.	Jammu & Kashmir	10.00	4.00	40	10.00	4.00	40
12.	Jharkhand				6.53	4.90	75
13.	Karnataka	85.00	48.40	57	128.89	105.68	82
14.	Kerala	62.50	58.00	93	77.99	77.99	100
15.	Madhya Pradesh	63.29	35.46	56	64.92	46.50	72
16.	Maharashtra (MSEB)	129.00	109.00	84	135.32	118.12	87
17.	Manipur	1.70	1.40	82	1.70	1.40	82
18.	Meghalaya	1.40	0.90	64	1.68	0.84	50
19.	Mizoram	1.04	0.48	46	1.28	1.27	99
20.	Nagaland	1.50	1.10	73	1.88	1.14	61
21.	Orissa	14.50	11.50	79	21.49	17.45	81
22.	Punjab	52.71	44.68	85	58.94	50.39	85
23.	Rajasthan	53.05	43.25	82	58.45	54.78	94
24.	Sikkim	0.70	0.30	43	0.65	0.60	92
25.	Tamil Nadu	147.68	117.42	80	170.33	148.13	87
26.	Tripura	1.80	1.20	67	2.28	1.84	81
27.	Uttar Pradesh	78.10	46.03	59	88.06	80.38	91
28.	Uttaranchal	8.54	7.09	83	9.87	7.73	78
29.	West Bengal	38.00	32.00	84	47.27	45.89	97
	Total	1068.89	829.63	78	1254.82	1105.79	88

* Source—Ministry of Power Status Report for March 2006.

ANNEXURE V (B)

(refer to para 6.2.1)

Statement showing status of Feeder and Distribution Transformer Metering for the years 2001-02 and 2005-06*

Sl. No.	State	11kV Feeders						Distribution Transformer					
		2001-02			2005-06			2004-05			2005-06		
		Numbers	Metered	%age	Numbers	Metered	%age	Numbers	Metered	%age	Numbers	Metered	%age
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Andhra Pradesh	4907	4907	100	9239	8674	94	262,000	55,000	21	351,751	38,729	11
2.	Arunachal Pradesh	168	33	20	201	1	0	DNA	DNA	DNA	DNA	DNA	DNA
3.	Assam	777	777	100	708	708	100	18,288	DNA	DNA	18,288	DNA	DNA
4.	Bihar	1517	600	40	1125	465	41	15,000	DNA	DNA	15,000	DNA	DNA
5.	Chhattisgarh	767	100	13	1574	1511	96	38,424	DNA	DNA	38,424	DNA	DNA
6.	Delhi	1400	1400	100	1850	1850	100	8,000	3,500	44	8,000	3,500	44
7.	Goa	170	170	100	179	179	100	3,562	1,781	50	3,562	1,781	50
8.	Gujarat (GEB)	5939	5939	100	5307	5307	100	236,362	1,500	1	236,362	1,500	1
9.	Haryana	2557	2557	100	3888	3888	100	133,364	DNA	DNA	133,364	DNA	DNA
10.	Himachal Pradesh	375	350	93	762	727	95	15,802	14,099	89	15,802	14,099	89
11.	Jammu & Kashmir	1214	1214	100	1558	1480	95	30,015	DNA	DNA	30,015	DNA	DNA
12.	Jharkhand				461	396	86	16,500	15,000	91	16,500	15,000	91
13.	Karnataka	3518	3518	100	4570	4570	100	144,000	34,500	24	144,000	34,500	24
14.	Kerala	1047	1047	100	1334	1334	100	80,000	5,000	6	35,442	5,506	1

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15. Madhya Pradesh	5498	2943	54	5660	5660	100	160,000	3,000	2	160,000	3,000	2
16. Maharashtra (MSEB)	7558	7558	100	6148	6148	100	186,000	50,000	27	215,241	52,923	25
17. Manipur	193	40	21	193	40	21	DNA	DNA	DNA	DNA	DNA	DNA
18. Meghalaya	314	96	31	175	175	100	2,515	650	DNA	2,515	650	26
19. Mizoram	106	98	92	129	93	72	DNA	DNA	DNA	916	20	2
20. Nagaland	93	32	34	164	140	85	DNA	DNA	DNA	DNA	DNA	DNA
21. Orissa	1858	500	27	1792	1699	95	22,000	20,500	93	22,000	20,500	93
22. Punjab	4563	4360	96	5928	5928	100	280,000	30,000	11	217,000	11,660	5
23. Rajasthan	7321	3321	45	8411	8411	100	188,170	DNA	DNA	188,170	DNA	DNA
24. Sikkim	124	124	100	113	113	100	DNA	DNA	DNA	1357	531	39
25. Tamil Nadu	3684	3684	100	3777	3777	100	210,000	40,000	19	161,092	4,703	3
26. Tripura	118	118	100	197	197	100	DNA	DNA	DNA	DNA	DNA	DNA
27. Uttar Pradesh	8124	8124	100	8507	8507	100	330,000	6,652	2	330,000	6,652	2
28. Uttaranchal	348	330	95	1008	1008	100	15,000	15,000	100	24,412	989	4
29. West Bengal	2800	615	22	2347	2347	100	53,420	13,500	25	53,420	13,500	25
Total	67058	54555	81	77305	75333	97	2448422	309682	13	2422633	229743	9

DNA-Data Not Available
Source: Ministry of Power Status report for March 2006.

ANNEXURE VI

(refer to para 6.5)

Statement showing Average Cost of Sales (ACS), Average Revenue Realisation (ARR) and Revenue Gap (ACS-ARR) for the years 2001-02 to 2004-05

Sl. No.	Name of State	2001-02			2002-03			2003-04			2004-05		
		ACS	ARR	GAP	ACS	ARR	GAP	ACS	ARR	GAP	ACS	ARR	GAP
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Andhra Pradesh	2.29	1.64	**0.65**	2.37	1.99	**0.38**	2.37	1.99	**0.38**	2.30	2.01	**0.29**
2.	Arunachal Pradesh	6.78	0.75	**6.03**	5.97	0.76	**5.21**	4.40	0.91	**3.49**	2.49	1.21	**1.28**
3.	**Assam**	**4.25**	**2.05**	**2.20**	**4.76**	**2.35**	**2.41**	**4.68**	**2.69**	**1.99**	**6.13**	**2.86**	**3.27**
4.	**Bihar**	**3.57**	**2.13**	**1.44**	**3.21**	**1.64**	**1.57**	**3.40**	**1.77**	**1.63**	**3.44**	**1.73**	**1.71**
5.	Chhattisgarh	2.12	2.35	**0.23S**	1.72	2.38	**0.66S**	1.91	**2.43**	**0.52S**	**1.99**	2.41	**0.42S**
6.	Delhi	—	—	—	1.58	1.87	**0.29S**	2.05	2.03	**0.02**	2.34	2.49	**0.15S**
7.	Goa	2.12	2.08	**0.03**	1.57	2.06	**0.49S**	1.51	2.04	**0.53S**	1.61	2.15	**0.54S**
8.	Gujarat	2.60	1.82	**0.77**	2.38	1.87	**0.51**	2.76	2.06	**0.69**	2.49	2.03	**0.46**
9.	Haryana	2.47	1.89	**0.58**	2.26	1.82	**0.44**	2.31	1.82	**0.49**	2.58	1.86	**0.72**
10.	Himachal Pradesh	2.08	1.79	**0.29**	2.10	1.97	**0.13**	2.08	1.99	**0.09**	2.36	2.29	**0.07**
11.	Jammu & Kashmir	—	—	—	2.48	0.71	**1.76**	2.24	0.77	**1.47**	2.29	0.75	**1.54**
12.	**Jharkhand**	**3.40**	**2.81**	**0.58**	**3.72**	**2.79**	**0.91**	**4.02**	**2.68**	**1.33**	**4.52**	**2.58**	**1.94**
13.	Karnataka	2.32	1.59	**0.73**	2.51	1.84	**0.67**	2.60	1.95	**0.65**	2.65	1.98	**0.67**
14.	Kerala	2.58	1.60	**0.98**	2.86	2.12	**0.73**	3.19	2.46	**0.73**	2.75	2.56	**0.19**
15.	Madhya Pradesh	2.33	1.81	**0.52**	2.08	1.77	**0.31**	2.23	2.00	**0.23**	2.21	1.96	**0.25**

16. Maharashtra	**2.07**	**1.98**	**0.08**	**2.08**	**2.04**	**0.04**	**2.18**	**2.10**	**0.08**	**2.27**	**2.06**	**0.12**
17. Manipur	3.33	0.46	**2.87**	3.30	0.72	**2.59**	3.22	0.64	**2.58**	2.86	0.89	**1.97**
18. Meghalaya	1.99	1.51	**0.48**	2.25	1.71	**0.55**	1.24	1.83	**0.59S**	1.84	1.78	**0.06**
19. Mizoram	**2.11**	**0.92**	**1.19**	**2.38**	**0.75**	**1.63**	**3.01**	**0.90**	**2.11**	**2.64**	**1.41**	**1.23**
20. Nagaland	**3.18**	**1.08**	**2.10**	**3.34**	**1.16**	**2.18**	**7.15**	**1.29**	**5.86**	**3.87**	**1.29**	**2.58**
21. Orissa	2.06	1.59	**0.47**	2.17	1.73	**0.44**	2.05	1.69	**0.36**	2.03	1.75	**0.28**
22. Punjab	2.44	1.77	**0.68**	2.41	1.92	**0.49**	2.25	2.04	**0.22**	2.52	2.03	**0.49**
23. Rajasthan	**2.61**	**2.04**	**0.57**	**2.64**	**1.97**	**0.67**	**2.63**	**1.95**	**0.68**	**2.50**	**1.82**	**0.68**
24. Sikkim	1.47	0.79	**0.68**	2.69	0.83	**1.86**	0.48	1.40	**0.92S**	0.61	1.67	**1.06S**
25. Tamil Nadu	3.18	1.95	**1.23**	2.62	2.15	**0.47**	2.73	2.44	**0.29**	2.76	2.36	**0.40**
26. Tripura	2.44	0.81	**1.63**	2.26	0.88	**1.38**	1.92	1.81	**0.10**	3.56	**3.13**	**0.43**
27. Uttar Pradesh	**2.17**	**1.63**	**0.54**	**2.41**	**1.81**	**0.59**	**1.54**	**1.17**	**0.37**	**2.72**	**1.84**	**0.88**
28. Uttaranchal	—	—	—	2.72	2.75	**0.03S**	2.77	2.64	**0.13**	1.82	1.50	**0.33**
29. West Bengal	2.78	1.62	**1.15**	2.54	1.90	**0.64**	2.45	2.29	**0.16**	2.43	2.28	**0.15**

S-Surplus
Figures taken upto two decimal places.

ANNEXURE VII

(refer to para 7.2.6)

Details of delay by State Governments in release of funds released by Government of India during the peirod 2002-03 to 2005-06

(Rs. in crore)

Sl. No.	Name of the State	Total amount released by Government of India till 31st March 2006	Delay in release of funds by State Government to SEB/ Utility against various releases (In days)		Total Amount released by State Government till 31st March 2006	Amount held by State Government as on 31st March 2006
			Minimum	Maximum		
1	2	3	4	5	6	7
1.	Andhra Pradesh	265.10 (Incentive)		30 month	NIL	265.10
2.	Arunachal Pradesh	36.68		5 month	21.55	15.13
3.	Assam	278.51	15	374	263.51	15.00
4.	Bihar	313.18	24	346	313.18	NIL
5.	Chhattisgarh	169.47	45	365	128.48	40.99^
6.	Delhi	105.51	-	5 month	105.51	NIL
7.	Gujarat	519.08 - incentive + loan	21	504	519.08	NIL
8.	Haryana	168.99	17	71	168.99	NIL
9.	Himachal Pradesh	242.32	51	637	242.32	NIL
10.	Jammu and Kashmir	408.50*	-	12 month	408.50	NIL
11.	Jharkhand	175.84	92	1095	175.84	NIL
12.	Karnataka	447.97	21	258	435.45	12.52
13.	Kerala	295.49	20	295	295.49	0.00
14.	Madhya Pradesh	129.87	16	516	129.87	NIL
15.	Maharashtra	349.01 (as per release orders in the MoP)	90	450	273.04	75.97

^Chhattisgarh: Amount adjusted by State Government, while releasing the funds, towards dues payable by the SEB.

* Delay was in respect of Rs. 168.58 crore.

1	2	3	4	5	6	7
16.	Meghalaya	58.37	4 month	10 month	58.37	—
17.	Mizoram	78.01		6 month	70.91	7.10
18.	Nagaland	68.58	2 month	14 month	52.59	15.99*
19.	Punjab	244.02	33	342	244.02	NIL
20.	Rajasthan	430.83	7	300	430.83	NIL
21.	Sikkim	154.72	1 month	10 month	149.50	5.22
22.	Tamil Nadu	441.82	31	178	441.82	NIL
23.	Tripura	37.64	43	138	37.64	NIL
24.	Uttar Pradesh	174.01	21	283	174.01	NIL
25.	Uttaranchal	279.76	1 month	9 month	279.76	NIL
26.	West Bengal	502.18	28	833	502.18	NIL

* Nagaland: This amount includes Rs. 15.75 crore not released by State Government and Rs. 0.24 crore deducted as departmental charges while releasing the APDRP funds.

ANNEXURE VIII

(refer to paras 9.4 & 12.5)

Statement showing details of constitution of State level Distribution Reforms Committee (DRC) and the number of review meetings held

Sl. No.	Name of the State	Date of Memorandum of Agreement	Stipulated date of constitution of DRC	Actual Date of constitution of DRC	Delay in days/ month	Number of meetings required to be held till the Month	Number of Meetings actually held	Shortfall in number of meetings actually held (Percentage)
1.	Arunachal Pradesh	07/2002	08/2002	06/2003	10 month	17-3/2006	4	13 (76)
2.	Assam	07/2002	08/2002	08/2002	—	22-3/2006	4	18 (82)
3.	Chhattisgarh	10/2002	12/2002	06/2003	210 days	17-3/2006	1	16 (94)
4.	Goa	10/2001	11/2001	07/2003	19 month	16-3/2006	3	13 (81)
5.	Haryana	4/12/2003	04.01.2003	29.9.2003	209 days	15-3/2006	1	14 (93)
6.	Himachal Pradesh	07.12.2002	07.1.2003	02/2003	1 month	13-9/2006	4	09 (69)
7.	Jammu and Kashmir	04/2002	05/2002	Not yet constituted	54 month	27	Nil	27 (100)
8.	Karnataka	22.05.2002	22.03.2002	05/2003	13 month	20-08/2006	7	13 (65)
9.	Kerala	25.10.2002	25.11.2002	17.03.2003	112 days	20-8/2006	4	16 (80)
10.	Maharashtra	05/2002	06/2002	02/2003	240 days	19-3/2006	Nil	19 (100)
11.	Punjab	08/2002	09/2002	06/2003	9 month	17-03/2006	1	16 (94)
12.	Rajasthan	06/2002	07/2002	15.01.2003	5 month	19-03/2006	7	12 (63)
13.	Sikkim	12/2002	01/2003	10/2003	9 month	15-3/2006	Not Available	Not Available
14.	Tripura	28/8/2003	28/9/2003	09/2003	—	15-3/2006	2	13 (87)
15.	Uttar Pradesh	09/2002	10/2002	10/2002	—	24-9/2006	7	17 (71)
16.	Uttaranchal	12.12.2002	12.01.2003	01.01.2005	731 days	07-03/2006	1	06 (86)
17.	West Bengal	09/2002	10/2002	12/2002	2 month	13-3/2006	2	11(85)

ANNEXURE IX

(refer to para 9.5)

Statement showing details regarding Theft Cases during the period 2000-01 to 2005-06

Sl. No.	Name of the State	Number of Theft Cases Detected	Number of Theft Cases Rgistered (percentage)	Number of cases convicted	Percentage of conviction	Amount involved (Rs. in crore)	Amount realized (Rs. in crore)
1.	**Andhra Pradesh**						
	APEPDCL	11225	N/A	41	0.37	N/A	6.41
	APCPDCL	262024	N/A	106	0.04	N/A	37.16
	APSPDCL	125511	N/A	121	0.10	N/A	28.98
	APNPDCL	147856	147856 (100%)	143	0.09	N/A	9.88
2.	**Assam***	—	3696	123	3.33	—	—
3.	**Chhattisgarh**	317485	889(0.28%)	Nil	0.00	N/A	52.06
4.	**Haryana**						
	UHBVN	114190	23148(20%)	N/A	N/A	N/A	48.72
	DHBVN	123724	7165(5.79%)	N/A	N/A	N/A	50.69
5.	**Jharkhand**	5113	3301 (64.56%)	N/A	N/A	**17.66**	**1.38**
6.	**Karnataka**						
	BESCOM	27788	N/A	2	0.017	N/A	5.55
	CSES	2341	N/A	1959	83.68	N/A	5.79
	MESCOM	1741	N/A	2	0.17	N/A	1.80
	HESCOM	9619	N/A	27	0.28	N/A	13.11
7.	**Kerala**	1854	261(14.08%)	Nil	0.00	N/A	32.95
8.	**Madhya Pradesh** (Bhopal region)	26735	N/A	1254	4.70	N/A	674.57
9.	**Maharashtra**	7878	4599 (58.38%)	31	0.67	N/A	68.12
10.	**Punjab**	1658073	N/A	N/A	N/A	N/A	756.52
11.	**Rajasthan**						
	Jaipur DISCOM	123542	2503	N/A	N/A	93.09	49.45
	Ajmer DISCOM	147368	N/A	N/A	N/A	117.41	58.49
	Jodhpur DISCOM	343	343(100%)	167	46.68	91.71	54.13
12.	**Tamil Nadu**	12501	N/A	1.63 (1.70%)	1.70	73.41	36.22
13.	**Tripura***	33197	558 (1.68)	45	8.06	N/A	82.05
14.	**Uttaranchal**	147	132	N/A	10.61	N/A	191.22

*For the years 2004-05 and 2005-06.

ANNEXURE X

(refer to para 10.1.1)

Details of the projects sanctioned during various Monitoring/ Steering Committee meetings

Sl.No.	Name of the Committee	Date of Meeting	No. of Projects Sanctioned	Total cost of the Projects Sanctioned (Rs. in Crore) (including 5% consultancy charges)	Total cost of the Projects Sanctioned (Rs. in Crore) (excluding 5% consultancy charges)	Total Project Cost as per Status Report (Rs.in Crore)
1.	Monitoring Committee	16.07.2002	63 Circles	4214.20	4013.52	4214.39
2.	Ist Steering Committee	25.09.2002	69	3983.90	3784.71	4064.35
3.	2nd Steering Committee	20.11.2002	204	5209.14	4948.68	4780.38
4.	3rd Steering Committee	20.05.2003	63	1938.55	1841.57	2003.44
5.	4th Steering Committee	19.09.2003	NIL	NIL	NIL	NIL
6.	5th Steering Committee	28.11.2003	15	968.47	788.10	767.40
7.	6th Steering Committee	13.04.2004	NIL	NIL	NIL	NIL
8.	7th Steering Committee	20.09.2004	99	1437.22	1365.56	1365.59
9.	8th Steering Committee	23.03.2005	72	1876.50	1782.68	1688.04
10.	9th Steering Committee	03.08.2005	15	296.87	N/A	296.87
11.	10th Steering Committee	21.11.2006	90	1587.20	N/A	

ANNEXURE XI

(refer to para 10.1.3)

Cases of deficiencies noticed in individual DPRs

Sl.No.	Name of State		Deficiencies noticed during Audit
1	2		3
1.	Haryana		In the DPR of Faridabad Circle the financial benefit from the investment of Rs. 30.83 crore earmarked for 'balance works', was not envisaged. Further, the envisaged financial benefits of Rs. 37.93 crore for works worth Rs. 87.63 crore were inflated by Rs. 2.83 crore.
2.	Himachal Pradesh	*	In three test checked circles, the Board awarded 12 contracts for construction of sub-stations, lines and express feeders at a cost of Rs. 16.68 crore against the provision of Rs. 9.26 crore in the DPR.
		*	In Kullu, Bilaspur and Rohru circles, excess replacement of 4042 LT and 178 HT Poles resulted in excess expenditure of Rs. 3.73 crore.
		*	In Hamirpur circle, the Board purchased 477 three / single phase transformers against provision of 405 transformers at a cost of Rs. 4.88 crore against the provision of Rs. 3.69 crore.
3.	Madhya Pradesh		Against the requirement of 237 feeder meters, the SEB made provision of 1085 feeder meters in 9 towns in the DPRs approved during 2002-03.
4.	Maharashtra		The cost of replacing the three phase electronic meters, considered in Amravati, Latur, Malegaon, Sindhudurg projects was Rs. 4000 per meter, while in Nashik, the cost of single phase electronic meter was taken at Rs. 2500 per meter as against Rs. 2250 for three phase meter and Rs. 1000 for single phase electronic meter, considered in projects for other circles.
5.	Punjab		Excess material over and above the provisions made in the approved DPRs (12 projects) was used, resulting in unauthorized expenditure of Rs. 16.77 crore (March 2006), which was indicative of defective DPR.
6.	Punjab	*	In Mohali, the targets fixed for T&D losses in DPRs were higher than the prevailing level of T&D losses.

1	2	3
		* The minimum target of T&D losses to be achieved was five per cent in DPRs, which meant that in no case could the metering efficiency be more than 95 per cent. However, the targets of metering efficiency in the DPRs of Amritsar City, Bathinda, Tarn Taran, Muktsar, Barnala & Melerkotla were fixed at 100 per cent, which cannot be achieved even if the minimum targets of T&D losses were achieved.
7.	Rajasthan	For the work of reactive compensation, the actual quantity was 11768 numbers costing Rs. 194.55 lakh as against the projected quantity of 1500 numbers costing Rs. 752 lakh, indicating that the per unit cost indicated in the DPRs was more than 30 times the actual cost.
8.	Rajasthan	* The cost of new 33 KV line included in various DPR ranged between Rs. 1.58 lakh per KM in case of Jhunjhunu to Rs. 8.90 lakh in case of Sri Ganganager. * The cost of new 11 KV lines ranged between Rs. 0.72 lakh per KM in case of Jodhpur district to Rs. 8.51 lakh per KM in case of Ajmer city. * The cost of 11 KV, 1.2 MVAR capacitor Bank ranged between Rs. 4.47 lakh in case of Bikaner city to Rs. 15.87 lakh in case of Jaipur District.
9.	Sikkim	The Energy and Research Institute (TERI)—an independent evaluator—observed (July 2005) that the project reports were prepared in a hurry, without making any system studies to avoid changes in the scope of works.
10.	Tripura	The requirement projected as per the approved DPRs and the actual procurement made on re-assessment revealed that the DPR estimates, of 79930 meters were grossly inadequate; only 2,45,994 electronic meters (68.68 per cent of the requirement) were procured as of July 2006, leaving a gap of 1,12,199 consumer connections without electorinc tamper proof meters.

ANNEXURE XII

(refer to para 10.2.2)

Cases of Non-adoption of Turnkey Contracting/Distorted Packaging

Sl.No	Name of State	Cases noticed in Audit
1.	Assam	14 projects were split into 23 packages compromises of system improvement, consumer meeting, computerization of billing, new-sub-station, feeder augmentation etc. For every package, two separate contracts were entered into, one for supply of equipments and the other for erection, which negated the purpose of turnkey contracting—identification of single point responsibility for adherence to a rigid time schedule.
2.	Chhattisgarh	The value of total turnkey contracts out of the completed works up to end of March 2006 was a meagre 17 per cent. Total turnkey contracts were adopted for laying 33 KV lines only.
3.	Gujarat	Non of the 10 projects were awarded on turnkey basis.
4.	Jammu and Kashmir	Barring a few works, most of the programmes were being executed deparmentally.
5.	Meghalaya	Nine out of 20 packages in five circles valuing Rs. 14.22 crore were not being executed on turnkey basis.
6.	Orissa	Non of the projects were implemented on turnkey basis.
7.	Uttar Pradesh	Out of 14 projects, UPPCL/Discoms finalised only three projects on turnkey basis.
8.	Uttar Pradesh	11 projects were split into five packages for each project and awarded to individual contractor. However, as all the packages were interconnecting nature, the delay in one work resulted in delay of other works. Further, in five towns, the agreements for carrying out civil works for construction of Sub-stations were executed after the scheduled date of completion of works relating to erection/installation of the Sub-station.

ANNEXURE XIII

(refer to para 10.2.3)

Cases of abnormal delays in award and execution of works after approval of DPRs

Sl.No.	Name of State	Deficiencies noticed during Audit
1.	Madhya Pradesh	* There were delays ranging between 10 and 17 months in the award of turnkey contracts, and works valuing Rs. 272.12 crore were not awarded as of 31 March 2006. * Laying of 33/11 KV lines in 11 towns, with scheduled dates of completion between January 2005 and August 2005, did not commence even afer a lapse of 23 to 24 months from the date of award. * The renovation and modernization work of 16167 DTs pertaining to 29 towns did not commence even after the expiry of 17 months from the date of award of work.
2.	Maharashtra	The works of DT renovation and modernization, tower ladder mobile vehicle, energy accounting and computerized billing centre etc. valuing Rs. 22.04 crore included in the DPRs of Jalgoan, Pune town, Pimpri-Chinchwad, Nashik town and Nashik rural sanctioned in 2002-03 and 2003-04, had not been taken up by MSEDCL (Maharashtra State Electricity Distribution Company Limited) as of March 2006.
3.	Uttar Pradesh	Out of 14 projects test checked in 11 towns, delay in award of contracts ranged between 5 and 36 months.

ANNEXURE XIV

(refer to para 10.2.4)

Cases of Execution of Works/items of Works outside the scope of APDRP

Sl.No.	Name of State	Execution of works not under the ambit of APDRP
1	2	3
1.	Himachal Pradesh	Two sets of overhead transmission line fault locating analysers were purchased at a cost of Rs. 0.36 crore and installed at 220 KV sub-station at Hamirpur, though there was no provision in the scheme for their installation at this sub-station.
2.	Jammu and Kashmir	* Key material valued at Rs.1.25 crore procured for execution of the APDRP works was diverted for restoration of system damages caused to distribution system due to heavy snowfall during 2004-05 and 2005-06 and was not recouped to the programme from the State plan.
		* Sub-Transmission Division No.-I, Jammu advanced (December 2004) Rs. 13 lakh to Jammu Development Authority for acquiring land neither covered in the programme guidelines nor in the individual project reports.
3.	Jharkhand	A sum of Rs. 19.93 crore was spent during 2005-06 toward projects of underground cable system, erection, testing and commission for power supply in Ranchi.
4.	Kerala	The SEB replaced all the electromechanical meters of consumers with electro-static meters in three circles and seven towns at a cost of Rs. 45.96 crore. However, APDRP does not envisage replacement of functioning consumer meters.
5.	Maharashtra	11 project reports submitted by Maharashtra State Electricity Distribution Company Limited (MSECL), which were sanctioned by the GoI, provided for replacement of 14,68,014 meters with static meters valuing Rs. 161.65 crore, though the APDRP does not provide for replacement of existing functional meters.
6.	Orissa	Rs. 0.52 crore were spent on repair of spot billing machines and mobile phone charges.

1	2	3
7.	Punjab	An expenditure of Rs. 5.27 crore was incurred on works of 132 KV and 220 KV sub-stations (instead of 33/66 KV sub-stations), which did not form part of the sub-transmission and distribution network.
8.	Tamil Nadu	The Board had included new/improvement works of 10 Sub-stations of 110/33 KV and 110/11 KV at a total value of Rs. 89.85 crore in Chennai Metro Projects for the stated reason of improving the upstream network. The AcC (NTPC) had failed to properly scrutinize and eliminate these works as any improvement work in the upstream network was a part of the Board's own works.

ANNEXURE XV

(refer to para 10.2.5)

Cases of Execution of Works/Items of Works not covered/included in approved DPRs

Sl.No.	Name of State	Deficiencies noticed during Audit
1.	Assam	Rs. 3.26 crore was incurred on works/items of work which were not covered under the projects approved by GoI.
2.	Haryana	In Karnal circle, Rs. 8.89 crore was spent on items not covered under approved DPRs.
3.	Himachal Pradesh	In Hamirpur Circle, one HT shunt capacitor at 33 KV sub station at Jawalamukhi was installed at the cost of Rs. 12.30 lakh and LT switched capacitors to be installed on the distribution transformers, at a cost of Rs. 41.57 lakh as per DPR, were not installed; consequently, the achievement of the desired improvement in the power factor remains doubtful.
		The scope of the scheme of construction of sub-station at Tahliwala in Una circle was changed due to increase in load demand at extra cost of Rs. 0.93 crore, which was to be recovered from the industrial consumers but was charged to APDRP instead.
4.	Jammu and Kashmir	In 6 utility divisions, Rs. 22.19 crore was spent on items of work not covered in DPRs *viz*. laying of new 33/11 KV lines, laying of LT lines for pump sets, electrification of villages etc.
5.	Mizoram	The Thermal Power Division spent Rs. 0.61 crore on labour payments, repair of vehicles, purchase of battery bank etc. which were not covered in the DPRs.
6.	Orissa	Works amounting to Rs. 3.12 crore were executed over and above the scope of approved DPR.
7.	Punjab	An expenditure of Rs. 2.27 crore was incurred on providing general service connections (GSC), deposit works, meter cup boxes and pillar boxes, which were not included in the approved DPRs.
8.	Uttar Pradesh	The UPPCL/Discoms used APDRPfunds amounting to Rs. 1.83 crore for procurement of four movable trailer mounted cable fault locating systems, construction of committee room etc. which were not included in the DPRs.

ANNEXURE XVI

(refer to para 10.2.6)

Instances where Economy in Procurement and Execution was not exercised, resulting in avoidable Expenditure

Sl.No.	Name of State	Instances noticed during Audit
1	2	3
1.	Andhra Pradesh	Execution of three works was awarded to the lowest contractor, on overall comparison, on semi turnkey basis, at a cost of Rs. 2.76 crore. During the execution, additional quantities were included and certain items of works deleted altogether and the total cost of the three works was revised to Rs. 4.04 crore, showing that the contract was finalized without proper field survey as certain items of work were increased in quantum by more than 20 times. As the lowest quoted items of work were cancelled and highest quoted items of work were increased abnormally, the additional expenditure in all the three contracts worked out to Rs. 64.42 lakh being the difference in rates on additional quantities compared with the rates offered by other contractors.
2.	Assam	In order to undertake the work in 14 circles under APDRP, the Board entered into contracts with different parties for supply of electrical materials, which included *inter alia* PSC Poles of different specifications. In eight test checked circles the Board procured PSC poles of different specifications at rates much higher than the Government approved rates from suppliers outside the State, thereby incurring an avoidable expenditure of Rs. 3.10 crore on purchase of poles.
3.	Maharashtra	The lowest offer of Rs. 17.43 crore, which was 28.3 per cent above the estimated cost of Rs. 13.59 crore, was received in Nasik town for supply, erection, testing and commissioning of HT/LT lines, establishment and augmentation of transformer etc. for which tenders were invited in June 2004. However, as the same was not accepted without any justification, and on re tendering the lowest offer was higher by 39.8 per cent over the estimated cost, the work could not be commenced till September 2006, when it was decided to be carried out departmentally at an estimated cost of Rs. 21.62 crore *i.e.* higher by Rs. 4.19 crore over the originally lowest offer.

1	2	3
4.	Sikkim	* Procurement of materials and calling of tenders for the works through the STCS led to avoidable payment of commission amounting to Rs. 34.21 lakh out of APDRP funds. * Against the requirement of 63,917 consumer meters, 70230 meters were purchased resulting in excess purchase of 6313 meters of Rs. 1.14 crore. * 7232 meters valuing Rs. 1.31 crore were found defective after their installation, which were not replaced/repaired till September 2006, although they were guaranteed for 5/10 years. * In departure from the established practice, the department in one case incorporated the item 'supply, bending and binding of steel' totalling 35.65 metric tones valued Rs. 17.32 lakh in construction of the base of the towers, over and above the cement concrete works (ratio 1:2:4 & 1:3:6) and protective works (1:4:8 mix), resulting in unnecessary excess expenditure to that extent. * In 3 works involving 24.1 km of transmission lines, the requirement of towers as per the norm was 73 against which the Department used 84 towers, resulting in excess expenditure of Rs. 30.14 lakh.

ANNEXURE XVII

(refer to para 10.2.7)

Cases of Excess Payment to Contractors

Sl.No.	Name of State	Deficiencies noticed during Audit
1	2	3
1.	Andhra Pradesh	* SPDCL accepted 100 defective DTs worth Rs. 31.16 lakh despite rejection by the authorised inspection agency (RITES). * NPDCL awarded (12 March 2004) two separate works for conversion of low voltage distribution system (LVDS) to high voltage distribution system (HVDS) in two divisions of Warangal Model circle to a contractor. Though the works involved were of similar nature the contractor quoted different rates with the difference ranging between Rs.2 and Rs.2520. Acceptance of the quoted rates, without making negotiations for acceptance of the lower rates of other contractors, resulted in extra expenditure of Rs. 53 lakh.
2.	Arunachal Pradesh	* Liquidated damages of Rs. 1.21 crore were not recovered for delay in completion of work. * Defective meters valued at Rs. 29.11 lakh could not be got replaced.
3.	Assam	Defective consumer meters valued at Rs. 0.99 crore were not got replaced.
4.	Bihar	The SEB paid Rs. 12 crore to Power Grid, as initial advance, to execute APDRP works in eight circles in March 2003, even before it entered into an agreement with Power Grid, which was done in December 2003.
5.	Goa	The SED paid 50 percent of the estimated cost amounting to Rs.87.75 crore as interest-free advance without any security, in violation of CVC guidelines, to Power Grid.
6.	Himachal Pradesh	* Substandard cables valuing Rs. 0.33 crore was not got replaced. * Out of the total penalty of Rs. 81.83 lakh for delayed completion of work ranging between 2 to 44 weeks, HPSEB could recover only Rs. 9.45 lakh resulting in short recovery of Rs. 72.38 lakh.
7.	Mizoram	* Defective meters valued at Rs. 12.53 lakh could not be got replaced.

1	2	3
		* Champhai Power Diversion (CPD) paid Rs. 47.71 lakh to Power Stores Division for material like conductor, transformer etc., however evidence of receipt of these materials was not on record.
8.	Orissa	* Neither did CESCO claim Rs. 23.06 lakh for defective supply of material, not did the supplier firm refund the amount.
		* SOUTHCO & NESCO incurred an extra expenditure of Rs. 0.38 crore due to purchase of AB cable instead of ACL cable, which was recommended by the central procurement group and was available at a lower rate.
9.	Sikkim	* Rs. 1.75 crore was transferred to State Trading Corporation of Sikkim on the last day of the financial year 2002-03, though orders to the STCS to release payments to the supplier were made in May 2003/June 2003.
		* Interest free mobilization advances of Rs. 16.74 crore were paid to 30 contractors in 30 works without any specific authorization.
		* Excess quantities of 14323 bags of cement consumption ranging from 5 to 12 per cent (2 works) and 33 to 40 per cent (7 works) of the quantities actually prescribed by the Schedule of Rates (SOR) resulted in excess payment of Rs. 35.81 lakh.
		* In 3 works, the contractors used less cement than the requirement as per the SOR, which rendered works of value Rs. 99.05 lakh sub-standard.
		* Extra charges @ 25 per cent of the cost of items of works over and above the contractual rates was allowed to two contractors in two works towards erection, commissioning, testing and transportation, resulting in undue extra payment of Rs. 2.07 crore to the contractors.
10.	Tripura	* In two test checked sub division in Agartala, 21005 meters were purchased/installed during 2003-04 to 2005-06, out of which 3832 meters became defective within 12 months of installation, indicating purchase of substandard meters.
		* Rs. 6.82 crore was paid in advance to Power Grid for two projects.

1	2	3
11.	West Bengal	The Tender Evaluation Committee failed to analyse the ex-work prices of similar materials quoted for three circles and towns therein. Consequently, the price schedule issued to the successful contractors were higher for 27 items by 2 to 2910 per cent in comparison to the lowest price for the same items for other towns, resulting in undue benefit of Rs. 3.54 crore to the contractors. Similarly, non-evaluation of the separate bids for Circle *vis-a-vis* the aggregate of the lowest bids in respect of each town covered in that Circle resulted in undue benefit of Rs. 0.44 crore to the contractors.

ANNEXURE XVIII
(refer to para 10.2.8)

Other cases of Inefficient/ineffective execution

Sl.No.	Name of State	Instances noticed during Audit
1	2	3
1.	Andhra Pradesh	Though the works relating to LT line capacitors, meter calibrations and consumer indexing valuing Rs. 27.22 crore were not taken up at all by SPDCL, it furnished physical progress on these works to DRC.
2.	Assam	* Due to the selection of the highest bidder, in respect of feeder augmentation for Jorhat, Dibrugarh and Guwahati Electrical Circle-II work, the Board suffered an extra liability of Rs. 42.08 lakh. In two cases (consumer metering in three cirles* and Consumer metering in six circles**) though one bidder against each package was found to be technically disqualified, their price bids were opened and selected as lowest bidder on the basis of price bid on the ground that competition would otherwise be limited to a single bid.
		* System Improvement (SI) work of Cachar Electrical Circle of which the Technical and Commercial Evaluation Committee selected Techno Electric and Engineering Company Limited (TEEC) as the only technically qualified bidder, despite the fact TEEC failed to fulfil the criterion of past supplies/performance of transformers of stipulated class and, BHEL and L&T were disqualified for non-fulfilment of minimum qualifying requirement and non-submission of type test reports of equipments respectively. As per documents furnished by BHEL it had fulfilled all the qualifying requirements and L&T had committed to furnish type test report after the award of work and this was in conformity with clause 1.2 of the bid document.
3.	Bihar	* The SEB indicated reconductoring of 33KV lines of 47 km between Aurangabad, Uchauli and Daudnagar as completed. Audit, however, observed that reconductoring had been done only upto 38.50 km.
		* One power sub station—Pachayti Akhara in Gaya was shown as completed despite the fact that clearance

*Jorhat, Dibrugarh and Guwahati Electrical Circle-II.
**Nagaon, Bongaigaon, Tezpur, Rangia, Sibsagar and Guwahati Electrical Circle-I.

1	2	3
		report of the Electrical Inspector and completion certificate were yet to be submitted.
		* 10 PSS were shown as completed by POWERGRID in their progress report though no work was found to be completed by Audit.
4.	Chhattisgarh	The SEB installed 1605 old/repaired transformers (1583 DTs and 22 Power Transformers) initially and had taken up replacement of these old DTs/PTs subsequently, which is still under progress. This resulted in additional commitment of Rs. 0.91 crore towards labour and transportation and delayed the completion of works.
5.	Himachal Pradesh	Three dismantled transformers and one old HT Shunt capacitor valuing Rs. 38.77 lakh against sanctioned amount of Rs. 48.50 lakh for new equipments were installed at three substations.
6.	Jammu & Kashmir	Supply order for purchase of an automatic meter reading system (AMR) comprising of ten components at a cost of Rs. 1.50 crore was placed (October 2001) with a firm. However, only six components of the system, costing Rs. 1.07 crore were supplied by the firm in 2002-03. Remaining four components were awaited as of March 2006. Further, the system could not be installed as permission for construction of towers for the same was not granted by SACFA* which rendered the expenditure of Rs. 1.07 crore unfruitful. The utilities were required to execute APDRP projects according to the unit rate fixed for each component of the programme. Cross check of Physical and financial progress achieved (March 2006), revealed that actual expenditure far exceeded the expenditure at unit rates approved for each item of work and Rs. 29.84 crore was spent in excess in seven EM&RE circles.
7.	Jharkhand	Material supplied for erection work in 4 sampled projects, to the tune of Rs. 38.38 crore remained unutilised due to non execution of erection work.
8.	Madhya Pradesh	In Indore City Circle though a three member committee was constituted in July 2005 and entrusted with the task of assuring the quality control, no report had been submitted by them.
9.	Maharashtra	* The contract for 8.25 crore for supply, erection, testing and commissioning of 11KV and LT lines, establishment

*Standing Advisory Committee for Radio Frequency Allocation.

1	2	3
		and augmentation of transformers in Malegaon town, which was to be completed by November 2004 remained incomplete even after a time overrun of 21 months till August 2006 due to late survey and site identification by MSEDCL, delay in issue of vendor list etc.
		* Work of laying new overhead and underground lines, etc. in Pune town was delayed by 15 months due to delayed issue of requisite form for labour license, delayed finalization of vendor list, and belated preparation of estimates for various works.
		* There was a time over run of 21 months in the work of replacement of single/three phase mechanical meters with electronic meters in Pune town and Pimpri-Chinchwad town (awarded in November-2003) and was completed to the extent of 40.51 per cent and 38.14 per cent in Pune town and Pimpri-Chinchwad respectively, till August 2006. It was observed that at against the installation of 3.85 lakh meters in Pune town within a period of one year only 2800 meters were provided by MSEDCL, whereas in Pimpri-Chinchwad no meters were supplied till six months after award of work due to non-availability of meters in stock. The inordinate delay in supply of meters hampered the progress of work.
10.	Mizoram	* The Khawzawl Power Division (KDP) under Champhai Circle stated the work of upgradation of 33KV bay as completed at a cost of Rs. 0.93 crore. But KDP executed sub-standard work by installing 2.5 MVA transformer (Rs. 7.32 lakh) instead of 6 MVA transformer (Rs. 10 lakh) and had purchased 21 sets of lighting arrestors instead of 4 sets and also had not executed the Civil works.
		* Though the Material at Site Account (MAS) for March 2006 of the Revenue Division indicated that the Division had utilised 1982 consumer meters out of 3770 meters received, audit scrutiny, however, revealed that only 352 meters were actually issued to consumers.
11.	Uttar Pradesh	In three works, the management had to extend the scheduled completion period by 14 months due to delay in finalization of BoQ, approval of Guaranteed Technical Parameters (GTPs), non-availability of Form 31, delay in purchase of land, delay in completion of civil works at the site and non-availability of shut downs etc.

(refer to para 12.1)

Financial Performance in respect of Projects sanctioned during 2002-03

Sl. No.	Name of the State	Project Cost (Rs. in crore)	Total Funds utilised upto March 2006 (including counterpart funds) (Rs. in crore)	Percentage of utilised funds with respect of project cost
1	2	3	4	5
1.	Andhra Pradesh	1423.59	957.90	67.29
2.	Arunachal Pradesh	63.99	9.67	15.11
3.	Assam	481.56	200.78	41.70
4.	Bihar	770.21	306	39.73
5.	Chhattisgarh	404.37	133.23	32.96
6.	Delhi	922.61	863.23	93.56
7.	Goa	236.21	118.62	50.22
8.	Gujarat	1052.84	813.66	77.28
9.	Haryana	429.20	208.04	48.47
10.	Himachal Pradesh	68.00	52.11	76.63
11.	Jammu & Kashmir	—	—	—
12.	Jharkhand	423.65	146.26	34.52
13.	Karnataka	1114.03	797.61	71.60
14.	Kerala	308.97	256.22	82.93
15.	Madhya Pradesh	570.44	176.98	31.03
16.	Maharashtra	1038.41	556.05	53.55
17.	Manipur	10.13	2.67	26.36
18.	Meghalaya	24.99	16.81	67.27
19.	Mizoram	9.77	8.48	86.80
20.	Nagaland	45.39	42.84	94.38
21.	Orissa	—	—	—
22.	Punjab	635.66	257.76	40.55
23.	Rajasthan	1115.39	684.49	61.37
24.	Sikkim	144.03	126.77	88.02
25.	Tamil Nadu	929.21	724.14	77.93
26.	Tripura	13.27	7.51	56.60
27.	Uttar Pradesh	386.71	238.09	61.57
28.	Uttaranchal	310.08	220.47	71.10
29.	West Bengal	126.41	124.12	98.20
	Total	13059.12	8050.56	61.65

ANNEXURE XIX B

(refer to para 12.1)

Financial Performance in respect of Projects sanctioned during 2003-04

Sl. No.	Name of the State	Project Cost (Rs. in crore)	Total Funds utilised upto March 2006 (including counterpart funds) (Rs. in crore)	Percentage of utilised funds with respect of project cost
1	2	3	4	5
1.	Andhra Pradesh	34.90	9.62	27.56
2.	Arunachal Pradesh	18.70	2.82	15.08
3.	Assam	65.79	28.82	43.81
4.	Bihar	20.40	3.72	18.24
5.	Haryana	2.57	2.57	100
6.	Himachal Pradesh	254.78	163.96	64.35
7.	Jammu & Kashmir	401.10	178.91	44.60
8.	Madhya Pradesh	80.10	7.85	9.80
9.	Maharashtra	790.74	253.93	32.11
10.	Meghalaya	15.97	7.24	45.34
11.	Mizoram	48.14	20.48	42.54
12.	Nagaland	76.88	0.00	0
13.	Orissa	592.22	59.47	10.04
14.	Punjab	38.92	16.57	42.57
15.	Sikkim	8.06	8.06	100
16.	Tripura	14.27	8.43	59.07
17.	Uttar Pradesh	95.79	66.44	69.36
18.	West Bengal	288.21	104.26	36.18
	Total	2847.54	943.15	33.12

ANNEXURE XIX C

(refer to para 12.1)

Financial Performance in respect of Projects sanctioned during 2004-05

Sl. No.	Name of the State	Project Cost (Rs. in crore)	Total Funds utilised upto March 2006 (including counterpart funds) (Rs. in crore)	Percentage of utilised funds with respect to project cost
1.	Assam	103.38	8.31	8.04
2.	Bihar	63.44	0.00	0
3.	Goa	57.80	10.47	18.11
4.	Gujarat	30.38	11.28	37.13
5.	Jammu & Kashmir	699.03	129.97	18.59
6.	Karnataka	46.09	0.00	0
7.	Kerala	554.66	37.81	6.82
8.	Madhya Pradesh	8.32	0.07	0.84
9.	Maharashtra	203.06	81.34	40.06
10.	Manipur	131.49	0.00	0
11.	Meghalaya	186.47	17.41	9.34
12.	Mizoram	50.83	0.00	0
13.	Punjab	34.80	4.00	11.49
14.	Rajasthan	77.86	26.30	33.78
15.	Tamil Nadu	18.91	0.00	0
16.	Tripura	119.20	8.64	7.25
17.	Uttar Pradesh	563.45	187.46	33.27
18.	West Bengal	27.58	0.00	0
	Total	2976.75	523.06	17.57

ANNEXURE XIX D

(refer to para 1.2.1)

Financial Performance in respect of Projects sanctioned during 2005-06

Sl. No.	Name of the State	Project Cost (Rs. in crore)	Total Funds utilised upto March 2006 (including counterpart funds) (Rs. in crore)	Percentage of utilised funds with respect to project cost
1.	Chhattisgarh	3.33	0.00	0
2.	Karnataka	26.19	1.08	4.12
3.	Madhya Pradesh	4.34	0.00	0
4.	Maharashtra	199.37	0.00	0
5.	Punjab	6.19	0.10	1.61
6.	Sikkim	12.10	0.00	0
7.	Uttar Pradesh	45.35	0.00	0
	Total	296.87	1.18	0.40

List of Abbreviations

1.	AcCs	Advisor cum Consultants
2.	ACS	Average Cost of Supply
3.	AMR	Automated Meter Reading
4.	APDP	Accelerated Power Development Programme
5.	APDRP	Accelerated Power Development Reforms Programme
6.	APtRANSCO	Andhra Pradesh Transmission Company
7.	ARR	Average Revenue Realisation
8.	ASCI	Administrative Staff College of India
9.	AT&C Losses	Aggregate Technical and Commercial Losses
10.	BESCOM	Bangalore Electricity Company Ltd.
11.	BJ	Bhagya Jyothi
12.	BOQ	Bill of Quantity
13.	BRPL	BSES Rajdhani Power Ltd.
14.	BYPL	BSES Yamuna Power Ltd.
15.	CARE	Credit Analysis and Research
16.	CE	Collection Efficiency
17.	CEA	Central Electricity Authority
18.	CEDC	Chennai Electricity Distribution Circle
19.	CEO	Chief Executive Officer
20.	CPDCL (AP)	Central Power Distribution Company of AP Limited
21.	CPRI	Central Power Research Institute
22.	CSEB	Chhattisgarh State Electricity Board
23.	CRISIL	Credit Rating Information Services of India Ltd.
24.	DHBVNL	Dhakshin Haryana Bijali Vitaran Nigam Ltd.
25.	Discoms	Distribution Companies
26.	DPCL	Delhi Power Company Ltd.
27.	DPRs	Detailed Project Reports
28.	DRC	Distribution Reforms Committee
29.	DT	Distribution Transformer
30.	EAA	Energy Accounts and Audit

31.	GED	Goa Electricity Department
32.	GFR	General Financial Rule
33.	GoI	Government of India
34.	HESCOM	Hubli Electricity Supply Company Ltd.
35.	HPSEB	Himachal Pradesh State Electricity Board
36.	HT	High Tension
37.	HVDS	High Voltage Distribution System
38.	ICRA	Formerly known as Investment Information and Credit Rating Agency of India Ltd.
39.	IIM	Indian Institute of Management
40.	IP	Irrigation Pumpset
41.	IT	Information Technology
42.	JSEB	Jharkhand State Electricity Board
43.	KDP	Khawzawal Power Division, Mizoram
44.	KJ	Kutir Jyothi
45.	KPTCL	Karnataka Power Transmission Corporation Limited
46.	KV	Kilovolt
47.	KW	Kilowatt
48.	L&T	Larsen & Turbo
49.	LT	Low Tension
50.	MIS	Management Information System
51.	MoA	Memorandum of Agreement
52.	MoF	Ministry of Finance
53.	MoP	Ministry of Power
54.	MoU	Memorandum of Understanding
55.	MRI	Meter Reading Instrument
56.	MSEDCL	Maharashtra State Electricity Distribution Company Limited
57.	MU	Million Units
58.	MW	Mega Watt
59.	NDPL	North Delhi Power Limited
60.	NTPC	National Thermal Power Corporation
61.	PFC	Power Finance Corporation
62.	PGCIL	Power Grid Corporation of India Ltd.
63.	PMM	Procurement and Material Management

64.	PSU	Public Sector Undertaking
65.	R&M	Renovation and Modernisation
66.	REC	Rural Electrification Corporation
67.	RRVPNL	Rajasthan Rajya Vidyut Prasaran Nigam Ltd.
68.	RSEB	Rajasthan State Electricity Board
69.	SACFA	Standing Advisory Committee for Radio Frequency Allocation
70.	SBI CAP	SBI Capital
71.	SCADA	Supervisory Control and Data Acquisition
72.	SEB	State Eelctricity Board
73.	SED	State Electricity Department
74.	SERC	State Electricity Regulatory Commission
75.	SOE	Statement of Expenditure
76.	SOUTHCO/ NESCO/ WESCO/CESCO	Southern/Northern/ Western/Central Electricity Company Ltd. (Orissa)
77.	SPDCL	Southern Power Distribution Company of AP Limited
78.	T&D Losses	Transmission & Distribution Losses
79.	TCEC	Technical and Commercial Evaluation Committee
80.	TCS	Tata Consultancy Service
81.	TERI	The Energy Research Institute
82.	TNEB	Tamil Nadu Electricity Board
83.	TSECL	Tripura State Electricity Corporation Ltd.
84.	UC	Utilisation Certificate
85.	UHBVNL	Uttari Haryana Bijali Vitaran Nigam Ltd.
86.	UPCL	Uttaranchal Power Corporation Ltd.
87.	WBEB	West Bengal Electricity Board

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