

# Chapter 1

## **Introduction**



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## 1.1 Background

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

### 1.1.1 Accelerated Power Development Programme (APDP)

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

### 1.1.2 Accelerated Power Development and Reforms Programme (APDRP)

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

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

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

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

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

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

#### **1.1.4 Part – A**

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

### 1.1.5 Part – B

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

### 1.1.6 Part C

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

### 1.1.7 Part D

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

## 1.2 Major Features of R-APDRP

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

- a. R-APDRP covered urban areas (towns and cities with a population of more than 10,000 in the case of Special Category States<sup>1</sup> and 30,000 in other cases). It envisaged separation of agricultural feeders from domestic and industrial ones and of High Voltage Distribution System (11KV) in high-load density rural areas. Towns and areas for which projects had been sanctioned in the X Plan under APDRP were eligible for consideration under the XI Plan either after completion or short closure of the earlier sanctioned projects.
- b. PFC was the nodal agency for the operationalisation and implementation of R-APDRP scheme, under the overall guidance of the Ministry of Power (MOP). PFC was expected to take the initiative for speedy and timely completion of projects and assist the Utilities in achieving loss reduction targets and other parameters of the scheme.
- c. The Steering Committee of R-APDRP under the Chairmanship of Secretary (Power) comprising of representatives of Ministry of Finance (MOF), Planning

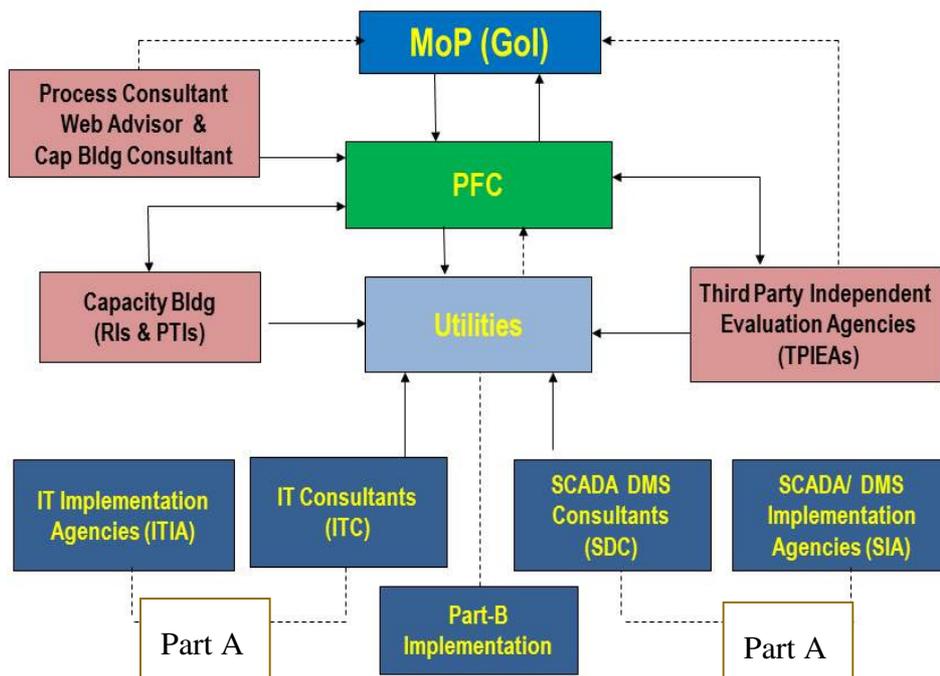
<sup>1</sup> All North- Eastern States, Sikkim, Uttarakhand, Himachal Pradesh and J&K

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

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

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

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



Source: Power Finance Corporation

### **1.3 Funding of R-APDRP**

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

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

### **1.4 Integrated Power Development Scheme**

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