ICR Review

Operations Evaluation Department

Report Number : ICRR11747

1. Project Data:		Date Posted : 05/03/2004		
PROJ ID :	P049537		Appraisal	Actual
Project Name :	Ap Power Apl I	Project Costs (US$M)	281.00	260.5
Country :	India	Loan/Credit (US$M)	210.00	169.8
Sector(s):	Board: EMT - Power (100%)	Cofinancing (US$M)		
L/C Number :	L4441; LP334			
		Board Approval (FY)		99
Partners involved :	Department for International Development (DFID), Canadian International Development Agency (CIDA)	Closing Date	08/31/2003	08/31/2003

Prepared by :	Reviewed by :	Group Manager :	Group :
Alvaro J. Covarrubias	John R. Heath	Alain A. Barbu	OEDST

2. Project Objectives and Components

a. Objectives

The US$281 million Andhra Pradesh Power Sector Restructuring Project (APL1) is a project in support of the first phase of the US$4,460 million APL program initiated in India in 1997.

The objectives of the APL1 were to: (1) initiate the reform process by establishing a new legal, regulatory, institutional framework of the power sector; (2) establish an independent Regulatory Commission; (3) create new power companies; (4) prepare power distribution for privatization; and (5) remove some of the critical bottleneck of the power system. These objectives are in harmony with the overarching objectives of the APL program to ensure that: (i) by FY2007 the energy requirement of the state are met and that consumers are provided with reliable, high-quality and cost-effective electricity supply, by creditworthy and commercially operated utilities functioning in a competitive and appropriately regulated power market, with significant private ownership and participation; and (ii) the public expenditure in the power sector shifts from a major drain on the budget to a contributor of funds for social sectors and other priority public investment. Steady progress in the compliance with agreements on policy and institutional changes were set as milestones to trigger Bank support to the program through a series of five APLs.

b. Components

The project had four main components: (i) Transmission system augmentation. This component provided support for capacity augmentation of overloaded transmission lines and sub-stations, construction of new sub-stations and transmission lines to meet load growth, establishing switching sub-stations to provide operational flexibility to the system and installation of capacitors to improve voltage and reduce system losses; (ii) Sub-transmission and distribution system strengthening. This component envisaged support to the 33/11kV substations and 33 kV lines by installing three phase distribution transformer to relief overloaded transformers in urban and rural areas, adding single phase distribution transformers to improve voltage level at the tail end of distribution lines, constructing new 33 kV lines, and bettering instrumentation, control and protection equipment at existing sub-stations; (iii) Metering system improvement. This component was to support the installation of a large number of high accuracy energy meters to improve accuracy of billing to consumers, accounting of energy flowing through feeders and energy exchange between power companies, and the installation of computer systems to process data at the distribution level; and (iv) Technical assistance for managing the reform program, for institutional development of the Regulatory Commission and newly incorporated power utilities, and for investment planning and other technical issues.

c. Comments on Project Cost, Financing and Dates

The project was completed at a cost of US$260.5 million (7.3 percent lower than the US$281 million appraisal

estimate). The Bank loan financed US$169.8 millions for works (US$17.9 million), goods (US$147.8 million) and technical assistance services and miscellaneous (US$4.1 million). The loan was used for transmission system augmentation (US$63.2 million versus US$57.0 million at appraisal), sub-transmission and distribution system strengthening (US$76.4 million versus US$84.0 million at appraisal), metering system (US$26.1 million versus US$53.0 million at appraisal), technical assistance (US$2.0 million versus US$6.0 million at appraisal) and one percent up-front fee (US$2.1 million). An aggregate of US$40.2 were cancelled from the US$210 million loan of which US$20.0 million was caused by mis-procurement of equipment and US$20.2 million was not disbursed. The financing of the US$32 million technical assistance component was substituted with a large grant from DFID (Sterling pound 28 million) and CIDA (Canadian $5.7 million) that reduced significantly the financing of the technical assistance by the Borrower (from US$26 million to US$0.7 million) and the Bank (from US$6.0 million to US$2.0 million).

3. Achievement of Relevant Objectives:

Although progress on preparation of power distribution for privatization has not been as expected (achievement of objective 4 was negligible), the project objectives (1), (2), (3) and (5) were substantially achieved as follows: (1) the reform process was initiated in February 1999 by enacting the Andhra Pradesh Power Sector Reform Legislation setting the legal foundation for reforms, regulation and market structure; (2) the Andhra Pradesh Electricity Regulatory Commission (APERC) was established in April 1999 and it is now functioning; (3) the vertically integrated power utility Andhra Pradesh Electricity Board (APEB) was functionally and successfully split into six corporations: a power generation company (APGENCO), a transmission and bulk supply company (APTRANSCO) and four distribution companies for retail power supply (DISCOMs). The assets and liabilities of the APEB were allocated to the six new companies and the transfer of staff to the six companies completed satisfactorily in March 2001; and (5) the APL1 succeeded in catalyzing investment and technical assistance support from financial institutions, bilateral donors and private investors removing critical bottleneck in the power system. During FY2000-03, about US$1,340 million equivalent were invested in the sector of which about US$880 million went to power transmission and distribution (T&D). The balance went to power generation expansion and technical assistance. The Bank share in T&D investment was close to 30 percent. In sum, the outcome and impact resulting from project implementation have been significant. The financial performance of the power sector is improving but it continues being highly vulnerable.

4. Significant Outcomes/Impacts:

The Andhra Pradesh Electricity Regulatory Commission (APERC) is now well established with 50 staff and showing a good track of transparent and independent operational performance in dealing with tariffs and subsidies, licensing, technical codes, and consumer services standards, involving the stakeholders and public at large. Performance and governance in the power sector has improved. The utilities have implemented impressive measures to control theft (including mandatory imprisonment), improve operational efficiency (regularization of about 2 million residential and 200,000 agricultural connections) and complete 100 percent of census of agricultural pump sets. Access to electricity increased from 50 percent in FY1999 to 67 percent in FY2003 (urban 90 percent and rural 30 percent). T&D losses have been reduced from 38 percent in FY1999 to 26 percent in FY2003. The addition of 3,000 MW in power generation improved the availability of power supply by increasing generation by 16 percent from 1999 to 2003 (about 6,000 million kWh). Also, the utilities have implemented specific measures dictated by performance standards issued by APERC that are improving customer services in billing complaints, bill payment and collection, and release of new connections. Reduction of cross subsidies among consumer categories and multi-year tariff incentive schemes has increased sales to high-tension industrial consumers. The inclusion of environmental and social safeguards in a plan agreed at project appraisal facilitated the payment of compensations and the provision of technical assistance to the owners of the land affected by the implementation of the T&D works.

Based on benefits valued as the willingness to pay for power supply, the ERR of the APL1 is estimated at 41.8 percent which is better than the 37.6 percent appraisal estimate. The ERR of the T&D alone is estimated at 43.4 percent.

The Bank remains willing to continue to engage in the power sector as long as the GOAP continues to be committed to deepen sector reforms, particularly on subsidy reforms for power supply to agriculture and improvement of the financial performance of the power sector. This is being reflected in the dialogue about the second structural adjustment loan (APERL2), which would lead to future APLs for the power sector.

5. Significant Shortcomings (including non-compliance with safeguard policies):

Progress in the privatization of the DISCOMs has been negligible due to a lack of adequate preparation, a declining interest from international investors and a limited interest from domestic investors. A revised strategy for

privatization would be finalized by the GOAP by March 2005. Financial performance of the power sector continues to be fragile in spite of the efforts made to improve cost recovery, reduce losses, and provide subsidy support to the utilities to compensate for the highly subsidized agricultural tariffs which are driven by political forces. The awarding of two large contracts for the supply of kWh meters was not done by the Borrower in full compliance with the Bank procurement guidelines. Consequently, the Bank declared misprocurement and canceled US$20 million from the loan.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Satisfactory	
Institutional Dev .:	Substantial	Substantial	
Sustainability :	Likely	Likely	
Bank Performance :	Satisfactory	Satisfactory	
Borrower Perf .:	Satisfactory	Satisfactory	
Quality of ICR :		Satisfactory	

NOTE: ICR rating values flagged with ' * ' don't comply with OP/BP 13.55, but are listed for completeness.

7. Lessons of Broad Applicability:

- The expectations of the pace at which the reforms can be implemented and the outcomes realized should be realistic. Given the socio political constraints, the pace of reforms will be determined by the willingness and capacity of the governments to address key reforms issues. Expectations of financial turnaround and phasing out subsidies to create space for social sectors investments need to be moderated. This would require substantial financial support to the utilities during the transition period to meet the cost of reforms.
- Subsidized power supply to agriculture is a deeper public policy issue and not a mere sector issue. Reduction/elimination of subsidies to agriculture is a complex economic and political problem the solution of which involves a cascade effect on the whole economy of the country by increasing the cost of agricultural products, and a change in the attitude of farmers towards electricity metering.
- Tariff reforms and cost recovery improvement are essential for the financial turnaround of the power sector. Tariff subsidy to consumers must be explicitly defined and transparently delivered without compromising the utility's finances. The subsidy should be adequately budgeted by the government and provided in a timely manner. Unless the distribution business becomes viable and the commercial risk of power supply to agriculture is minimized the successfully privatization of the DISCOMs would be difficult.
- A strong Regulatory Commission with autonomy in funding and managing of its budget, staffing and functioning can play a significant role in promoting reforms. Critical aspects of the reform are improvement of sector oversight, facilitation of access of public to information, and promotion of efficiency and better customer services by enforcing technical norms and performance standards.
- Upfront integration of the social and environmental safeguards results in smooth implementation of power system schemes as well as easy implementation of these safeguards.

8. Assessment Recommended? ● Yes ○ No

Why? Since this project is the first APL in Andhra Pradesh, many lessons could be derived from:

--the actual progress made in sector privatization and reduction of subsidies in power supply to agriculture

--the factors behind the declining interest from both foreign and local investors in the critically important distribution subsector

--to what extent the continuing subsidies and other costs of reform outweigh the efficiency gains from private involvement

-- the critical role played by the cofinanciers

-- to what extent the new regulatory framework neglects decentralized energy producers, including renewables

9. Comments on Quality of ICR:

The ICR complies fully with the Bank guidelines for ICRs. It provides an excellent account and evaluation of the results and impacts of the APL1, all supported with detailed annexes prepared by Bank staff and complemented with comments received from the Borrower and the donors DFID and CIDA.