



<b>1. Project Data:</b>		<b>Date Posted :</b> 02/27/2004	
<b>PROJ ID:</b> P037086		<b>Appraisal</b>	<b>Actual</b>
<b>Project Name:</b> Th-metropol'n Dist Rein	<b>Project Costs (US\$M)</b>	362.0	293.4
<b>Country:</b> Thailand	<b>Loan/Credit (US\$M)</b>	145.0	86.7
<b>Sector(s):</b> Board: EMT - Power (100%)	<b>Cofinancing (US\$M)</b>	104.0	N/A
<b>L/C Number:</b> L4199			
	<b>Board Approval (FY)</b>		94
<b>Partners involved :</b> Local Commercial Banks	<b>Closing Date</b>	12/31/2002	06/30/2002

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**2. Project Objectives and Components**

**a. Objectives**

The Thailand Metropolitan Distribution Reinforcement Project (TMDRP) objectives at appraisal were to:

- improve the reliability of the distribution system and contain losses, while meeting the projected rapid increase in electricity demand;
- assist in the organizational restructuring of MEA (Metropolitan Electricity Authority, Bangkok) leading to its commercialization and corporatization; and
- introduce demand-side management (DSM) capabilities in MEA's organization.

While objectives b. and c. were not revised formally when the physical investments were restructured in 1997, the reduction or exclusion of original sub-components, e.g., dropping some testing facilities, deferring development of load control and moderating performance criteria for the proposed Energy Services Company (ESCO), were significant enough to be deemed a revision of the policy objective .

**b. Components**

Consequent upon the economic and financial crisis of 1997, electricity demand fell and MEA was forced to modify its expansion program and engineer changes in the project's physical components . Some items were scaled back and some increased, with an overall contraction of estimated costs by 11.4%. Total project costs at appraisal (post-restructuring) were \$331.0 million and \$293.4 million at completion. To facilitate comparison of the structure of appraisal with actual costs, 17.7% contingencies and taxes were deducted from appraisal costs, and taxes from actual costs. On this basis (appraisal / actual ) base costs were \$281.3 million and \$288.5 million respectively, comprising:

**I. Investment (96.0% / 95.7%) -**

- |  |                |
|--|----------------|
| a. transmission and distribution substation system | 19.3% / 18.9%; |
| b. transmission lines                              | 25.1% / 29.3%  |
| c. distribution system                             | 49.2% / 45.3%  |
| d. underground cable system program                | 2.4% / 2.2 %   |

**II. Policy ( 4.0% / 4.3%)**

- Restructuring of the MEA Organization** leading to progressive commercialization and corporatization, including : unbundling of MEA supply and distribution; establishment of a corporate center for central support functions; and creation of business units for non-core functions.
- Introduction of Demand Side Management (DSM) capabilities in MEA and Service Efficiency Improvement** , comprising: set-up of appliance testing laboratory; introduction of load research program; implementation of a load control program; establishment of ESCO using SCADA (Supervisory Control and Data Acquisition); and technical assistance for the four DSM components .

**c. Comments on Project Cost, Financing and Dates**

The ICR presentation of cost data in Annex 2 is not the standard format. There are two tables: a) a financing plan for a \$796 million "MEA Eighth Power Plan" (page 19 of the ICR); and b) a separate and otherwise untitled table for the \$293.4 million "Metropolitan Distribution Reinforcement Project (MDRP)." IBRD funding was 11% of the Power Plan, with the balance from co-financiers JBIC, NIB, domestic banks and 48% from internal cash flow. The second table shows the realized \$85.7 million of IBRD funding as 29.2% of the \$293.4 million project cost, with the balance from a small grant, other borrowing and 59% from internal cash flow.

### 3. Achievement of Relevant Objectives:

a. **Investment** - This objective was achieved. Comprehensive indicators at baseline and completion show that all targets for reliability, efficiency, loss containment and manpower utilization were attained or exceeded. Physical components were executed with high standards of quality, with due regard to environmental, social, aesthetic and safety objectives.

b. **MEA Organizational Restructuring** - Achievement was partial. It is expected that restructuring and commercialization (the prelude to privatization, which is a work in progress) will be completed. Spinning off non-core units was dropped, unbundling of "Network" and "Supply" operations were confined to disaggregating the internal accounts. The functioning of non-core units as separate legal entities and profit centers became constrained by Government opposition to competition in bulk supply, and hence retail markets for electricity.

c. **Demand Side Management**. The original objective was not being achieved under TMDRP although 4% of costs were allocated to DSM. The mutually agreed but informal, revised objective was fully accomplished, but using GEF funds reallocated within the "Promotion of Electricity Energy Efficiency Project (PEEEP)" (P004647). The ICR for PEEEP, implemented by the EGAT (Electricity Generating Authority of Thailand) - Demand-Side Management Office (DSMO), was completed in December 2000. The DSM objective was retained at the physical restructuring of the MDRP. The Bank persuaded a reluctant MEA to retain the DSM component and objective, while adding a service efficiency improvement component, using a SCADA and grant finance. The component was implemented by MEA (not EGAT) but ownership of this grant-funded activity was still not strong.

The economic rate of return (ERR) estimated at appraisal was 20.4%, based on a 1997-2001 time-slice of the MEA investment program. ICR estimates for 1997-2001 and 1997-2003 were only 13.5% and 19.8%, but these were still well above the test rate of 10%. Covenanted financial performance ratios were achieved in all but one year (FY 99). From FY00 financial performance improved dramatically because of reduced capital expenditures, increased efficiency and application of a tariff surcharge mechanism to recoup foreign exchange losses.

### 4. Significant Outcomes/Impacts:

- i. All the major physical objectives were achieved by skillful reframing and down-scaling of physical components.
- ii. Progress was made in advancing the reform agenda, despite MEA's lack of experience at implementing policy components. This was a more challenging task than restructuring to meet demand growth.
- iii. MEA did commendable load research, created advanced applications for efficient utilization and reduction of electricity demand, assisted customers in utilizing TOU (time of use) tariffs to reduce their bills, and established an ESCO which contracted for five demonstration projects.

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

- Vacillations in government policy for sector reform, and the reluctance of electricity utilities to support major structural change and competition, undermined the implementation of restructuring and privatization reforms. Resistance to privatization and competitive power markets by Government were encouraged by adverse international experience such as the California Power Crisis and reports of British Power Tools practices.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
<b>Outcome:</b>	Satisfactory	Satisfactory	
<b>Institutional Dev.:</b>	High	Substantial	Achievement of institutional development objectives was only partial, and most of the work was conducted and financed under PEEEP.
<b>Sustainability:</b>	Likely	Likely	MDRP was constructed to excellent technical standards and MEA operate and maintain it competently. Future price-competition from non-profit and private agencies could reduce demand and undermine financial sustainability.
<b>Bank Performance:</b>	Satisfactory	Satisfactory	The Bank did not try to enforce rigid compliance with covenants on restructuring and corporatization, when circumstances and Government policy changed.
<b>Borrower Perf.:</b>	Satisfactory	Satisfactory	Highly satisfactory design of physical components, whose subsequent high performance was confirmed by a comprehensive monitoring system, was partially offset by the less-than-enthusiastic preparation and

		initial implementation of restructuring, corporatization and DSM components.
<b>Quality of ICR :</b>	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:**

- i. Projects to restructure, corporatize and privatize a utility should incorporate the flexibility to respond to changes in Government policy.
- ii. When economic and financial crisis strikes a country, utilities need to take timely and drastic measures to restructure their investment plans, exercise greater financial discipline and improve operational efficiency .
- iii. Active support rather than reluctant acquiescence of utilities is necessary to push through a complex reform agenda.

**8. Assessment Recommended?**  Yes  No

**Why?** It is important to evaluate the impact of financial/economic crises on the implementation of restructuring and power sector reforms . Since both PEEEP and MDRP shared objectives and components, a joint performance assessment review of both projects for the Bank and GEF would be optimal .

**9. Comments on Quality of ICR:**

The ICR is well-written, admirably succinct, and provides a good basis for rating the project . However, the cost data were not presented in a standard, complete, aggregated or directly useful format . The funding arrangements and reporting of costs made it difficult to determine if the DSM objective's was a partial achievement of this, or an earlier GEF project. Similarly, if in reality the allocation of costs to this project was simply an accounting exercise, then JBIC was a major co-fiancier of a time slice of the larger Eighth MEA Power Plan .