

7 Thailand Metropolitan Power Distribution Project

Contributing to the stable supply of electricity in Bangkok and the economic development of the Bangkok region

Loan Amount/Disbursed Amount 14,304 billion yen/6,617 billion yen
Loan Agreement September 1997
Terms & Conditions Interest rate 2.7%, Repayment period 25 year (grace period 7 years), General untied
Final Disbursement Date January 2003
Executing Agency Metropolitan Electricity Authority (<http://www.mea.or.th/>)



Project Objectives

The objective of this project was to meet the electric power demand within Metropolitan Bangkok by expanding and improving the substations and power distribution system in this area, thereby contributing to the economic development of the area.

Effectiveness & Impact

Rating **a**

The electrical transformer capacity developed through this project accounts for about 10% of the transformation capacity in the Bangkok metropolitan area (population of about 8.2 million; compare to a population of about 8.7 million for Kanagawa Prefecture). The project thereby enhanced the ability to supply electrical power to the region. Moreover, with the average annual load factor of the seven substations in this project running at the level of 50–77%, the substations have ensured a sufficient availability factor by controlling the load. This has resulted in a decline in the number of power outages per subscriber per year, and the duration of outages per subscriber per year in the Bangkok metropolitan area, which were 1.93 times and 42.1 minutes, respectively, in 2004. The per capita GDP for this region rose 34.4% from 1999 to 2004. It was judged that this project supported the economic growth of the region by achieving a stable supply of electrical power. In addition, by laying electrical cables underground in the bustling Mahboonkrong area, the project contributed to the beautification of the scenery. Therefore, this project has largely achieved its objectives, and effectiveness is highly satisfactory.

Relevance

Rating **a**

This project has been highly relevant with Thailand's national policies both at the time of the appraisal and at the time of the ex-post evaluation. At the time of appraisal, the Eighth Metropolitan Power

Distribution System Improvement and Expansion Plan, upon which this project was planned, was changed during the implementation stage. These changes shifted the project's focus from expanding transmission and transformation facilities to repairing existing facilities. At the time of the ex-post evaluation, the Ninth Metropolitan Power Distribution System Improvement and Expansion Plan indicated the stabilization of the Bangkok metropolitan area's power supply system and improvement of services to users as continuing issues to be addressed.

Efficiency

Rating **b**

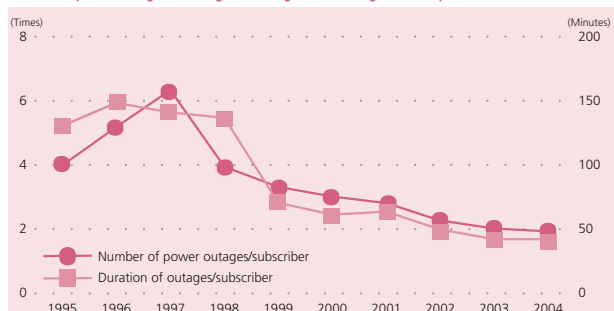
Although the project cost was lower than planned, the project period turned out to be slightly longer than planned (120% of planned time); therefore, the evaluation for efficiency is moderate. The main factors behind the project delays included that investment in transmission and transformation equipment was revised following a sharp downturn in electrical power demand due to the 1997 Asian currency crisis, and that time was needed to improve foundations during project implementation and to compensate the residents living near the project implementation areas.

Sustainability

Rating **a**

No major problem has been observed for capacity of the executing agency nor the operation nor its maintenance system, therefore, sustainability of this project is high. The Metropolitan Electricity Authority, the executing agency for this project, has secured stable sales and operating profit, and has sufficient earning power to shoulder the responsibility of borrowed indebtedness from financial institutions and other lenders.

Number of power outages and length of outages in the Bangkok metropolitan area over time



Third-Party Opinion

The executing agency responded to the currency crisis and changed the project scope appropriately. This project has contributed to an increase in the capacity to supply electrical power, the achievement of a stable electrical supply, the securing of high profits, and the reduction of operating costs at substations.

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