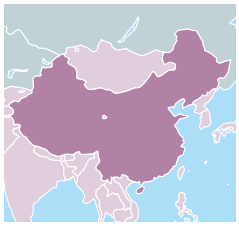
Asia China



Harbin Electric Network Construction Project

Contributing to improving power supply reliability in Harbin by developing power transmission and distribution networks

【External evaluator】
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Rating

Effectiveness, Impact	a	Overall rating A
Relevance	a	
Efficiency	b	
Sustainability	a	

Project Objectives

To improve the supply reliability of the power grid by establishing and enhancing the transmission and distribution network in Harbin, Heilongjiang Province, thereby contributing to the economic development of this important industrial city of China.

Outline of the Loan Agreement

- Loan amount / disbursed amount: 6,070 million yen / 4,119 million yen
- Loan agreement: March 2000
- Loan agreement: (I) January 1991; (II) October 1991; (Expansion) March 2000
- Terms and conditions: 2.2% interest rate; 30-year repayment period (including a 10-year grace period); general untied
- Final disbursement date: July 2005
- Executing agency: State Grid Corporation of China
- Website URL: http://www.sgcc.com.cn/default.asp

Operational performance

Indicat	(Unit)	Baseline (1998)	Target (2005)	Actual		
				2005	2006	2007
Household electrification rate	(%)	100	100	100	100	100
SAIDI	(hrs/yr., household)	29.4 (2000)	17.3	0.7	1.9	0.8
Outage times	(times/yr.)	5.0 (2000)	2.7	0.9	1.4	1.2
Transmission and distribution loss	(%)	8.9	7.0	5.9	5.9	6.6
Sales volume	(GWh)	5,268	7,641	10,600	11,239	10,300
Peak load	(MW)	1,069	1,740	1,973	2,010	2,012
Voltage acceptance rate	(%)	98.0 (2000)	98.2	99.0	99.2	99.0

Source: Harbin Power Supply Bureau
Notes: SAIDI (System Average Interruption Duration Index) = Hours of outage per customer household in the project target area
Outage times = Number of outages of no less than one minute in the project target area
Transmission and distribution loss = (Net electric energy production (kWh) - volume of electric energy consumption within a plant (kWh) - receiving end electric energy production (kWh)) / net electric energy production (kWh)
Household electrification rate = (Number of electrified households) × 100 / (total number of households)
Voltage acceptance rate = (Accepted hours for the voltage standard value) / (hours of power distribution per year)

Effects of Project Implementation (Effectiveness, Impact)

The development of transmission/transformer and distribution facilities under this project has significantly contributed to reducing the number and duration of outages in the project area. Before the project, the average customer household experienced about five outages or a total of 30 hours of interruption per year. In 2007, these numbers dropped to 1.2 outages or a total of 0.8 hours. The transmission and distribution loss rate stood at 6.6% in 2007, below the planned value of 7.0%.

Since the launch of this project, power consumption in both the industrial and public sectors has been increasing significantly in Harbin, which has experienced rapid growth of its secondary and tertiary industries. The period between the project launch and 2006 saw an average economic growth rate of 11.6% per year. This growth is attributable to the fact that the stable power supply made possible by the expansion of the power transmission/distribution network has supported the industrial base.

Therefore, the project has largely achieved its objectives and its effectiveness is high.

Relevance

This project has been highly relevant with China's national policies and development needs at the times of both appraisal and ex-post evaluation.

Efficiency

This project cost less than planned but took much longer (206% of the planned period); therefore, the evaluation for efficiency is moderate. The implementation delay was caused by two major factors. First, the installment of 10 kV electric power distribution lines, which were scheduled in accordance with the progress in Harbin's urban development program, was significantly delayed in relation to the plan at the time of the appraisal since two projects under the program had fallen behind schedule. Second, surging copper prices resulted in prolonged negotiations over prices with the Chinese company that was awarded a contract to supply the electric power lines. Subsequently, there were delays in the procurement of the raw materials and the delivery of the electric power lines by this company.

Sustainability

No major problems have been observed in the capacity of the executing agency nor its operation and maintenance system; therefore, sustainability of this project is high.

Conclusion, Lessons Learned, Recommendations

In light of the above, this project is evaluated to be highly satisfactory.

- Box: Some thoughts on the completion of the ex-post evaluation -
We had difficulty in obtaining the support of the executing agency in collecting information for the evaluation of this project as a whole. The agency cited the relatively small share of the Japanese ODA loan in the whole project budget. In addition, the project completion date and project scope (output details) described in the project completion report submitted by the agency are different from the actual results. It took us a considerable amount of person-hours of work to check the differences in detail.