

Country	Islamic Republic of Pakistan	
Project	500kV Multan - Guddu Substations Extension Project	
Borrower	President of Islamic Republic of Pakistan	
Executing Agency	Water and Power Development Authority (WAPDA)	
Exchange of Notes	August 1988	
Loan Agreement	November 1988	
Loan Amount	¥3,303 million	
Loan Disbursed Amount	¥2,701 million	
Project Summary and OECF Portion		
<p>This project is to implement part of the 500 kV No. 2 Power-Transmission Line Project (from Tarbela to Jamshoro) that crosses Pakistan from North to South. In other words, of the seven substations located on the No. 2 Power-Transmission Line, the project is to perform extension work at the Multan and Guddu Substations by adding switch gear and related equipment. The 500 kV No. 2 Power-Transmission Line Project aims to strengthen linkage of the power system in Pakistan and raise the reliability of power supply, and is implemented by co-financing (parallel type) with the World Bank, ADB, KfW, France, and the OECF (this project).</p> <p>The ODA loan covers all the foreign-currency costs and part of the local-currency costs related to this project.</p>		
Comparison of Original Plan and Actual	Plan	Actual
(1) Project Scope		
1. Extension of Multan Substation		
• Circuit breaker	4	Same as left
• Disconnecter	12	
• Shunt reactor	7	
2. Extension of Guddu Substation		
• Circuit breaker	3	Same as left
• Disconnecter	10	
• Shunt reactor	6	
3. Consulting Service	64 M/M	71 M/M
(2) Implementation Schedule		
Selection of consultant ~ Completion of test working	August 1988 ~ December 1989 (17 months)	December 1988 ~ May 1991 (30 months)
(3) Project Cost		
• Foreign currency portion	¥3,051 million	¥2,699 million
• Local currency portion	Rp. 165 million	Rp. 212 million
Total	¥4,399 million	¥4,111 million
Exchange rate	Rp. 1 = ¥8.17	Rp. 1 = ¥6.66

Analysis and Evaluation	
<p>(1) Project Scope</p> <p>The project scope was not changed with regard to equipment. However, due to the extension of the implementation schedule, the M/M for consulting services did slightly increase.</p> <p>(2) Implementation Schedule</p> <p>Delays in the manufacture and shipping of equipment, and additional delays in their installation resulted in a 17-month delay compared with the original plan. The reason for the delays in the manufacture and shipping of equipment was that it became necessary to change the specifications of some of the equipment. The reasons for the installation delays were that a shunt reactor got damaged and that the additional work was required in order to avoid complicated crossing of already existing power-transmission lines in the Multan-Guddu segment. The occurrence of this additional work is believed to be due to problems in the planning and design of the executing agency (WAPDA) as described in (4) Implementation Scheme Section. However, the construction of power-transmission lines financed by a World Bank loan also ran into delays, and the completion of the power-transmission lines occurred after the completion of the OECF project, so that the delay in the OECF project's implementation schedule did not have a negative impact on the start of operations for the overall No. 2 Power-Transmission Line.</p> <p>(3) Project Cost</p> <p>There were no outstanding differences between the planned and actual achievement, and there were no problems.</p> <p>(4) Implementation Scheme</p> <p>The complicated crossing of power-transmission lines , which caused the project implementation delay, occurred at the border between the power-transmission lines portion from a different contractor and financing source, and the substation portion, a place where the location of responsibility can easily become unclear. However, there is the strong possibility that this problem could have been avoided had WAPDA sufficiently performed coordination and adjustments, and the fact that WAPDA has a lot of room for coordination and management improvements is recognized.</p> <p>Due to the fact that this project was an extension of existing substations, the contractors and consultants were the same companies that were used for the construction of the existing facilities, but hired on a direct contracting. According to WAPDA, there were no problems in particular in the performance of these contractors and consultants. (However, regarding the contractors, several shunt reactor defects due to breakage during shipping were reported.)</p> <p>(5) Operations and Maintenance</p> <p>Much delays occurred in the construction of power-transmission lines funded by the World Bank. Due to this delay, actual operation started one year and four years after completion in Multan substation and Guddu substation respectively. With regard to the operations status, the number of blackouts in the Multan-Guddu segment between 1994 and 1996 was relatively low, and operations during normal times were largely satisfactory. However, the blackout time is too long once it occurs and indicates the recoveries are not executed promptly.</p>	
Project Effects and Impacts	
	<p>The completion of the 500 kW No. 2 Power-Transmission Line contributed to expand the South-North electric power transmission of Pakistan. The fact that there are now multiple electric lines has also improved reliability and reduced the loss rate.</p>
Notes	Report Date : February 1998