

Country	The Republic of Indonesia	
Project	Scattered Diesel Plants & Distribution Network Project	
Borrower	The Republic of Indonesia	
Executing Agency	PT. PLN (PLN when the project was implemented)	
Exchange of Notes	November 1979	
Loan Agreement	July 1980	
Loan Amount	¥5,268 million	
Loan Disbursed Amount	¥5,227 million	
Project Summary and OECF Portion		
<p>This project is to supply diesel generators and power distribution facilities in a total of 34 locations, 27 in Sumatra and 7 in Kalimantan, outputting a total of 31,500 kW.</p> <p>The ODA loan covers all foreign-currency expenses. That is, the cost of procuring equipment and materials such as generators and power distribution facilities.</p>		
Comparison of Original Plan and Actual	Plan	Actual
(1) Project Scope		
1) Region	Sumatera Kalimantan	Sumatera Kalimantan Irian Jaya
2) Number of power generating locations (Number of generators)	34 locations (58 generators)	35 locations (58 generators)
3) Total generating output	31,500 kW	35,800 kW
4) Power distribution facilities		
High-tension line	174 cct-km	125 cct-km
Low-tension line	155 cct-km	170 cct-km
Transformer	34,100 kVA	12,300 kVA
(2) Implementation Schedule		
(Field survey ~ installation, transfer)	Jul. 1980 ~ June 1983 (36 months)	June 1980 ~ Mar. 1987 (82 months) However, excluding two generators that were damaged by fire, the project was completed in July 1984.
(3) Project Cost		
1) Foreign currency portion	¥5,268.0 million (¥5,268.0 million)	¥5,227.1 million (¥5,227.1 million)
2) Local currency portion	¥7,289.2 million	¥1,586.8 million
3) Total project cost	Rp. 7,833.8 million	Rp. 5,581.2 million
Figures in the parentheses are for ODA loans.		
Exchange rate	¥1 Rp.2.84 (1979)	¥1 Rp.4.48 (Average at the time of contract)

Analysis and Evaluation

(1) Project Scope

The original project planned to install 58 generators in 34 different locations (total output capacity of 31,500 kW), but there were 9 changes in the installation locations, and in the end, a total of 58 generators in 35 different locations (total output capacity of 35,800 kW) were installed. The changes in the installation locations resulted also in corresponding changes in the location of power distribution facilities. Originally, remote area diesel power generation, including this project, was intended to supply electric power in remote areas that cannot be linked to the national power grid as part of Indonesia's power planning, and it was important to coordinate the project with this senior national power development plan. The changes in installation locations that occurred in this project were the result of changes in electric power supply conditions that occurred after the survey, and they are considered to have been appropriate. Nevertheless, according to a report issued by the executing agency (PLN), some of the transformers that were planned to be purchased were not procured.

(2) Implementation Schedule

The project was completed 45 months behind schedule. The main reason for this delay was the outbreak of a fire during the installation of two generators, as the result of which it was necessary to refabricate the generators and rebuilt the base on which they were installed. This fire, which occurred during the installation, is attributed to improper safety management on the part of the Contractor. Excluding the delay incurred from this fire, the construction of the generator bases was extended by 11 months, and the construction period was extended by 2 months, leading to a 13-month delay.

(3) Project Cost

Regarding the overall project cost, the project ended with a cost underrun of approximately ¥2,236 million compared to the cost estimated at the time of the appraisal. Foreign-currency costs, which is the part that the ODA loan covered, ended being within the allotted budget, despite the addition of one set of spare parts and one waste oil incinerator. Local currency costs also ended up being lower than the projected amount by approximately 5,700 million rupiah, due in part to the fact that some transformers were not procured.

(4) Implementation Scheme

This project was managed by the PLN, the executing agency, from the preparation of the bidding documents to the supervision of construction, with the manufacture and installation of generators performed by subcontractors. Although the PLN implemented the project without consultants, there were no outstanding delays until the bidding stage. While delays occurred due to generator fires during installation, the PLN took adequate measures to ensure the successful completion of installation. Overall, the performance of the Contractors in charge of manufacturing materials and equipment is judged to have been satisfactory. However, the fact that the completion of the foundation work was delayed and that a fire occurred during the construction of the Tanjung Selor building, which damaged generators, seems to indicate the existence of problems in the construction system of some of the Contractors.

(5) Operations and Maintenance

The operations and maintenance of facilities and equipment related to this project is the responsibility of the PLN branch offices for the areas in question, the PLN branches that are organizationally under them, and the Diesel Power Generation Control Center (PLTD). Maintenance is performed both periodically and as needed, and a research center for training spare parts management system, operations, and maintenance workers has been established. However, it has been pointed out that measures by the PLN to deal with rising demand for electric power, aging facilities, and worsening fuel combustion efficiency and to improve its financial condition are not necessarily progressing well, and further improvement efforts are advisable.

Project Effects and Impacts

This project has achieved an increase in the number of electrified villages and the electric power supply capacity, which is contributing to improved living conditions in the beneficiary areas and contributing to the development of local industries by energizing the economy.

Notes

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