



1. Project Data :		Date Posted : 07/05/2000	
PROJ ID: P008381 OEDID: L3474		Appraisal	Actual
Project Name : Power And Environmental Improvement Project	Project Costs (US\$M)	638.1	432.5
Country: Czech Republic	Loan/Credit (US\$M)	246	209.8
Sector, Major Sect .: Distribution & Transmission, Electric Power & Other Energy	Cofinancing (US\$M)	0	0
L/C Number: L3474			
	Board Approval (FY)		92
Partners involved :	Closing Date	06/30/1997	06/30/1999
Prepared by :	Reviewed by :	Group Manager :	Group:
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2. Project Objectives and Components

a. Objectives

The project's main objectives were to improve power plant efficiency, reduce air pollution in northern Bohemia and thereby improve the environment and health of local population, modernize the transmission system, and facilitate interconnection of Ceske Energeticke Zavody (CEZ) with the German grid. These objectives were to be accomplished in the context of an overall reform of the energy sector .

b. Components

The objectives were to be achieved by: (a) the installation of equipment and operational improvements at Prunerov II thermal power station and other large CEZ power plants to reduce lignite consumption; (b) installation of flue gas desulfurization (FGD) at Prunerov II; (c) installation of electrostatic precipitators at the worst polluting CEZ power plants; (d) modernization of five 400 kV substations and construction of a short 400 kV line; and (e) consultants and staff training.

c. Comments on Project Cost, Financing and Dates

The actual cost of the project (US\$397.6 million, excluding interest during construction) was 28.7 percent lower than the appraisal estimate (US\$ 557.5 million) as a result of a low price of the FGD equipment obtained by CEZ through international competitive bidding. The Bank loan financed the foreign cost (US\$209.8 million) and CEZ financed the local cost (US\$187.8 million). In 1998, in order to decrease its exposure to certain currencies, CEZ decided to convert the initial Bank loan into two sub loans, one US\$ -denominated loan of US\$169.0 and another DEM-denominated loan of DEM135 million. The undisbursed amount of US\$36.2 million equivalent was cancelled (US\$1.3 million and DEM59.1 million) shortly before the loan closing date, which had been extended by two years .

3. Achievement of Relevant Objectives :

The project achieved its major environmental, efficiency, physical and institutional development objectives . Air pollution in Northern Bohemia decreased significantly as shown by the reduction of annual emissions from power plants by a factor greater than 4 from 1992 to 1998. The reliability of the CEZ power system and the efficiency of its Prunerov II and other six major power plants increased as indicated by a reduction in breakdowns by 7.2. percent from 1997 to in 1998, and a decrease of power plant gross fuel consumption by 2.8 percent from in 1993 to 1999 (including the 1.5-2.0 percent additional electricity consumed by the FGD and precipitator equipment). Four major 400 kV substation were modernized, and the control and protection systems of other four substation were upgraded, and a short but important 400 kV transmission line was built. Methodologies for least-cost development of the power system, as well as for assessment of nuclear plant safety, were introduced in CEZ . In addition, early in project implementation CEZ was transformed into a corporation, and later equipped with state -of-the art accounting and financial management information systems .

4. Significant Outcomes /Impacts:

The emissions of air pollutants were significantly reduced in the period 1992-1998. The environmental survey carried out in 1998 indicated annual reduction of emissions --compared to those existing in 1992-- from about 58,000 to

7,000 ton of dust, from 770,000 to 160,000 ton of SO₂, from 128,000 to 57,000 ton of NO_x, and from 18,000 to 6,000 ton of CO. Moreover, CEZ strategy is to achieve compliance with ISO 14001 Environmental Management Quality Standards by probably end-2000. Further, in 1998 CEZ was accepted as associated member of the Union for the Coordination of Production and Transmission of Energy (UCPTE) in merit to its quality parameters of electricity supplied through the power interconnected system.

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

The estimated 6 percent project economic rate of return on a time slice of CEZ's total investment program is well below the 14 percent estimated at appraisal. This is the result of the big drop in electricity demand in the period 1992-1999 and low electricity tariffs (used as a measure of project economic benefits) not recovering the cost of service. It is now estimated that electricity demand will only reach in 2007 its 1992 level, compared to the appraisal's forecast of an increase in demand of 36 percent between 1992 and 1999. And average electricity tariffs are now 40 percent below their 1992 level in real terms.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Satisfactory	This rating is mainly supported by project's achievements of its primary environmental and physical objectives, which outweigh its relatively low 6 percent estimated economic return -- caused by depressed electricity sales and the prevailing low electricity tariffs.
Institutional Dev.:	Substantial	Substantial	Early corporatization of CEZ, its adherence to high environmental standards, its adoption of modern methodologies for planning, and the introduction of modern accounting and information systems for CEZ management support this rating.
Sustainability:	Likely	Likely	CEZ has a long term commitment to remain in compliance with environmental ISO standards.
Bank Performance:	Satisfactory	Satisfactory	Bank supervision was intensive following extension of loan closing date (4 missions in 1998).
Borrower Perf.:	Satisfactory	Satisfactory	Full commitment of the Government to project objectives and CEZ's good management and competent professional staff during project implementation, outweigh weaknesses in project preparation which delayed project completion by two years.
Quality of ICR:		Satisfactory	

7. Lessons of Broad Applicability:

The corporatization and the strengthening of the financial management of a Government entity have proven to be valuable measures in preparing that entity to access international capital markets and obtaining financial resources for its investment program without Government guarantees.

8. Audit Recommended? Yes No

9. Comments on Quality of ICR:

The ICR is of satisfactory quality.