



<b>1. Project Data:</b>		<b>Date Posted :</b> 08/16/2002	
<b>PROJ ID:</b> P045483		<b>Appraisal</b>	<b>Actual</b>
<b>Project Name:</b> Elec Power 2	<b>Project Costs (US\$M)</b>	169.8	159.0
<b>Country:</b> Bosnia-Herzegovina	<b>Loan/Credit (US\$M)</b>	25.0	24.7
<b>Sector(s):</b> Board: EMT - Power (100%)	<b>Cofinancing (US\$M)</b>	111.9	102.4
<b>L/C Number:</b> C3071			
	<b>Board Approval (FY)</b>		98
<b>Partners involved :</b> GTZ, USAID, EC, EBRD, UK, Canada, JIK, Netherlands, ODA, and OECF/JBIC	<b>Closing Date</b>	06/30/2000	12/01/2001
<b>Prepared by :</b>	<b>Reviewed by :</b>	<b>Group Manager :</b>	<b>Group:</b>
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## 2. Project Objectives and Components

### a. Objectives

The objectives of the project were to:

- (a) restore electricity supply in Bosnia and Herzegovina (BiH) at least cost in order to: (i) meet at least part of the expected increase in demand; (ii) reconnect consumers left without power after the war; and (iii) reduce power outages, variations in voltage level, and other quality of service defects;
- (b) improve cost recovery by electricity companies and to begin the process of making them financially autonomous of the Government in a manner consistent with the fact that consumers were recovering from extremely low wartime levels; and
- (c) reduce the environmental impact of electricity generation in BiH by financing investments in pollution control technologies at coal power stations.

### b. Components

The project included five components:

- (a) Rehabilitation works at five hydroelectric stations (Rama, Jajce 1, Capljina, Trebinje 1 and 2 and Bocac) and four thermal power plants (Tuzla, Kakanj, Gackco and Ugljevik);
- (b) Rehabilitation works on the transmission and distribution networks;
- (c) Rehabilitation work on the coal mines that supply thermal power plants;
- (d) BiH coal sector restructuring study; and
- (e) Technical assistance in transmission and institutional rehabilitation, and engineering and project management.

The project components were not revised, but the detailed scope of some were modified during project implementation.

### c. Comments on Project Cost, Financing and Dates

The project was completed at an estimated cost of US\$159.0 million or 6.3 percent lower than the US\$169.8 million appraisal estimate. The decrease in cost was mainly due to lower cost of goods and services than the one estimated at appraisal (US\$130.4 million compared to US\$141.3million) that largely exceeded a small increase in the cost of works. The SDR18.5 million Bank credit yielded the equivalent of US\$24.65 million, i.e. slightly less than the US\$25.0 million estimated at appraisal. It

financed investment in electrical equipment, environmental protection equipment, spare parts and materials for the power generation component (US\$23.68 million) and support of project implementation (US\$0.28 million). The Government financed investment for the generation and transmission components and all engineering and project management (US\$32.65 million). The balance was parallel-cofinanced by a large number of donors including the USAID (US\$19.9 million); EC (US\$12.2 million); UK, Canada and JIKA (US\$38.9 million); EBRD, the Netherlands, ODA and OECF/JBIC. The Bank credit was closed on December 1, 2001 following an extension of the credit closing date by 17 months.

### **3. Achievement of Relevant Objectives:**

The project objectives were substantially achieved. Electricity supply in Bosnia and Herzegovina was significantly restored as demonstrated by key performance indicators of the three power companies (Elektroprivreda):

	EPBiH	EPHZHB	EPRS
Electricity generation (GWh)			
1998	4,045	803	4,217
2001	5,115	943	4,676
Area sales (GWh)			
1998	3,313	1,785	2,883
2001	3,500	3,026	3,710
External sales (GWh)			
1998	732	None	1,334
2001	1,615	None	966
Total losses (%)			
1998	18.1	29.8	31.0
2001	11.3	28.4	28.7

Although cost recovery by the three power companies has improved, the cost recovery was not big enough to improve their aggregated financial position. In 2001, the aggregated losses of the three power companies amounted to KM241.7 million (US\$107.4 million) compared to KM189.5 million (US\$84.2 million) in 1998. In fact, the slight improvement in the financial performance of EPBiH and EPHZHB was marred by the significant deterioration of the financial performance of EPRS. Also, none of them met the covenanted level of collection as a percentage of cash operating costs. Consequently, the three power companies are far from being financially autonomous of the Government.

The environmental impact of electricity generation by two thermal power plants of EPRS (Tuzla and Gackco) was mitigated. However, lack of donor financing delayed the full implementation of the EMP in the three power companies until the EBRD financed the on-going Third Electric Power Reconstruction Project.

### **4. Significant Outcomes/Impacts:**

The project produced a significant impact on the population and on the electrical facilities of the country. Electricity supply was restored to 26,000 households supporting the return of about 62,000 refugees in BiH and Sprska, and 9 villages were re-electrified. New high voltage transmission lines were put into operation and others rehabilitated totaling 87.2 km of 400 kV, 49.6 km of 220 kV, and 101 km of 110 kV. A number of transformer substations were rehabilitated or expanded and low voltage networks were reconstructed or rehabilitated.

Also, the project contributed to the preparation of a coal sector study and recommendations to mitigate the social consequences of coal mine restructuring in the Federation of BiH. These studies are helping the FBiH Government establish a comprehensive restructuring plan for the coal sector.

Moreover, a tariff study financed by the EBRD has provided the basis for a tariff reform. Although in the period 1998-2001 the household tariffs were increased in the range 20 to 60 percent—depending on the region—that tariffs are still about 40 percent below the LRMC. Industrial tariffs are sensibly equal to the

LRMC.

Environmental investment at the TPP Tuzla and Gacko reduced pollutant emissions from their stacks and improved the handling of waste ashes.

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

While EPBiH was able to achieve the power distribution loss reduction targets, EPHZHB and EPRS made insufficient progress in that front. The restructuring of the coal mining industry has taken longer time than expected. Although an EMP was prepared by each of the three power companies at the beginning of the project, the EMPs were not implemented due to lack of donor financing.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
<b>Outcome:</b>	Satisfactory	Satisfactory	The substantial achievement of the physical objectives support this rating.
<b>Institutional Dev .:</b>	Modest	Modest	While Block 2 of the ICR (Principal Development Ratings) indicates a Modest rating for Institutional Development Impact, Annex 5 of the ICR indicates Substantial. The M rating seems to be the appropriate one.
<b>Sustainability:</b>	Likely	Likely	The good technical capability of the power utilities for doing maintenance of the physical facilities reconstructed/rehabilitated supports this rating. Although the long term financial sustainability of the three power companies is still uncertain, it is expected that the Third Power Reconstruction Project will make it likely.
<b>Bank Performance:</b>	Satisfactory	Satisfactory	
<b>Borrower Perf .:</b>	Satisfactory	Satisfactory	
<b>Quality of ICR:</b>		Satisfactory	

**NOTE:** ICR rating values flagged with '\*' don't comply with OP/BP 13.55, but are listed for completeness.

**7. Lessons of Broad Applicability:**

Coordination of project implementation should be centralized in one Project Coordinating Unit or Center when several entities of other regions of the country are in charge of the execution of project components. The location of the Project Coordinating Unit or Center should be made in accordance with the prevailing laws of the country. In the BiH project, the creation of a Joint Power Coordination Center (ZEKC) was a key action to resolve coordination problems and technical decisions among the three power companies implementing project components in different regions. This is particularly important when the project is financed by a large number of donors.

**8. Assessment Recommended?** ☒ Yes ☐ No

**Why?** In a cluster with the First and Third Electric Power Reconstruction Projects, because: (i) no audit of power projects has been carried out in the power sector of BiH; (ii) the environmental objectives of the project were not fully achieved, but expected to be so under the Third Power Reconstruction Project; and (iii) the restructuring of the coal mining industry is pending.

**9. Comments on Quality of ICR:**

The ICR complies satisfactorily with the Bank guidelines for the preparation of ICRs. It presents a good description and evaluation of the project results. It would have been enriched if the results of the Mid-Term Review of the project had been reported.

