The project

This Operation Performance Evaluation Review (OPER) assesses two European Bank for Reconstruction and Development (EBRD) operations. The first project, a power sector reconstruction project, was approved in November 1999 as a priority investment. This operation combined elements from two cancelled projects with two new transmission investment components.

The second project, a power distribution rehabilitation project, was approved by the Bank in July 2002 as a follow-on investment. Unlike the reconstruction project, the new operation did not continue components from previous projects the Bank had suspended and cancelled. Rather, it focused on priority investments designed to reduce losses in selected power distribution networks.

The power sector reconstruction project

The project combined two investment components and a technical assistance component and totalled an estimated €61.6 million. The financing plan drew on €30 million provided by the Bank as a sovereign-guaranteed loan, contributions from the client and funds that were already committed by the Japanese, Swiss and Austrian governments under one of the discontinued projects.

Part A (power generation)

The generation component focused on the rehabilitation of two large and two smaller hydropower plants. The plants, which had been commissioned between 1957 and 1978, were in urgent need of repair to extend their useful life and to upgrade their control and automation systems to modern standards.

The scope of work focused on the supply and installation of mechanical equipment for the two larger plants and of electrical as well as control and monitoring equipment for all four plants. It also included some civil works and minor dam safety measures. The Bank’s loan was earmarked for the electrical equipment for the two smaller plants, all control and monitoring equipment and the dam safety measures. The funds allocated to the remaining work and equipment came from the bilateral donors and the client.

Part B (power transmission)

The transmission component was entirely financed from the Bank’s loan and included:

- a new 220 kilovolt (kV) double circuit line of about 4 kilometres (km) in length
- a new 400/110 kV substation
- a new single circuit 110 kV line
- consultancy services to the project management unit (PMU).

The measures were needed to reinforce the 400 kV transmission link with a neighbouring country, which was the main source of electricity imports and to improve the reliability of electricity supply in the region.

Lender engineer and PMU support
In addition, the Bank financed, out of the loan proceeds, an international consultant (lender’s engineer) to monitor project implementation and assist the client’s PMU in:

- finalising the project design
- preparing the tender documents
- carrying out procurement
- supervising project execution
- ensuring compliance with environmental and safety standards.

Although no technical cooperation (TC) funds were involved, the tasks to be performed by the lender’s engineer incorporated features of a TC operation.

**Management assistance**

In order to improve the performance of the client, the Bank, together with the World Bank, requested that the client contract management services from an experienced utility operator. Bilateral Italian donor funds were provided through the Bank’s technical cooperation funds programme (TCFP) to finance the retainer fee of the services. The contract also provided for “success fees” depending on performance.

The objectives of the management assistance assignment were to help the client in:

- reducing power theft
- increasing the collection of bills
- establishing a reliable financial accounting system
- defining priority investments and other performance-enhancing measures.

In particular, the contractor was supposed to share key management functions with the client, which is why the assignment was also referred to as a “co-management contract”. The management contract was awarded on terms that were acceptable to the Bank. This was a condition for disbursements under the project.

Another condition was that a steering committee be set up. This committee was to monitor and assess the progress made by the management assistance programme and included representatives from the Ministry of Public Economy and Privatisation, the Bank, the World Bank and other donors.

**The power distribution rehabilitation project**

In 2002 the Bank approved a second sovereign-guaranteed loan of €24.04 million for the power distribution rehabilitation project. In principal, this operation forms part of a larger investment programme in power transmission and distribution, which is co-financed by the World Bank, the European Investment Bank (EIB) and various bilateral donors. However, the Bank decided to design its contribution on a stand-alone basis without any co-finance from other lenders/donors.

The Bank’s loan was earmarked to finance seven components:

- the extension of two substations
- the replacement of 25 kV, 10 kV and 6 kV distribution networks with new medium voltage (MV) lines (mainly 20 kV)
• 20/0.4 kV transformation points in four cities
• the assignment of a consultant to the project implementation unit of the client.

**Project rationale**

The projects’ relevance is rated *High*.

**Challenges**

The two projects were launched to help overcome the mounting problems in the power sector following the political and social turmoil of 1997-8 that was prompted by the pyramid scheme crisis (Section 1.1). Power sector facilities were worn down due to deferred overhaul and repair, resulting in frequent failures and disruptions. Domestic electricity supply almost entirely relied on hydroelectric facilities that were built 20 to 50 years ago, lacked modern equipment and suffered from a neglect of maintenance.

Moreover, since the power supply situation in the region had been deteriorating, the scope for cross-border transfers among the neighbouring countries was significantly reduced. Another crucial deterrent was the dismal financial performance of the client caused by inadequate tariffs, negligent billing, non-payment of bills, power theft and poor management.

**Response**

In order to address the above-mentioned needs, the Bank, overall, sought to provide assistance for the reconstruction and rehabilitation of the region’s power sector infrastructure. More specifically, the projects were designed to address:

• the reliability and efficiency of power supply
• the financial health of the sector through efficiency improvements, reduction of losses, a more cost-reflective tariff system, advances in the metering and billing of electricity consumption and improved revenue collection
• sector management through external expertise and advice, including the option of privatisation
• legislation for sector restructuring and regulation
• regional integration of the power sectors in the wider region.

**Achievement of objectives**

The objectives of the hydropower component of the reconstruction project were:

• sufficient electricity supply for domestic markets after reduction of network losses
• increase in (firm) hydro-generating capacity by 30 megawatts (MW)
• improved reliability and quality of electricity supply, which was expected to translate into significant economic gains to the country
• compliance with Union for the Co-ordination of Transmission of Electricity (UCTE) standards regarding frequency and voltage stability
• improved environmental standards through the reduction of worker health and safety risks and the establishment of a flood warning system meeting international standards.
The transmission component of the reconstruction project focused on the following objectives:

- improved reliability and efficiency of electricity supply
- reduction in power theft
- higher energy efficiency through the reduction of technical losses.

The objectives of the power distribution project were to reduce technical losses and improve the reliability of supply through the upgrading of distribution networks. It was expected that the project would reduce technical losses by 7.5 per cent, equivalent to about 105 gigawatts per hour (GWh) a year. The main criterion for measuring success was that the yearly action plans be timely implemented with regard to transition impacts sector restructuring, adjustments in electricity tariffs and the reduction of technical losses.

**Availability and reliability of supply**

The transmission investments of the restructuring projects have achieved all objectives: They increased the import capacity from a neighbouring country, significantly improved the reliability of supply to the south east of the region and reduced the line losses in the transmission system. Moreover, the new facilities are in excellent shape thanks to proper operation and diligent maintenance.

Although the physical objectives have been achieved (transmission component) or are likely to be reached (hydropower component) and project costs by and large remained within the planned budget, the significant delays of the hydropower component had adverse impacts on the project’s economics. In spite of the significant implementation delays, the fulfilment of this objective is rated *Good* (albeit at best only).

**Network losses**

The losses in power transmission (more than 110 kV) came down from 12.4 per cent to a reasonable 3.4 per cent in 2008. However, no progress was made in curtailing the overall losses in the distribution networks, at least during the period from 2000 to 2007, when the losses remained close to 36 per cent. Some moderate success was achieved in the first eight months of 2008 as distribution losses fell to 31 per cent.

Another sign of success is that the non-technical (commercial) losses in the distribution networks show a downward trend due to improved metering and billing. However, these gains have in large part been offset by increases in technical losses.

Thanks to the profound decline in transmission losses, total network losses (transmission and distribution) followed a modest downward trend and amounted to about 34 per cent in 2008, compared with 43.4 per cent in 2000. However, with overall network losses in excess of 30 per cent, the region continues to be one of the worst-performing in the world (like Haiti, Ecuador or Nigeria).

In view of these mixed performance patterns, the accomplishment is rated *Marginal*, giving weight to the network system at large rather than its individual components.

**Revenue collection**
Revenue collection has improved since 2000, when the collection rate (as a percentage of billings) was only 61.6 per cent. The performance was uneven, however, and the actual collection rates missed the action plan targets (except for 2007).

No improvements were achieved with regard to customer arrears. A key covenant of the reconstruction loan was that the client’s accounts receivable be reduced to at least 120 days during the first two years and to 90 days thereafter. Neither target has been met. Overall, revenue collection is rated Marginal.

**Unbundling and privatisation of the client**

The unbundling and privatisation of the client, an issue regularly addressed by the action plans, has gained momentum in recent years. Based on cabinet decisions, the transmission and distribution businesses of the client were spun off and reorganised as separate joint stock companies in 2006-07. In addition, a 76 per cent stake in the newly formed distribution company was tendered in 2008, leading to negotiations with a winning bidder. In summary, unbundling and privatisation is rated Good.

**Financial performance**

The client’s financial performance started to improve in 2000, just after the Bank had decided to resume its support for the sector. The client, which had been running into losses since the mid-1990s, became marginally profitable in 2000 and 2002. It almost broke even in 2001. However, financial recovery would not have been feasible without the extra income provided for by government subsidies.

The client managed to generate a sizeable surplus between 2003 and 2005, when hydropower generation was back to normal, causing demand for electricity imports to decrease. In addition, electricity tariffs were increasing in nominal and in real terms, and success was made at cutting (labour) costs while subsidies were phased out.

In summary, financial performance is rated Satisfactory. This rating takes into account the difficult political and regulatory environment of business as well as exogenous factors, especially the general hydrological conditions.

**Management assistance**

*Ente Nazionale per l'Energia elettrica* (ENEL) assisted the client in the reorganisation process towards the spin-off of its transmission business, introduced computerised billing procedures, started a tariff restructuring initiative, helped establish a new human resources policy and participated in the development of action plans. On the other hand, the client was not responsive to proposals aimed at improvements in financial management and investment planning and was unwilling to share management responsibilities with ENEL.

Despite the lack of evidence showing that ENEL’s assignment had played a key role in improving sector performance, there is no doubt that the management assistance programme provided valuable advice and support to the client. Besides, ENEL cannot be blamed for the fact the initial idea of co-management arrangements had to be suspended due to the resistance of the client.
In the final analysis, however, it must be admitted that, contrary to what was expected at project appraisal, the management assistance programme did not bring about major and prolonged changes in performance; nor did it leave the client prepared for privatisation.

Overall, management assistance is rated Satisfactory.

**Project management unit**

Establishing a PMU and appointing a lender’s supervisor were a condition for loan effectiveness. A Swiss company was contracted to monitor and supervise both projects on behalf of the Bank and to assist the PMU in implementing the projects’ implementation and conducting a master training programme approved by the Bank.

The collaboration between the PMU and the Swiss company functioned well. The PMU was responsive to advice and expertise provided by the lender’s engineer, thus resulting in a successful transfer of know-how and experience. Overall, the performance of the PMU is rated Good.

**Overall assessment**

Based on the findings and the assessment of the OPER team, the overall performance of the projects is rated Partly Successful. The achievement of objectives is rated Satisfactory. Although the management assistance programme failed to establish efficient co-management structures, it facilitated organisational change and the transfer of know-how and expertise.

The transition impacts are rated Satisfactory. The unbundling and privatisation of the client eventually made progress. The projects facilitated the transfer of valuable skills and expertise. There have also been improvements in the legal and institutional framework for markets and efficiency. However, the sector reforms are incomplete and competition as well as market expansion through competitive interaction have been insufficient.

The Bank’s additionality is Verified in all respects. The Bank’s support to the local power sector was crucial as commercial sources of finance were not accessible. It helped secure donor funds and concessional loans from other sources. In addition, it gave co-financiers confidence in sector development notwithstanding the difficulties experienced during project implementation.

The environmental performance of the projects and the client was Good and the extent of environmental change facilitated by the projects was Substantial.

**Transition impact and Bank’s additionality**

The major transition impacts that the two projects were expected to generate include:

- the introduction of private management
- the implementation of tariff increases (and a concomitant reduction in subsidies)
- a decline of commercial and technical losses
- other performance-enhancing measures that would improve the financial viability of the client and pave the way for the eventual full privatisation of the company.
According to the latest transition impact monitoring system (TIMS) review (October 2006), the overall transition impact of the projects is rated Good. Transition impact risk is estimated as Medium. Based on the findings and assessments of the OPER team, the short-term transition impact of the projects is rated Satisfactory. The longer-term impact potential is Good, contingent on the successful privatisation of the client’s distribution business and further improvements in sector governance and regulation. It has a Medium risk attached.

The additionality of the Bank loans is Verified in all respects. The Bank has played an important role among the international financial institutions (IFIs) and donors whose support to the local power sector was crucial as commercial sources of finance were not accessible. Also, the Bank’s part in the projects was essential to the financing, preparation, coordination and implementation of the operations.

Given the region’s high risk rating at project origination, the Bank’s participation helped secure donor funds and concessional loans from other co-financiers. Moreover, the Bank’s continued presence in the sector and its commitment to successful project implementation gave co-financiers confidence in sector development notwithstanding the difficulties experienced during project implementation.

Bank handling

Bank handling is rated Good. Project selection and design conformed to the Bank’s sector strategy and operational policy. Project execution was saddled with frictions that were caused by, among other things, the temporary withdrawal of the Bank’s support to the sector. Also, completion risks turned out to be much higher than expected, especially for the hydropower component of the reconstruction project. Despite these difficulties, the Bank tried hard to remedy the problems and implemented the lessons learned whenever this was feasible.

Main OPER issues and lessons learned

Management of complex projects

The hydropower part of the reconstruction project inherited the complex structure and implementation risks of the suspended/cancelled projects in that it was co-financed by several bilateral donors and included diverse, partly inter-related components and contracts. Apart from the frictions caused by the Bank’s suspension of the projects, implementation of the hydropower component was hampered by the complexity of handling different procurement rules and aligning the execution of separate contracts.¹

The implementation problems were exacerbated by the initial inexperience of the PMU. They were further aggravated by the foreseeable technical risk that the precise scope of work required was contingent on evidence that would become available only upon the dismantling of equipment. Massive support by the lender’s engineer was required to assist and strengthen the PMU and to keep the project on course. This effort consumed one-fifth of the Bank’s loan.

Fortunately, no major cost overruns took place, but project completion was delayed by five years. This severely affected the economic viability of the project, notably that of its hydropower component: At project appraisal, the economic internal rate of return (EIRR) of

¹ Ongoing donor TC projects were contingent on suspended Bank loan disbursements.
hydropower rehabilitation was estimated at 18.8 per cent. With a five-year delay and all other things assumed to being equal, however, the EIRR works out at only 3.3 per cent.

Lesson learned

The Bank has limited capabilities to manage complex projects with interdependent components financed by different donors/IFI, especially when the client lacks experience and the operation takes place in a difficult political and institutional environment. In the case of the reconstruction loan, the Bank took considerable implementation risks by launching a complex project with multi-party involvement.

Unsurprisingly, it encountered implementation problems that could only be contained with the heavy and costly support of the lender’s engineer by stepping beyond its normal remit and becoming de facto part of the PMU structure. In fact, increased reliance on the lender’s engineer was the only feasible remedy since the Bank has neither the mandate nor the means to heavy-handedly manage project implementation.

The positive aspect of this failure was, however, that the Bank rapidly learned the lesson: It financed the follow-on project in the distribution sector on a stand-alone basis and implemented the investment through single-responsibility contracts for discrete (regionally distinct) packages. This eased project implementation and, as a consequence, considerably reduced the need for engineering support and supervision.

Role of co-management contracts

In light of the dismal performance of the client and the power sector at large, the Bank’s and also the World Bank’s perception was that foisting – as a covenant for loan disbursement – a co-management contract on the client would not only improve company management and operation but also prepare the client for full privatisation by 2003. This proved unrealistic and, therefore, points to several shortcomings.

It was a misconception to design the co-management contract as a TC operation and expect that the client would accept a TC-type interference with its business. Although the client signed a contract labelled “Assistance to the Client Management”, which had terms of reference (ToR) attached that called for co-management arrangements, it refused to share management responsibilities with the contractor (ENEL). This was not least because it considered the contract as a vehicle for imposing tough solutions on the company from the outside.

Since ENEL did not have the strength to enforce a co-management scheme, its de facto role was to provide (valuable) advice and expertise, which, after all, is commensurate with a TC operation. However, this was not the kind of decisive co-management service the Bank had expected.

In retrospect, it is difficult to tell whether the Bank lacked clout or tacitly gave up efforts to upgrade the role of ENEL to that of an equal partner in taking pivotal business decisions. Yet, it continued to claim that the client was co-managed by ENEL and exaggerated the corporate governance virtues of the management contract.

It would have been more realistic to concede that the contract with ENEL had borne fruit even though it failed to establish a co-management scheme, let alone a sustained change in
corporate policy. Moreover, the donor community, including the Bank, urged the client into another management contract with an Italian utility in 2007.

It appears that the Bank missed the signs that the client had become increasingly averse to the tutelage of TC operations designed as a management contract. This new effort quickly disappointed the expectations of the donor community because frictions between the client and the advisers led to the transfer of the core team of Italian experts to the Ministry of Economy Trade and Energy (METE).

Lessons learned

**Fundamental changes in the business conduct of a utility can hardly be brought about by a TC operation implemented through management contract.** The idea that vesting a TC operation with co-management responsibilities would be an effective means for achieving a company turnaround is mistaken. Co-management is not feasible without a strategic alliance between companies/partners that is based on common goals and the sharing of resources as well as risks.

A TC operation, even when it is embedded in a management contract, does not meet these criteria and, thus, cannot be expected to guarantee profound changes in how a business is run, especially when such changes require investment support. At best, a TC operation may provide sound managerial and operational assistance. But it cannot substitute for a true co-management or concession contract involving the mutually agreed transfer of business rights and risks to an outsider.

**Effectiveness of action plans**

When the Bank resumed its support of the region’s power sector in 2000, it was a sensible approach to commit the client to an action plan with agreed short-term targets for performance. Unfortunately, the client’s performance did not hold course. Consequently, new action plans with adjusted (sometimes softer) targets were devised.

In fact, the donor community became obsessed with action plans: Since 2000, eight two-year plans have been discussed and agreed, involving all major stakeholders in the region’s power sector. It was hoped that the action plans would accomplish what commercial incentives, sector regulation and management assistance could not achieve.

In a way, the guidance and control that the action plans were supposed to provide were tantamount to the co-management of the client through the donor community. Similar to the impacts of the management contract concluded with ENEL, however, the results have been disappointing to date.

Lessons learned

**Perpetual action planning signals the loss of hope.** Action plans make sense if they represent the commitment of the client/borrower to necessary changes in performance and if the agreed targets are attainable. In such cases they can even play the role of covenants. However, the effectiveness of this instrument will be jeopardised if the response to missed targets results in a proliferation of action plans with repeated (down) adjustments of targets.

In the case of this region, power sector action planning has become an almost empty gesture. It can almost be considered a sign of despondency that has been descending on the donor
community. The only alternative left is that the pending take-over of the client’s distribution business by a strategic investor will be carried out successfully, thus easing the need for action plans.