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PROJECT PERFORMANCE ASSESSMENT REPORT

CAMBODIA

PHNOM PENH POWER REHABILITATION PROJECT
CREDIT 2782

February 16, 2005

Sector, Thematic and Global Evaluation
Operations Evaluation Department

Currency Equivalents (annual averages)

Currency Unit = Riel

1995	US$1.00	KHR2,595
1996	US$1.00	KHR2,539
1997	US$1.00	KHR2.571
1998	US$1.00	KHR2,571
1999	US$1.00	KHR3,870
2000	US$1.00	KHR3,794

Abbreviations and Acronyms

ADB	Asian Development Bank
CAS	Country Assistance Strategy
EAC	Electricity Authority of Cambodia
EdC	Electricité du Cambodge
ESMAP	Energy Sector Management Assistance Program
GOC	Government of Cambodia
IAS	International Accounting Standards
ICB	International Competitive Bidding
ICR	Implementation Completion Report
IDA	International Development Association
IPP	Independent Power Producer
JICA	Japan International Cooperation Agency
LV	Low Voltage
MEF	Ministry of Economy and Finance
MIME	Ministry of Industry, Mines and Energy
MOF	Ministry of Finance
MV	Medium Voltage
NCB	National Competitive Bidding
OED	Operations Evaluation Department
PHRD	Japanese Policy and Human Resources Development
PMU	Project Management Unit
PPA	Power Purchase Agreement
PPAR	Project Performance Assessment Report
SDR	Special Drawing Rights
TA	Technical Assistance
UNDP	United Nations Development Programme

Fiscal Year

Government: January 1 – December 1

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OED Mission: Enhancing development effectiveness through excellence and independence in evaluation.

About this Report

The Operations Evaluation Department assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, OED annually assesses about 25 percent of the Bank's lending operations. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons. The projects, topics, and analytical approaches selected for assessment support larger evaluation studies.

A Project Performance Assessment Report (PPAR) is based on a review of the Implementation Completion Report (a self-evaluation by the responsible Bank department) and fieldwork conducted by OED. To prepare PPARs, OED staff examine project files and other documents, interview operational staff, and in most cases visit the borrowing country for onsite discussions with project staff and beneficiaries. The PPAR thereby seeks to validate and augment the information provided in the ICR, as well as examine issues of special interest to broader OED studies.

Each PPAR is subject to a peer review process and OED management approval. Once cleared internally, the PPAR is reviewed by the responsible Bank department and amended as necessary. The completed PPAR is then sent to the borrower for review; the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

About the OED Rating System

The time-tested evaluation methods used by OED are suited to the broad range of the World Bank's work. The methods offer both rigor and a necessary level of flexibility to adapt to lending instrument, project design, or sectoral approach. OED evaluators all apply the same basic method to arrive at their project ratings. Following is the definition and rating scale used for each evaluation criterion (more information is available on the OED website: http://worldbank.org/oed/eta-mainpage.html).

Relevance of Objectives: The extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). *Possible ratings:* High, Substantial, Modest, Negligible.

Efficacy: The extent to which the project's objectives were achieved, or expected to be achieved, taking into account their relative importance. *Possible ratings:* High, Substantial, Modest, Negligible.

Efficiency: The extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. *Possible ratings:* High, Substantial, Modest, Negligible. This rating is not generally applied to adjustment operations.

Sustainability: The resilience to risk of net benefits flows over time. *Possible ratings:* Highly Likely, Likely, Unlikely, Highly Unlikely, Not Evaluable.

Institutional Development Impact: The extent to which a project improves the ability of a country or region to make more efficient, equitable and sustainable use of its human, financial, and natural resources through: (a) better definition, stability, transparency, enforceability, and predictability of institutional arrangements and/or (b) better alignment of the mission and capacity of an organization with its mandate, which derives from these institutional arrangements. Institutional Development Impact includes both intended and unintended effects of a project. *Possible ratings:* High, Substantial, Modest, Negligible.

Outcome: The extent to which the project's major relevant objectives were achieved, or are expected to be achieved, efficiently. *Possible ratings:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

Bank Performance: The extent to which services provided by the Bank ensured quality at entry and supported implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of the project). *Possible ratings:* Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Borrower Performance: The extent to which the borrower assumed ownership and responsibility to ensure quality of preparation and implementation, and complied with covenants and agreements, towards the achievement of development objectives and sustainability. Possible ratings: Highly Satisfactory, Satisfactory, Unsatisfactory, Highly Unsatisfactory.

Contents

This report was prepared by Fernando Manibog who assessed the project in March 2004. The report was edited by William Hurlbut. Helen Phillip provided administrative support.

Tables

Principal Ratings

	*ICR**	*ICR Review**	*PPAR*
Outcome	Satisfactory	Satisfactory	Satisfactory
Sustainability	Likely	Likely	Likely
Institutional Development Impact	Substantial	Substantial	Substantial
Bank Performance	Highly Satisfactory	Highly Satisfactory	Highly Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible operational division of the Bank. The ICR Review is an intermediate Operations Evaluation Department (OED) product that seeks to independently verify the findings of the ICR.

Key Staff Responsible

Project	*Task Manager/Leader*	*Division Chief/ Sector Director*	*Country Director*
Appraisal	Enrique Crousillat	J. Shivakumar	Callisto Madavo
Completion	Enrique Crousillat	Yoshihiko Sumi	Ian Porter

Preface

This is the Project Performance Assessment Report (PPAR) prepared by the Operations Evaluation Department (OED) for the Cambodia-Phnom Penh Power Rehabilitation Project. The project was approved on September 28, 1995, for an IDA credit of US$40 million equivalent and closed on June 30, 2000, after an extension of 6 months. Actual IDA financing (US$35.2 million disbursed) was lower due to the highly competitive bids for equipment and installation works.

The Phnom Penh Power Rehabilitation Project was assessed because it was IDA's first operation in Cambodia following a long period of political turmoil, and tested the feasibility of reforming the electricity sector of a small, poor and post-conflict country.

The PPAR is based on the Implementation Completion Report (Report No. 22038) prepared by the World Bank's East Asia and Pacific Region and dated March 26, 2001, the IDA credit documents, and interviews. An OED mission visited Cambodia in March 2004 to discuss the effectiveness of the Bank's assistance with the government, the project implementing agency, private power investors, and other stakeholders. Their cooperation in granting interviews and providing data is gratefully acknowledged.

Since this first project, IDA has financed a follow-up operation, the Rural Electrification and Transmission Project, which is cofinanced by the Global Environment Facility to promote renewable energy. The project was approved in 2003 and started implementation in 2004.

Following standard OED procedures, copies of the draft PPAR were sent to government officials and agencies for their review and comments. Comments have been taken into account.

Summary

The Phnom Penh Power Rehabilitation Project (Credit 2782), which was approved in 1995 and closed in 2000, was IDA's first operation in the electricity sector in Cambodia. It was implemented after a long period of political conflict, and was a test case for reforming the fragmented electricity sector of a small country that is one of the poorest in the world.

The project's objectives were to: (i) rehabilitate Phnom Penh's distribution system; (ii) assist the Government of Cambodia (GOC) in its initial efforts to strengthen sector institutions; and (iii) create an environment in which the power sector can be developed and operated efficiently with private sector participation. The project's main result was to re-establish quickly an adequate supply of electricity in the Phnom Penh area by rehabilitating Phnom Penh's distribution system, with the following benefits: (i) improvement of the reliability of supply to existing customers; (ii) reduction of system losses through the improvement of transmission and distribution efficiency; and (iii) provision for additional distribution capacity, to satisfy rapidly growing demand.

The project's ***outcome*** is rated ***satisfactory***. The project enabled the expansion of energy access in Phnom Penh, exceeding appraisal targets, as reflected in improvements in several operational (but not financial) performance indicators of Electricité du Cambodge (EdC), including system losses as well as service quality and reliability; and enabled the GOC and the Ministry of Industry, Mines and Energy (MIME) – with IDA advice and technical assistance — to initiate important reforms, including the restructuring of the electricity sector, the establishment of a legal and regulatory framework, and the formulation of sound bases for sector planning and investment decisions. The project achieved an economic internal rate of return near the appraised level of about 22 percent.

The project's ***sustainability*** is rated ***likely.*** The rating takes into account the groundbreaking (and continuing) sector reforms in a post-conflict country, EdC's technical and other operational improvements, and the clearly long-term benefits of operating the distribution facilities that the project financed. The project's ***institutional development impact*** is rated ***substantial***, in view of the project's success in: (i) strengthening EdC's management, project implementation capabilities and business operations; and (ii) providing training, advice, and technical assistance to MIME to draft and negotiate the Electricity Act (promulgated in 2000), create the Electricity Authority of Cambodia as sector regulator, set energy policy and plan sector development, and continue legal and regulatory reforms. The ***Bank's performance*** is rated ***highly satisfactory***. This is based on the project's high quality at entry and its considerable assistance to the Borrower in the project's technical, institutional and sector policy aspects. The ***Borrower's performance*** is rated ***satisfactory***, despite the long delays in promulgating power sector reforms. EdC's performance was satisfactory, having implemented the project within budget and without major delays, which is noteworthy in a first operation with IDA and given its limited skills at the start. The government and EdC were strongly committed to the project. However, although not related to an explicit objective, the government has been slow in addressing the precarious financial position

of EdC, which is partly caused by the government's own significant arrears on its power purchases from EdC.

At the sector level, the project yielded two important lessons of broad applicability. First, it showed that sector reforms can be initiated successfully when there is strong government commitment, even in post-conflict countries with difficult political, economic, and institutional environments. Under these conditions, the Bank can provide a key facilitating role through its financing of critical physical investments, technical assistance and advice focused on improving electricity sector efficiency and establishing an independent and transparent legal and regulatory framework. Second, for small countries with limited institutional capacity, electricity sector reforms should first focus on commercialization and choosing a market structure that is tailored to the country's circumstances. Private sector participation can be introduced once the governance structure and commercial operations are in place.

At the project level, two lessons emerge from implementation experience. First, the use of expert advisers should be designed to ensure that they transfer their management and technical skills to local staff, rather than supplant local capacity by performing the key tasks with little or no skills transfer. Second, continuity in the Task Manager during project preparation, implementation and completion is an important factor in fostering better understanding by the Bank of the Borrower's needs and greater cooperation from the country client.

In terms of future strategy, the two main challenges facing Cambodia's power sector are to broaden access for the poor – in a manner that is fully integrated with overall power sector reforms — as the country moves toward private power provision and the commercialization of the power sector.

Gregory K. Ingram
Director-General
Operations Evaluation

1. Country Background

1.1 In the early 1990s, Cambodia emerged from almost three decades of war and political turmoil. Almost a third of its population – 2 to 3 million people – had been killed by genocide, its educated middle class had been decimated, and its physical infrastructure and institutions destroyed. Cambodia was already poor before the conflict and is worse off today.

1.2 With a current GNP per capita of US$300, Cambodia is one of the poorest countries in the world. Over 80 percent of Cambodians live in rural areas and are employed in the agriculture sector, which accounts for half of the country's GDP. Poverty in Cambodia – defined by lack of access to adequate health, education, water, electricity and roads – is highest in the rural areas, lowest in Phnom Penh, and moderate in other urban areas.[1]

1.3 Since 1992, the international community has supported Cambodia's rehabilitation and development. As part of this process, the government has carried out reforms in various sectors, including power as a high priority, out of conviction as well as dire necessity. The lack of domestic resources has compelled the Cambodian government to finance those reforms with donor funds accounting for two-thirds of all public investments, which have strongly influenced the reform agenda,. But as noted in Cambodia's Poverty Reduction Strategy Paper (PRSP), "there remains a gap between public pronouncements and real achievements on the ground with regard to reforms in governance and anti-corruption, which could undermine donor assistance, private investment, the quality of services and in general, the credibility of the Government's commitment to reform implementation." [2]

THE CAMBODIAN POWER SECTOR

1.4 Cambodia's power sector was severely damaged after three decades of war and neglect. Its institutions remain weak, and its power supply is unreliable, costly, and mostly limited to urban areas.[3] Only 13 percent of households in the country have access to publicly provided electricity, the lowest electrification rate among East Asian countries.[4] Demand for electricity is concentrated in Phnom Penh, which accounts for 70 percent of the country's electricity consumption although it has only 12 percent of the population.[5]

1.5 Electricity supply was a function of the municipal councils in Phnom Penh and provincial cities before the creation of Ministry of Industry, Mines and Energy (MIME)

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1. According to the 1999 household survey for consumption-based poverty measures, in the Poverty Reduction Strategy Paper (PRSP, 2003).

2. PRSP, 2003, p. 2.

3. Cambodia: Power Sector Strategy.

4. Cambodia Human Development Report, 1999.

5. CAS, 2000.

in 1993 and the incorporation of Electricity du Cambodge (EdC) in 1996. MIME was established with the following mandates: (i) planning, formulating policy, regulating and auditing the energy sector; (ii) generating and distributing electricity; and (iii) coordinating energy projects, including donor activities. EdC was given responsibility for electricity supply in Cambodia and until 1996, operated as a government department under the direction of MIME. In 1996, EdC was converted into a wholly state-owned limited liability corporation in accordance with the Law of Public Enterprises.[6] The decree also granted EdC non-exclusive rights to generate, transmit, and distribute electricity throughout Cambodia. Since 1996, EdC has been gradually taking over electricity supply from private service providers outside Phnom Penh (see paragraph 1.7 below).

1.6 EdC's sources of electricity supply come from its own generation and independent power producers (IPPs). Out of a total capacity of 140 MW (of which 109 MW is dependable), private operators provide around 45 percent of installed capacity and 74% percent of generation. Private participation is officially encouraged under the new Electricity Law, whose Article 2 provides for "favorable conditions for capital investments in, and the commercial operation of the (power) industry", and more specifically for "…the promotion of private ownership and the establishment of competition". Private producers are included in EdC's future expansion plans, and EdC has further contracts for Power Purchase Agreements (PPAs) under discussion with potential IPPs. In addition to five large producers, hundreds of small private providers provide diesel-based supply to major towns and rural areas (5% of total consumption). Moreover, thousands of auto-generators provide either independent supply to consumers, or back-up to EdC's supply (another 5% of consumption).[7] Outside Phnom Penh, private operators provide a wide range of services from recharging batteries to distributing electricity directly to homes.

1.7 In the mid-1990s, a large part of Phnom Penh's distribution network was in poor condition and subject to interruptions, failures, and high losses. These losses were largely attributable to the "wholesaling" arrangement under which EdC had been operated since 1991. Under this arrangement, EdC would sell some 50 percent of its energy to 148 "wholesalers" who were responsible for supplying low-voltage power to about 40,000 consumers. Although this arrangement relieved EdC from the usually cumbersome retail operation, it was a main cause of high technical and financial losses since wholesalers' installations were highly inefficient and poorly maintained, and charged rates were much higher than EdC's authorized retail rate.

THE WORLD BANK'S SUPPORT FOR THE POWER SECTOR

1.8 The Phnom Penh Power Rehabilitation Project is the first IDA-supported project in Cambodia. The World Bank's 1999 Cambodia Power Sector Strategy paper identified a set of development objectives and strategies for the short and medium term to address the most

6. It has a seven-member board, three members of which are drawn from the private sector (CFR: Cambodia, 2002).

7. Data in this paragraph are from: Economic Consulting Associates and Mercados de Energía. "Energing Lessons in Private Provision of Rural Infrastructure Services" (Final Report to PPIAF/World Bank). October 2002.

salient problems of the sector. These included: (a) the lack of a legal and regulatory framework; (b) an entrenched public-oriented approach in the management of public utilities; (c) poor technical, commercial, and financial performance of the sector; (d) weak investment planning; (e) lack of resources and strategy to provide electricity to rural areas; and (f) a weak human resource base. The strategies identified revolved around three development objectives: (i) improving power sector efficiency and reducing electricity cost through corporatization and commercialization of EdC, including a tariff reform and performance-based contract and strategic partnership with a foreign utility; (ii) addressing social concerns through an electrification program; and (iii) establishing an enabling environment for an effective development and operation of the power sector through the establishment of a suitable legal and regulatory framework. The Phnom Penh Power Rehabilitation Project was designed to support the government in initiating these reforms.

1.9 In recent years, however, the Bank showed signs of waning interest in the power sector in general and *de facto*, ceded the lead role to the Asian Development Bank (ADB). Some indicative signs of its withdrawal from the sector are noted in the 2003 PRSP and National Poverty Reduction Strategy Paper (NPRSP), as well as in the 2003 Public Expenditure Review (PER). These documents focused on institutional and sector reforms in Cambodia, but provided scant discussion of power sector reforms. A further sign of the Bank's retreat from the power sector in Cambodia was the slow processing of the Rural Electrification and Transmission Project (Credit No. 3840 approved in December 2003), which was intended to serve as the vehicle for the Bank's continued support for power sector reform. As the Bank's interest eroded during the late-1990s and early-2000s, there has also been an overall decrease in financial support for the power sector from the rest of the donor community.

2. The Project

PROJECT OBJECTIVES AND COMPONENTS

2.1 The Phnom Penh Power Rehabilitation Project had three objectives:

1) Rehabilitate Phnom Penh's distribution system.
2) Assist the government in its initial efforts to strengthen sector institutions.
3) Create an environment in which the power sector can be developed and operated efficiently with private sector participation.

2.2 The project was too ambitious with regard to the expected outcomes in sector reform. While the project was intended to be a stepping stone to long-term sector objectives, the proposed timetable for implementing sector reform proved to be too optimistic and was unachievable during project implementation. Although ambitious targets were useful in putting more pressure on the borrower, a more realistic timetable would have reduced the risk of noncompliance with legal covenants**.**

2.3 The project had two major components:

1) **Rehabilitation of Phnom Penh's distribution system**, including: (i) construction of about 23 kilometers of 115-kV transmission circuits around the perimeter of Phnom Penh to connect three new primary 115/22-kV substations;[8] (ii) construction of about 100 cct-km of 22-KV underground and overhead lines, 300 kilometers of low-voltage (LV) lines, 40 MVA Ar power factor correction equipment, about 40,000 consumer connections; (iii) provision of support facilities, including tools and equipment, communications for system operations, storage areas, and logistics controls; and (iv) improvement of environmental and safety conditions at existing power plants.
2) **Technical assistance** (TA) to: (i) EdC, on procurement and engineering, importation of management services, strengthening of commercial operations, setting up an environmental unit and implementing the land acquisition and compensation plan (LACP), and in training its staff ; and (ii) MIME, on the definition and implementation of a new sector structure and regulatory framework, and in training its staff in energy planning.

2.4 The estimated total project cost at appraisal was US$45.7 million equivalent,[9] of which US$40 million was to be financed by IDA, and US$5.7 million by EdC and government equity. The actual project cost[10] was US$41.7 million, which was 8.7 percent lower than the appraisal estimate. The total IDA financing was US$35.2 million (compared with the appraisal estimate of US$40 million). Actual government financing amounted to US$6.5 million. The lower project cost was achieved primarily through a very competitive bidding process that resulted in lower costs of the bids for most of the equipment and installation works.

8. Based on an in depth-feasibility study undertaken by EdC consultants and funded under the Bank-administered PHRD grants from the Government of Japan.

9. Based on December 1994 price levels.

10. Including interest during construction.

2.5 The total project cost of $41.7 million was allocated as shown in Table 1.

Table 1: Allocation of Project Costs

Components	*Appraisal*	*Actual/ Estimates*	*% share of Actual to Total Cost*
Rehabilitation Component	**12.03**	**12.06**	**28.9**
A) 115 kV Transmission System			
115 kV Transmission Lines	1.96	2.21	
115/22 kV Substations	10.07	9.85	
B) Distribution System Rehabilitation	**23.39**	**20.74**	**49.7**
22 kV Rehabilitation	8.77	8.91	
LV Construction and Consumer Services	14.62	11.83	
C) Operational and Construction Support Facilities	**3.54**	**1.01**	**2.4**
Operational and Commercial Equipment	2.53	0.43	
Stores and Logistics	0.61	0.54	
Environmental Enhancement Safety	0.40	0.04	
D) Land Acquisition and Compensation	**0.33**	**0.44**	**1.1**
E) EdC Administration	**0.19**	**0.19**	**. 5**
Technical Assistance Component	**3.66**	**3.26**	**7.8**
Total Baseline Cost, including contingencies	43.14	37.70	
Interest During Construction	2.52	3.99	9.6
Total Project Cost	**45.66**	**41.69**	**100**

IMPLEMENTATION RECORD

2.6 The project was approved in September 28, 1995, and was expected to close in December 30, 1999. The project's closing date was extended for six months to June 30, 2000 to complete additional extensions of new line bays at one grid station. Except for the technical assistance component for MIME, EdC was responsible for implementing the project, with the help of various international consultants in management, design, and procurement, as well as construction supervision. A Project Management Unit was constituted within EdC to coordinate and direct the project.

2.7 The project was rated "at risk" in the aftermath of the 1997 political turmoil and Asian financial crisis, based on four factors: (i) poor compliance with legal covenants due to delays in the enactment of the Electricity Law and in the implementation of the sector reform timetable; (ii) shortage of counterpart funds because of the government's precarious budget situation; (iii) poor financial performance of EdC; and (iv) weak macroeconomic condition. The slow disbursement of counterpart funds presented special difficulties for EdC, which needed to pay within 28 days per contract, yet the government would stretch payments over 2 to 3 months, and each installment required cumbersome application processes. By the end of 1998, however, the timeliness of counterpart funding

and compliance with legal covenants had been sufficiently addressed to remove the project from the "at risk" category. [11]

2.8 Despite the government's clear commitment to energy sector reform, delays in implementing key actions resulted from political instability and lengthy rounds of consultations that were required ahead of any legislative action, causing the government to default on several dated covenants. However, the lengthy debates within the government significantly enhanced ownership of the reform process.

2.9 During project preparation, the risk of land acquisition problems emerged due mainly to the absence of applicable laws, and the limited experience and training of EdC and local government agencies in land acquisition and compensation issues. IDA provided assistance to EdC to develop a policy framework and a land acquisition and compensation plan (LACP). With the government's approval, the timetable for LACP implementation was agreed during project negotiations. During implementation, the project provided consulting services to help EdC implement the LACP, including the preparation of a Due Process Manual. Land acquisition under the project is small, and the initial implementation problems were resolved. The project helped to further develop EdC's policy framework, procedures, and implementation arrangements in anticipation of land acquisition and compensation for future power projects.

3. Ratings

OUTCOME

3.1 **The project's outcome is rated satisfactory** based on the ratings of "substantial" for each of the three sub-criteria of relevance, efficiency and efficacy, which are discussed below. This rating concurs with the rating in the Implementation Completion Report (ICR). Assessed in terms of IDA's development effectiveness, the project has enabled IDA to expand energy access while playing a key advisory role in helping the Government of Cambodia during the initial stages of reform, including the establishment of a suitable legal and regulatory framework, the restructuring of the electricity sector, and the formulation of sound planning and investment decisions.

RELEVANCE

3.2 **The relevance of the project's objectives is rated substantial**. The project was responsive to Cambodia's needs and development priorities at the time of project preparation and remains so today. It was also consistent with both the 1995 and the 2000 Country Assistance Strategies and the Bank's Energy Business Renewal Strategy of May 2001.

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11. The Asian financial crisis was a significant extemal factor beyond the control of the government and EdC, which resulted in the sharp devaluation of the Riel and SDR against the U.S. dollar. The political crisis of 1997-98 paralyzed all Bank activities and interrupted the policy dialogue on sector reform for almost a year.

3.3 The project's objectives were consistent with Cambodia's priorities at the time of project preparation and approval in 1994-95. After decades of war and destruction, the new government wished to rebuild infrastructure, strengthen institutions, reform the power sector, and attract private sector participation. In its October 1995 Energy Sector Position Paper, the government set the power sector's primary goal as the rehabilitation and reconstruction of the existing electricity distribution systems, particularly in Phnom Penh, and installation of new generation capacity to alleviate severe shortages and meet suppressed power demand. At that time, the government also proposed a new Electricity Law that would favor private participation supported by the project and establish EdC as an autonomous corporation. It was in this context that the government requested the Bank to assist in rehabilitating and reinforcing Phnom Penh's distribution system, while private investors met the city's short-term generation requirements. The project was a key component of EdC's least-cost expansion, since without the rehabilitation of distribution networks, efforts to expand generation would not yield sustained benefits. The importance of addressing distribution network issues, without which generation expansion could be put at substantial risk, was an important finding in OED's 2003 evaluation of the World Bank Group's performance in promoting private sector development in the electricity sector.[12]

3.4 The project's objectives were consistent with the June 1995 Country Assistance Strategy, which focused the Bank's support on helping the government to set clear priorities, carry out analytical work, implement critical measures that will have a significant and quick development impact on each sector. The project's objectives remain consistent with the more recent February 2000 Country Assistance Strategy, which called for the privatization of EdC, as well as policy and regulatory measures to attract foreign power investors and support public-private partnerships.

3.5 The project's objectives were also consistent with two of the four main priorities of the Bank's Energy Business Renewal Strategy, namely, to support private sector development, and promote macro-fiscal balancing (which the project did not achieve). It should be noted, however, that the National Poverty Reduction Strategy is silent on the implementation of the power sector reform.

EFFICACY

3.6 **The project's efficacy is rated high:** the *physical objectives* were fully achieved, the *sector reform objective* was substantially achieved, while the *institutional strengthening objective* (particularly with respect to EdC) was only modestly achieved, as discussed in the section below on the Institutional Development Impact.

Physical Achievements

3.7 The OED mission reviewed with EdC the project performance indicators in Annex 1 of the ICR and found them to be accurate. The mission visited the 23 kilometers

12. Operations Evaluation Department, World Bank. Power for Development: A Review of the World Bank Group's Experience with Private Participation in the Electricity Sector. Washington, D.C., 2003.

of 115-kV transmission lines around the perimeter of Phnom Penh, as well as the three 115/22/15-kV substations that were financed under the project. All were in good condition and functioning well in improving the quality of power supply. In addition, about 144 kilometers of 22-kV medium-voltage lines and 400 kilometers of low-voltage lines were constructed, which have improved supply reliability to existing customers as evidenced by the quasi-elimination of blackouts in Phnom Penh, as well as transmission and distribution efficiency. The project also financed tools, vehicles, radio equipment, and a telecommunications system, which facilitated EdC's capacity to monitor system losses and improve communications between the central and new substations. The project also provided a new control system that has allowed EdC to monitor service quality by recording power supply interruptions.

3.8 About 55,000 new consumers were connected to electricity service, almost 38 percent more than targeted at appraisal (40,000). In total, residential and commercial consumers had increased from 43,800 in 1995 to 88,334 by the end of September 2000 (the project was closed in June 2000). As new equipment was installed, system losses were reduced from 24 percent in 1995 to 16.5 percent as of October 30, 2000; wholesalers were phased-out by October 1998; and the billing and collection system was computerized. With the project, the wholesaler installations were replaced by a new low-voltage network and consumer connections.

Sector Reform Achievements

3.9 The institutional development objectives underpinning reform were also achieved, albeit with significant delays. The project established a policy and regulatory framework conducive to efficient power sector development and operation, including private participation. EdC was established as a separate legal entity in September 1996 (compared to the appraisal target of December 1995). Subsequently, EdC's Board of Directors became effective in August 1997, and a study on "Corporatization of EdC and Regulatory Framework of the Electricity Sector" was completed in early 1997. Electricity wholesalers were phased out by October 1998. Most importantly, the Electricity Act was passed by the National Assembly in November 2000 (compared to the appraisal target of June 1996). The Act was promulgated into law in February 2001, which allowed the subsequent establishment of the Electricity Authority of Cambodia as an independent regulatory body for the power sector (likewise with a 4-year delay). Despite these delays, the implementation of the above actions is particularly noteworthy in a sector environment hampered by weak institutional capacity and political and economic crisis. However, the financial position of EdC continues to be weak as reflected in the poor financial indicators (negative net income and rate of return on assets in operation since 1995, and accounts receivable nearing 5.8 months toward project closing).

3.10 Given the progress in rehabilitating Phnom Penh's distribution system and establishing a legal and regulatory framework, the project facilitated the entry of private investors in power generation. This resulted in two Independent Power Producer (IPP) contracts that account for 50MW of new installed capacity, half of the system's current capacity.

EFFICIENCY

3.11 **The project's efficiency, based on its internal economic rate of return (EIRR), is rated high**. Its ex-post EIRR of 21.8 percent is similar to the 21.5 percent calculated at appraisal. The OED mission found in the field that the original assumptions on costs and benefits used in the ICR were robust and the underlying data reliable, and thus did not recalculate the EIRR. The actual project costs were about US$4 million lower than estimated at appraisal, with most of the cost reductions occurring in the distribution system rehabilitation component, which accounted for almost 50 percent of total project costs. Forecast incremental electricity sales from 2001 were also accurate, as were the benefit streams associated with the reduction in technical losses, and improvements in system reliability. Actual incremental sales were lower than appraisal estimates by 9 percent, but this was countered by savings in capital costs and the 50 percent market penetration among Phnom Penh consumers instead of the lower appraisal forecast of 42 percent.

3.12 ***EdC's Financial Performance:*** In seeking to strengthen sector institutions, the project had an implicit objective of improving EdC's financial performance, which was not achieved. EdC's financial predicament was due to factors largely outside its control including a 45 percent devaluation of the Riel since 1997 and also low tariffs that are not adequate for cost recovery. Although indicators have improved in 2003 and 2004, EdC's finances also continue to be eroded by (i) technical and non-technical losses, including theft, and (ii) high accounts receivables, especially government arrears, which were as high as 5 to 6 months during the 1998-2002 period, compared to the covenanted 3 months of sales (see Annex B). The government also does not allow EdC to pass on a Value Added Tax to consumers, although it has to pay loans.

3.13 The project included several financial performance covenants to achieve financial viability for EdC, which was critical for the efficient development and operation of the power sector. These financial covenants were included in the project: (i) EdC should reduce the value of its outstanding accounts receivable to the equivalent of three months of sales revenue by December 31, 1998, and to two-and-a-half months of sales revenues by December 31, 1999; (ii) for each fiscal year after 1995, EdC should generate revenues from internal sources at least sufficient to cover all of its expenses; and (iii) for each fiscal year after 1998, EdC should earn an annual return of not less than 6 percent. Up until the preparation of the ICR in 2000, EdC had not been able to comply with any of these covenants as a result of its financial condition.

3.14 The OED mission updated and reviewed EdC's financial performance indicators, as shown in Annex B, which include tables on EdC's Summary Financial Performance Indicators and EdC Phnom Penh's Financial Operating Results (FY97-03). Based on the last table, EdC's accounts receivable *deteriorated* after the project's closing date: the levels were 3.7 months in 2000, 4.1 in 2001, and 4.9 in 2002 (a level of 2.9 was achieved in 2003, which is still higher than the covenanted 2.5 months). Based on its consolidated statement, EdC's rate of return on fixed assets was –6.2 percent in 2003, and 1.9 percent and 1.3 percent in 2001 and 2002 respectively, compared to the covenanted 6 percent. EdC's net income has been consistently negative, reaching a very high level of –45 billion riels in 2003, which nearly matched the record of –50.6 billion riels in 1998. This consistently poor

financial performance has been occurring at a time when electricity sales almost quintupled, from 116.7 GWh in 1995 (project appraisal) to 532 GWh in 2003. Although there have been some improvements (see para. 3.24), the causes of this poor financial performance persist: high levels of overdue electricity bills, a significant portion of which is from government itself; high EdC operating expenses; and the fact that EdC's tariffs are not linked to movements in its operating costs, inflation and foreign exchange.

3.15 External audits have been carried out on EdC's financial and project statements yearly since 1998. EdC remains in full compliance with the audit report requirements of the Credit Agreement.

INSTITUTIONAL DEVELOPMENT IMPACT

3.16 On balance, the project's objective of strengthening sector institutions was achieved, but with mixed results. The technical assistance (TA) component for EdC and MIME succeeded in improving the capabilities of the two institutions and restructuring the sector, but failed to improve EdC's poor financial performance (a more financially sound EdC was an integral part of the project's sector reform objective). Moreover, the terms of reference of consultants should have stipulated specific objectives on the transfer of management, administrative, financial and technical skills, including performance indicators that can be monitored beyond the closing date of a project.

3.17 *MIME*: The project's TA for MIME (US$600,000) provided MIME management and staff with comprehensive training (in energy economics, financial management, computer accounting), as well as advisory experts on legal and regulatory reform, the drafting and discussion of the Electricity Act, the creation of EAC as the sector regulator, and energy policy and planning.

3.18 *EdC*: The project's TA for EdC (US$3.0 million) strengthened the management, implementation, and business aspects of its operations. EdC has installed a fully computerized accounting, billing, and collection system; an environmental unit managed and staffed by local personnel; and two Project Implementation Units, each with a project manager. Under the project, EdC was also transformed from a ministerial department to becoming an autonomous corporation and a separate juridical entity being managed by a Board of Directors responsible for operations. The project provided EdC with consulting services for project design, procurement, construction supervision, and the preparation of a Due Process Manual for the project's land acquisition and compensation plan. EdC's staff also received training in contract supervision, project management, and grid operations, including off-site training on high-voltage network operation and maintenance at the Electricity Generating Authority of Thailand and Electricité du Laos. EdC headquarters staff now assist provincial branches (Siem Reap and Sihanoukville) in computerized billing and accounting.

3.19 Despite these positive outcomes, EdC's poor financial position persists, putting at risk past and future institutional development. Financial weakness leaves EdC unable to generate sufficient revenues to self-finance expansion or rehabilitation investments or even sustain operations.

3.20 *EAC*: The Electricity Authority of Cambodia is responsible for licensing service providers and has licensed 100 of more than 250 potential licensees (excluding intermittent providers). Licensing is of particular importance since it will enable the agency to monitor service providers. The Bank assisted in developing licensing procedures and technical service standards. The Bank's Public-Private Infrastructure Advisory Facility (PPIAF) also financed TA for the preparation of guidelines for the selection of large, medium, and small power investors, including Power Purchase Agreement and fuel supply models (now being reviewed by the government for approval). Some private investors have complained, however, that EdC may have some unfair advantage, since it can get multiple licenses, while private operators are restricted to only one license each and are subject to more stringent requirements.

3.21 Two regulations have been prepared so far, and two new efforts to simplify rural electrification and tariff-setting procedures are underway. It is anticipated that the tariff adjustment policy would not be directly pegged to fuel fluctuations but work instead on the basis of a "Tariff Equalization Fund." An issue is how to define "reasonable cost." First, there is a need to separate EdC's accounts, which are now all consolidated, thus preventing analysis of its weak and strong parts. Second, rural entrepreneurs are too numerous; moreover, as a consumer category, they may need special tariffs to differentiate between type of fuel, scale of the business, and density of supply. Third, there is also a need to press licensees to increase their operating efficiency (losses outside EdC are 30 to 35 percent). License fees are paid every month (e.g., 1.1 riel/kWh or 55,000 riel/mo, or about US$14/mo, for a 50,000 kWh/mo consumption, which finance EAC's operations). EAC is exploring the idea of performance-based tariff-setting, but this is difficult in the present political climate in Cambodia.

3.22 All licensing requests are subject to public consultation, which is very new in Cambodia. EAC is now setting performance standards for licensees, for which public consultations have been completed. EAC has also finished public consultation on procedures for resolving disputes. These procedures are being discussed with the Ministry of Justice before being issued as regulations.

SUSTAINABILITY

3.23 **The project's sustainability is rated likely**, but arguably only marginally so, given the fragile financial position of EdC. Although EdC's finances are a countervailing factor, the "likely" rating gives significant weight to the groundbreaking structural reforms that were implemented, the technical and operational improvements achieved by EdC, and the benefits from operating the facilities financed under the project. The groundbreaking reform process initiated under the project is continuing, with further support from the ongoing Rural Electrification and Transmission Project (FY04), which further fosters the government's efforts to promote the efficient operation, development, and commercialization of Cambodia's power sector, including direct private participation.

3.24 The rating also takes into account the continuing efforts to implement a Financial Action Plan to improve EdC's finances, which the Ministry of Economy and Finance (MEF), MIME, EAC, and EdC agreed with IDA and the Asian Development Bank in

June 2003. As of September 2003, the government and EdC have implemented specific elements of the plan by: (a) settling overdue electricity bills via offsets against amounts owed to the government by EdC for customs duties and taxes, and cash transfer; (b) the MEF setting up adequate line item budgets for each ministry, sufficient to meet their expected electricity consumption, and implementing a plan to improve mechanisms for collecting government arrears; (c) offsetting the VAT amounts due against EdC's excise taxes and penalties; and (d) implementing various time-bound measures to reduce EdC's operating expenses.[13] However, while these actions do start to address current weaknesses, they are still inadequate as long as EdC's tariffs are not indexed to changes in operating costs, inflation, and foreign exchange.

3.25 Finally, the rating takes into account the successful transition into regular operations, which was evident from the OED mission's field visits. On a technical level, EdC is fully capable of operating and maintaining the project investments and providing new service connections. EdC has created two units dedicated to implementing externally funded projects and is prepared for future investments in new capacity additions, transmission, and interconnections with other systems. Both implementation units are staffed with full-time project managers and local staff who are accountable for procurement, disbursement, and supervision of civil works.

BORROWER PERFORMANCE

3.26 **The borrower's performance was mixed but is rated satisfactory**, with the caveats that the reforms were significantly delayed and the government has been slow to address the fundamental issue of EdC's financial weakness. The overall "satisfactory" rating takes into account the government's early actions during the project cycle. During preparation and appraisal, the government met all of the Bank's conditions for Board presentation and project effectiveness, including tariff increases, writing off government arrears, and charging previously unbilled consumers. Key government officials acted as local champions, who maintained dialogue with the Bank and facilitated or secured key decisions from the political leadership (i.e., the Minister of Finance, the National Assembly, and the Prime Minister [co-PMs] in 1995). During implementation, however, the government's major shortcoming was the delay in complying with several legal covenants related to the timetable for sector reforms such as the establishment of the energy regulatory authority and the enactment of the Electricity Act. This delay was caused by the political crisis in 1997-1998 and the lengthy discussions required for legislative actions. The timely release of counterpart funding was also a concem during early stages of project implementation, but better coordination between MEF and EdC's senior management resolved this issue.

3.27 EdC's performance as the implementing agency is also rated satisfactory. EdC demonstrated a strong commitment to the project and implemented it within budget and without major delays, which is noteworthy since this was the first IDA operation in the sector and EdC's staff skills were very limited at the start.

13. According to the Project Appraisal Document of the Rural Transmission and Distribution Project dated November 21, 2003. Report No. 27015-KH.

BANK PERFORMANCE

3.28 **The Bank's performance is rated highly satisfactory**. This rating is consistent with the government's rating in its contribution to the ICR, and is based primarily on the project's highly satisfactory quality at entry. Based on OED's review of the project archives and field interviews, it was evident that the Bank provided considerable assistance to the borrower in both the technical, institutional, and sector policy aspects of the project. The Bank provided relevant and timely advice and TA before and during project preparation. The Bank supported various studies and TA work which formed the basis for the project design, in collaboration with and with funding from the Energy Sector Management Assistance Program (ESMAP), the United Nations Development Program (UNDP), the Australian Aid Agency, and the Japanese Policy and Human Resources Development (PHRD).

3.29 The Bank provided a legal advisor to assist MIME in drafting the Electricity Law, and helped ensure that the views of key stakeholders were heard and incorporated in its finalization. Informants have also credited the Bank for helping standardize Power Purchase Agreements, which facilitated private sector interest in Cambodia's power sector.

3.30 Before and during project preparation, the Bank ensured that training was provided to EdC and MIME to improve their implementation capacity, including on-the-job training, language training, management assistance, and enhancement of EdC's accounting capabilities. Also during project preparation, the Bank closely coordinated with ADB, which at that time was developing projects for the power sector. The Bank also ensured that the Borrower effectively addressed safeguard policies on environmental and social issues during project preparation, including a land acquisition and compensation plan, which was a condition for appraisal and was allocated funding under the project to provide the ground work for setting up an environmental unit within EdC.

3.31 The project design itself was technically and economically sound. Before appraisal, feasibility studies were carried out and reviewed by Bank technical experts. The design and routing of the transmission line component consciously sought to minimize or avoid negative impacts by choosing concrete or wood poles instead of transmission towers and by re-routing the line along existing roads to have more flexibility in location and minimize land disturbance. Consequently, adverse social impacts were much less than typically expected in an urban environment. The project included a "Performance Plan" between MIME and EdC, which sets performance indicators to be achieved by EdC and the obligations of MIME to assist EdC in their achievement.

3.32 Project supervision was also highly satisfactory. IDA made 12 visits to the field during the 5-year implementation period. During those visits, the project archives show that IDA gave timely advice to MIME and EdC and MIME on project management, as well as sector planning, policy, and reforms. During the last year of the project, supervision was carried out directly from the Bank's Phnom Penh office, thus allowing even closer communications between IDA, EdC, and the government. One positive factor in IDA's supervision was the continuity in task management, since the team leader responsible for project preparation and appraisal was the same throughout project

implementation until completion. Informants during the OED mission credited this continuity in staff as having fostered a better understanding by IDA of the client's needs, which enhanced the government's willingness to cooperate with IDA.

4. Lessons and Outlook

4.1 Given the substantial reform content of this project, this assessment report provides lessons that are applicable to the sector, as well as lessons applicable to project implementation.

Sector-Level Lessons

- ***Sector reforms can be initiated successfully when there is strong government commitment, even in post-conflict countries with difficult political, economic, and institutional environments.*** Under these conditions, the Bank acts as a facilitator by providing financial support for critical physical invesments, coupled with timely and relevant advice and technical assistance to the client country, focused on improving electricity sector efficiency and establishing an independent and transparent legal and regulatory framework. For the Bank's "brokering" role to be effective, there should be open communication and a clear understanding of the accountabilities among the entities involved, particularly at the senior management level.
- ***For smaller countries and those with limited institutional capacity, electricity sector reforms should first focus on commercialization and choosing a market structure that is tailored to the country's circumstances.*** Private sector participation can be introduced gradually, and asset divestiture can be considered once the governance structure and a commercial environment are in place.[14]

Project Implementation Lessons

- ***In countries with low institutional capacity, the use of expert advisers should be designed to ensure that they transfer their management and technical skills to local staff, rather than supplant local capacity by performing key tasks with little or no skills transfer.*** In addition to improving administrative efficiency, the contracts for these advisers should also focus on strengthening implementation capacity.
- ***Continuity in task management is an important factor in good project performance.*** Maintaining the same Task Manager during project preparation, implementation and completion fosters better understanding by the Bank of the Borrower's needs and greater cooperation from the country client..

14. This is consistent with the OED evaluation report "Power for Development" and the Guidance Note on Public and Private Sector Roles in the Supply of Electricity Services. 2003. Prepared by the World Bank's Energy Anchor Unit.

Outlook

4.2 Building upon the achievements and lessons learned from this project, the Government of Cambodia faces three immediate challenges. The first is to broaden access for the poor, which requires developing an appropriate strategy within the context of the country's wider power sector reforms. Cambodia's move toward private provision is an alternative since public provision is absent or limited. However, schemes to improve the poor's electricity access should be designed within the context of an overall power sector strategy, particularly with respect to the design of the regulatory framework and the creation of an investment climate conducive to private participation.

4.3 The second challenge is to achieve true independence for EAC. The Electricity Law does not give full authority to EAC, which still has to report to MIME, and can only exercise "autonomy of decision as granted by the Government." (In comments to this PPAR, it was clarified that the Electricity Law provides for EAC to fix tariffs per the Law's provisions, while the Government can decide the tariff policy. Thus, EAC is restricted in the fixation of tariffs only to the extent that the Government has issued a tariff policy including any subsidy to be provided. If no policy is issued by the Government, EAC is free to fix tariffs according to the principles established in the Electricity Law.) In 2005 it will become apparent whether tariff-setting will be implemented more autonomously and whether EAC's mandate will work or not. Beyond tariff-setting, EAC will also need to address issues related to promoting least-cost supply, affordability to the poor, and "motivating the private sector and establishing competition," which are the stated missions of EAC.

4.4 The third challenge is to continue the commercialization of the electricity sector. This will require actions on several fronts.[15] EdC should cease depending on annual budget support. To become independent, EdC needs to aggressively pursue the reduction of overall system losses, thus minimizing its cost of supply by achieving least-cost operation and dispatch. EdC should have the authority to deny electricity supplies to those who do not pay their bills. It should also develop efficient procedures to collect arrears (computerized systems provided under the project should provide the initial mechanism to detect payment defaults). These will be difficult tasks given the large arrears the government itself owes. Nevertheless, EdC should strengthen its capability to fully update its property registers, inventory supplies and spares based on full physical verification. An urgent task is to unbundle tariffs by generation, transmission, and distribution function. This is important for functional accounting to identify investments, assets, operating costs, and revenues, by function. Transactions among business units based on standard commercial contracts or industry benchmarks, and consistent accounting policies should be used to allocate common costs among units. More broadly, EdC still needs to align its accounting policies more closely to Western utility practices, and adopt meaningful and effective internal and external procedures based on International Accounting Standards and disclosure policies and procedures.

15. See the Guidance Note on Public and Private Sector Roles in the Supply of Electricity Services . 2003. World Bank.

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Annex A. Basic Data Sheet

PHNOM PENH POWER REHABILITATION PROJECT

Key Project Data *(amounts in US$ million)*

	Appraisal Estimate	*Actual*	*% Share of Actual to Total Cost*
Components			
Transmission System	12.03	12.06	28.9
Distribution System Rehabilitation	23.39	20.74	49.
Operational and Construction Support Facilities	3.54	1.01	2.4
Technical Assistance	3.66	3.26	7.8
Land Acquisition and Compensation	0.33	0.44	1.1
EdC Administration	0.19	0.19	0.5
Interest During Construction	2.52	3.99	9.6
Total Project Cost	45.66	41.69	100.0

Project Financing by Component (in US$ million equivalent)

Component	*Appraisal Estimate*			*Actual/Latest Estimate*			*Percentage of Appraisal*		
	IDA	*Govt.*	*CoF*	*IDA*	*Govt.*	*CoF*	*IDA*	*Govt.*	*CoF*
A. 115kV Transmission System	11.50	0.71	12.21	11.15	0.53	12.06	97.0	74.6	98.8
B. Distribution System Rehabilitation	21.94	1.46	23.40	19.45	1.67	21.12	88.7	114.4	90.3
C. Operational and Construction Support Facilities	3.34	0.14	3.48	0.85	0.16	1.01	25.4	114.3	29.0
D. Technical Assistance (EDC)	1.74	0.67	2.41	2.80	0.18	2.98	160.9	26.9	123.7
E. Technical Assistance (MIME)	1.49	0.17	1.66	0.53	0.00	0.53	35.6	158.3	31.9
Interest During Construction	0.00	2.52	2.52	0.00	3.99	3.99	0.0	158.3	158.3
Total Project Financing:	40.01	5.67	45.67	35.16	6.53	41.69	87.9	115.2	91.3

Project Dates

	Actual
Departure of Appraisal Mission	01/20/1995
Board approval	09/28/95
Signing	10/11/1995
Effectiveness	12/20/95
Closing date	6/30/2000 (12/31/1999 original)

Staff Inputs (staff weeks)

	Actual/Latest Estimate	
	N° Staff weeks	*USUS('000)*
Identification/Preappraisal	109.2	136.5
Appraisal/Negotiation	60.5	135.7
Supervision	87.6	300.3
ICR	6.2	25.3
Total	263.5	597.8

Mission Data

	Date (month/year)	*No. of persons*	*Specializations represented*	*Performance Rating*	
				Implementation Progress	*Development Objectives*
Identification/ Preparation	04/1994	2	1 EC, 1 PE		
Identification/ Preparation	07/1994	5	1 EC, 1 PE, 1 ES, 1 RF, 1 FA		
Identification/ Preparation	10/1994	1	1 EC		
Appraisal	2/1995	5	2 EC, 1 PE, 1 RS, 1 FA		
Supervision	11/1995		1 EC	S	S
Supervision	2/1996		1 EC, 1 PMS	S	S
Supervision	6/1996		1 EC, 1 PMS	S	S
Supervision	12/1996		1 EC, 1 FA	S	S
Supervision	1/1997		1 EC	S	S
Supervision	11/1997		1 EC, 1 FA, 1 SO	S	S
Supervision	2/1998		1 EC	S	S
Supervision	12/1998		2 EC, 2 PE	S	S
Supervision	02/1999		1 EC	S	S
Supervision	11/1999		1 EC, 1 FA	S	S
Supervision	4/2000		1 EC, 1 FA	S	S
Completion	11/2000		1 EC, 1 OA	S	S

Note: EC=Energy Economist; PE=Power Engineer, ES=Environmental Specialist; RS=Sector Reform Specialist; FA=Financial Analyst; RS=Resettlement Specialist; OA=Operations Analyst; PMS=Project Management Specialist; SO=Socialist

Other Project Data

Borrower/Executing Agency:

FOLLOW-ON OPERATIONS

Operation	*Credit no.*	*Amount (US$ million)*	*Board date*
Rural Electrification and Transmission Project	38400	40.0	12/16/2003

Annex B. EdC Updated Financial Data

Table 2: EDC's Financial Performance Indicators

	1995		1996		1997		1998		1999		2000		2001	2002	2003
	SAR	Actual	SAR	Actual	SAR	Actual	SAR	Actual	SAR	Actual	SAR	Actual	Actual	Actual	Actual
Electricity Sales (GWh)	116.7	105.1	159.3	183.4	223.8	230.9	274.8	282.3	327.4	284.2	376.1	415.1	415.0	477.0	532.0
Net Income (Rls Billion)	-4.3	-2.6	-5.4	-8.4	-13.2	-13.6	-2.7	-50.6	10.2	-4.1	28.9	n.a	-5.0	-6.0	-45.0
ROR on Fixed Assets (%)	-11.6	-3.0	-4.0	-5.0	-3.9	-6.0	-0.6	-12.0	4.5	-1.0	7.4	-4.7	1.9	1.3	-6.2
Current Ratio	2.6	0.9	2.1	1.4	1.9	1.1	1.8	0.6	1.6	0.8	2.7	0.94	1.19	1.39	1.1

Source: EDC's Financial Statements
n.a: not available

Table 3: Revised Tariff Structure (effective from August 1, 2000)

Category	Riels/kWh
• Domestic	
50 kWh per month	350
From 51 to 100 kWh per month	550
More than 101 kWh per month	650
• Government	700
• NGO, Foreigners	800
• Hotel and Guest Houses	
Small	650
Medium	600
Big	500
• Commercial	
Small	650
Medium	600
Big	500
• Industry	
Small	600
Medium	550
Big	500
• Medium Voltage	480

Source: Government's Action Plan for EDC's Financial Recovery

Table 4: EdC Phnom Penh Financial Operating Results FY97-03 (Audited)

				(Billion Riels)			
Fiscal Year Ending December 31	1997	1998	1999	2000	2001	2002	2003
Energy Sales (Gwh)	218	266	274	305	364	418	465
Sales Growth	28%	22%	3%	11%	19%	15%	11.2%
Average Tariffs (Rs/kWh)	354	371	493	570	588	589	540.9
Average Tariffs (US cent/kWh)	9.3	9.8	13.0	15.0	15.1	15.0	15.0
Average Tariff Increase in Riel term	0%	5%	33%	16%	3%	0%	-8.2%
Income Statement Items:							
Revenues	79	104	146	177	223	253	288
Operating Expenses	90	150	145	192	216	252	290
Other Income/Expense	3	0	4	1	12	17	11
Net Income/Loss	-14	-50	-4	-16	-5	-15	-13
Cash Flow Items							
Cash Flow from Operating Activities	-5	1	4	0	-9	-1	27
Cash Flow from Financing Activities	4	189	26	19	14	3	-9
Cash Flow from Investing Activities	1	-186	-28	-15	-2	-2	-2
Increase/decrease in Cash	-1	2	2	4	3	-1	15
Balance Sheet Items:							
Fixed Assets	197	365	378	358	343	416	391
Current Assets	32	43	76	107	142	175	172
Gross Accounts Receivables	34	46	69	54	76	101	70
Provisions for Bad Debts	11	18	19	7	7	11	11
Total Assets	229	408	454	465	485	590	563
Equity	137	189	194	239	242	324	311
Long-Term Liabilities	62	147	187	138	130	110	110
Current Liabilities	31	72	73	88	113	156	141
Total Liabilities	229	408	454	465	485	590	563
Financial Ratios:							
LT Debt to Equity Ratio (times)	0.5	0.8	1.0	0.6	0.5	0.3	0.4
Current Ratio (times)	1.1	0.6	1.0	1.2	1.3	1.1	1.2
Receivables Collection Period (months)	5.3	5.4	5.7	3.7	4.1	4.9	2.9

Table 5: Synthesis of Billing – Recovery

	TOTAL 1998	TOTAL 1999	TOTAL 2000	TOTAL 2001	TOTAL 2002	TOTAL 2003	NOV 2004	DEC 2004	TOTAL 2004
Total Losses 12 months calculation %	20.9%	25.4%	15.7%	14.7%	13.1%	12.7%	13.0%	13.0%	13.0%
Receivable (days)									
Debts > 30 days	116	135	89	83	102	44	56	53	53
Total debts	149	181	121	108	130	69	88	79	79

Annex C: Borrower's Comments

"NORIN"
<norin@eac.gov.kh>
01/31/2005 09:43 AM

Subject: RE: Cambodia: Phnom Penh Power Rehabilitation (Credit 2782) Draft Project Performance Assesment Report

Dear Alain Barbu,

I have gone through the above Draft Report and have the following comments on Paragraph 4.3 of the above Report:

I do not agree with the observations made in Paragraph 4.3, that "The Electricity Law was not very robust, since it does not give full authority to EAC, which can only set tariffs subject to Government-established ceilings". The Electricity Law provides that EAC has to fix the tariffs as per the provisions made in the Electricity Law. The Government can, of course, decide the policy. So EAC is restricted in the fixation of tariff only to the extent the Government has issued a policy for the tariff including any subsidy to be provided by it. If no policy is issued by the Government, EAC is free to fix the tariff according to the principles provided in the Electricity Law.

Yours Sincerely,

TY NORIN

-----Original Message-----
From: Abarbu@worldbank.org [mailto:Abarbu@worldbank.org]
Sent: Wednesday, January 19, 2005 3:14 AM
To: norin@eac.gov.kh
Cc: Iporter@worldbank.org; hphillip@worldbank.org; Fmanibog@worldbank.org
Subject: Cambodia: Phnom Penh Power Rehabilitation (Credit 2782) Draft Project Performance Assesment Report

Dear Dr. Norin,

Please see the attached draft PPAR and the letter addressed to you. We would
appreciate your comments by February 4, 2005.

(See attached file: Letter to Ty Norin Scanned version.pdf)(See attached file:
Cambodia Phnom Penh Power Rehab PPAR - 07 Jan 05.doc)

To: <Abarbu@Worldbank.Org>

Sambath Sak
02/09/2005 05:04 AM
855-23-217-301
EACSF

To: Denis Robitaille
cc: Alain A. Barbu, Nitaya Chatnantawej, nsokhan@online.com.kh
Subject: Re: Cambodia: Phnom Penh Power Rehabilitation (Credit 2782) Draft Project Performance Assessment Report

Dear Alain,

Please find attached comments from the Electricity du Cambodge. The comments are on the Efficiency which is in page 9, and the Financial Operating Results and Projection which is Annex B (Table 4).

Comment on Draft Project Assessment Report.pdf

Should you need any further clarification please contact Mr. Nget Sokhan, Chief Cooperate Finance at Electricity du Cambodge at email: nsokhan@online.com.kh or telephone No 855-12-725 777.

Regards,

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SYNTHESIS OF BILLING - RECOVERY

	TOTAL 98	TOTAL 99	TOTAL 00	TOTAL 01	TOTAL 02	TOTAL 03	Nov-04	Dec-04	TOTAL 04
Total losses - 12 months calculation %	20.9%	25.4%	15.7%	14.7%	13.1%	12.7%	13.0%	13.0%	13.0%
Receivable (days)									
Debts > 30 days	116	135	89	83	102	44	56	53	53
Total debts	149	181	121	108	130	69	88	79	79

This is refered to the draft report, page 9 and para 3.12.

Table 4: Edc Phnom Penh Finacial Operating Results and Project, FY97-03

(Billion Riels)							
Fiscal Year Ending Deccember 31	1997	1998	1999	2000	2001	2002	2003
Energy Sales (Gwh)	218	266	274	305	364	418	465
Sales Growth	28%	22%	3%	11%	19%	15%	11.20%
Average Tariffs (Rs/kWh)	354	371	493	570	588	589	540.9
Average Tariffs (US cent/kWh)	9.3	9.8	13.0	15.0	15.1	15.0	15.0
Average Tariff Increase in Riel Term	0%	5%	33%	16%	3%	0%	-8.20%
Income Statement Items:							
Revenues	79	104	146	177	223	253	288
Operating Expensess	90	150	145	192	216	252	290
Other Imcome/Expense	3	3	4	1	12	17	11
Net Income/Loss	(14)	(50)	(4)	(16)	(5)	(15)	(13)
Cash Flow Items							
Cash Flow from Operating Activities	-5	0	4	0	(9)	(1)	27
Cash Flow from Financing Activities	4	189	26	19	14	3	(9)
Cash Flow from Investing Activities	1	-186	(28)	-15	(2)	(2)	(2)
Increase/decrease in Cash	-1	2	2	4	3	(1)	15
Balance Shee Items:							
Fixed Asset	197	365	378	358	343	416	391
Current Assets	32	43	76	107	142	175	172
Gross Accounts Receivables	34	46	69	54	76	101	70
Provisions for Bad Debts	11	18	19	7	7	11	11
Total Assets	229	408	454	465	485	590	563
Equity	137	189	194	239	242	324	311
Long-Term Liabilities	62	147	187	138	130	110	110
Current Liabilities	31	72	73	88	113	156	141
Total Liabilities	229	408	454	465	485	590	563
Financail Ratios:							
Operating Ratio							
Return on Net Fixed Assets in Operation							
LT Debt to Equity Ratio (times)	0.5	0.8	1.0	0.6	0.5	0.3	0.4
Debt Service Coverage Ratio (times)							
Current Ratio (times)	1.1	0.6	1.0	1.2	1.3	1.1	1.2
Receivables Collection Period (months)	5.3	5.4	5.7	3.7	4.1	4.9	2.9

This is refered to the draft report, page 9, para 3.14 and Annex B of page 23 (table 4).