



## 1. Project Data

Project ID: P110978  
Project Name: LA-Rural Electrification Phase II

Country: Lao People's Democratic Republic  
Practice Area(Lead): Energy & Extractives

L/C/TF Number(s): IDA-H5380  
Closing Date (Original):  
Total Project Cost (USD): 45,268,000.00

Bank Approval Date: 12-Jan-2010  
Closing Date (Actual): 30-Jun-2015

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	20,000,000.00	0.00
Revised Commitment	18,405,134.93	0.00
Actual	17,467,226.39	0.00

Sector(s): Energy Transmission and Distribution(73%):Other Energy and Extractives(7%):Renewable Energy Biomass(5%):Renewable Energy Geothermal(5%):Renewable Energy Solar(5%):Renewable Energy Wind(5%)

Theme(s): Rural services and infrastructure(82%):Climate change(18%)

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Project ID: P117177  
Project Name: LA-GEF Rural Electrification Phase II ( P117177 )

Country: Lao People's Democratic Republic  
Practice Area(Lead): Energy & Extractives

L/C/TF Number(s):  
Closing Date (Original):  
Total Project Cost (USD):



TF-98662	30-Jun-2014	10,448,000.00
Bank Approval Date	Closing Date (Actual)	
22-Feb-2011	30-Jun-2015	
	IBRD/IDA (USD)	Grants (USD)
Original Commitment	0.00	1,818,000.00
Revised Commitment	0.00	1,818,000.00
Actual	0.00	1,818,000.00

Sector(s)

Renewable Energy Biomass(11%):Renewable Energy Geothermal(11%):Public Administration - Energy and Extractives(2%):Energy Transmission and Distribution(54%):Renewable Energy Solar(11%):Renewable Energy Wind(11%)

Theme(s)

Regulation and competition policy(5%):Rural services and infrastructure(28%):Climate change(67%)

## 2. Project Objectives and Components

a. Objectives

The Laos-Rural Electrification Phase II Project is a blended operation with IDA and GEF objectives and financing.

The project's development objectives (PDO) were "to (a) increase access to electricity of rural households in villages of the project provinces and (b) further improve the financial performance of Electricité du Laos (EdL)." (Financial Agreement dated February 8, 2010, Schedule 1, page 6)

The project's Global Environment Objective (GEO) was "to (a) increase efficiency of energy supply by the EdL and consumption by consumers and (b) adopt substantial renewable energy in the government's rural electrification program." (GEF Project Paper dated January 27, 2011, Data Sheets and paragraph 36, page 11)

Following IEG guidelines, this ICR Review only rates performance toward the achievement of the PDO and, as part of the overall assessment, considers the Global Environmental Outcomes as they were intended to be achieved without assigning a separate performance rating.

b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Components

a Components

A Electricité du Laos Component (US\$29.327 million at appraisal; US\$30.326 million at restructuring; US\$47.406 million actual, including the GEF grant). The increase between appraisal estimates and actual costs was mainly due to the addition of IFC cofinancing at restructuring, at which time 10,000 more targeted connections were added, thus raising the overall target from 27,700 to 37,700 households.

Electricité du Laos (EdL) is the Government-owned power utility for the country. EdL's component included the following activities:



- Grid Extension to: (a) install and commission medium and low-voltage lines, transformers, and house wiring to cover about 27,700 households (raised to 37,700 at restructuring) and (b) provide technical advisory services (TA) to build the capacity of EdL in project implementation and supervision, economic and financial evaluation, project management, and procurement.
- Loss Reduction to: (a) provide goods to help implement the prioritized investment projects as recommended by the Loss Reduction Master Plan and (b) provide TA for nontechnical loss reduction activities.
- Technical Assistance for the Information Technology System and Financial Management to (a) make the existing information technology (IT) system fully operational and thereby integrate EdL headquarters and branch offices in the project provinces and (b) strengthen the EdL's financial management capacity.
- Safeguards Capacity Building to: provide equipment and training to the EdL and its provincial branch offices thereby strengthening their capacity in environmental and social impacts assessment and impact management.
- Demand-Side Management (DSM) and Energy Efficiency (EE) Program to: (a) provide goods, including computers, office equipment, testing instruments, and meters, needed to support the implementation of the actions as recommended in the DSM and EE Master Plan and (b) provide TA to support the implementation of the actions.

B. Ministry of Energy and Mines (MEM) Component (US\$6.474 million at appraisal; US\$7.293 million at restructuring; US\$ 5.352 million actual, including the GEF grant)

This component included the following activities:

- Off-Grid Investment Program to provide electricity to about 10,000 households by developing off-grid renewable technologies including solar photovoltaic home systems (SHS) and pico hydro.
- Institutional Strengthening TA to: (a) implement the MEM's program of management outsourcing and (b) monitor the performance of MEM's outsourced management and Off-Grid Investment Program.
- Alternative renewable energy (RE) Delivery Models TA to: (a) promote alternative renewable energy development and develop associated delivery models and financing mechanisms and (b) support small and medium enterprises in income generation linked to the use of the renewable energy.
- RE Master Plan and Database TA to: (a) maintain the MEM's RE database and (b) update the RE Master Plan.
- Organizational strengthening of the MEM by providing: (a) goods and incremental operating costs to support project implementation and monitoring/supervision capacities, (b) TA to support the operation of a Rural Electrification Fund secretariat.

d. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost. At appraisal in 2009, the project's costs were estimated at US\$35.801 million. At the 2013 restructuring, this was revised upwards to US\$37.619 million. The actual project cost in 2015 was significantly higher at US\$52.758 million. These figures include the GEF grant, for which the appraisal estimate was US\$1.181 million and the actual amount was US\$1.094 million.

Project Financing. Of the US\$52.758 million actual project costs, IDA financed US\$16.989 million, IFC US\$14.822 million, NORAD US\$2.421 million, and GEF US\$1.094 million. The Borrower financed US\$16.102 million, and the local communities US\$1.146 million. Actual total costs were 40 percent higher than the adjusted costs at restructuring; the difference was bridged by increased contributions from the Borrower (US\$16.102 million actual versus US\$4.058 million at appraisal) and from IFC (US\$14.822 million actual versus US\$3.880 million at appraisal). The Bank's Energy Sector Management Assistance Program (ESMAP) contributed US\$183,000 for a study.

Borrower Contribution. The Borrower contributed US\$16.102 million, which was almost four times the appraised amount of US\$4.058 million.

Dates. The project was appraised on October 7, 2009 and approved by the World Bank's Board on January 12, 2010 (the GEF grant had been approved earlier on September 29, 2009). The project was restructured on December 24, 2013, without changing the project objective. Two financial performance indicators were dropped as they no longer applied given the 2010 restructuring of the energy sector that created a new EdL Generation Company, while one financial indicator was revised to enhance its relevance to the new structure. The closing date was also extended by one year from June 30, 2014 to June 30, 2015.

### 3. Relevance of Objectives & Design



a. Relevance of Objectives

**Government Strategy.** The PDOs were highly relevant to the Government's strategies at project appraisal and completion. Increasing rural electricity access was closely aligned with the government's National Socio-Economic Development Plans (NSED) for 2006–2010 and 2011–2015, both of which included the eventual goal of providing electricity to 70 percent and 80 percent of households, respectively. The NSED for 2011–2015 also included a commitment to reform state enterprises, particularly with respect to financial reforms, including EdL. Moreover, the objective of improving EdL's financial performance was directly consistent with the government's Action Plan for Financial Sustainability of the Power Sector in Lao PDR (FAP1, 2005-2011) and its successor FAP2 covering 2013-2017.

**Bank Strategy.** The PDOs were highly relevant to the World Bank Group's 2005–2008 Country Assistance Strategy and 2012–2016 Country Partnership Strategy, which include support for (i) RE infrastructure investments and (ii) improved management of financing and revenues. FAP 1 was developed with the Bank's assistance under the Southern Provinces Rural Electrification Project that was implemented from 1998 to 2004. FAP1 was explicitly designed to ensure that the Government and EdL comply with financial covenants of anticipated Bank assistance, such as the follow-on project under review.

Rating

High

b. Relevance of Design

The relevance of project design is substantial. The results framework logically and convincingly demonstrated the causal chain across the clusters of physical and TA activities under the two main components, and achievement of the rural electrification and financial performance improvement objectives. The subcomponents to provide goods and services for grid extension, SHS, and village hydropower lead directly to the electrification of households in the targeted villages. To enhance the likelihood of successful implementation, those activities were supported by parallel subcomponents to strengthen the following: (a) EdL's capacity to manage the environmental and social impacts of grid extension; (b) MEM's management of the off-grid program; and (c) preparation and updates of the RE Master Plan and database. The project's design appropriately targeted 8,000 low-income households that would be provided with zero-interest loans to cover grid connection costs under the Power to the Poor (P2P) Program. The project design also included off-grid solutions that appropriately targeted remote communities that were beyond the reach of the grid.

Regarding the causal links to achieve improvements in EdL's financial performance, several subcomponents were designed in parallel as follows: (a) extending the grid would increase the number of customers and thus potentially increase revenues for EdL; (b) reducing distribution system losses would also enhance EdL's revenues from each unit of power generated; (c) implementing measures to increase consumers' energy efficiency would reduce their demand at peak times when the EdL had to import costly power from Thailand, once again positively impacting revenues; and (d) training staff to operate and maintain computerized billing and accounting would allow the EdL to integrate headquarter and branch office systems and strengthen the database for managing its finances. However, as minor shortcomings, the Results Framework did not explicitly recognize the opposite effect of potentially weakening EdL's financial position through the following activities: (a) longer transmission and distribution lines resulted in larger technical losses hence grid extension could increase system losses; and (b) connecting low-income households under the P2P Program entailed high costs and was not net-positive financially for EdL. Moreover, the design of the government's 2008 Loss Reduction Master Plan and 2009 DSM and EE Master Plan did not explicitly address the scale or incidence of the results, and their net effect on EdL's financial performance.

Rating

Substantial

## 4. Achievement of Objectives (Efficacy)



## Objective 1

### Objective

Objective 1: To increase access to electricity of rural households in villages of the project provinces

### Rationale

#### Outputs

- -Distribution lines constructed under the project amounted to 2,232 kilometers, which was almost double the original target of 1,209 kilometers.
- The target of supporting 3 projects through the Rural Electrification Fund was achieved, as targeted. The 3 projects include a biogas turbine, village hydro stations, and solar home systems.
- Renewable energy generation capacity of 0.3 MW was installed. According to the GEF Project Paper, the baseline was 0 and the target was 0.3 MW, which was achieved (ICR, page 3).

#### Outcomes

- The target outcome indicator of providing electricity to 37,000 households was exceeded. Taking grid and off-grid connections together, 47,255 households gained electricity access, or 28 percent above the original target value.
- An evaluation study conducted in 2013 (Vorvate Tuntivate. Welfare Benefits of the Lao PDR Rural Electrification Project, Phases I & II), which included a counterfactual sample (per the Bank team), found that important benefits resulted from being connected to the grid. These include: (i) income-generation opportunities; (ii) reduced time spent by women on chores, from an average of over 60 minutes down to 23 minutes per night; and (iii) reduced air pollution exposure, which especially benefits women and children who stay mostly indoors.
- Household incomes were three times higher on average, and households owned more assets and spent less share of their income on energy, compared to a baseline study in 2004. (The ICR itself did not conduct a counter-factual or attribution analysis.)
- The 2013 study also found that grid connections and increases in business activities were positively associated. By project completion, it was estimated that 16,010 households that were P2P participants had especially benefited from electricity access as they tended to be newly formed families with less income-earning means such as capital, land, education, and other assets.
- About 90 percent of retail businesses undertaken by P2P recipient households are operated by women. About 93 percent of P2P recipients agree that work undertaken by women is easier with electricity.
- Regarding GEO outcomes, the reduction of about 300 kilotons of CO2 emissions per year was achieved. According to the GEF Project Paper, the baseline was 0 and the target was 300 kilotons of CO2 reduced (ICR, page 3).

### Rating

High

## Objective 2

### Objective

Objective 2: To further improve the financial performance of Electricité du Laos (EdL)

### Rationale

#### Outputs

- EdL's distribution system losses stood at 13.1 percent at project closing; hence, the 11 percent target set at the 2013 restructuring (supported by an additional GEF grant) was not achieved. By comparison, the original target set at the 2009 appraisal was "less than 13 percent."
- With respect to energy efficiency activities supported by the GEF grant, 50 public sector buildings in Vientiane were retrofitted, and efficient lamps were also distributed nationally to shops and households. According to the GEF Project Paper, the baseline was 4 public sector buildings (ICR, page 3).



### Outcomes

- The outcome indicator related to the debt service coverage ratio was exceeded: the value at appraisal was a ratio of less than 1.3, which was also the baseline. This was adjusted during the 2013 restructuring to 1.1, while 1.9 was actually achieved.
- The outcome indicator on accounts receivables from government agencies was not achieved, mainly due to the inadequate budget allocations of the concerned agencies. At appraisal, a value of less than 3 months was targeted (compared to the baseline of 20 months) but accounts receivables remained at 18 months by project closing.
- The outcome indicator related to the rate of return on revalued assets was dropped during the 2013 restructuring, since it no longer had meaning at the EdL level because the new EdL Generation Company established in 2010 would accrue most of the profits.
- The self-financing ratio was also dropped during the 2013 restructuring in light of the substantial increase in investments being undertaken by the EdL Group.
- Outcomes from the GEF-financed EE activities include (i) energy savings of about 200 MWh per year from the participating buildings and (ii) savings of 9 GWh per year from the national program to distribute efficient lamps.
- Public awareness about energy efficiency was also raised, although the numbers provided were most likely based on the number of attendees at events or recipients of information, rather than the degree to which actual knowledge increased based on prior baseline measurements.

The project also achieved positive institutional outcomes as follows:

- The policy environment and regulatory framework were improved, in areas such as cost-recovery tariffs, reduced cross subsidies, power sector financing strategy, and the 2013–2017 Power Sector Financial Sustainability Action Plan.
- A Rural Electrification Master Plan has been put in place.
- Institutional capacities in the EdL and the MEM were strengthened, specifically in the areas of project management, environmental and social safeguards, renewable energy technologies, and working in the English language.

Rating  
Modest

## 5. Efficiency

At appraisal, the calculation of the project's economic internal rate of return (EIRR) based the economic benefit of grid connections on the consumer surplus of *household* demand for electric lighting. At that time, this was estimated to be US\$412 per household per year based on household survey data collected in 2004. For *non-households*, the economic benefit was assumed to equal the cost that they pay for their electricity consumption. The economic cost comprised the total amount invested in the grid extension subcomponent. The EIRR calculation covered a period of 30 years and used a discount rate of 10 percent, with benefits accruing from the first year.

At completion, the EIRR was recalculated using the latest available data including operation and maintenance (O&M) costs. For *household* electricity lighting demand, the consumer surplus was revised upward to US\$658 per household per year, based on data from the 2013 impact evaluation, which also indicated that average household consumption of electricity increased at a faster rate than assumed at appraisal. Also, a higher number of households was connected (37,614 actual versus 27,700 estimated at appraisal). The economic costs at completion include the total amount of financing for the grid extension component and O&M costs. The same 30-year lifetime and 10 percent discount rate were used for the EIRR re-calculation.

The EIRR at appraisal was 81 percent and at completion was a still-favorable 39 percent.

### Administrative and Institutional Inefficiencies

There were some relatively minor procurement delays due to the lack of experience in Bank procedures among project implementation staff. There were also delays in hiring staff to monitor contractors for the solar home systems component. Restructuring, which should have been done earlier, was also delayed. The combined effects of these factors necessitated a one-year extension of the project closing date. On balance, the project's efficiency is rated **substantial**.



Efficiency Rating  
Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal	✓	81.00	83.00 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	39.00	90.00 <input type="checkbox"/> Not Applicable

\* Refers to percent of total project cost for which ERR/FRR was calculated.

## 6. Outcome

The relevance of the project's objectives is **high** while the relevance of its design is **substantial**. The efficacy of the first objective--to increase electricity access in rural households--is **high**, given that grid and off-the grid connections exceeded the original target (by 28%), as well as the increased income and other social welfare benefits achieved through the connections, based on the findings of a 2013 evaluation study. The efficacy of the second objective--to further improve the financial performance of EdL--is **modest**, since EdL's targets on system loss reduction and accounts receivables were not achieved, although there were improvements in the debt service coverage ratio, energy efficiency promotion, institutional strengthening, and the broader policy and regulatory framework. While lower than at appraisal, the ex post economic rate of return was a favorable 39%. However, there were some relatively minor to more significant delays that hampered administrative efficiency and taken together necessitated a one-year project extension. Taking into account these considerations, efficiency is rated **substantial**. The project's overall outcome is rated **satisfactory**.

a. Outcome Rating  
Satisfactory

## 7. Rationale for Risk to Development Outcome Rating

The risk to the sustainability of the project's outcomes related to grid connections is **modest**. EdL has demonstrated its commitment to grid expansion and its technical capacity to manage the distribution network. While tariffs would increase over time to cover investments and maintain the quality of supply, there is a modest risk that the rising tariffs would become unaffordable for grid-connected households, given the strong link between grid access and income-generating activities, including those beneficiaries under the Power to the Poor program. The risk to outcomes related to the off-grid connections based on solar home systems (SHS) is **substantial**. SHSs represent 'pre-electrification' that allow households to enjoy limited access to electricity before the grid arrives. Despite the affordable monthly payments and a high rate of user satisfaction, SHS use may diminish or be discontinued, due to (i) the large user shifts that would occur upon arrival of the grid and (ii) unclear arrangements for the provision of O&M services, collection of fees, and program management.. There is a **substantial** risk that outcomes related to EdL's financial performance might not be maintained. On the positive side, EdL's net profit in 2014 was 8.9 percent of revenues from generation, transmission, and distribution; there was also a notable improvement with the profit margin on transmission and distribution (T&D), which in 2014 was 2 percent of operating revenue before depreciation, compared with a 4 percent deficit in 2012. EdL's profitability and cash flow continue to improve, particularly for the T&D business. Collection from nongovernment customers also continues to be satisfactory. On the negative side, however, EdL faces the significant financial risk of rising debt levels to finance its continually increasing capital spending for investments. As shown by past experience, EdL may assume new debt financing for unplanned projects that do not necessarily align with the Power Development Plan. Growing levels of debt could make it difficult for EdL to manage its finances and meet commitments under financial contracts with current creditors. Moreover, receivables from Government agencies continue to rise, although the Ministry of Finance is trying to address this issue by centralizing government agency billing as from 2015.



While risks to the grid-based component's outcomes are **modest**, the risks to outcomes of the off-grid component and EdL's financial performance are **high** and **substantial**, respectively, leading an overall Risk to Development Outcome rating of **substantial**.

- a. Risk to Development Outcome Rating  
Substantial

## 8. Assessment of Bank Performance

- a. Quality-at-Entry

The Bank's project preparation was strong in the following areas: the strategic relevance of the project's objectives; the rigorous analysis of the project's economic justification; the detailed assessment of EdL's financial position; the careful attention given to safeguards compliance, as well as fiduciary arrangements; and the incorporation of poverty and social development aspects. The project clearly benefited from the close dialogue with the government and local stakeholders, and the knowledge inputs of the Bank team. However, preparation of the following aspects was relatively weak: (1) there were inadequate measures to mitigate risks associated with coordinating grid and off-grid electrification, and unexpected factors beyond the project's control; and (2) there was insufficient detailed attention to the design, management and operation of the innovative solar home systems program, which magnified the broader technical and economic challenges of village off-grid electrification.

Quality-at-Entry Rating  
Moderately Satisfactory

- b. Quality of supervision

Bank supervision was strong and sustained overall. Formal Bank supervision missions took place 2 to 3 times a year. This was possible because the Task Team Leaders (TTLs), as well as the fiduciary and safeguards compliance team members, were based in the field, thus enabling regular follow-up and support to project counterparts. According to the ICR (page 19, paragraph 59), during the field visits, the Bank team was able to monitor and verify social and environmental impacts, meet with contractors, clients and other relevant authorities, as well as beneficiaries to listen and discuss possible adverse impacts. Joint implementation support was provided by the Bank and IFC, which enhanced the dialogue on financial aspects; as a result, there was a corresponding show of support from the Ministry of Finance, the Ministry of Energy and Mines, and EdL in developing the 2013-2017 Financial Sustainability Action Plan for the Power Sector (FAP2). However, there were also some relatively minor shortcomings. The TTLs changed 4 times, which contributed to the delay in project restructuring. The reduction of the debt service coverage ratio (from 1.3 to 1.1) at project restructuring should have been correspondingly amended in the relevant covenant of the Project Agreement and reflected in FAP2. Closer attention could have also been given to the implementation of measures to reduce losses and the promote energy efficiency.

Quality of Supervision Rating  
Moderately Satisfactory

Overall Bank Performance Rating  
Moderately Satisfactory

## 9. Assessment of Borrower Performance

- a. Government Performance

There was (and continues to be) strong Government commitment for electrification overall and increasing rural access in particular. This was evident from the strong mandate and enabling environment given to EdL, including an 18 percent tariff increase in 2013. The major achievement of electrifying 248,000 households in rural villages of Lao PDR can be attributed to consistent Government support throughout project implementation. However, although within its control, the Government did not maintain EdL's debt-to-equity ratio to less than 1.5 as agreed. Moreover, the budget allocations for government agencies did not adequately cover the payments for their power bills; however, the Ministry of Finance took a step toward resolving this issue by centralizing the billing of government agencies starting in 2015,



the year that the project closed.

Government Performance Rating  
Moderately Satisfactory

b. Implementing Agency Performance

EdL showed strong institutional and staff commitment to the project. It proactively resolved problems during implementation and was clearly instrumental to the overall success of the electrification components. However, albeit not entirely under its control, EdL continues to have weaknesses in its financial performance. In 2014, although the EdL met the debt service coverage ratio target (1.9 achieved versus the 1.1 minimum target), it breached the debt-to-equity ratio covenant (2.3 actual ratio versus the covenanted maximum of 1.5). EdL also could have conducted better reporting on the project's loss reduction activities, the changes in large customer connections, and the differences between planned and actual expenditures (e.g., EdL reported no expenditure on loss reduction activities, whereas their contribution was expected to be US\$3.2 million). With respect to the Ministry of Energy's performance, the Ministry proved to be a champion in implementing energy efficiency measures in its buildings. MEM (including its staff in the Institute for Rural Electricity Promotion) depended significantly on external consultants and Bank teams during project implementation. There was a large gap in institutional capacity at different levels within MEM, which hindered project administration and implementation.

Implementing Agency Performance Rating  
Moderately Satisfactory

Overall Borrower Performance Rating  
Moderately Satisfactory

## 10. M&E Design, Implementation, & Utilization

a. M&E Design

The selected indicators on electrification were clear and directly relevant for measuring the achievement of the project's objectives. The financial performance indicators were keyed to outcomes that were expected to result from compliance with the Action Plan for Financial Sustainability of the Power Sector (FAP1), which is a higher-level measurement compared to monitoring just the outputs and outcomes attributable to this project. However, according to the ICR (page 9, paragraph 28), the loss reduction indicator lacked methodological details; for example, it was not clear whether it was measured by month or year, and how the indicator would help to account for factors beyond project activities.

b. M&E Implementation

The data for most indicators were updated once or twice per year, including through seven ISRs completed for the project. For financial performance indicators, statements were audited externally to ensure data quality. In 2010, the creation of the EdL Generating Company and its listing on the Lao stock exchange caused concerns that the EdL holding company might not meet the project's financial performance targets. The financial performance indicators were revised during the project's restructuring in 2013 to accommodate these changed circumstances. In 2013, a study improved the methodology for measuring non-technical commercial losses. Moreover, several large customers served by low-voltage distribution lines switched to medium-voltage lines, which caused a major shift in distribution loss data. The monitoring of these two developments had a direct impact on the loss reduction indicator and its target values.

c. M&E Utilization

Appropriate data collected from the M&E system were used to inform and evaluate the planning options, decision-making, and subsequent resource allocations with respect to grid versus off-grid electrification activities. For EdL, there was a strong likelihood that the existing M&E arrangements still in operation would be sustainable beyond the project. However, this was less evident for MEM because of the lack of



capacity and unclear arrangements for managing its ongoing M&E system.

M&E Quality Rating  
Substantial

## 11. Other Issues

### a. Safeguards

The project, which was assigned a Category B, triggered three safeguard policies: OP 4.01 – Environmental Assessment; OP 4.10 - Indigenous Peoples; and OP 4.12 - Involuntary Resettlement. According to the ICR (page 10, paragraph 31), “The project complied with Bank safeguards policy without deviations or waivers. Visits to beneficiaries found that issues were explained and understood, and mitigation measures were applied. No severe adverse impacts were reported.” The ICR credited this satisfactory outcome to several factors. First, prior information dissemination and consultations were conducted from the beginning of the project, which helped build a broad-based community support for the project. The impacts were considered minor or avoidable in comparison to the long-term electricity access benefit of the project, hence there were minimal complaints or negative feedback from project-affected people. For example, EDL reported unavoidable damages valued at LAK 304 billion (around US\$37,900) to an estimated 0.7 hectares of land and 10,300 trees, which resulted from the installation of poles and wires across 51 subprojects in 586 villages. The damages were discussed with owners and considered not to be severe and were acceptable, and the villagers were compensated with improvements of community facilities. Second, local office support in monitoring and reporting was provided and proved instrumental in allowing EdL headquarters to respond quickly to when residents raise issues. The Safeguards Operational Manual was used during the project’s implementation, and will continue to serve as a key instrument for EdL’s future installation and substation works. Third, it was vital for safeguards compliance to ensure the availability of documentation to agencies and beneficiaries, as well as the timely and effective transfer of information from local to national level. These include compensation records and evidence of voluntary donations.

### b. Fiduciary Compliance

The ICR (page 10, paragraph 32) indicated that financial management (FM) was moderately satisfactory at completion. Although FM performance was satisfactory in the early stages of implementation, it became moderately unsatisfactory in 2012 and 2013 due to unresolved internal control weaknesses as identified by the auditors. Support was provided to address some of the issues and concerns, which led to an upgrade to moderately satisfactory. Reporting of eligible expenditure paid from the designated accounts was not made on a monthly basis for both implementing entities, resulting in inactive designated accounts status at various stages of implementation. Although EdL and the MEM submitted all the required audit reports and interim financial reports (IFRs), many were provided late. All project audit reports were unqualified (clean opinion). All EdL entity audit reports were also unqualified except for the year end 2011 when a disclaimer opinion was given. The quality of variance analysis in the IFR improved for the MEM but not for the EdL.

### c. Unintended impacts (Positive or Negative)

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### d. Other

Procurement. Although there were no major issues regarding compliance with Bank procurement guidelines, there were some delays. According to the ICR (page 10, paragraph 33), procurement under the project was moderately satisfactory at closing, mainly due to lack of procurement experience among the staff of different EdL departments. In addition, the frequent turnover of the EdL staff every 2 years impacted negatively on procurement performance. EdL and MEM managed procurement of goods, works and consultants. All major works, equipment and materials were procured through International Competitive Bidding or National Competitive Bidding (NCB). Procurement activities under each EdL subcomponent were carried out by EdL staff. All procurement activities under the MEM component were carried out with the assistance of an international procurement specialist.



## 12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Satisfactory	There was no split evaluation undertaken for the ICR and thus the overall rating is deemed to only include minor shortcomings necessitating a Satisfactory rating.
Risk to Development Outcome	Modest	Substantial	The risk to development outcome is substantial mainly because of a substantial risk to achieving and maintaining the second objective, satisfactory financial performance.
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	---
Borrower Performance	Moderately Satisfactory	Moderately Satisfactory	---
Quality of ICR		Substantial	---

### Note

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.

The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

## 13. Lessons

The lessons derived from the implementation experience of this project are consistent with the findings of the World Bank's 2011 study "Lao PDR Power to the People: Twenty Years of National Electrification", which reviewed the higher-level lessons and the factors underlying the significant progress that was achieved during that period. The main lessons from this project, which update and reinforce those earlier lessons, are as follows (as paraphrased from the ICR):

- 1 The timely, efficient, and effective achievement of electricity access requires prior clarity in plans, targets, institutional framework, financing, and monitoring mechanisms.
- 2 A workable balance must be achieved between (i) state subsidies, tariffs, and financing policies and (ii) maintaining the commercial viability of the power sector with cost-recovery tariffs.
- 3 The project's Power to the Poor Program demonstrated that providing low-cost financing and targeting households without electricity access (in villages that had been previously electrified) can be a simple and effective means to provide grid connections, while also providing significant benefits in terms of social inclusion (especially for women and children), health, and income generation.
- 4 The key success factor in increasing electricity access was the broad-based and long-term national commitment to electrification, the establishment of the necessary technical codes, and the introduction of up-to-date technical innovations to lower the cost and accelerate the electrification program.
- 5 Data on private sector investments need to be updated regularly in order to coordinate grid extension with off-grid electrification and thereby avoid 'stranded' off-grid assets in the event that grid connections arrive earlier than expected.
- 6 Careful consideration is warranted before including financial indicators as PDO outcome indicators or covenants, given (i) the sociopolitical risks associated with the reforms necessary to meet them, especially when tariff adjustments are involved, and (ii) the time required to bring about financial improvement, which often may exceed the life of one project.

## 14. Assessment Recommended?



No

## 15. Comments on Quality of ICR

The ICR was candid, logically coherent, and strongly supported by evidence -- notably through a 2013 evaluation study on the welfare benefits of rural electrification in Laos. The reporting on the intermediate and final outcome indicators was time-based and thorough. Table 2 on the grid electrification rates and Table 3 on the project's economic and financial rates of return (as well as other measures of project worth, namely, NPV and benefit-cost ratio) were very useful. In this regard, the ICR's conscious effort to bring out the challenges of achieving universal electricity access in the Laotian country context enhanced the quality of the report. The lessons were well formulated and derived directly from the project's complex implementation experience. Annex 1 on project component/subcomponent costs (disaggregated by financing source) and Annex 2 on Outputs by Component gave a detailed, granular analysis and were exemplary; Annex 2 included a table showing the direct versus indirect attribution of the various indicators toward the achievement of the project objectives, thus demonstrating a consistent attention given to the project's Results Framework.

The report was a bit repetitive in some parts. Its overall outcome rating is not fully consistent with the OPCS-IEG harmonized guidelines. Specifically, its "moderately satisfactory" rating for project outcome is not supported by its sub-ratings of high for relevance of objectives, substantial for relevance of design, substantial for efficacy, and high for efficiency. As assigned by the ICR, these sub-ratings point to a "satisfactory" rating. Thus, IEG's "moderately satisfactory" outcome rating--which reflects the modest achievement of PDO2, implementation delays, and other minor shortcomings--represents a lower rating than the "satisfactory" rating implied by the ICR based on its sub-ratings. These relatively minor comments aside, the ICR's overall quality is rated **substantial**.

- a. Quality of ICR Rating  
Substantial