Report Number : ICRR0020616

1. Project Data

Project ID P119939	**Project Name** TALIMARJAN TRANSMISSION PROJECT
Country Uzbekistan	**Practice Area(Lead)** Energy & Extractives

L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
IBRD-80090	31-Dec-2015	203,040,000.00
Bank Approval Date	**Closing Date (Actual)**	
15-Mar-2011	30-Jun-2016	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	110,000,000.00	0.00
Revised Commitment	96,788,059.94	0.00
Actual	96,788,059.94	0.00

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2. Project Objectives and Components

a. Objectives

According to the loan agreement (LA, p.7) and the project appraisal document (PAD, p.6) the project objective was:

"To improve the reliability of the electricity supply to residential and business consumers in South-Western Uzbekistan."

b. Were the project objectives/key associated outcome targets revised during implementation?
No

c. Will a split evaluation be undertaken?
No

d. Components

1: Strengthening of Power Transmission Network. (*Appraisal cost: US$151.04 million; Actual cost: US$93.22 million covering the Bank financing only.*)

a. Construction of about 220 km single-circuit 500 kV transmission line from Talimarjan Thermal Power Plant (TPP) to Sogdiana Substation (SS);
b. Construction of 500/220 kV open switch-yard at Talimarjan TPP;
c. Construction of a bay extension at Sogdiana SS;
d. Construction of a 500 kV connection line from the 500/220 kV open switch-yard at Talimarjan TPP to the Karakul-Guzar transmission line.
e. Rehabilitation activities of the transmission network in the southwestern region of Uzbekistan, that is, Samarkand, Bukhara, Navoiy, and Kashkadarya Regions. This sub-component was added during the first project restructuring in July 2013 in order to utilize the loan savings in the amount of US$48.19 million.

2: Institutional Strengthening. (*Appraisal cost: US$10.00 million; Actual cost: US$3.25 million covering the Bank financing only.*)

a. Strengthening the project implementing entity's and its subsidiaries' technical and fiduciary capacity through:
   i. assistance in the establishment of an internal audit unit; development of internal audit procedures; and provision of training on the generation of internal audit reports in compliance with International Internal Audit Standards (IIAS);
   ii. acquisition of the Global Information System (GIS) software; software for transmission network system design, planning, financial and economic analysis; technical study tour(s) to familiarize the project implementing entity's staff with the international good practices in these fields;
   iii. assistance in the adoption of the International Electrotechnical Commission (IEC) technical standards for transmission lines and switchyard/substation equipment and training;
   iv. technical assistance to the project implementing entity for the further development of the renewable energy program, including assessment of wind power potential and design of the institutional framework for development of wind power program; and
   v. technical assistance for the mitigation of avian risk during project implementation, including post-construction bird mortality monitoring and provision of training on the development of standardized approach for collision and electrocution monitoring of transmission lines and towers.
b Strengthening the project implementing entity's capacity for project management, monitoring, reporting

and evaluation, including procurement, financial management and disbursement activities and carrying out the project and the project implementing entity audit.
c In the first restructuring in July 2013, the scope of this component was also expanded to include additional advisory support and studies related to modernization of distribution networks and preparation of feasibility study for some oblasts and a tariff study to support UE on preparing an appropriate methodology for future tariff reviews.

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

Project Cost: The total project cost was originally estimated at US$171.04 million including a US$0.3 million front-end fee. The actual project cost is reported as US$96.75 million in Annex 1 of the ICR, which covers the Bank financing only. The project team informed that it was not possible to collect the data related to the Borrower's contribution and the total actual project cost.

Substantial loan savings in the amount of US$48.19 million were accumulated due to low bids received for all of the physical components of the project. Most of these savings were used to finance additional activities under both components as explained above. Upon the request of the Borrower, the Bank agreed to the partial cancellation of the loan in the amount of US$6.6 in December 2015 under second restructuring.

Borrower contribution: At appraisal, the Borrower's contribution was estimated at US$61.04 million. The ICR does not report the actual figure for Borrower contribution.

Dates: The loan closing date was extended once by six months from December 31, 2015 to June 30, 2016 under the second restructuring to allow the completion of ongoing project activities, such as the installation of transformers, circuit breakers, purchase of the software for transmission network system design and planning, assessment of wind power potential, consulting services for the assessment of the power distribution systems rehabilitation options, and preparation of financial statements in accordance with International Financial Reporting Standards.
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3. Relevance of Objectives & Design

a. Relevance of Objectives

The Government of Uzbekistan (GoU) approved a development program called Welfare Improvement Strategy (WIS) in 2007 which listed the measures to be taken to maintain high rates of sustainable economic growth in order to reduce poverty. The program included regional development strategies, and a part of its reforms aimed at improving the performance of utility and communal services in all sizes of settlements "through, among others, the reduction of physical and commercial losses in the electricity and gas systems." Focusing on the same development issues, the GoU developed a second WIS for the period of 2011-2014.

In addition, the GoU developed an investment and policy reform plan to modernize the nation's electricity system. According to the 2009 edition of Doing Business Report, insufficient and unreliable power supply was ranked as the third most significant obstacle to doing business in Uzbekistan. The plan to overcome this obstacle aimed at expanding and modernizing the power system to provide reliable electricity supply to end-users, and improving efficiency in power generation, delivery and end-use, given the high energy intensity of the economy. The plan also targeted improving the financial sustainability of Uzbekenergo's (UE), a state-owned holding which is the principal power sector utility in the country. Reducing the environmental footprint of the energy sector and developing opportunities for exporting power were the other two objectives of the plan (PAD, p.2; ICR, p.9).

The electricity sector specific goals of the GoU are still valid. The GoU will continue with its efforts of improving the reliability of electricity supply and distribution to residential and business consumers. To support the GoU in achieving these objectives, the Bank approved the Modernization and Upgrade of Transmission Substations Project in November 2016, and the Electricity Distribution Modernization Project is in its final stage of preparation.

The project development objective is also relevant to the Bank's Country Partnership Framework for FY 2016-2020. It corresponds to "Focus Area 3: Public Service Delivery" which focuses, among other topics, on the improvement of energy security and efficiency as well as reduction of energy intensity which contributes to economic growth and job creation.

Rating
High

b. Relevance of Design

The project objective is narrowly defined as "to improve the reliability of the electricity supply to residential and business consumers in South-Western Uzbekistan." Reliability of power supply is directly related to the number or duration of unscheduled power outages. Therefore, the transmission system investment activities listed under the first component are relevant to achieve the project objective.

On the other hand, the project objective did not include any outcome related to institutional strengthening, although the technical assistance activities listed in the second component were to be expected to have a positive impact on the reliability of power supply in the form of more efficient operation and better maintenance of the transmission system. Therefore, the activities of second component, except the activity to mitigate avian risk, did not directly support the attainment of project objective.

There was a clear statement of the objective in the results framework. The PDO level and intermediate level results indicators for the physical investment activities were directly linked to the achievement of the project objective. However, since the project objective did not include an institutional strengthening outcome, there was no PDO level results indicator for technical assistance activities. The results framework clearly represented the underlying project logic for the investment activities, but failed to show how the intervention

would affect residential and business consumers. Furthermore, the results framework did not show how technical assistance activities would contribute to the achievement of the project objective.

Rating
Substantial

4. Achievement of Objectives (Efficacy)

Objective 1
Objective
To improve the reliability of the electricity supply to residential and business consumers in South-Western Uzbekistan.

Rationale
Outputs

- The 500 kV transmission line between Talimarjan TPP and Sogdiana SS was constructed. It was originally planned to be 220 km, but after the completion of the detailed route design, the length of the line was reduced to 216 km. The line was commissioned in October 2014.
- Construction and commissioning of a new OSY 500/220 kV at Talimarjan TPP was completed.
- The bay extension at Sogdiana SS was completed.
- A short connection of 500 kV transmission line between the nearby Karakul-Guzar line and the new OSY at Talimarjan TPP was constructed. The line was commissioned in February 2014.
- Rehabilitation activities of the transmission network in southwestern region of Uzbekistan were completed. A total of 61 circuit breakers were replaced. The target was 36 circuit breakers. Likewise, the target of power transformers and autotransformers replaced was exceeded by replacing 10 of them instead of 5.
- Technical assistance was provided for internal audit development in order to comply with international standards. Although some concrete steps were taken to achieve this target, due to the approval delays caused by the Ministry of Foreign Economic Relations, Investment and Trade (MoFERIT) and the staffing issues caused by remuneration problems, the deliverables under this component could not be fully achieved. Consolidated financial statements of the UE group for 2015 had to be prepared by outside experts, rather than UE's own staff, in International Financial Reporting Standards (IFRS).
- Avian risk management training was completed.
- Distribution system modernization guidelines and feasibility studies were prepared for the follow-on Modernization and Upgrade of Transmission Substations Project.
- Identification of areas with wind power potential was completed.
- Global Information System (GIS) could not be installed because of a disagreement between the Bank and the Borrower on the type of the financing.

Outcomes

- The duration of outages in the project area was reduced to 24 hours in 2015 from a baseline of 92 hours per year. The target was 48 hours per year. This reduction in the duration of outages was achieved after the reinforcement of the 500 kV network and the rehabilitation of important components of substations. Since the two new CCGTs in Talimarjan, which were financed by the Asian Development Bank (ADB) and the Japan International Cooperation Agency (JICA) were not commissioned in 2015, there was no electricity supplied to the system from these two power plants. The first unit of the expansion project became operational in August 2016, and the second unit was expected to become operational in December 2016. The latest environmental monitoring report of the Talimarjan Power Project covering the period between July and December 2016 states that gas turbine in the second CCGT unit started to generate electricity in December 2016. The commissioning of the steam generator was expected in February 2017 (ADB web site: https://www.adb.org/sites/default/files/project-documents/43151/43151-023-emr-12.pdf).

In 2009, the electricity peak demand in the southern region surpassed 2,000 MW, but the north-south transmission capacity was limited to about 1,600 MW, resulting in shortages during peak hours (Source: Asian Development Bank). The project team informed that the construction of the second 500 kV line running parallel to the existing north-south transmission line increased the transmission capacity by 1,000 MW. The rehabilitation of some substations under this project by utilizing the loan savings of US$48 million is expected to reduce the number of outages. It is also expected that the start of electricity supply from the first CCGT unit in Talimarjan in August 2016 must have already contributed to the further reduction in the duration of outages and the full commissioning of the second unit would have an additional positive effect. However, currently there is no data available to support this argument which is expected to be available after the completion of the ADB financed power generation project.

- The average interruption frequency per year in the project area, which is directly related to the power outages discussed above, was reduced to 37.6 from a baseline of 80. The target was 40. This indicator was introduced six months prior to the project closing as a core indicator. It is a ratio of total number of customer interruptions in a year to the total number of customers in the project area. This calculation is widely known as the System Average Interruption Frequency Index (SAIFI) and it is used to measure the reliability of power supply for a specific distribution area (Core Indicators and Definitions, December 2014, p.103). The figure of 37.6 for this project means that customers in the project area experienced on average 37.6 interruptions in 2015. However, the ICR states that due to the unavailability of data about the actual number of customer interruptions in a year, the SAIFI was calculated by assuming that 10 per cent of the customers in the project region were affected by the interruptions (ICR, p14).

- The amount of electricity supplied to the customers in the project area increased to 17,460 GWh per year from a baseline value of 16,333 GWh per year. Although the achievement fell short of the target

value of 22,200 GWh per year, this was mostly due to the measurement period being from October 1, 2015 to September 30, 2016 which only included one month of power generation at the first 450 MW CCGT unit at Talimarjan TPP and did not include electricity generation from the second 450 MW CCGT unit.

By the completion of the transmission lines and the OSY, the Talimarjan Power Transmission Project has achieved its target of increasing the electricity transmission capacity. Once the second CCGT unit at Talimarjan TPP becomes fully operational, the additional electricity generated would be transmitted to the consumers without facing transmission network capacity problems. However, as of project completion, the increase in the amount of electricity supplied to the consumers in the project region fell short of the target.

• Quality of power supply, which is measured by the variation in voltage, is directly related to the reliability of power supply. As a result of the reinforcement of the high voltage transmission network by the construction of the 500kV line and by the replacement of 36 circuit breakers along with ten power transformers and autotransformers, the fluctuation in voltage was lowered to 4.3 per cent achieving a result better than the target of 5 per cent. The baseline value was 10 per cent.

Rating
Substantial

5. Efficiency

Economic Analysis
'With project' and 'without project' scenarios were used to carry out the economic analysis of the project. The economic investment cost only included the cost of the activities carried out under the first component of the project. This is roughly 94% of the total project cost estimate at appraisal. Taxes and subsidies were not included in the economic costs and benefits of the project.

Both at appraisal and project completion, project economic benefits were assessed as (i) the reduction in the economic cost of Energy-Not-Served (ENS) because of the decrease in the duration of outages (ENS: electricity that could not be served to the consumers due to failures in the transmission system); and (ii) the reduction in transmission technical losses due to the construction of new transmission lines and the open switchyard. The key assumptions used in calculations were adequately identified. The assessment was made for a 25-year period.

The calculations resulted in an EIRR of 36.6% at project completion compared to the estimate of 27.7% at appraisal. The net present value (NPV) at project completion was US$400.0 million compared to US$381.6 million at appraisal using 10% as the discount rate.

In addition to the reductions achieved in ENS and transmission losses, a substantial lower investment cost caused by lower prices offered under international competitive bidding was the other main reason for the high project closing EIRR. Project implementing agency, UE, used those project cost savings amounting to US$48 million to replace some key equipment in 17 substations contributing to the improvement of power supply reliability.

Financial Analysis
Project-level financial analysis was also carried out by comparing 'with project' and 'without project' scenarios. Same conceptual approach was used at appraisal and project completion. The main financial benefit was defined as the incremental revenue from additional power sales due to the elimination of power grid bottlenecks, reduced outages, and technical losses in the transmission system. The main financial costs were the capital expenditures and the incremental O&M costs.

Post-completion financial internal rate of return (FIRR) estimate was calculated as 26.3% compared to 19.2% at appraisal. As was the case in economic analysis, improved power supply and lower than expected project costs were the main reasons for a higher FIRR at project closing.

Operational and Administrative Efficiency
Although the project closing date was extended for six months upon the request of the Borrower to complete some of the project activities by utilizing the loan savings, the investment activities under Component 1 were completed under budget and one year ahead of the schedule. Four of the seven main supply packages and two consultancy packages were signed by loan effectiveness in November 2011. The construction of the 500 kV transmission line and the open switchyard at Talimarjan TPP, and the connection of the existing Karakul-Guzar transmission line to the Talimarjan open switchyard was completed by October 2014 one year ahead of schedule.

However, some technical assistance deliverables under Component 2 could not be completed due to the delays in the approval of consultancy contracts by the MoFERIT.

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	✓	27.70	94.00 ☐Not Applicable
ICR Estimate	✓	36.60	0 ☑Not Applicable

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

6. Outcome

Relevance of Objectives is rated high and Relevance of Design is substantial. The project contributed to the improvement of power supply reliability in South-Western Uzbekistan to a substantial extent. Efficiency is rated substantial.

a. Outcome Rating

Satisfactory

7. Rationale for Risk to Development Outcome Rating

- **The financial viability of UE stands out as a risk to the development outcome.** UE was noncompliant with the Debt Service Coverage Ratio (DSCR) covenant defined in the Project Agreement. UE was required to maintain a DSCR of at least 1.2 times the estimated maximum debt service. The ICR states that "the preliminary analysis of the consolidated unaudited IFRS financial statements for the UE group for 2013–2014 showed that the financial position of the sector as a whole is considerably better than that of UE itself, who assumes 90 percent of approximately US$1.85 billion debt without having the corresponding assets or adequate tariff compensation." (ICR, p.21.) As a result, the DSCR for UE in 2014 was 0.45, much lower than the covenanted ratio. Therefore, after talks between the Bank and the GoU, the parties agreed to develop an action plan comprising of a series of activities to be implemented until July 2018 to improve the financial viability of UE. The project team informed that such an action plan had been developed and put into implementation.

- **A delay in the full commissioning of the second CCGT unit in Talimarjan TPP might result in the underutilization of the improved transmission network.** The second unit started generating electricity from its gas turbine in December 2016. The plant was expected to be fully operational in 2017.

- **Failure to maintain qualified staff, especially in auditing and accounting fields, is a risk to the achievement in institutional capacity strengthening.** The salary difference between UE staff and their private sector counterparts is high. This remuneration problem poses a risk to sustain institutional capacity at UE. However, the Presidential Decree in April 2015 requires all joint-stock companies in Uzbekistan to report their financial statements according to the IFRS. UE will have to comply with this decree.

a. Risk to Development Outcome Rating

Modest

8. Assessment of Bank Performance

a. Quality-at-Entry

The project was strategically relevant to the conditions in Uzbekistan. Focus group discussions were held with the residents of local communities in the project area to find the level of hardship caused by frequent outages. The approach taken by the Bank was adequate and directly aimed at solving this problem through the construction of much needed infrastructure in power transmission. The project benefited from the experience gained by the Bank in previous engagements in Uzbekistan and the lessons learned from three other transmission projects in Azerbaijan, Turkey and Ukraine (PAD, p.8). The M&E was adequately designed and implementation was clearly outlined at appraisal.

Technically, the project design was simple and UE had experience in carrying out similar projects. Three alternative routes were considered for the main 500 kV transmission line between Talimarjan and Sogdiana. Although not the shortest one, the transmission line route chosen was the least expensive and also environmentally and socially the least harmful compared to the other two alternatives. Experienced contractors were to be hired for the construction of investment components. Assumptions for the economic and financial analyses were strong and the analyses were sound (PAD, Annex 7).

Fiduciary and safeguard issues were adequate and mitigation measures consistent with the Bank's fiduciary role were properly designed. Since this was the first project UE implemented under the Bank financing, support was to be given to UE by an experienced consultant in the supervision and implementation of the project, and also on the Bank's procurement rules and procedures during biddings. Training was given to the project management unit staff in Bank procurement guidelines and procedures (PAD, p.13-14).

Implementation arrangements were adequate and defined in detail in Annex 3 of the PAD (p.25-33). As a result of Bank's encouragement, UE started works and preparation of bidding documents before the loan effectiveness. Investment activities of the project were completed in advance of the planned completion dates. This was also pointed out by the Borrower (ICR, Annex 7).

The risks were realistically defined at appraisal and adequate mitigation measures were put in place. However, one risk related to the delay in the completion of the CCGT units in Talimarjan TPP was not foreseen.

Lastly, although institutional strengthening activities were included in the project design, the objective did not capture the outcome of these activities.

Quality-at-Entry Rating
Satisfactory

b. Quality of supervision

Supervision missions were held bi-annually. Project implementation progress was monitored through data collected by UE and quarterly progress reports. Technical assistance was provided to UE and the project management unit in project monitoring, evaluation, and reporting and quarterly implementation supervision reports. Delays in implementation of procurement packages were identified on time and measures were taken to speed up the procurement process.

UE's financial management procedures were also reviewed during supervision missions. There were recurring delays with the submission of the project and entity audit reports, but the project FM system, consisting of budgeting, accounting, reporting and internal control were found adequate and satisfactory by the Bank (ICR, p.18). Aspects of both safeguards triggered were supervised adequately. UE's audit and Bank's missions found that six farmers were erroneously compensated for resettlement. All payments to the resettled farmers were made according to the entitlement matrix approved by the Bank (ICR, p.21).

At appraisal, focus group talks were held with the consumers in the project area to find out the impact of power outages on their daily and business lives. According to the information provided by the project team, such focus group discussions were not held after project completion. It is expected that they will be held by the ADB after the completion of the power generation project. The Bank is in contact with the ADB regarding this issue.

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Satisfactory

9. Assessment of Borrower Performance

a. Government Performance

As discussed in the Relevance of Objectives section, the objective of the Talimarjan Transmission Project was highly relevant to the country conditions and Uzbek government's ownership of the project and commitment to achieving the project development objective was high. Before signing of the loan agreement, the GoU had agreed to the suggestion of the Bank to start procurement activities in advance. When loan savings in the amount of US$48 million was achieved, the GoU contacted the Bank for the use of these loan savings to replace old substation parts which directly contributed to the achievement of the project development objective.

However, there were some delays in approving the consultancy contracts for financial audit by the MoFERIT. For example, the contract for the final audit of the project and the project implementing agency was signed in June 2016, whereas the no-objection by the Bank was given for the Request for Proposals nine months before in October 2015. As a result, the final audit could not be completed before project closing.

Government Performance Rating
Moderately Satisfactory

b. Implementing Agency Performance
The project management unit (PMU) set up within Uzbekenergo (UE) had the capacity to implement the project and quickly adopted the Bank's procurement rules. The PMU was responsible for both the Talimarjan Transmission Project and Talimarjan Power Generation Project – construction of two 450 MW CCGT units at the Talimarjan TPP, and had been operational since March 2010, which facilitated the start of procurement and works using UE's own funds before effectiveness. In the same period, the PMU successfully prepared bidding documents without support from an international consultant. Appointment of key staff was complete. The chief accountant of the Talimarjan TPP implemented the duties of the financial manager of the project (ICR, p.13-14).

PMU was responsible for the daily monitoring of the project progress. A progress report was developed by the PMU including a monitoring and evaluation plan. This was included in the project operational manual. Data for monitoring the project progress and achievement of the project objective were collected by UE as defined in the M&E arrangements.

The project was implemented efficiently. By utilizing the loan savings for the replacement of some important transmission parts in 17 substations, UE managed to increase the scope of work while staying within the original project budget. In addition to detailed project preparation at appraisal, UE's start of procurement and works using their own funds and preparation of bidding documents for major contracts prior to loan effectiveness played an important role in the completion of investment activities ahead of schedule.

Implementing agency's FM procedures were also reviewed during regular supervisions missions, and they were found to be meeting the Bank requirements, except the timely submission of audit reports. As discussed under Government Performance, there were delays in the submission of audited financial statements during project implementation. Although some improvement was later seen in the timing of the submission of financial statements, this continued to be a shortcoming in UE's performance. On the other hand, quarterly interim unaudited financial reports were submitted on time, which were acceptable to the Bank (ICR, p.21).

UE did not meet the financial covenant specified in the Project Agreement which required UE to maintain a Debt Service Coverage Ratio (DSCR) of at least 1.2 times the estimated maximum debt service. UE does not have sufficient assets nor receives adequate tariff compensation to cover its high debt service. As a result, the DSCR of UE dropped down to 0.45 in 2014. As confirmed by the project team, in order to improve the financial viability of UE, an action plan consisting of a series of activities is being implemented by the GoU and UE.

Implementing Agency Performance Rating
Satisfactory

Overall Borrower Performance Rating

Moderately Satisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design

Project objective was simple and clearly defined, however output-oriented. Although it targeted a limited geographical region, the indicators, which were measurable in terms of numbers, timing and location, reflected the objective of improving reliability of electricity supply properly. However, the M&E design failed to capture the outcome of the project on residential and business consumers in the project area.

The Board of UE was to have the overall responsibility for monitoring, and UE was to collect data for monitoring progress in implementation and also towards achieving the project outcome. Quarterly progress reports, regular supervision missions and a midterm review of implementation and outcome progress were included in the M&E design (PAD, p.9). UE was to develop a progress report format which would include a monitoring and evaluation plan. This progress report was to be included in the project operational manual.

Intermediate result indicators were adequately designed to monitor project implementation progress. PDO level results indicators were adequate to validate the achievement of the objective at project closing with target values expected only in the fifth year of the project due to the nature of the investment activities. At appraisal, it was planned that during the early stage of implementation, UE would hire an independent social science research firm or consultant to carry out a social survey to obtain input from consumers on the performance of their electricity system (for example, general satisfaction with the power supply, number of hours of outage per day and per week), and the number of days per month when they experience power outages (PAD, p.33).

b. M&E Implementation

Since the data were of the type UE normally collected, their monitoring was done easily. UE regularly reported the data to monitor the project implementation progress. There were no issues reported in the ICR about the submission of quarterly regular reports by UE.

After the addition of activities to rehabilitate some of the substations in the project area as a sub-component under Component 1, two more indicators were added to the results framework to monitor the progress in the replacement of circuit breakers and transformers. These indicators did not capture the reduction in outages caused by failures in the substations. Monitoring of SAIFI was also added as a project development objective indicator. However, as discussed under Efficacy, the values monitored under this indicator were based on assumptions. And also since it was closely related to the original project development indicator of “reduced duration of electricity outages in the project area”, SAIFI values were useful to cross-check the achievement under the outages indicator.

The ICR does not report on the social survey that was planned to obtain input from consumers on the performance of their electricity system; apparently it was not carried out.

c. M&E Utilization

M&E data were used to monitor timely progress of the investment activities, which would lead to the desired outcomes. Based on M&E, issues in the implementation of procurement packages were identified on time and measures were taken to speed up the procurement process. In addition to the start of procurement and works by UE prior to loan effectiveness, utilization of M&E findings during implementation contributed to the early completion of investment works.

M&E Quality Rating

Substantial

11. Other Issues

a. Safeguards

The project was classified as Category B under OP/BP 4.01 (Environmental Assessment), and OP/BP 4.12 (Involuntary Resettlement) was triggered.

Environmental Assessment OP/BP 4.01: During the concept review, the environmental category of the project was agreed as Category A, pending the outcome of an avian risk assessment. The environmental impact assessment (EIA) prepared by the UE did not satisfy the requirements of a World Bank EIA for a Category A project. Therefore, an independent consultant engaged by UE prepared an EIA supplement. Both documents contained information required for a World Bank Category A Project. After the completion of the avian risk assessment, the project was officially classified as a Category B project. (PAD, p.15.) All EIA documents were publicly disclosed on the UE website and the Bank's InfoShop in Uzbek, Russian and English.

UE prepared and implemented the environmental management plan (EMP) acceptable to the Bank. Other than the environmental issues, such as dust, noise and disposal of construction wastes, worker health and safety, which are associated with construction activities, there were no other significant environmental issues during project implementation. The route of the 500 kV transmission line between Talimarjan TPP and Sogdiana did not cross any known cultural structures or sites or special areas of nature protection. The route passed through agricultural areas, which did not include any rare plant species. In order to prevent collision of birds to the transmission line, bird protection devices were installed on the transmission line by UE and regular bird collision monitoring was conducted. When monitoring started, no bird casualty was reported for 2015 and 2016.

The project was found to be in full compliance with OP/BP 4.01 (ICR, p.19).

Involuntary Resettlement OP/BP 4.12: UE prepared a resettlement action plan (RAP) and assigned a member of staff for the implementation of the RAP. Project activities did not cause any involuntary displacement of households or businesses, or any loss of jobs, but land had to be acquired both

permanently and temporarily from 141 agricultural farms in Kashkadarya and Samarkand Oblasts. The RAP was prepared in consultation with the farmers who were to be affected by the construction of the transmission line and a substation. The Bank cleared the RAP in November 2010 and it was subsequently disclosed on the UE website and the Bank's InfoShop in Uzbek, Russian and English.

At appraisal, it was estimated that 114 farmers would have been affected by the project. When land expropriation and payments were completed in April 2013, 147 farmers were compensated. The ICR states that the reason for this increase was the merging of farms to increase farm sizes by the GoU under an optimization program. After the payments were done to the farmers, a detailed audit conducted by the Director of Plant and Land Surveyors showed that six farmers were erroneously paid compensation under the RAP. Those farmers were requested to refund the payments back to UE. As a result, a total of 141 farmers were compensated under RAP (ICR, p.20-21).

A grievance redress mechanism was established under the RAP, but no complaints were filed against the involuntary resettlement activities completed in accordance with the RAP. The involuntary settlement operation was in compliance with OP 4.12.

b. Fiduciary Compliance

Financial Management

Project financial management (FM) arrangements were given in the PAD in detail under "Annex 3: Implementation Arrangements" (PAD, p.25-29). The project management unit (PMU) in UE was responsible for the implementation of the financial management of the project. However, after the review of PMU's financial arrangements, it was found that the FM capacity of the PMU needed to be enhanced and the Bank and UE agreed on an action plan. Under Component 2, technical assistance was provided to strengthen UE's fiduciary capacity.

However, there were significant delays in the submission of the audited financial statements of UE. Although some improvement in timely submission of the financial statements was achieved during the course of the project, the problem continued until project closing and resulted in an FM rating of moderately satisfactory. Excluding the problems with the submission of the audited financial statements, the other arrangements in budgeting, accounting, reporting and internal control were adequate and satisfactory to the Bank. The FM unit in the PMU was adequately staffed and the necessary adjustments were made to the accounting software to accommodate the project requirements. There were no delays in the submission of quarterly interim unaudited financial reports. These reports were acceptable to the Bank (ICR, p.21). Yet, UE experienced some cash flow problems in 2015-16 and this caused a slowdown in the installation and commissioning of substation parts purchased under loan savings. The problem was later solved when UE were allocated sufficient funds to complete the works (ICR, p.22).

The Project Agreement included one financial covenant which was to maintain an annual debt service coverage ratio (DSCR) of not less than 1.2. UE constantly failed to meet the covenanted ratio because of problems with cash collections. UE's ability to service principal and interest payments was undermined due to

insufficient funds. The DSCR of UE dropped to 0.45 in 2014. The Bank and the counterparts on the Borrower side, consisting of the Ministry of Finance, the Ministry of Economy and UE, agreed on an action plan to be developed including measures to improve the financial viability of UE. The measures are to be implemented until July 2018 (ICR, p.21-22).

On December 4, 2015, the GoU requested the partial cancellation of the loan. The Bank agreed to the request of the GoU and under the second restructuring in December 2015, the loan was partially cancelled in the amount of US$6.6 million. (ICR, p.13.) The ICR does not report any misuse of funds.

Procurement
Although this was the first project UE implemented under the Bank's procurement guidelines, except some delays in the procurement schedule related to the investment activities which were identified during supervisions and some long delays in the procurement of consultants for external auditing (ICR, p.33), UE successfully managed the procurement activities. UE had already hired a specialist to help the PMU in procurement activities which were started before loan effectiveness. The ICR links the timely completion of the project to the advance start of procurement and works by UE under the Bank's guidelines (ICR, p.21). The GoU and the Bank signed a memorandum of understanding to apply the same procurement strategy in the Bank financed projects in Uzbekistan (ICR, p.30).

After loan effectiveness, training was given to the PMU staff in Bank procurement guidelines and procedures. Furthermore, an implementation support consultant was also hired to help the PMU in the preparation of bidding documents, evaluation of proposals and contract negotiations (ICR, p.16).

c. Unintended impacts (Positive or Negative)

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d. Other

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12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	---
Risk to Development Outcome	Modest	Modest	---
Bank Performance	Satisfactory	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

Two lessons are derived from the ICR by IEG.

- **Advance procurement could help ensure the efficiency of project implementation when project effectiveness is delayed due to government procedures**. Under this project, the government of Uzbekistan and World Bank signed a Memorandum of Understanding (MOU) to expedite the internal preparation procedures and advance procurement processes**.** When loan became effective in November 2011, four main supply contracts out of seven and two consultancy packages had already been signed. This contributed to the completion of major project investment activities ahead of schedule.

- **It is critical for the Bank to aim at embedding development outcomes and impact in the project objective and M&E design, in particular in countries with good data availability and capacity.** This project's objective to improve the reliability of electricity in South-Western Uzbekistan did not capture the development outcomes on residential and business consumers as the target group. The M&E of this project was designed to monitor the output-level data which had already been routinely and easily collected by the utility.

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The discussion in the ICR is sufficient to conduct an independent review of the document. It is consistent with the OPCS guidelines. It is also consistent internally. Annexes 2 and 3 are detailed enough to understand the project and the economic and financial analyses. “Figure 2.1. Electrical Connection Before and After Project” on page 38 makes it much easier for the reader to understand the design and the achievements of the project.

However, Supervision and M&E sections could have benefited from more detailed discussions. Annex 1 is incomplete and the figures in the project cost and financing tables do not match. Lessons Learned section could have been more concise and provided an evidence-based discussion. Section on Government Performance was copied from the PAD.

a. Quality of ICR Rating
Substantial