

OFFICE OF INSPECTOR GENERAL

AUDIT OF CRITICAL POWER SECTOR ACTIVITIES UNDER USAID/AFGHANISTAN'S REHABILITATION OF ECONOMIC FACILITIES AND SERVICES (REFS) PROGRAM

AUDIT REPORT NO. 5-306-07-004-P May 21, 2007

MANILA, PHILIPPINES



Office of Inspector General

May 21, 2007

MEMORANDUM

TO: USAID/Afghanistan Director, Leon Waskin

FROM: RIG/Manila Director, Catherine M. Trujillo /s/ [George R. Jiron Jr for]

SUBJECT: Audit of Critical Power Sector Activities Under USAID/Afghanistan's

Rehabilitation of Economic Facilities and Services (REFS) Program

(Report No. 5-306-07-004-P)

This memorandum transmits our final report on the subject audit, which does not contain any recommendations. In finalizing the report, we considered your comments to the draft report and included the comments in Appendix II.

I want to thank you and your staff for the cooperation and courtesy extended to us during the audit.

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SUMMARY OF RESULTS

The Regional Inspector General/Manila conducted this audit to determine whether critical power sector activities under USAID/Afghanistan's Rehabilitation of Economic Facilities and Services (REFS) Program were achieving planned deliverables. (See page 3.) The audit found that under the REFS program, one critical activity had been achieved, whereas two similar activities were significantly behind schedule due to security problems. Although the activity that was achieved delivered 16.5 megawatts of reliable hydroelectric power, delays in the other two activities have delayed the delivery of 35 megawatts of reliable hydroelectric power to about two million Afghan people in southern Afghanistan. (See page 4.)

USAID/Afghanistan's planned critical power sector activities involved the rehabilitation of the Kajakai Dam power plant. This power plant is a vital component of Afghanistan's power system as it provides electricity to the provinces of Helmand and Kandahar—the agricultural breadbasket of the country. In October 2003, the power plant's two turbines failed. To restore badly needed hydroelectric power, the Mission charged the contractor implementing the REFS program, The Louis Berger Group, Inc. (LBGI), with refurbishing the two turbines and manufacturing and installing a third turbine at the power plant for an estimated cost of \$25 million. (See page 2.) LBGI completed refurbishing one turbine in January 2006. However, its work on the two other turbines was halted on June 4, 2006. (See page 4.) On that date, a threatened attack by the Taliban forced LBGI to evacuate all but its security personnel from the Kajakai Dam. (See page 5.) As of January 29, 2007, the last day of our audit fieldwork, LBGI had been unable to return to the dam to resume its rehabilitation work. (See page 7.)

The security around the Kajakai Dam began to deteriorate shortly before LBGI's evacuation and it worsened after the evacuation. In response to the numerous attacks around the dam and the evacuation, USAID/Afghanistan, the U.S. Embassy and LBGI took a number of actions. For example, LBGI prepared a security plan to upgrade its own security at the dam. Additionally, the Mission and the U.S. Embassy lobbied the International Security Assistance Force (ISAF), which replaced U.S. forces in the area, to provide more military protection. In response, the ISAF increased its presence around the Kajakai Dam. (See pages 5-6.)

As a result of the various actions taken, USAID/Afghanistan was planning for LBGI to resume rehabilitating the Kajakai Dam power plant in February 2007. The Mission, however, has no control over what is effectively a war zone. Consequently, it was uncertain when LBGI could return and complete its work on the power plant. Because the Mission cannot control the security situation around the dam and because its actions to date have seemed appropriate, this report does not contain any recommendations. Nonetheless, the Mission should continue to actively monitor its power sector activities and ensure that the important work at the Kajakai Dam power plant resumes as soon as the security situation warrants it. (See page 7.)

In its comments dated May 6, 2007, USAID/Afghanistan agreed with the general contents of this report. The Mission also noted that security issues continued to prevent LBGI from resuming its rehabilitation work at the Kajakai Dam power plant. Management comments are included as Appendix II to this report. (See pages 11-14.)

BACKGROUND

The Rehabilitation of Economic Facilities and Services (REFS) program continues to be the largest and most visible program being implemented by USAID/Afghanistan. Its purpose is to promote economic recovery and political stability by repairing infrastructure in Afghanistan. In September 2002, USAID contracted The Louis Berger Group, Inc. (LBGI) to implement the program, including road reconstruction and other infrastructure activities. The contract's original completion date was December 31, 2005, and its estimated cost was \$155 million. At the time of this audit, the contract's completion date had been extended to June 30, 2007, and its estimated cost was \$730 million.

Providing electrical power to Afghans was considered important to the development of Afghanistan and key to its political stability. To this end, the country's power and energy sector was targeted for rehabilitation under the REFS program. For this sector, LBGI concentrated on activities that provided electrical power to Kabul and the southern provinces of Helmand and Kandahar. The most critical activities involved the rehabilitation of the Kajakai Dam power plant.

The Kajakai Dam power plant is a vital component of the South East Power System in Afghanistan, which provides electricity to the provinces of Helmand and Kandahar—the agricultural breadbasket of the country. It is located on the Helmand River, west-northwest of the city of Kandahar. The Kajakai Dam stands 100 meters in height, spans 270 meters in length and has a storage capacity of 1.2 billion cubic meters of water; it is the largest multi-purpose reservoir in the country, providing irrigation water for 142,000 hectares of land in the Helmand River Valley. In 1975, USAID commissioned the installation of two turbines at the power plant to produce 33 megawatts of hydroelectric power. In October 2003 both turbines failed. Subsequently, the Afghan government was able to keep the turbines functioning, but only intermittently and only at about 50 percent of capacity.¹

In response to the significant loss of hydroelectric power, USAID/Afghanistan tasked LBGI to perform a number of activities, including providing temporary, emergency power to Kandahar and other cities and nearby villages. To rehabilitate the Kajakai Dam power plant and increase its capacity to produce hydroelectric power, the Mission also tasked LBGI to refurbish the two turbines that failed and to manufacture and install a third turbine. This work would allow the power plant to generate 51.5 megawatts of much needed hydroelectric power.

The critical power sector activities under the REFS program were estimated to cost \$25 million for the work on the three turbines. As of December 31, 2006, \$15.6 million² had been spent rehabilitating the Kajakai Dam power plant.

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¹ The Afghan government has operated the Kajakai Dam power plant since 1975.

² Dollar amounts were not audited.



OIG photograph of the Kajakai Dam power plant located at the toe of the Kajakai Dam and bank of the Helmand River. (January 2007)

At USAID/Afghanistan, the Office of Infrastructure, Engineering and Energy was responsible for overseeing LBGI's work at the Kajakai Dam power plant.

AUDIT OBJECTIVE

The Regional Inspector General/Manila conducted this audit as part of its fiscal year 2007 annual audit plan to answer the following question:

 Were critical power sector activities under USAID/Afghanistan's Rehabilitation of Economic Facilities and Services Program achieving planned deliverables?

Appendix I contains a discussion of the audit's scope and methodology.

AUDIT FINDING

Under the USAID/Afghanistan's Rehabilitation of Economic Facilities and Services (REFS) program, the audit found that one critical activity had been achieved, whereas two similar activities were significantly behind schedule due to security problems. Although the activity that was achieved delivered 16.5 megawatts of reliable hydroelectric power, delays in the other two activities have delayed the delivery of 35 megawatts of reliable hydroelectric power to about two million Afghan people in southern Afghanistan.

At the time of our audit, the critical power activities under the REFS program involved the rehabilitation of the Kajakai Dam power plant. Specifically, the contractor implementing the REFS program, The Louis Berger Group, Inc. (LBGI), was charged with refurbishing two turbines (Unit Nos. 1 and 3) and manufacturing and installing a third turbine (Unit No. 2) at the power plant.³ It was expected that this work would allow the power plant to triple the megawatts of hydroelectric power it could generate.⁴ Table 1 shows the status of the work on the three turbines as of December 31, 2006.

Table 1: Status of Critical REFS Power Sector Activities (As of December 31, 2006)

Activity	Planned Completion Date	Status
Refurbish Unit No. 1	March 2006	Completed in January 2006
Manufacture and install Unit No. 2	June 2007	Work halted in June 2006 because of security incidents & work has not resumed
Refurbish Unit No. 3	June 2007	Work halted in June 2006 because of security incidents & work has not resumed

In August 2004, LBGI entered into an agreement with a subcontractor to refurbish Unit No. 1. LBGI and its subcontractor began to work on the turbine in August 2004. Meanwhile, the Afghan government continued to generate hydroelectric power using Unit No. 3, which was operating at less than its maximum capability of 16.5 megawatts. Unit No. 1 was operational by September 2005 and its refurbishment was completed in January 2006, except for three minor repairs.

⁴ According to a Ministry of Energy and Water official, Unit Nos. 1 and 3 had been intermittently operating at about 50 percent capacity, i.e., generating an average of 16.5 megawatts of hydroelectric power. Once refurbished, the two turbines together with the new Unit No. 2 will be able to generate a total of 51.5 megawatts of hydroelectric power.

³ The Kajakai Dam power plant was built to hold three turbines. However, only the two end turbines (Unit Nos. 1 and 3) were installed. Consequently, the new turbine that LBGI was to manufacture and install between Unit Nos. 1 and 3 was designated as Unit No. 2.



OIG photograph of Unit No. 1 (foreground) and Unit No. 3 inside the Kajakai Dam power plant, with space between for Unit No. 2. (January 2007)

In January 2005, LBGI entered into an agreement with a Chinese subcontractor to manufacture and install Unit No. 2. LBGI subsequently tasked the subcontractor with refurbishing Unit No. 3. The subcontractor began to fabricate parts for the two turbines in July 2005. Installation of the fabricated parts was to begin in June 2006. By that month, a number of parts for both turbines had been shipped from China to Afghanistan and were stored at Camp Shorab, a large base camp LBGI had built some distance from the Kajakai Dam. This camp was principally for LBGI's work on rehabilitating roads in that area of the country.



OIG photograph of an auditor inspecting turbine parts stored at LBGI's Camp Shorab in Helmand province. (January 2007)

On June 4, 2006, a threatened attack by the Taliban forced LBGI to evacuate its workforce—except for security personnel—from the Kajakai Dam. The Chinese subcontractor was not affected by the evacuation because its workforce had not yet entered the country to perform work on the two turbines it was contracted to work on. As of January 29, 2007, the last day of our fieldwork, LBGI and its subcontractors have been unable to return to the Kajakai Dam to complete work on the power plant turbines.

The security situation around the Kajakai Dam began to deteriorate shortly before LBGI's evacuation and it degenerated further after the evacuation. Although the dam

itself and the power plant have not been attacked, anti-government elements regularly targeted workers and guards based at two small LBGI compounds at the dam.⁵ They also regularly targeted soldiers from the International Security Assistance Force (ISAF) and the Afghan government protecting the dam.⁶ The numerous security incidents at the dam reported by LBGI in its biweekly reports to USAID/Afghanistan included the following:

- On May 5, 2006, an improvised explosive device detonated about five kilometers from the Kajakai Dam power plant killing three Afghans.
- On June 5, 2006, the day after LBGI's evacuation, mortar rounds struck one of its compounds damaging the exterior of several facilities of the two compounds.
 Further, 55 local guards abandoned their posts to return to their homes to protect their families.
- On June 17, 2006, mortar rounds were fired at one LBGI compound; the compound did not sustain damage or injuries and ISAF forces responded with mortar and machine gun fire.
- On July 2, 2006, one LBGI compound was attacked with small-arms and recoilless rifle fire, which damaged a vehicle but caused no casualties.

By late September 2006, security worsened, according to a Mission official, to the point that LBGI would no longer consider the possibility of returning to the Kajakai Dam and resuming work at the power plant, unless sufficient military protection was provided.



OIG photograph from atop the Kajakai Dam looking down at the power plant. (January 2007)

After attacks stopped work at the Kajakai Dam power plant and forced LBGI to evacuate, USAID/Afghanistan, LBGI and the U.S. Embassy in Kabul took a number of actions to address the security situation there. For example, the Mission and LBGI began discussing the need for more security and, in August 2006, LBGI submitted a draft security plan to the Mission and, in September 2006, it submitted a revised security plan.

⁵ Anti-government elements refer to the Taliban, foreign fighters such as Al-Qaida and criminals such as drug traffickers.

such as drug traffickers.

⁶ The ISAF, which is NATO-led, replaced U.S. forces in the area in early 2006. It operates under a United Nations mandate to help the Afghan government expand its authority in the country.

Two principal conclusions in the revised plan were the need for more ISAF forces at the dam and the need for LBGI to upgrade its own security there.

According to the Mission Director, LBGI's return to a safe, secure environment at the Kajakai Dam was a Mission priority that he discussed regularly with the U.S. Ambassador. He added that, in turn, the Ambassador and other U.S. government officials held discussions with the ISAF to request more military protection. The Mission Director further explained that the ISAF was finally persuaded to increase its contingent at the dam after he, the Ambassador, an ISAF general and others visited the dam to assess the conditions there on August 28, 2006. Beginning in September 2006, Mission officials met monthly with ISAF personnel. As a result of the various actions taken, the ISAF substantially increased its protection of the Kajakai Dam, as evidenced by the more than tenfold increase in its military forces stationed at the dam by December 2006 and increased air support cited in incident reports.

Other actions continued to be taken through January 2007. For example, on December 30, 2006, the REFS contract, which was to expire in June 2007, was modified to transfer the remaining work at the Kajakai Dam power plant to a \$1.4 billion follow-on contract because the work could not be completed by the end date of the REFS program. In mid-January 2007, ISAF forces fought a major battle with anti-government elements in Helmand province, where the Kajakai Dam is located.

After that battle, Mission and LBGI officials believed that LBGI would be able to return to the Kajakai Dam in February 2007. In preparation for the return, Mission officials verbally authorized LBGI to improve the road to the dam so that it could withstand the weight of the turbine parts and the large trucks needed to convey the parts. Additionally, LBGI sent vehicles along the road to the dam to test access to the dam. However, the first two vehicle probes had to turn back because of plausible threats.

As of January 29, 2007, the last day of our audit fieldwork, USAID/Afghanistan officials were still planning to return to the Kajakai Dam in February to work on the two turbines—work that is expected to take up to one year to complete. Whether LBGI can return in February depends on the security situation. For example, the Taliban were expected to launch a major spring offensive in the region.

USAID/Afghanistan has closely monitored the security situation at the Kajakai Dam and, with assistance from the U.S. Embassy, has taken a number of actions. The Mission, however, has no control over what is effectively a war zone. Consequently, it is uncertain when LBGI can return and complete rehabilitating the Kajakai Dam power plant. Because the Mission cannot control the security situation and because its actions to date have seemed appropriate, we are not making any recommendations. The Mission, however, should continue to actively monitor its power sector activities and ensure that the important rehabilitation work at the Kajakai Dam resumes as soon as the security situation warrants it.

EVALUATION OF MANAGEMENT COMMENTS

In response to the draft report, USAID/Afghanistan provided written comments that are included in Appendix II to this report.

In its comments dated May 6, 2007, USAID/Afghanistan stated that the draft report was accurate in its statements and comprehensive in its coverage, except for four minor corrections. We reviewed the Mission's suggested corrections and, where we agreed, we revised the report accordingly.

USAID/Afghanistan also provided an update on its efforts to rehabilitate the Kajakai Dam power plant. The Mission explained that security issues continued to prevent its contractor from resuming its rehabilitation work at the power plant.

SCOPE AND METHODOLOGY

Scope

The Regional Inspector General/Manila conducted this audit in accordance with generally accepted government auditing standards. The audit was designed to determine whether critical power activities under USAID/Afghanistan's Rehabilitation of Economic Facilities and Services (REFS) Program were achieving planned deliverables.

The audit was performed at USAID/Afghanistan and at the offices of The Louis Berger Group, Inc.—the primary contractor rehabilitating the power plant of the Kajakai Dam—and it covered rehabilitation activities from January to December 2006. Fieldwork was conducted from January 10-29, 2007, and included site visits to the Kajakai Dam to observe rehabilitation activities and the primary contractor's Camp Shorab in Helmand province to inventory turbine parts in temporary storage and to assess the safekeeping of those parts.

USAID/Afghanistan's power sector activities were implemented through job orders under the REFS contract. At the time of our audit, most activities under the job orders had been completed. One activity was removed from the REFS Program and transferred to its successor program called the Afghanistan Infrastructure and Rehabilitation Program. Other activities associated with the rehabilitation of the Kajakai Dam power plant were still ongoing. These activities involved the refurbishment of two turbines and the manufacture and installation of a third turbine at the power plant. We audited these activities, which USAID/Afghanistan had identified as critical. The rehabilitation of the Kajakai Dam power plant was initially expected to cost \$25 million. As of December 31, 2006, about \$15.6 million had been spent rehabilitating the power plant.

As part of the audit, we assessed the significant internal controls used by USAID/Afghanistan to monitor rehabilitation of the Kajakai Dam power plant. The assessment included controls related to whether the Mission (1) conducted site visits to evaluate progress and monitor quality, (2) required and reviewed an implementation plan, (3) reviewed proposed subcontracts related to various activities, (4) reviewed progress reports submitted by the primary contractor, and (5) assessed the primary contractor's reported progress relative to planned progress and actual progress. We also reviewed the Mission's Federal Managers' Financial Integrity Act report for fiscal year 2006 for any issues affecting the rehabilitation of the Kajakai Dam power plant. Finally, we reviewed sources for any relevant prior audit reports.

Methodology

To answer the audit objective, we interviewed officials and staff from USAID/Afghanistan, the primary contractor, its security subcontractor, a second contractor that collected electrical power readings in Afghanistan, the U.S. Embassy's Defense Attache Office, the Afghan Ministry of Energy and Water's chief engineer for the Kajakai Dam power plant, and the military commander for the International Security Assistance Force, which was in charge of protecting the Kajakai Dam. We were unable to interview officials from some LBGI subcontractors because the subcontractors had

either closed their offices in Afghanistan or were manufacturing turbine parts in another country. In addition to interviews, we reviewed:

- Documentation such as, but not limited to, the primary contractor's implementation plan, progress reports, site visit and other monitoring reports, and financial reports.
- Contracts and subcontracts and their modifications.
- Laws, regulations, and USAID policy and guidance related to the audit objective.

We did not set materiality thresholds for this audit because the nature of the audit did not lend itself to the establishment of such thresholds.

MANAGEMENT COMMENTS



May 6, 2007

MEMORANDUM

TO: Catherine M. Trujillo, RIG/Manila

FROM: Leon Waskin, Mission Director /s/

SUBJECT: Audit of Critical USAID/Afghanistan's Power Sector Activities under the

Rehabilitation of Economic Facilities and Services (REFS) Program

(Report No. 5-306-07-00X-P)

REF: CTrujillo-LWaskin memo dated April 13, 2007

Thank you for providing the Mission the opportunity to provide its comments on the draft report on subject audit. The Mission has determined that the draft report is both accurate in its statements and comprehensive in its coverage up to January 29, 2007, with the following relatively minor corrections:

1. Page 4: in the section on audit findings, paragraph 2, it is stated: "It was expected that this work would allow the power plant to triple the megawatts of hydroelectric power it could generate".

The plant's rated capacity with Units 1 and 3 is 33 Mw's, (16.5 Mw's each), with the addition of Unit 2 (rated at 18.5 Mw's), the plants capacity will be 51.5 Mw's, this is an increase of 56% of Units 1 and 3 generating capacity.

- 2. Page 5: paragraph 1, there is a typo error -- LGBI should be LBGI.
- 3. Page 5: Paragraph 2, the date "January 29, 2006" should be "January 29, 2007".
- 4. Page 6: paragraph 1, LBGI submits security reports on a daily basis instead of a bi-weekly basis.

In addition to the above comments, the Mission is providing an update on the Kajakai hydro Power Plant (HPP) activities that have occurred after January 29, 2007. As noted below, the security issue continues to be the only impediment to re-commencing the rehabilitation and new turbine work at the Kajakai Hydro Power Plant.

ACTIVITIES SINCE JANUARY 29, 2007

February 2007: Several meetings were held between USAID, the US Embassy, ISAF, and LBGI to discuss the southern Afghanistan security issue and to plan the way forward for the proposed infrastructure work.

March 25, 2007: A meeting between USAID and the Helmand Provincial Governor Wafa was held in Lashkar Gah to discuss the proposed road alignment for the road going to Kajakai Dam.

The USAID Mission Director, Skip Waskin, made the presentation that explained the issues concerning the proposed road alignment. He also solicited the assistance of Governor Wafa to encourage community support along the road routing and where the road camp is planned to be built.

Director Waskin explained to Gov. Wafa that the present security situation along the Route 611 is preventing the construction of a new road along that route. However, an alternate route, starting from the ring road at Durai Junction, would allow for the immediate start of the road and camp work which would then help expedite the rehabilitation and new work at the Kajakai HPP. The Director requested that Governor Wafa use his influence with the local Tribal Elders to help setup Shura's (meetings), the objective of which would be to promote the construction of the proposed road/camp.

The Governor was introduced to the USAID contractor, Chemonics, who is tasked to implement community development in the area. The development plan was presented which explained how the projects will be focused on the new road alignment and that a significant number of local Afghans would be employed to work on those projects.

April 1, 2007: Representatives from China Machine-Building International Corporation (CMIC), Mr. Chin, Mr. Zhong and Mr. Liu, met with LBGI and USAID to review plans for the refurbishment of Kajakai Unit 3 and installation of the new Unit 2 turbines. CMIC stated that the manufactured parts for Unit 2 will be shipped from their factory in China in two weeks, and that all turbine and associated parts will be shipped by the end of June 2007.

April 2, 2007: The Unit 3 turbine parts are presently being stored at Shorab, located southwest of the Kajakai Dam. A trip to Shorab by CMIC, USAID and LBGI was made to inspect the parts. CMIC developed a delivery priority list for parts to be delivered to Kajakai HPP.

April 11, 2007: A trip to the selected site, Durai Junction, proposed location of the road and transmission line base camp, was made by representatives from both LBGI and USAID. Both parties agreed that the visited site was suitable for the proposed camp.

April 12, 2007: A Jirga was held in Sangin with Governor Wafa and approximately 100 elders to discuss the cooperation and support of the local community to build the road to Kajakai Dam.

April 18, 2007: Confirmation from CMIC was received on the delivery of the Unit 2 turbine parts for their China factory. CMIC said that three containers of turbine parts have been shipped and the remainder of parts will be shipped by the end of June.

SECURITY EVENTS

Noted below are the significant security events which have occurred in and around the Kajakai Hydro Power Plant since January 29, 2007.

January 30, 2007: The British military conducted attacks against AGE forces in the Barikjo area near Kajakai Dam. They were supported by B1 Bombers and close air support.

February 7, 2007: A USPI (LBGI security force) convoy was ambushed while attempting to drive from the Ring Road to Kajakai Dam. There were two fatalities and one person wounded.

February 13, 2007: The Kajakai Dam Camp was hit by 15, 107MM rockets. The LBG personnel were relocated to Kabul and began preparing supplies and material to repair the camp facility.

February 23, 2007: A security guard working at Kajakai Dam stepped on a mine and was severely wounded.

February 26, 2007: A British military helicopter came under small arms fire over Sangin, near Kajakai Dam.

February 27, 2007: The Forward Operating Base, (FOB) Robinson, near Kajakai Dam, was hit by mortar fire.

March 2, 2007: Kajakai Dam upper camp area received one round of 107MM rocket fire.

March 17, 2007: There were six USPI guards who deserted their post at Kajakai Camp.

April 7, 2007: Kajakai Dam camp received two 107 MM rockets inside the camp area.

April 9, 2007: Kajakai Dam camp received one round of mortar fire.

April 12, 2007: The LBGI helicopter (used by USAID for Kajakai services) experienced engine trouble while on an unrelated rescue mission and had to make an emergency landing near Ghazni (160 kilometers south west of Kabul). While on the ground the helicopter group came under fire and the helicopter was destroyed by RPG's fired by the attackers. The helicopter personnel did not suffer any casualties.

We hope that the above information is adequate. Should you need further information, please do not hesitate to contact the Mission.

Cc: [name redacted by IG/LC], Supervisory Contracting/Agreement Officer [name redacted by IG/LC], Contracting Officer

U.S. Agency for International Development Office of Inspector General

1300 Pennsylvania Ave, NW Washington, DC 20523

Tel: (202) 712-1150 Fax: (202) 216-3047 www.usaid.gov/oig