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AFGHANISTAN

FINAL PERFORMANCE EVALUATION

AFGHAN ENGINEERING SUPPORT PROGRAM (AESP)

APRIL 2014

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ACRONYMS

A/E	Architect/Engineer (Architecture/Engineering)
ACEP	Afghan Clean Energy Program
ADB	Asian Development Bank
AESP	Afghanistan Engineering Support Program
AIS	Air Insulated Substation
AKDN	Agha Khan Development Network
AKF	Agha Khan Foundation
AMD	Amendment
ANSA	Afghan National Standards Authority
AVIPA	Afghanistan Vouchers for Increased Production in Agriculture
BoQ	Bills of Quantities
BTU	British thermal unit
CB	Circuit Breaker
CDM	Construction and Design Management
CHEF	Construction of Health and Education Facilities
COP	Chief of Party
COR	Contracting Officer's Representative
DABS	Da Afghanistan Breshna Sherkat
DAFA	Délégation Archéologique Française en Afghanistan
DC	Direct Current
EQUALS	Engineering Quality Assurance and Logistic Support project
FAA	Federal Aviation Administration
FKH	Fazil Karimpoor Hameed Geo Expert Services
G2G	Government-to-Government
Genset	Diesel Engine and Alternator installation
GHI	Gulf Home Base International Construction Company
GIRoA	Government of the Islamic Republic of Afghanistan
IED	Independent Evaluation Department (of the ADB)
IFC	International Finance Corporation
IL	Implementation Letter
IP	Implementing Partner
IPR	Implementation & Procurement Reform (USAID FORWARD)
IRD	International Relief & Development
LMZ	Leningrad Metal Works
MIS	Management Information System
MoE	Ministry of Education
MoEW	Ministry of Energy & Water
MoF	Ministry of Finance
MoM	Ministry of Mines
MoPH	Ministry of Public Health
MoPW	Ministry of Public Works

MoTCA	Ministry of Transportation and Civil Aviation
MOU	Memorandum of Understanding
N/A	Not Applicable
NFPP	Northern Fertilizer and Power Plant
NGO	Non-Governmental Organization
NZAID	New Zealand Agency for International Development
OEGI	Office of Economic Growth and Infrastructure
OPPD	Office of Program and Project Development
PEA	Programmatic Environmental Assessment
PFMRAF	Public Financial Management Risk Assessment Framework
PIU	Project Implementation Unit
PM	Project Manager
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
PMP	Performance Management Plan
PMP®	Project Management Professional
PRT	Provincial Reconstruction Team
PTEC	Power Transmission Expansion and Connectivity
QA	Quality Assurance
QC	Quality Control
RCM	Reliability Centered Maintenance
RES	Renewable Energy Systems
RFP	Request for Proposal
ROM	Rough Order of Magnitude
SCADA	Supervisory Control and Data Acquisition
SOW	Statement of Work
TL or T/L	Transmission Line
TT	Tetra Tech
UNESCO	United Nations Educational Scientific and Cultural Organization
UPS	Uninterruptible Power Supply
USACE	United States Army Corp of Engineers
USAID	United States Agency for International Development
USG	United States Government
WB	World Bank
WO	Work Order

I. EXECUTIVE SUMMARY

This report presents the findings and results of a performance evaluation of the Afghanistan Engineering Support Program (AESP) funded through USAID's Office of Economic Growth and Infrastructure (OEGI). The evaluation was carried out between March 8 and April 21, 2014 at the request of USAID/Afghanistan (see Annex I for the evaluation scope of work). This report contains the combined findings from a review of project documentation, interviews, questionnaires, and expert judgment.

1. Project Background

Although much progress has been made, Afghanistan's infrastructure has not fully recovered from the devastation caused by the ravages of war, lack of regular maintenance, and scant investment in physical infrastructure. The task of stabilizing and rebuilding Afghanistan is immense and requires the support of the donor community. The AESP provides quick response resident professional architect and engineering (A-E) technical services in the sectors of energy, water and sanitation, transportation, vertical structures, and water resources to USAID. These technical services include planning activities, design activities, technical support and oversight, capacity building, and collaboration/coordination with appropriate stakeholders. Activities under AESP support USAID's priority projects of: electrical power transmission and distribution; hydropower plants (HPPs); roadways/airports; initiatives to support female engineers; and fostering sustainable development in Afghanistan.

This evaluation of the AESP examines performance of USAID-funded program activities implemented by Tetra Tech under the AESP. Tetra Tech is responsible for identifying, planning, designing, and providing technical support and oversight of USAID infrastructure projects and related engineering activities. The evaluation also considers the role of USAID design and management of the project. By studying and documenting the successes and weaknesses of the AESP, the evaluation team was able to develop recommendations to promote the effectiveness of future engineering support programs issued by USAID's OEGI.

2. Evaluation Questions, Design, Methods and Limitations

The evaluation methodology employed a mix of document reviews and analysis, group interviews, key informant interviews, and written questionnaires. The evaluation team consisted of two international and two Afghan consultants with engineering backgrounds, who derived data from the review of documents and interviews, and analyzed them by engineering service category, industry sector, and—where necessary and available—by stakeholder group. In evaluating project management of the AESP, the evaluation team referred to the Project Management Institute (PMI) as a guide for best practices. By using the ten PMI knowledge areas to categorize and analyze data, the evaluation team ensured a holistic view over the entire project cycle, and minimized risk of overlooking aspects of performance.

Under the AESP, OEGI issued more than 190 work orders, of which 32 were cancelled. This report evaluates a sample of six work orders (each with several sub-activities). As 45 percent of the work orders issued by OEGI were issued to the energy sector, the evaluation focused on sector-specific work orders accordingly: three in the energy sector, one in transportation, one in vertical structures, and one in water and sanitation projects.

At the time of the evaluation, the AESP was four years into a five-year period of performance. Limitations to the evaluation included: curtailing of in country evaluation activities due to the April 5, 2014 presidential election; inability of Tetra Tech to provide in full the project documentation requested by the evaluation team; the necessity of focusing on only six work orders due to constraints of time and scope; and the lack of data, as stakeholders did not return any completed questionnaires. Furthermore, while the team was asked to examine how the AESP benefitted both men and women, Tetra Tech prohibited the team from conducting confidential interviews of current female engineering interns (the most overt example of working with women) and the team was only able to reach two former interns for interview.¹ Due to these constraints, this evaluation was not fully conclusive, yet it does provide some insight on the design and execution of AESP activities.

The evaluation questions are as follows:

1. **Planning Activities:** Did the AESP provide high quality engineering and technical assistance and guidance in the planning of new OEGI activities requested, including conceptualization, analysis, and approval documentation? Did the deliverables facilitate the advancement of OEGI's relevant objectives?
2. **Design Activities:** Were designs produced or managed by the AESP delivered in a timely manner and comply with appropriate national and international standards? Did they reflect Agency best practices and meet the needs of clients?
3. **Technical Support and Oversight:** Did the AESP provide project management oversight services for contracts/agreements in the sectors overseen? Did the Contractor provide guidance to contractors/grantees in accordance with the terms of the contract/agreement?
4. **Capacity Building:** Are the trainees and interns currently using the new skills/knowledge they gained from the AESP training and if so, which skills? What are the trainees' and interns' perceptions on the value and quality of the training they received?

¹ The evaluation team offered to send an Afghan female interviewer to conduct these interviews, in order to allay any cultural concerns, but they were not permitted to do so without the presence of a TT supervisor.

5. **Collaboration/Coordination with Appropriate Stakeholders:** To what extent did the AESP's standard process for providing engineering support include collaboration to ensure that deliverables reflected stakeholder needs?
6. **USAID's Role:** How did USAID's design, management, and oversight of AESP affect its performance? What lessons can be learned for future projects of a similar nature?
7. **Gender Considerations:** Did AESP include both men and women in the engineering service or capacity building activities?

3. Findings and Conclusions

Questions 1 and 2: Planning and Designing Activities: Through review of available sources and documentation for six work orders, the evaluation team found overall positive evidence of Tetra Tech's (TT) quality of engineering support in planning and designing activities, despite some delays, discrepancies between contractual clauses and actions, and inconsistencies in following international and national regulations.

Question 3: Technical Support and Oversight: Reviewing the work orders also revealed that Tetra Tech was never tasked with completely taking on all project management tasks; rather, a work order would instruct TT to provide preconstruction services, or quality assurance services. Tetra Tech provided quality project management oversight for activities under AESP work orders.

Questions 4 and 5: Capacity Building: Due to the limitations previously mentioned, the evaluation team could not interview beneficiaries of TT's capacity building activities in order to evaluate the effectiveness of capacity building efforts. A document review identified several capacity building initiatives, both in annual work plans and issued work orders, but TT did not thoroughly measure or document the impact or effectiveness of these activities.

Question 6: Collaboration with Stakeholders: As the evaluation team's data sources were severely limited during the evaluation period, the analysis of AESP's process for stakeholder involvement relied heavily on communications, documents, and work orders. The team certainly found evidence of stakeholder collaboration, but no clear plan or process for regular stakeholder engagement, or of adequately recording these interactions.

In evaluating AESP's design, management, and oversight mechanisms, the evaluation team found a lack of a tracking or documentation system to record the program's actual progress against stated targets or work plans. As such, the program lacks important tools for assessing program performance, which can help identify best practices and lessons learned. This was true of management over integration, scope, schedule, cost, quality, human resources, communications, risk, procurement, and stakeholders.

Question 7: Gender: Through review of AESP work orders, the evaluation team was able to confirm that AESP training in engineering activities were offered to Afghan women, as well as men, particularly capacity building activities in the engineering services sector. The quality of training offered to either men or women was not possible to assess – again, for lack of data and access to participants.

4. Recommendations

Findings and conclusions of this evaluation point to the following recommendations to guide future USAID engineering program design.

1. Improved coordination, communication, and documentation:
 - a. TT meets weekly with the USAID COR to discuss work order progress, to update design schedules, submit requests for information, and to have a general discussion. Meetings with USAID technical representatives occur regularly as well. These meetings would benefit from including subcontractors and other stakeholders in discussions as necessary. Meeting minutes should also be filed and distributed. No meeting minutes were available for the first six months of the program.
 - b. Implement web-based collaborative software to control project documentation and distribution to stakeholders.
 - c. Assign a project controls engineer dedicated to improving USAID's organizational process assets.
2. Better performance assessment:
 - a. Form a capacity building plan, including target training plans and a means to assess training results.
 - b. Training/development goals should be measurable, sustainable, and equally beneficial to male and female participants.
3. Improved stakeholder engagement:
 - a. Each TT team leader should form a stakeholder management plan for each work order. It should include: a stakeholder register, stakeholder issues, communications register, and work order kick-off and close-out meeting minutes.
4. Improved program oversight:
 - a. Hire an independent third party quality assurance agency to validate cost and quality.
 - b. Utilize a master schedule to facilitate better planning and allocation of resources.
 - c. Plan work order activities and respective sector activities with TT human resources.
 - d. Include clear requirements in the contract for capacity building, human resources, communication, risk, procurement, and stakeholder management plans

II. INTRODUCTION

1. Program Background

The Afghan Engineering Support Program (AESP) is designed and managed by USAID's Office of Economic Growth and Infrastructure (OEGI) to provide architect and engineering technical services (A-E) to USAID-supported infrastructure projects in Afghanistan in the sectors of transportation, vertical structures, energy, and water and sanitation. The program is implemented by Tetra Tech (TT), and contributes to the Mission's overall strategic objectives in health, education, agriculture, economic growth, justice and infrastructure. Tetra Tech, through the AESP, provides technical services which include: planning activities; design activities; technical support and oversight; capacity building (enhancing opportunities for local building trades/vendors, and mentoring Afghan engineers and university students); and collaboration/coordination with appropriate stakeholders (including ISAF, U.S. Military, Afghan ministries, government officials, donors, NGOs, and communities).

The AESP is a five year program of approximately \$63 million with a period of performance from November 9, 2009 through November 8, 2014. Under this cost-plus indefinite quantity contract (IQC), Tetra Tech is responsible for identifying, planning, designing and providing technical support and oversight of USAID infrastructure projects and related engineering activities, in accordance with the basic USAID Architect and Engineer (A&E) IQC contract statement of work. The AESP is also used to provide engineering services to the U.S. Army Corps of Engineers (USACE), Provincial Reconstruction Teams (PRT), and the Government of the Islamic Republic of Afghanistan's (GIRoA).² Under this task order, activities and engineering services are initiated through the issuance of work orders by the Contracting Officer's Representative (COR).

2. Evaluation Purpose

The purpose of this evaluation is to study and document the strengths and weaknesses of the AESP and to develop recommendations to promote the effectiveness of future engineering support programs. The evaluation covers the full length of the program to date. USAID/Afghanistan's OEGI will use the evaluation's conclusions and recommendations to inform the design of a new engineering support program. Shared lessons will also benefit the larger USAID/Afghanistan Mission, as well as the efforts of other stakeholders aiming to improve Afghanistan's infrastructure. The evaluation team aims to: evaluate the design,

² Including: the Ministry of Education (MoE), Ministry of Transportation and Civil Aviation (MoTCA), Ministry of Public Works (MoPW), Ministry of Finance (MoF), and Da Afghanistan Breshna Sherkat (DABS).

approach, implementation, and effectiveness of USAID’s engineering support; distill lessons learned on program design and implementation; and identify any corrective actions necessary to guide AESP activities over the final year of the performance period.

3. Evaluation Questions

1. **Planning Activities:** Did the AESP provide high quality engineering and technical assistance and guidance in the planning of new OEGI activities requested, including conceptualization, analysis, and approval documentation? Did the deliverables facilitate the advancement of OEGI’s relevant objectives?
2. **Design Activities:** Were designs produced or managed by the AESP delivered in a timely manner and comply with appropriate national and international standards? Did they reflect Agency best practices and meet the needs of clients?
3. **Technical Support and Oversight:** Did the AESP provide project management oversight services for contracts/agreements in the sectors overseen? Did the Contractor provide guidance to contractors/grantees in accordance with the terms of the contract/agreement?
4. **Capacity Building:** Are the trainees and interns currently using the new skills/knowledge they gained from the AESP training and if so, which skills? What are the trainees’ and interns’ perceptions on the value and quality of the training they received?
5. **Collaboration/Coordination with Appropriate Stakeholders:** To what extent did the AESP’s standard process for providing engineering support include collaboration to ensure that deliverables reflected stakeholder needs?
6. **USAID’s Role:** How did USAID’s design, management, and oversight of AESP affect its performance? What lessons can be learned for future projects of a similar nature?
7. **Gender Considerations:** Did AESP include both men and women in the engineering service or capacity building activities?

4. Methods and Limitations

The evaluation methodology employed a mix of document review and analysis, group interviews, key informant interviews, and questionnaires. The evaluation team consisted of two international and two Afghan consultants with engineering backgrounds, who utilized their technical expertise to perform this evaluation. Stakeholders participating in the evaluation included USAID, USACE, GIRoA, and Tetra Tech. The evaluation derived data

from the review of documents and interviews, and analyzed them by engineering service category, industry sector, and—where necessary and available—by stakeholder group. In evaluating project management of the AESP, the evaluation team referred to the Project Management Institute (PMI) as a guide for best practices, using the Project Management Body of Knowledge (PMBOK)®. By using the ten PMI knowledge areas to categorize and analyze data, the evaluation team ensured a holistic view over the entire project cycle, and minimized risk of overlooking aspects of performance.

In reviewing this report, the project context should be kept in mind. The AESP was designed to provide a wide range of engineering support activities across five industry sectors. To that end, OEGI issued more than 190 orders, of which 32 were cancelled. This evaluation examined a sample of six work orders (each with several sub-activities). As 45 percent of the work orders issued by OEGI were issued to the energy sector, the evaluation focused on sector-specific work orders accordingly: three in the energy sector, one in transportation, one in vertical structures, and one in water and sanitation projects.

	AESP project sector	Project name	WO number	Project start date	Project cost
1	Transportation ³	Sangar Khost Bridge Design and Bid	WO-LT 009	21 April 2011	\$333,000.00
2	Vertical Structures	Kabul University Men's Dorm MEP Renovation	WO-LT 005	19 October 2010	\$619,664.00
3	Energy	Salang Tunnel Substation Tech Sections	WO-LT 063/ AMD 0 SOW R1	21 October 2010	\$328,000.00
4	Energy	Bamyan Valley Electricity	WO-LT 044 RO	19 December 2013	\$663,000.00

³ After the selection of the Khost Bridge transportation project for this evaluation, the team received insufficient design documents and existing performance information sources to perform an evaluation. The team could not contact the USACE team who acquired this AESP service. As the Team Leader had previously done an evaluation in December 2013 on another AESP work order, the Faizabad and Maimana Airport Rehabilitation, that project was included as the team had sufficient information.

5	Energy	Kud Bergh Mazar 48MW Power Plant Assessment	WO-LT 024	5 December 2010	\$140,000.00
6	Water and Sanitation	Ghazni Boys High School Water, Sewer, Utilities Upgrade	WO-LT 005	17 November 2010	See WO-LT 005 AMD 2

At the time of the evaluation, the AESP was four years into a five-year period of performance. The team experienced several limitations during the course of the evaluation, as follows:

- 1) Because the evaluation took place close to the Afghanistan presidential elections of April 5, 2014, only a few of the project stakeholders were available for interviews (see Annex XIII). Insecurity within Kabul city also impacted the team's ability to travel to meetings. The expat evaluation team members were advised to leave Kabul more than a week in advance of their planned departure, due to security concerns around the election.
- 2) Although the statement of work for the evaluation lists performance information sources for review, Tetra Tech did not provide project documentation as requested on March 17, 2014. Instead, the evaluation team was limited to reviewing information provided by USAID (see Appendix X for full list of documents).
- 3) The team issued questionnaires to Tetra Tech, USACE, DABS, MoE, and the MoTCA to collect stakeholder data; none returned the completed questionnaires.
- 4) Taking into account the 41 day review period for the evaluation, this report is focused on only six work orders (see Annex I for a list of projects). As a result, this evaluation was not fully conclusive, yet it does provide general insight on the design and execution of AESP activities.

III. FINDINGS

1. *Planning Activities: Did the AESP provide high quality engineering and technical assistance and guidance in the planning of new OEGI activities requested, including conceptualization, analysis, and approval documentation? Did the deliverables facilitate the advancement of OEGI's relevant objectives?*

The AESP provides a wide range of engineering services to support the objectives of the OEGI, including pre-construction planning activities. A high level of technical assistance is expected from Tetra Tech, given the expertise of Tetra Tech's Kabul based professional engineers, as well as the support of Tetra Tech's U.S. based architectural and engineering offices. High quality project or program planning for new OEGI activities includes: a project management plan and subsidiary plans for each endeavor; schedule and cost management plans with established baselines; and plans for measuring actual performance against plans. Best practices would also prescribe that specifications include requirements for equipment and workmanship quality, personal safety, and project management controls. Additionally, the specifications should include the responsibilities of the owner, architect, and contractor. High quality teams for these projects are typically led by a licensed architect. The evaluation team found that for some work orders, the application of high quality design criteria and international buildings codes (IBC) appears to have been balanced against cost effective engineering challenges, project requirements, and existing conditions.

Through partial contract document review of the six selected work orders, the evaluation team found evidence of Tetra Tech's high quality engineering support in planning new quality OEGI activities. Two work orders required quality assurance/quality control (QA/QC) services for work performed (Salang Tunnel Transmission Line and Khost Bridge).⁴ One work order (design review of the Kabul University MEP) also stipulated that Tetra Tech evaluate international building code *deviations* approved by USAID for this project (suggesting that IBC was not applied, but with internal justification); in conflict environments it is normal for there to be a tradeoff between high quality and what is practical under the existing circumstances. The team found meeting minutes with examples of discussions between USAID and Tetra Tech about the process of producing specifications for the Ghazi Boys High School within the Afghanistan context.⁵ The work order for the Afghanistan Vouchers for Increased Productive Agriculture (AVIPA) processing plant also requested structural inspection of the plant, drawings for international building codes, and seismic code compliance.⁶ Although the survey comments did not

⁴ WO-LT0063 and WO-LT0009, respectively. No actual QA/QC reports were made available for review.

⁵ Meeting notes, meeting 100701.

⁶ WO-A-0042.

reference structural/seismic IBC design manuals, Tetra Tech included written comments reflecting quality technical assistance such as, “the work should be inspected by a qualified individual for all critical work items,” “reviewer does not have information on frost depth for this region,” and “reference IBC 2006 for design and construction requirements.” This suggests that the engineering effort was cursory or general and not intended to deliver a final design.

In addition the evaluation team found that the AESP files made available by USAID did not include a submittal register for work order deliverables. A submittal register would normally include work order number, description, document name, date completed and review comments. Without such a tool, the evaluation team was unable to clarify the following circumstances. First, for the Power Reliability Study work order: TT received no comments on the draft report submitted to USAID on February 6, 2012; submitted the final version of the quarterly report on February 23, 2012; and then the work order was closed during that quarter, according to the 2012 second quarterly report.⁷ Second, for the RC-East Villages Electrification work order, TT prepared an inventory of material delivered for 26 villages.⁸ However, due to a lack of communication from RC-East, this work order was closed during the most recent quarter. As the evaluation team did not have access to any kind of work order submittal register, they were unable to determine from the resources given whether TT had provided high quality assistance in planning these activities. A lack of industry standard contract document archives-- including logs and registers, stakeholder meeting minutes, design deliverables, and sufficient performance information sources-- required the evaluation team to search hard for evidence of TT performance in accordance with contract documents.

The table below summarizes the findings for question one.

Question 1: Planning Activities (include: feasibility study, bid review, shop drawing review, RFI Log Q&A, technical assistance, field inspections, coordination meetings, project management)			
Work Order	AESP Eng Tech Support Service	High Quality	Notable Examples
Ghazni Boys HS WO-LT0005 AMD8	WO deliverables tasks 1-7 not on file. No tech support docs.	n/a	No contract admin tech support docs on file

⁷ WO-LT-0022.

⁸ WO-LT-0025.

Khost bridge design WO LT009 1R3	WO deliverables tasks 4, 6, and 7 not on file. No tech support docs.	n/a	No contract admin tech support docs on file
Kabul University MEP Review WO LT0015 2R1	2 of 3 WO task deliverables on file. No tech support docs on file.	Yes	MEP review comments, code evaluation only
Kud Berg Power Plant WO LT0024 RO	1 of 6 WO task deliverables on file (final report)	No	Final report does not brief all tasks
Bamyan Valley Electricity WO LT044 RO	1 of 2 WO tasks on file (partial feasibility report)	No	No EA
Salang Tunnel Substation WT LO 0063 R1	WO tech support tasks 5-8 not on file	n/a	No contract admin tech support docs on file

2. *Design Activities: Were designs produced or managed by the AESP delivered in a timely manner and comply with appropriate national and international standards? Did they reflect Agency best practices and meet the needs of clients?*

As no submittal register was made available to the evaluation team, they relied on narrative portions of other documents that referenced design activities. In examining these documents of design and engineering services prepared and submitted by Tetra Tech, the evaluation team found some that were delivered on time and others were delivered past the due date. For most that experienced delays (like the Kud Bergh Mazar Power Plant assessment), there were security concerns or else an increase in project scope that caused the delay (see Annex XI for delivery schedule for the six work orders evaluated).⁹

As touched upon briefly in the previous question, some work orders have evidence of requirements for national and international standards (i.e. IBC), and others do not. Similarly, some AESP work orders state requirements for environmental assessments and/or seismic upgrades, and others did not. This suggests some inconsistency in the

⁹ WO-LT 0024.

application of standards and best practices for AESP designs. For example, the AESP contract stipulates that Regulation 216 will be used to manage environmental issues, in keeping with USAID environmental compliance.^{10,11} However, the following work orders demonstrated potential noncompliance with Reg. 216, as these did not stipulate requirements for environmental assessments (EAs): Salang Tunnel Transmission Line, Mazar 48 MW Power Plant, and the Khost Bridge design. The work order for the final design of the new Khost Bridge indicated specifically that an EA was not required. With other work orders, however, TT has provided technical assistance for environmental assessments and impact evaluations, including: environmental assessment for the Ministry of Public Health (MoPH);¹² the Sherberghan Pipeline Environmental Impact Assessment (EIA);¹³ environmental site assessments at nine project sites under the Construction of Health and Education Facilities (CHEF) project;¹⁴ environmental assessment for the Power Transmission Expansion and Connectivity (PTEC) project;¹⁵ and environmental services for the Kandahar Helmand Power Plant (KHPP).¹⁶

There was also varying information regarding TT's QA/QC and risk management approach. The AESP contract stipulates that USAID would implement an independent QA/QC service to assist the COR in providing QA/QC oversight to TT for AESP.¹⁷ However, this independent service has not been used for the AESP. Additionally, the AESP contract states a requirement for a detailed analysis of risks associated with natural disasters and appropriate building standards, but the evaluation team could not locate a risk management plan that incorporates natural disasters like earthquakes.¹⁸ Still, TT demonstrates technical knowledge of natural disasters and seismic activity through its involvement in work orders like Seismic Reconstruction Retrofit Projects,¹⁹ where TT reviews Reconstruction Action Plans and conducts site visits in order to prepare a report for

¹⁰ Section C.4 Detailed Work Requirements A.5.

¹¹ Title 22, Code of Federal Regulations, and part 216.

¹² TT provided project management support throughout the design, and coordinated with OIEE. Final versions of the Scoping Statement and Environmental Assessment were submitted to USAID on May 19 and 21, 2011, respectively (WO-LT-0004).

¹³ WO-LT-0020: TT has received the Initial Environment Examination (IEE) from USAID and is awaiting further direction on scope.

¹⁴ TT visited and inspected sites at Charikar, Parwan province and Jalalabad, Nangahar province. CHEF sites were visited and inspected based on the impacts and mitigation measures listed in the CHEF program IEE. Continued inspections are planned in the near future (WO-LT-0039).

¹⁵ Tetra Tech received the Notice to Proceed (NTP) late in Q1. Tetra Tech will prepare the Environmental Scoping Statement as well as the Environmental Assessment and Mitigation associated with USAID's Power Transmission, Expansion, and Connectivity (PTEC) Project (WO-LT-0043).

¹⁶ Tetra Tech will perform a review of the environmental mitigation efforts of installation and operation of diesel generation units for the Kandahar Helmand Power Plant (KHPP, WO-A-0077).

¹⁷ Section C.6 Special Requirements Section B. Quality Assurance / Quality Control. No QA/QC plans or reports were made available during the evaluation.

¹⁸ Section C.4 (6) Detailed Work Requirements.

¹⁹ WO-LT-0056.

USAID on findings and recommendations for making existing structures resistant to seismic activity.

The table below summarizes the team’s findings with regard to use of applicable codes and reflecting best practice.

Question 2: Designing Activities (feasibility study, design surveys & documents)				
Work Order	AESP Eng Tech Support Service	Use of Applicable Codes	Agency Best Practices Reflected	Notable Examples
Ghazni Boys HS WO-LT0005 AMD8	n/a	n/a	n/a	n/a
Khost bridge design WO LT009 1R3	WO deliverables task 5 design documents on file	Yes	Yes	No submittal register to verify timely delivery
Kabul University MEP Review WO LT0015 2R1	n/a	n/a	n/a	n/a
Kud Berg Power Plant WO LT0024 RO	n/a	n/a	n/a	n/a
Bamyan Valley Electricity WO LT044 RO	WO task 2 construction level design docs not on file	n/a	n/a	n/a
Salang Tunnel Substation WT LO 0063 R1	WO task 1,2,3,4 design documents not on file or incomplete sections	No	Yes	Design documents poor quality or draft only

3. *Technical Support and Oversight: Did the AESP provide project management oversight services for contracts/agreements in the sectors overseen? Did TT provide guidance to contractors/grantees in accordance with the terms of the contract/agreement?*

Several of the AESP work orders specified requirements for the application of project management activities over the four industry sectors including transportation, buildings, energy and water. However, there were no project management plans on file for any of the six work orders reviewed, and there were no contract agreements or statements of work issued by TT available for review by the evaluation team. In some cases the work orders specified only partial project management, for example, if a construction project initiated by another company only required assistance from AESP in quality assurance. In other instances, the AESP work orders instructed Tetra Tech to provide only preconstruction services, like survey and design. During this evaluation, no work orders were located that instructed Tetra Tech to take on the full management of all project management knowledge areas. Findings from the evaluation of work order documents (listed below by industry sector) indicated that the AESP provided quality project management oversight, including guidance in contract administration.

Transportation: For the Faizabad and Maimana Airport Rehabilitation Project, AESP provided quality assurance services.²⁰ The work order began as a provision of monthly services for ongoing construction activities at the two airports. However, following a handover in project management (due to management and budget issues), the Arrow Diagramming Method (ADM) Project Manager departed the project, and AESP by default assumed the project management role for the next two years.²¹ As a result, the project was completed and accepted by AESP as meeting international civil aviation standards.

Vertical Buildings: AESP provided architectural and engineering services to modify an existing facility design for the Redesign and Construction of Civil Service Training Centers work order.²² This task required AESP to modify the existing design (considered to be oversized and too expensive), and to perform project management activities for architectural, civil, structural, mechanical, electrical and plumbing (MEP) designs using

²⁰ WO-A-0047.

²¹ The project was initially managed by the Asian Development Bank but because the project was over budget and over schedule by 2 years USAID and MoF agreed to contribute \$30 million and take over project management activity. The ADM Project Manager subsequently departed the project that continued to slide past schedule.

²² WO – LT-0001.

international codes²³ in an effort to deliver a comprehensive set of design deliverables. Follow up activities included site adaption survey and design coordination.

Energy: For the PTEC project, AESP provided assistance for environmental assessments. This work order was a six month EA activity managed by an AESP project manager based in Kabul.²⁴ The activity required development of an environmental scoping statement and environmental impact mitigation measures, with coordinated input from USAID, DABS, and MEW. Local Afghan companies were subcontracted to assist with field surveys.

4. *Capacity Building: Are the trainees and interns currently using the new skills/knowledge they gained from the AESP training and if so, which skills? What are the trainees' and interns' perceptions on the value and quality of the training they received?*

As previously mentioned in the limitations section, the evaluation team was not permitted to interview trainees and interns and was not given any documents demonstrating the effect of the programs for trainees and interns. The team was only able to review documents that described the plans and outputs – which was not sufficient to independently gauge the success of TT's capacity building activities. This section simply outlines the plans for capacity building, according to the annual work plans.

The team found that TT identified capacity building opportunities in Afghanistan, as well as plans to conduct training for both entry level and experienced professionals (male and female). Specifically, Section 5.5 of the annual work plan describes TT's intent to build capacity in women's engineering, technical academic resources for engineers, and learn-by-doing field trips and demonstrations for engineering professionals. However, Section 6.8 also states that each AESP annual report will include an assessment for accomplishing annual work plan objectives in capacity building. The evaluation team reviewed work plans and annual reports, but did not find any performance assessments of training programs for any capacity building initiatives outlined in work plans (Section 5.5) for the years 2010 to 2014.

Document review revealed the numerous capacity building initiatives, as identified and explained in the 2010-2014 annual work plans (Section 6.5), and in capacity development work orders. A description of planned capacity building initiatives can be found in Annex XVIII.

²³ Including IBC, IPC, IMC, NEC, and NFPA.

²⁴ WO-LT0043.

5. *Collaboration/Coordination with Appropriate Stakeholders: To what extent did the AESP's standard process for providing engineering support include collaboration to ensure that deliverables reflected stakeholder needs?*

The evaluation team reviewed the AESP project document files made available by USAID, and identified communications documents and work orders for stakeholder initiatives. The files did not contain a stakeholder management plan, stakeholder register, or stakeholder meeting files to demonstrate the extent of standard processes for this requirement. The TT annual work plan stipulates that it collaborates with stakeholders when instructed by USAID. Interviews with MoE, DABS, MoM, UNOPS and USACE could not be conducted in order to verify the extent of partnering within the AESP. The results of the document review can be found in Annex XIX.

6. *USAID's Role: How did USAID's design, management, and oversight of AESP affect its performance? What lessons can be learned for future projects of a similar nature?*

The evaluation team conducted its analysis of AESP's design, management and oversight by ten different knowledge areas of project management, as defined by the PMI's PMBOK®. These include management of: integration, scope, schedule, cost, quality, human resources, communications, risk, procurement, and stakeholders. The evaluation team reviewed those program documents provided to the team, and found that there was no indication of "planned versus actual" work plans to assess performance indicators. There was no master schedule to record the planned vs. actual schedule (along with cost data for work orders), nor was there a change order log to explain the justifications for time and cost extensions. A subcontracting log was not available to indicate participation by third party subcontractors, so the evaluation team could not assess this aspect. The team did note, however, that the provided annual work plans and annual reports did not include a risk management plan or a stakeholder management plan, which would have provided insight into positive and negative project issues over the program's lifespan. All of the aforementioned logs and plans are useful tools for indicating performance metrics, which can help to identify what worked well in the AESP program and what can be improved upon for the next initiative of this type.

Integration Management: Collaborative software was not used to manage extended teams and keep stakeholders informed. The evaluation team could not locate work plans specific to integrate knowledge areas including scope, schedule, cost, and human resources. The team could not locate a communications management plan, risk management plan or

stakeholder management plan in the project files. Weekly meetings were held between USAID and TT.

Scope Management: The work orders issued by USAID to TT were concise and successful in defining scope. The evaluation team could not locate TT clarification requests to USAID. Copies of work orders and deliverables are missing from project document folders. We could not locate a submittal register for deliverables.

Schedule Management: A baseline preliminary executive schedule could not be located that indicated project milestones and independent work order cost and schedule performance (baseline vs actual).

Cost Management: The evaluation team could not locate planned vs actual costs for short term work orders. The costs breakdown for task deliverables was not shown. In a March 1, 2010 meeting (Meeting 100301.4), the USAID COR expressed concern that the COP did not have complete and current financial information on the AESP

Quality Management: The AESP contract stipulates a third party quality assurance and control quality provider; however, this requirement was not implemented.

Human Resource Management: Tetra Tech human resource planning was not coordinated with a preliminary program schedule that shows the anticipated budget for industry sectors. Staffing issues include:

- Annual report FY 2011 Section 3.3 (Contract/Task Order Issues) states that the original contract did not envision that there would be growth to the energy sector.
- In reviewing quarterly reports, the evaluation team found that a significant amount of the TT quarterly reports is focused on documenting the schedules and assignments of expat and local national staff.
- July 1, 2010 (meeting 100701) USAID indicates that due to a shortage of staff, WO A-0035 was put on hold.
- September 2, 2013 (meeting 130902) USAID CFO is out of Country for the month and review of final bids is ongoing. In 2013 TT also released professional services that were on standby pending work order decisions.
- July 27, 2012 (meeting 100727.03) TT explained employee job descriptions. TT requested USAID organizational chart (project start Nov 2009).
- No employee performance evaluations for attendees in capacity building exercises were located in document files. No safety plan or safety requirements were found that guide local nationals in field assignments for engineering support services.

Communications Management: Reports and meeting minutes focus reporting on human resources, work order activity updates, and cost-to-date charts. There is minimum information on file for cost and schedule performance, or assessments of work plan

objectives in annual reports. Performance information, for example in capacity building and stakeholder management, was not located in the files. Issues with communications management include:

- The work plan for Year 4 explains (Section 6.8) that annual reports will include an update for achieving annual objectives listed in the annual work plan. The annual work plan identifies several capacity building initiatives; however, the annual report does not provide an assessment for accomplishing these objectives.
- LT-0045 Darunta Tech Services was planned with a cost of \$296,379.00 and was completed at a cost of \$41,619.00. Change order logs are not available to identify causes for work order time extensions and cost adjustments. This information could provide the necessary information to make adjustments to the program if necessary.
- Files contain annual work plans, quarterly reports, annual reports and meeting minutes. All reports have a similar structure in presenting information through narratives, but charts, tables, and schedules would better illustrate project performance information. The reports or meeting minutes do not contain industry standard bar charts, contract change order logs, submittal registers, RFI logs, subcontract logs, or invoice registers.
- Partial project integration is accomplished within reports for work updates and human resource tracking.
- Project issues as recorded in the annual or quarterly reports do not record issues pertaining to execution of work orders. The issues recorded relate primarily to administrative matters. Example: Annual report Dec 2011 does not indicate that WO-LT-0029 Airport Rehabilitation (NTP Nov 2010) has the potential for schedule overrun by 300 percent, as was the case. The final cost exceeded the planned cost to \$350,933.00, and was completed in August 2012.
- Meeting minutes are a part of the TT work plan; however, many are missing. By year, the number of weekly meeting minutes were: 2009- none; 2010- two; 2011- none; 2013- 40; 2014- 8.
- July 27, 2010 (meeting100727.03): Communications protocol between USAID and TT was discussed. USAID requested that the COP of AESP be involved in all communications (project start November 2009).
- Quarterly report FY 2010 Q1 format shows redundancy in information provided in sections Table 4.1 Sector Activities and 4.2 Progress. The narratives provided in 4.1.1 are summarized in table 4.2.
- Annual report FY 2010 section 3.1 Contract/Task Order Activities is presented in narrative form and could be best illustrated in a cost table.
- Annual report FY 2010 section 3.2 Contract/Task Order Deliverables does not list meeting minutes as discussed on page 7.

- The Annual work plans indicate that the annual report will include the Q4 report to meet USAID year-end financial reporting schedule. TT quarterly reporting schedule was not adjusted to provide four quarterly reports.
- Follow up annual reports do not clearly report on the effectiveness of implementing objectives, as stated in the annual work plans.
- Annual and quarterly reports do not provide a subcontractor contract log including contract value, modifications, scope of work and period of performance.
- Performance monitoring plan (PMP Final April 3, 2010) report contains AESP performance assessment forms for USAID to complete within one week of work order completion. It may not be possible for USAID to rate TT's performance, in capacity building for example, without third party participation.

Risk Management: The project files do not indicate a risk management plan or risk register for the AESP in general, or by work order. CPARS report August 2011 by USAID rates Tetra Tech risk assessment as exceptional.

Procurement Management: Annual and quarterly reports do not provide a contract log including contract value, modifications, scope of work and period of performance. Project files do not indicate a subcontracting file and register that includes contract, scope of work, period of performance, and contract value i.e. Perini LT – 0006. As a result of this lack of management, work orders are missing from the document files, and project document files did not include a folder for conditional precedent reports (which are considered a high priority by USAID, per meeting 130909). The document review also revealed the following notable aspects of AESP procurement management:

- AESP contract C.7 Work Orders C. the COTR may issue verbal approvals for TT staff to proceed on short term work orders.
- AESP contract F.1 Period of Performance (c) F. 3 (c): “It is the Contractor’s responsibility to ensure that the contract ceiling price is not exceeded.”
- September 2, 2013 (meeting 130902) USAID advised that when WO- A-0091 hours are exhausted, then costs shall be charged to WO –A- 0092.
- October 10, 2013 (meeting minutes 131008) USAID authorized time extension for WO- A-91, 92, 93
- July 27, 2010 (meeting100727.03): TT did not have an approved purchasing system in place. This limited TT blanket consent to \$25k as opposed to \$150k.
- Ernst and Young January 2012 risk assessment of DABS vendor prequalification and independent price verification in procurement reduced from high to medium. There is a significant level of information in 2013 regarding DABS financial accounting activity (DABS WO-LT – 0075).

Stakeholders Management: Project files do not include a stakeholder’s register or stakeholder management plan. There is no register or document that integrates work order and stakeholders, such as stakeholder analysis, categorization, motivation, etc., as required

to minimize oversight and miscommunication in the best interests of completing the work order.

7. *Gender Considerations: Did AESP include both men and women in the engineering service or capacity building activities?*

Review of the project document archives indicates that both women and men were included in the capacity building initiatives and primarily within the engineering services sector. Document archives, however, did not contain a capacity building plan, training curricula, trainee evaluation reports, or feedback from the participants by which to identify what worked well and what can be improved upon. The evaluation team was unable to conduct one-on-one interviews with trainees and agencies. In addition, GIRA agencies stated that busy work schedules did not allow for participation. In addition to the activities listed below (identified through document review), please also refer to the answer to the capacity building section of this report (question 4).

- *2013 Q1 Report:* Tetra Tech/AESP efforts to achieve a gender-equitable staffing mix are ongoing. Recent interviews for a junior civil engineering position included the Tetra Tech AESP four female civil engineering 2012 interns. One female intern was selected for employment in the Tetra Tech AESP.
- *Weekly Meeting 15 July 2013, Tetra Tech-USAID:* Local national electrical engineer hiring underway and DABS is considering a female candidate.
- *WO-A-0005 Ghazi Boys High School Water Supply Study:* General study and recommendation for a ground level storage tank system or a tower tank system (associated amendments).
- *WO-A-0006 Sardar Girls High School Sanitation System:* Recommendations for a sanitary sewer system including storage tanks, pump truck, or waste water treatment plant application and leech field (associated amendments).
- *WO-A-0007 Sardar Girls High school Electrical:* Coordination of proper connection to the Kabul Municipal electrical system.
- *WO-A-0008 Sardar Girls High Schools Water Supply Study:* General study and recommendation for a ground level storage tank system or a tower tank system (associated amendments).
- *WO-A-0022 50 Bed Women's Hospital Drawing Review:* The IOM 50 Bed Women's Hospital Design Development drawings.
- *WO-LT-0042 Afghan Women Internship Program Update:* The four female Civil Engineering students from Kabul University completed their 2012 Tetra Tech AESP internship program at the beginning of January. Four new interns were selected for the 2013 Tetra Tech AESP internship program which began on January 12, 2013. Three students are from Kabul University and one is from the Polytechnic University. Their respective educational backgrounds and experiences include structural engineering and construction, civil engineering, water resources engineering, and architectural engineering.
- *WO-LT-0065 Video Production:* To capture a story about the benefits that electricity provides to women and their businesses in Kandahar.

- *WO-A-0083/84 Sadar Girls High School Fire Door Installation: Per NFPA 80 UNOPS Project WO-A- 0083 NTP (associated amendments).*

IV. CONCLUSIONS

1. Planning Activities

The evaluation team's review of task order deliverables for this evaluation (refer to Annex X) indicates that the engineering services provided by TT have fulfilled their contractual obligation. Tetra Tech utilized professional engineering teams from both Afghanistan and from its U.S.-based offices to facilitate the advancement of OEGI's objectives. The work orders specified a wide range of engineering and capacity building services customized to suit the complexity of the task. The documents used to arrive at this conclusion include all those from the performance document files (annual work plans, quarterly reports and annual reports). However, the team was not able to view (and thus evaluate) all design deliverables and communication files, as TT did not deliver the requested documentation prior to completion of the final report.

2. Design Activities

In order to evaluate design activities, the team reviewed task order deliverables, and found that many tasks were delivered on time, though several were delivered after the scheduled due date (see Annex XI for basic cost and schedule analysis). Delays in Afghanistan are frequent, and are often the result of security and weather issues, or else as the result of an increase in the scope of work. However, the evaluation team could not locate change order files to determine the cause of schedule overrun.

Review of the design deliverables for six projects included design narratives, design drawings, design review and specifications. These deliverables indicate that Tetra Tech design engineers made reference to international design standard requirements in conceptual design packages, final design packages, and for third party design document review services. In some cases, waivers were granted to disregard or adapt international design standards, to suit the project requirements. The AESP included work orders to address environmental impacts on several projects. The six projects reviewed in this evaluation did not require environmental impact assessments. WO-A-0042 was intended to provide assessment of seismic code compliance; however, review of the deliverables indicated that additional engineering was necessary.

As mentioned above, TT did not deliver further documentation ahead of final report submission.

3. Technical Support and Oversight

Several of the AESP work orders assigned project management activities in all industry sectors including transportation, buildings, energy and water. In some cases the work orders specified partial project management activity, for example to provide only quality assurance for a construction project initiated by ADB. In other instances the AESP work orders instructed Tetra Tech to provide only preconstruction services including survey and design. The evaluation team did not locate a work order that requested the full management by TT of all project management knowledge areas from design to build.

4. Capacity Building

With the exception of the Kabul University Internship program (2011 – 2014), the evaluation team was unable to establish interviews with stakeholders (including trainees, MoE, and DABS) due to the increased security threats associated with the April 5, 2014 presidential election and stakeholder availability. Questionnaires were distributed but none were returned. The project files did not include an approved capacity development plan that included measureable and sustainable goals. Capacity building activities are listed in Annex XVIII.

5. Collaboration/Coordination with Appropriate Stakeholders

The evaluation team did not find stakeholder management plans, stakeholder meeting minutes, stakeholder registers, or other communications documents in the project files made available to the team. Within the available documents, the team observed and made note of references to stakeholders in USAID weekly meeting minutes and TT project reports. The evaluation team requested and followed up on meeting requests with several stakeholders including USACE, MoE and DABS. However, none were available to meet, and none returned completed questionnaires.

6. USAID's Role

The design and application of the AESP was a positive step in supporting the Mission's objectives. The AESP increased the availability of Kabul-based architectural and engineering services to implementers nation-wide such as PRTs, USACE, USAID OEGI, ADB, UNAMA, GIRoA and other donor agencies. Multiple large infrastructure projects, running concurrently in Afghanistan, strain the availability of professional architectural and engineering services, and often delay the project schedule thereby causing cost overrun. The AESP reduced this strain by coordinating implementers and supporting reconstruction initiatives.

As expected in any large or small scale project or program, managers monitored and evaluated performance and implemented necessary changes to make the program more effective and efficient. Cost management—particularly for cost plus contracts—and communications management (including weekly meeting minutes and quarterly reports) must be effective in delivering information on program performance to executive management and other senior stakeholders. Performance measurements are important to maximizing the benefits of the AESP to the Afghan people.

The evaluation team has identified the following challenges and areas for improvement within the AESP:

- The design of the AESP was to provide a wide range of specialty services (including engineering and capacity development), and to have short and long term delivery schedules. These wide and differing requirements of the program can produce logistical challenges.
- Large programs offering extensive services require oversight by a wide range of expert professionals including capacity building experts, cost management professionals, and engineers.
- In TT staffing plans were not planned in accordance with annual work order schedules.
- Security threats and bad weather pose threat to field initiatives.
- Performance and progress reports could be stronger in identifying opportunities to initiate change in the program and maximize benefits for the Afghan people.
- Risk management plans are missing (refer to Annex XIV).
- Contract documents do not include comprehensive requirements for communications, risk, procurement and stakeholder management. Document archives were unavailable for performance evaluation.
- There was no clear stakeholder management plan to coordinate and support team building and communal participation.

7. Gender Considerations

The AESP work orders included training in engineering services to both Afghan women and men. Women were offered the internship program at Kabul University along with men, and were employed by AESP as professional engineers. TT and DABS subsequently employed a woman engineer as a part of their full time staff. It is difficult to provide more insight as to the depth of engagement with or learning offered to female engineers, given that TT did not permit the team to interview female interns in a confidential manner.

V. RECOMMENDATIONS

1. Planning Activities

The evaluation team identified the following areas for improvement in AESP support to planning activities:

- Hire an independent third party QA agency to provide design check and comments (per contract stipulation).
- Solicit design comments from client representatives.
- Hold weekly work order progress meetings with USAID to update design schedules, requests for information, and general discussion. Distribute and file meeting minutes.
- Implement web based collaborative software to control project documentation and distribution to stakeholders. For example, Primavera Contract Manager® or Prolog®.
- Assign a project controls engineer dedicated to improving USAID's organizational process assets.
- Assign budget costs to administrative work orders.

2. Design Activities

In line with the recommendations provided for the first question, the evaluation team suggests that AESP/TT hold a weekly work order progress meeting with USAID and update design schedules, requests for information, and general discussion. Distribute and file meeting minutes.

Project design documents for new projects should also include the requirements for international building and seismic codes. For renovation projects, meetings about the project should include the relevant local government agency, customers, and end users to discuss which applicable design standards are practical.

3. Technical Support and Oversight

Specific work orders were issued requesting delivery of different types of project management services for different, specific industry sectors. One possible area for improvement in AESP's project management support would be to hold weekly work order progress meetings with USAID and any subcontractors or consultants in order to update activity schedules, requests for information, and general discussion. Meeting minutes should be noted, filed, and disseminated.

4. Capacity Building

AESP would benefit from taking steps to gauge the success of its training initiatives. It is difficult to do that without a capacity development master plan, target training plans, and a means to assess training results. To improve the efficiency of the AESP in capacity building initiatives, the contract should stipulate that a capacity building plan (e.g. the UNDP five step plan) should be developed by the implementing partner, and approved by USAID and relevant GIRoA agencies. The development goals should be measurable and sustainable.

5. Collaboration/Coordination with Appropriate Stakeholders

As the evaluation team could not locate communications to stakeholders, or meeting minutes outside of USAID weekly meetings, it was difficult to gauge the success of stakeholder management initiatives. The AESP contract should specify requirements for managing stakeholders for each work order. A simple stakeholder management plan should be prepared for each work order by the team leader, and should include: a stakeholder register; stakeholder issues; communications register; and work order kick-off and close out meeting minutes to plan goals and measure successes.

6. USAID's Role

The evaluation team proposes the following recommendations for improvement of USAID oversight:

- A master schedule would be useful to plan and allot resources.
- Implement web based collaborative software to control work order documentation and distribution to stakeholders, e.g. Primavera Contract Manager® or Prolog®.
- Plan work order activities and respective sector activities with TT human resources.
- Include report templates to guide the structure of reports to include bar chart schedules, planned vs. actual schedule, cost performance, and coverage of all knowledge areas.
- Include requirements for annual capacity building, human resource, communications, risk, procurement, and stakeholder management plans (see Annex XIV).
- Hire a project controls engineer dedicated to improving USAID's organizational process assets.
- Hire an independent third party QA agency to validate cost and quality.

7. Gender Considerations

Similar to the recommendations provided for question four, the evaluation team proposes that the introduction of a capacity building plan (with clearly identified and measurable development goals) would improve the efficiency of the AESP in its capacity building initiatives. The development goals should be the same for Afghan women and men. Additional recommendations for gender considerations are:

- Increase university internship programs for mechanical and electrical engineering.
- Improve advertisement to gain better participation.

ANNEX I: USAID STATEMENT OF WORK



USAID | AFGHANISTAN
FROM THE AMERICAN PEOPLE

OFFICE OF ECONOMIC GROWTH AND INFRASTRUCTURE & OFFICE OF PROGRAM AND PROJECT DEVELOPMENT

STATEMENT OF WORK

FINAL PERFORMANCE EVALUATION OF AFGHAN ENGINEERING SUPPORT PROGRAM

I. PROGRAM INFORMATION

Program Name: Afghan Engineering Support Program
Contractor: Tetra Tech ARD
CONTRACT #: 306-EDH-I-00-08-00027
Agreement Value: \$62,984,016
Life of Program: November 9, 2009-November 8, 2014
Program Sites: Kabul

I. INTRODUCTION

AFGHAN ENGINEERING SUPPORT PROGRAM

The Afghanistan Engineering Support Program (AESP) provides quick response resident professional architect and engineering (A-E) technical services in the sectors of energy, water and sanitation, transportation, vertical structures, and water resources to the United States Agency for International Development (USAID) – Afghanistan. Activities under this Task Order (TO) support USAID’s priority projects of electrical power transmission and distribution, hydropower plants (HPPs), roadways/airports, gender initiatives and fostering sustainable development in Afghanistan.

USAID’s Evaluation Policy encourages independent external evaluation to both increase accountability and inform those who develop programs and strategies to refine designs and introduce improvements into future efforts. In keeping with this aim, this evaluation is

being conducted to review and evaluate the performance of the USAID-funded Afghan Engineering Support Program activities implemented by Tetra Tech.

This final performance evaluation will focus on assessing the effectiveness of the program's performance since 2009, and providing lessons learned that will inform the design of future engineering support.

II. BACKGROUND CONTEXT

Although much progress has been made, Afghanistan's infrastructure has not fully recovered from the devastation caused by the ravages of war, lack of regular maintenance, and scant investment in physical infrastructure. The task of stabilizing and rebuilding Afghanistan is immense and requires the support of the donor community.

Activities performed under this Contract will complement and reinforce the activities and engineering expertise of USAID Office of Economic Growth and Infrastructure (OEGI) staff. OEGI works in the following sectors:

A. Transportation (roads, rail, and airports). These services include, but are not limited to, the design of transportation systems, primary and secondary roads and bridges. The primary focus has been roads, however; additional activities may include: airports and rail.

B. Vertical Structures (structural assessment and design of schools, clinics, government centers and other buildings, including temporary space). These services include but are not limited to, the structural assessment and design of education, health, judicial, general government facilities, agriculture, industrial parks, and other structures as required.

C. Energy (generation, transmission, distribution and regulation). These services include but are not limited to the design of multiple power networks from generation to distribution, and regulation, small scale systems, renewable energy systems, and hybrid systems.

D. Water and Sanitation (urban and rural water supply systems, sanitation facilities, hygiene behavior change, and irrigation). These activities include, but are not limited to, the planning, assessment, design and training for water resource management, urban and rural water systems, drainage basins and irrigation systems, dams and storage reservoirs, flood control programs, domestic and industrial water supply, and the exploration and development of groundwater resources.

III. AESP PROGRAM GOALS AND OBJECTIVES

This program provides engineering and technical support so that the OEGI can continue to provide the Mission with needed engineering expertise in order to construct safe, long-life and energy efficient transportation, vertical structures, energy and water and sanitation infrastructure, and other related facilities in Afghanistan. It directly supports USAID strategic objectives relating to health, education, agriculture, economic growth, justice areas and infrastructure (i.e., vertical structures and energy). As a result of this program, OEGI will have immediate access to a team of full-time and short-term engineers based outside the USAID compound in Kabul and within the contractor's offices.

The Contractor is responsible for identifying, planning, designing and providing technical support and oversight of USAID infrastructure projects and related engineering activities, in accordance with the basic USAID Architect and Engineering (A&E) Indefinite Quantity Contract (IQC) statement of work.

Required technical assistance spans the full range of expert engineering advice, and analytical and technical support to OEGI, USAID Provincial Reconstruction Teams (PRTs), and other USAID offices.

The Contractor, as directed by the Contract Officer's Technical Representative (COR), provides the following activities:

- A. Planning Activities:** Provide high quality engineering and technical assistance and guidance in the planning of new OEGI activities requested, including conceptualization, analysis, and approval documentation including:
- Preparation or review of designs and specifications for systems and equipment for facilities; statements of work (SOW) for associated services; cost estimates; requests for proposals; and invitations for bids;
 - Preparation or review of training programs, especially in the areas of plant or equipment start-up, operation, maintenance, testing, acceptance, and logistics procedures, and efficiency;
 - Preparation, review, or assistance in development of statistical data on existing supply/demand and supply/demand forecasts. Development and interpretation for system usage data and forecasting future system requirements;
 - Preparation or review of prefeasibility and feasibility studies, technical, financial and economic surveys, social soundness, management and financial analyses, organizational plans, and recommendations concerning technical and economic aspects of development;

- Ensure, with assistance of appropriate Mission staff as directed by the COR, that environmental and sustainability issues are considered in program design and in keeping with Agency practices in accordance with USAID’s environmental procedures or “Regulation 216” (Title 22, Code of Federal Regulations, Part 216; and
- Analysis of risks associated with natural disasters and the design of structures and services to appropriate building standards in order to better withstand such disasters; and analysis, evaluation, and preparation of plans and procedures for maintenance and operations.

B. Design Activities: Manage in a timely manner the preparation of detailed engineering designs, plans, and cost estimates for assigned OEGI programs and activities, and ensure that they comply with appropriate national and international standards and reflect Agency best practices including:

- Design of complex activities in support of OEGI;
- Provision of limited scope or short-term services involving preparation of preliminary or final drawings, sketches, changes and plans blueprints, aerial photographs, and other topographical or geological data used to plan and review projects; and
- Analyze and evaluate designs, drawings, specifications, schedules, and list of equipment requirements and inform and recommend USAID’s position on assistance commitments for activities.

C. Technical Support and Oversight: Provide project management oversight services for contracts/agreements in the sectors overseen. The Contractor will be responsible for providing guidance to contractors/grantees in accordance with the terms of the contract/agreement including:

- Provide technical advice and support to personnel working on USAID programs that are related to infrastructure, such as PRTs personnel;
- Provision of technical advice to industrial and managerial personnel regarding design, and/or program modifications and structural repairs;
- Provide expert technical oversight to implementer staff, keeping OEGI, PRT, Office of Social Sector Development (OSSD), and Contract Officer (CO) informed of work progress;
- Provide technical support for procurement processes, including evaluation of others and contract modifications;

- Preparation or review of reports and recommendations as to general arrangements, viability and cost effectiveness of capital plan, and processes; as to validity and economy of work plans; and for changes, additions, or revisions in project activities;
- Monitor adequacy and acceptability of delivered goods and services under approved activities including equipment installation, and training activities through field inspections, reviewing contractor reports, and meeting project personnel and implementer representatives;
- Development of solutions to complex project and program architecture and engineering issues unresolved by implementers;
- Provide construction inspection and surveillance services;
- Provide value engineering services;
- Provide technical assistance to the COR in responding to proposed changes in the OEGI Contract, SOWs, the validity of claims, and the reasonableness of contract time extensions;
- Provide appropriate technical assistance to the COR in issuance and negotiations of change orders in accordance with procedures; and
- Perform administrative responsibilities including, but not limited to, activities such as drafting project implementation letters, preparing action memoranda and reports, estimating expenditures, reviewing payment vouchers, responding to audits, assessing claims, writing Justification for Other than Full and Open Competition (JOFOC), and performing other related activities.

The Contractor shall be required to provide quality assurance (QA) services, as required.

D. Capacity Building

USAID/Afghanistan has a commitment to capacity development of Afghan organizations and individuals through their participation in USAID awards. As such, USAID/Afghanistan will include an evaluation factor which considers the proposed inclusion of Afghan staff as program staff and inclusion of Afghan organizations as subcontractors, as applicable. For multi-year contracts, this would include identifying an Afghan staff member who shall potentially play the Deputy Chief of Party (DCOP) and be trained to assume the Chief of Party position after the second or third year of program implementation, depending on circumstances.

E. Collaboration/Coordination with Appropriate Stakeholders

The Contractor shall collaborate and coordinate with appropriate stakeholders when directed by the COR. Appropriate stakeholders include International Security Assistance Force (ISAF), U.S Military, key afghan ministries, provincial elected officials, Donors, NGOs, communities, and others as identified by requirements of the work.

IV. PURPOSE OF THE EVALUATION

The purpose of this final performance evaluation is to study and document the successes and weaknesses of the AESP and to develop recommendations to promote the effectiveness of future engineering support programs. The evaluation will cover the full length of the program to date.

USAID/Afghanistan's Office of Economic Growth and Infrastructure will use the evaluation's conclusions and recommendations to inform the design of a new engineering support program, which will take place in the near future. Shared lessons will also benefit the larger USAID/Afghanistan mission, other donors working infrastructure, relevant GIROA ministries such as the Ministry of Energy and Water and the Ministry of Public Works, and other GIROA stakeholders who aim to improve Afghanistan's infrastructure.

This evaluation should:

1. Evaluate the design, approach, implementation, and effectiveness of USAID's engineering support; the discussion should include the project's effectiveness in achieving the expected results; identification of strengths and weaknesses; and an assessment of the sustainability of individual projects after the projects end.
2. Distill lessons learned on program design and implementation to guide the design of future engineering support programming.
3. Identify any corrective actions necessary to guide AESP activities over the final year of the performance period.

V. EVALUATION QUESTIONS

The questions to answer, in order of priority, are as follows:

1. **Planning Activities:** To what extent did the AESP provide high quality engineering and technical assistance and guidance in the planning of new OEGI activities requested, including conceptualization, analysis, and approval

documentation in order to collectively facilitate the advancement of OEGI's relevant objectives?

2. **Design Activities:** How well were designs produced or managed by the AESP delivered (i.e. in a timely manner; in compliance with appropriate national and international standards, reflect best practices and meet the needs of clients)? Does the quality of the designs suggest that the quality of the product will be long-lasting (sustainable with low maintenance costs)?
3. **Technical Support and Oversight:** To what extent did the AESP provide project management oversight services and guidance for contracts/agreements in the sectors overseen? What was the overall quality of the project management oversight services and guidance?
4. **Capacity Building, Application:** How are the beneficiary trainees and interns currently using/not using the new knowledge and skills they gained from the AESP training?
5. **Capacity Building, Perceived Quality:** What are the trainees' and interns' perceptions on the value and quality of the training they received?
6. **Collaboration/Coordination with Appropriate Stakeholders:** To what extent did the AESP's standard process for providing engineering support include collaboration to ensure that deliverables reflected stakeholder needs?
7. **Gender:** Did the Afghan Women's Internship Program provide high quality, practical, and relevant engineering training to the program's participants?

VI. METHODOLOGY

The evaluation team will be responsible for developing an evaluation strategy and methodologies that include a mix of qualitative and quantitative data collection from primary and secondary sources, and analysis approaches. The methodology will be presented as part of the draft work plan as outlined in the deliverables below, adjusted as needed after communication with USAID, and included in the final report. The evaluation team will have available for their analysis a variety of program implementation documents, and reports. Methodology strengths and weaknesses should be identified, as well as any mitigation measures taken to address those weaknesses. All data collected and presented in the evaluation report must be disaggregated by gender and geography.

The suggested methodology should include, but is not limited to:

- a) Key interviews with USAID/Afghanistan's OEGI Staff, and field-based USG staff at Regional Platforms;

- b) Interviews with implementing partner staff in Kabul;
- c) Interviews and focus groups with selected constituents;
- d) Consultations with other donors, and
- e) Conduct surveys of beneficiaries in targeted areas.

The evaluation team is required to visit the project's target areas, and meet with an appropriate and representative sample of the stakeholders suggested. The evaluation team will present to USAID a methodology of their sampling approach prior to implementation to ensure an adequate cross-section of data collected for analysis.

Tools developed for interviews, focus groups, or beneficiary surveys should ensure consistency in data collection, and be presented prior to USAID prior to any piloting. After data collection, the team should evidence rigorous quantitative and qualitative data analysis to ensure that key evaluation questions are addressed.

VII. EXISTING PERFORMANCE INFORMATION SOURCES (All relevant documents should be provided to the SUPPORT II COR & A/COR upon approval of this SOW and a list of the implementing partner's key personnel with email addresses and mobile phone numbers)

The consultants will review the following documents:

- a) Program Descriptions and Modifications
- b) Work Plan
- c) Quarterly Reports
- d) Annual Reports
- e) Current PMP and other M&E documents, *and note any pending changes*
- f) Project performance data
- g) Project-generated assessments
- h) GIRoA performance data (if available)

VIII. TEAM COMPOSITION

The evaluation team shall consist of four independent international experts (with one serving as the team lead and primary coordinator with USAID) as well as two high level Afghan experts, one of whom can also serve as an interpreter. The international experts should be senior-level evaluation analysts specialized in engineering or engineering support. All international experts must be fluent in English. Strong writing skills are also desired, though not all evaluators are required to have this skill. The Afghan experts should have experience with engineering support programming in Afghanistan and monitoring and evaluation. The Afghan experts should also be proficient in English, Dari,

and Pashto. A statement of potential bias or conflict of interest (or lack thereof) is required of each team member the evaluation contractor.

IX. EVALUATION SCHEDULE

The estimated time period for undertaking this Evaluation is 45 days level of effort (LOE), of which at least 38 days should be spent in Afghanistan. The expat team members should in Kabul no later than *March, 2014*. The evaluation team is authorized to work six days a week.

Illustrative example of Level of Effort (LOE) in Days: *(For complex projects the expat STTA may be given 1-2 days prep time before arrival, and they will need the documents referenced above)*

Position	Total Travel Days	In-Country	Final Report - Remote	Total LOE
Team Leader	4	38	3	45
Evaluation Specialist	4	38	3	45
Evaluation Specialist	4	38	3	45
CCN		36	1	37
CCN		<u>36</u>	<u>1</u>	<u>37</u>
Totals	12	186	11	209

X. MANAGEMENT

The evaluation Team Leader will officially report to the Office of Program and Project Development (OPPD) SUPPORT-II COR and AOR, Belien Tedesse and Monica Stalcup. From a technical management perspective, the evaluation team will work closely with Justin Gordon (jgordon@state.gov), the Contracting Officer Representative and Gary Shu (gshu@state.gov), the Alternate Contracting Officer Representative.

XI. DELIVERABLES & REPORTING REQUIREMENTS

1. **In-briefing:** Within 48 hours of arrival in Kabul, the Evaluation Team will have an in-brief meeting with USAID/Afghanistan's OPPD M&E unit and the Technical Office's

representatives for introductions; presentation of the Team's understanding of the assignment, initial assumptions, evaluation questions, and/or adjust the SOW if necessary.

2. **Evaluation Work Plan:** With-in three days of the above mentioned in-brief, the Team Leader shall provide a detailed draft work plan to OPPD's M&E unit and the Technical Office's representatives. The draft work plan will include the overall evaluation design, including proposed methodology, data collection and analysis plan, and data collection instruments; a list of the team members indicating their primary contact details while in-country, including the e-mail address and mobile phone number for the team leader; and the team's proposed schedule for the evaluation. The revised work plan shall include the list of potential interviewees and sites to be visited.
3. **Mid-term Briefing and Interim Meetings:** A mid-term briefing with USAID on the status of the assessment including potential challenges and emerging opportunities will be scheduled by the Team Leader through the SUPPORT II COR. The team will also provide the SUPPORT II COR and the AESP/COR with periodic briefings and feedback on the team's findings. (Optional - Additionally, a weekly 30 minute phone call with OPPD's M&E unit and AESP's COR will provide updates on field progress and any problems encountered.)
4. **PowerPoint and Final Exit Presentation** to present a summary of findings and recommendations to USAID. This presentation will be scheduled as agreed upon during the in-briefing, and five days prior to the evaluation team's departure from Kabul.
5. **Draft Evaluation Report:** Shall be consistent with the guidance provided in Section XII below. Length of the report: not to exceed 50 pages, exclusive of Annexes in English, using Times New Roman 12 point font, 1.15 line-spacing, consistent with USAID branding policy. The report will address each of the issues and questions identified in the SOW and any other factors the team considers to have a bearing on the objectives of the evaluation. Any such factors can be included in the report only after consultation with USAID. Unless determined at the mid-briefing, the draft evaluation report, using the below format will be submitted by the Team Leader to the SUPPORT II COR 24 hours in advance of the exit briefing. USAID's M&E unit and OEGI will have ten calendar days in which to review and comment on the draft, and OPPD's M&E unit shall submit all comments to the Team Leader.
6. **Final Evaluation Report:** The Team Leader will address all comments and questions received from USAID in the final report and resubmit the report to the SUPPORT II COR within three calendar days of receiving USAID comments. All project data and records will be submitted in full and shall be in electronic form in easily readable format; organized and fully documented for use by those not familiar with the project or evaluation; and owned by USAID and made available to the public unless otherwise indicated by USAID.

XII. FINAL REPORT FORMAT

The evaluation report shall include the following:

1. Title Page
2. Table of Contents
3. List of any acronyms, tables, or charts (if needed)
4. Acknowledgements or Preface (optional)
5. Executive Summary (3-5 pages)
6. Introductory Chapter
 - a. A description of the project evaluated, including goals and objectives.
 - b. Brief statement on purpose of the evaluation, including a list of the main evaluation questions.
 - c. Brief statement on the methods used in the evaluation such as desk/document review, interviews, site visits, surveys, etc.
7. Findings: This section should describe the findings, focusing on each of the evaluation questions.
8. Conclusions: This section should include value statements drawn from the data gathered during the evaluation process.
9. Recommendations: This section should include actionable statements for ongoing programming. It should also include recommended future objectives and types of activities based on lessons learned.
10. Annex
 - a. Evaluation Statement of Statement of Work
 - b. Places visited; list of organizations and people interviewed, including contact details.
 - c. Evaluation design and methodology.
 - d. Copies of all tools such as survey instruments, questionnaires, discussions guides, checklists.
 - e. Bibliography of critical background documents.
 - f. Meeting notes of all key meetings with stakeholders.
 - g. "Statement of Differences"
 - h. Evaluation Team CV's

REPORTING GUIDELINES

- The evaluation report should represent a thoughtful, well-researched and well-organized effort to objectively evaluate what worked in the project, what did not and why.
- Evaluation reports shall address all evaluation questions included in the statement of work.
- The evaluation report should include the statement of work as an annex. All modifications to the statement of work, whether in technical requirements, evaluation questions, evaluation team composition, methodology, or timeline need to be agreed upon in writing by the technical officer.

- Evaluation methodology shall be explained in detail and all tools used in conducting the evaluation such as questionnaires, checklists and discussion guides will be included in an Annex in the final report.
- Evaluation findings will assess outcomes and impact on males and females.
- Limitations to the evaluation shall be disclosed in the report, with particular attention to the limitations associated with the evaluation methodology (selection bias, recall bias, unobservable differences between comparator groups, etc.).
- Evaluation findings should be presented as analyzed facts, evidence, and data and not based on anecdotes, hearsay or the compilation of people's opinions. Findings should be specific, concise and supported by strong quantitative or qualitative evidence.
- Sources of information need to be properly identified and listed in an annex.
- Recommendations need to be supported by a specific set of findings.
- Recommendations should be action-oriented, practical, and specific, with defined responsibility for the action.

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SECTION A – ACCOUNTING AND APPROPRIATION SUMMARY

1. GENERAL:

a. Total Estimated Cost:	\$62,984,016.00
b. Total USAID Obligated Amount	\$ 4,000,000.00
c. Title:	Afghanistan Engineering Support Program
d. IQC:	EDH-I-00-08-00027-00
e. USAID Technical Office:	USAID/Office of Infrastructure, Engineering & Energy

2. SPECIFIC:

MAARD No:	306-MAARD-90373
Amount:	\$4,000,000.00
Appropriation No.:	727/21037-90
Fund Code:	ES/2007/2008
Program Area	A17 (Infrastructure)
Program Element	A069
Expanded Object Class Code	4100301
Operating Unit:	Afghanistan
Benefiting Geo Area:	306
CO Reference:	306-SOAG-306-05-0005.00--7 Line 9

SECTION B – SUPPLIES OR SERVICES AND PRICE/COSTS

B.1 PURPOSE

The United States Agency for International Development (USAID), Afghanistan Office of Infrastructure, Engineering and Energy requires support to provide quick response resident professional architect and engineering (A/E) technical services in the sectors of transportation, vertical structures, energy and water and sanitation to USAID/Afghanistan as detailed in Section C.

B.2 CONTRACT TYPE

This is a Cost Plus Fixed Fee term form task order. For the consideration set forth in the contract, the Contractor shall provide the deliverables or outputs described in Section C and comply with all contract requirements.

B.3 BUDGET and CEILING PRICE

(a) The Total Estimated Cost of this acquisition is \$62,984,016.

For Workdays (LOE) Ordered	\$12,579,044
For Other Direct Costs	\$30,775,813
Indirect Costs (includes overhead, G&A, and MHO)	\$15,508,709
Fixed Fee	<u>\$ 4,120,450</u>
Cost Plus Fixed Fee Ceiling Price	\$62,984,016.

The contractor will not be paid any sum in excess of the ceiling price.

(b) USAID hereby obligates the amount of \$4,000,000 for project expenditures. The Contractor will not exceed the aforementioned obligated amount. At any time that the task order is not fully funded at the total estimated cost, FAR 52.232.22, Limitation of Funds also applies.

(c) Funds obligated hereunder are anticipated to be sufficient through February 28, 2010.

(d) Fixed Fee Payment. At the time of each payment of allowable costs to the Contractor, the USAID paying office ordinarily pays the Contractor a percentage of fixed-fee that directly corresponds to the percentage of allowable costs being paid. Two exceptions of paying fixed fee in this manner apply:

- (1) If the Contracting Officer determines that this method results in paying a disproportionately higher ratio of fixed fee than the percentage of work that the Contractor has completed, then the Contracting Officer may suspend further payment of any fixed fee until the Contractor has made sufficient progress to justify further payment, up to the agreed percentage.
- (2) Because the clauses entitled "Allowable Cost and Payment" (FAR 52.216-7) and "Fixed Fee" (FAR 52.216-8) are incorporated into this TO, the terms and conditions of these clauses apply after total payments of fixed fee reach eight-five (85%) of the total fixed fee.

B.4 PAYMENT OFFICE

The paying office is:

Office of Financial Management
USAID Afghanistan
6180 Kabul Place
Dulles, VA 20189-6180

See Section G.4 concerning the submission of invoices.

END OF SECTION B

SECTION C – STATEMENT OF WORK AFGHANISTAN ENGINEERING SUPPORT PROGRAM

C.1 INTRODUCTION

The purpose of this Contract is to provide quick response resident professional architect and engineering (A/E) technical services in the sectors of transportation, vertical structures, energy and water and sanitation to USAID/Afghanistan. The activities assigned under this Contract will support USAID's objective of fostering sustainable development in developing countries.

C.2 BACKGROUND

Although much progress has been made, Afghanistan's infrastructure has not fully recovered from the devastation caused by the ravages of war, lack of regular maintenance and scant investment in physical infrastructure. The task of stabilizing and rebuilding Afghanistan is immense and requires the support of the donor community.

Activities performed under this Contract will complement and reinforce the activities and engineering expertise of USAID Office Infrastructure, Engineering and Energy (OIEE) staff. OIEE works in the following sectors:

- A. Transportation (roads, rail and airports). These services will include but not be limited to, the design of transportation systems, primary and secondary roads and bridges. The primary focus has been roads, however; additional activities may include: airports and rail.
- B. Vertical Structures (structural assessment, and design of schools, clinics, government centers and other buildings, including temporary space). These services will include but not be limited to, the structural assessment and design of education, health, judicial, general government facilities, agriculture, industrial parks and other structures as required.
- C. Energy (generation, transmission, distribution and regulation). These services will include but not be limited to the design of multiple power networks from generation to distribution, and regulation, small scale systems, renewable energy systems and hybrid systems.
- D. Water and Sanitation (urban and rural water supply systems, sanitation facilities, hygiene behavior change, and irrigation). These activities include, but are not limited to, the planning, assessment, design and training for water resource management, urban and rural water systems, drainage basins and irrigation systems, dams and storage reservoirs, flood control programs, domestic and industrial water supply, and the exploration and development of groundwater resources.

C.3 SCOPE OF WORK

This contract provides engineering and technical support so that the OIEE can continue to provide the Mission with needed engineering expertise in order to construct safe, long-life and energy efficient transportation, vertical structures, energy and water and sanitation infrastructure, and other related facilities in Afghanistan. It directly supports USAID strategic objectives relating to health, education, agriculture, economic growth, justice areas and infrastructure (i.e., vertical structures and energy). As a result of this contract, OIEE will have

immediate access to a team of full-time and short-term engineers based outside the USAID compound in Kabul and within the contractor's offices.

The Contractor shall be responsible for identifying, planning, designing and providing technical support and oversight of USAID infrastructure projects and related engineering activities, in accordance with the basic USAID Architect and Engineer (A&E) IQC contract statement of work

Required technical assistance spans the full range of expert engineering advice, and analytical and technical support to OIEE, USAID Provincial Reconstruction Teams (PRTs), and other USAID offices.

C.4 DETAILED WORK REQUIREMENTS

The Contractor shall, as directed by the COTR, provide the following duties and responsibilities:

- A. Planning Activities: Provide high quality engineering and technical assistance and guidance in the planning of new OIEE activities requested, including conceptualization, analysis and approval documentation including:
1. Preparation or review of designs and specifications for systems and equipment for facilities; statements of work (SOW) for associated services; cost estimates; requests for proposals; and invitations for bids;
 2. Preparation or review of training programs, especially in the areas of plant or equipment start-up, operation, maintenance, testing, acceptance, and logistics procedures and efficiency;
 3. Preparation, review, or assistance in development of statistical data on existing supply/demand and supply/demand forecasts. Development and interpretation for system usage data and forecasting future system requirements;
 4. Preparation or review of prefeasibility and feasibility studies, technical, financial and economic surveys, social soundness, management and financial analyses, organizational plans, and recommendations concerning technical and economic aspects of development;
 5. Ensure, with assistance of appropriate Mission staff as directed by the COTR, that environmental and sustainability issues are considered in program design and in keeping with Agency practices in accordance with USAID's environmental procedures or "Regulation 216" (Title 22, Code of Federal Regulations, Part 216; and
 6. Analysis of risks associated with natural disasters and the design of structures and services to appropriate building standards in order to better withstand such disasters; and analysis, evaluation and preparation of plans and procedures for maintenance and operations.
- B. Design Activities: Manage in a timely manner the preparation of detailed engineering designs, plans and cost estimates for assigned OIEE programs and activities, and ensure that they comply with appropriate national and international standards and reflect Agency best practices including:

1. Design of complex activities in support of OIEE;
 2. Provision of limited scope or short-term services involving preparation of preliminary or final drawings, sketches, changes and plans blueprints, aerial photographs and other topographical or geological data used to plan and review projects; and
 3. Analyze and evaluate designs, drawings, specifications, schedules and list of equipment requirements and inform and recommend USAID's position on assistance commitments for activities.
- C. Technical Support and Oversight: Provide project management oversight services for contracts/agreements in the sectors overseen. The Contractor will be responsible for providing guidance to contractors/grantees in accordance with the terms of the contract/agreement including:
1. Provide technical advice and support to personnel working on USAID programs that are related to infrastructure, such as PRTs personnel;
 2. Provision of technical advice to industrial and managerial personnel regarding design, and/or program modifications and structural repairs;
 3. Provide expert technical oversight to implementer staff, keeping OIEE, PRT, OSSD and CO informed of work progress;
 4. Provide technical support for procurement processes, including evaluation of others and contract modifications;
 5. Preparation or review of reports and recommendations as to general arrangements, viability and cost effectiveness of capital plan and processes; as to validity and economy of work plans; and for changes, additions, or revisions in project activities;
 6. Monitor adequacy and acceptability of delivered goods and services under approved activities including equipment installation, and training activities through field inspections, reviewing contractor reports and meeting project personnel and implementer representatives;
 7. Development of solutions to complex project and program architecture and engineering (A/E) issues unresolved by implementers;
 8. Provide construction inspection and surveillance services;
 9. Provide value engineering services;
 10. Provide technical assistance to the COTR in responding to proposed changes in OIEE's Contracts, SOWs, the validity of claims, and the reasonableness of contract time extensions;
 11. Provide appropriate technical assistance to the COTR in issuance and negotiations of change orders in accordance with procedures; and

12. Perform administrative responsibilities including but not limited to activities such as drafting project implementation letters, preparing action memoranda and reports, estimating expenditures, reviewing payment vouchers, responding to audits, assessing claims, writing Justification for Other than Full and Open Competition (JOFOC) and performing other related activities.

The Contractor shall be required to provide quality assurance (QA) services, as required.

D. Capacity Building

USAID/Afghanistan has a commitment to capacity development of Afghan organizations and individuals through their participation in USAID awards. As such, USAID/Afghanistan will include an evaluation factor which considers the proposed inclusion of Afghani staff as program staff and inclusion of Afghani organizations as subcontractors, as applicable. For multi-year contracts, this would include identifying an Afghani staff member who shall potentially play the Deputy Chief of Party (DCOP) and be trained to assume the Chief of Party position after the second or third year of program implementation, depending on circumstances.

E. Collaboration/Coordination with Appropriate Stakeholders

The Contractor shall collaborate and coordinate with appropriate stakeholders when directed by the COTR. Appropriate stakeholders include International Security Assistance Force (ISAF), U.S Military, key afghan ministries, provincial elected officials, Donors, NGOs, communities, and others as identified by requirements of the work.

C.5 DELIVERABLES

The following deliverables shall be provided by the Contractor:

- A. A *work plan* for the entire activity to be finalized within 60 days of Contract award. The work plan shall include items such as arrival dates, work activities, long- and medium-term postings and estimation of short-term level of effort (LOE). It shall also include a management structure, proposed schedule, work flow and overall program approach. The finalized work plan will become part of the contract as a modification to the contract.
- B. A *security plan* which needs to be reviewed and approved by the COTR. The security plan shall include personnel security and physical security for the contract.
- C. The Contractor shall hold *weekly meetings* with the COTR to discuss the weekly progress and resolve problems as required.
- D. The Contractor shall submit *quarterly progress reports* within 10 days from the end of the reporting period. Submission will follow the U.S. Government (USG) reporting periods which begins October 1. These reports shall summarize progress of the major activities during the period of performance indicating any problems encountered, and proposing remedial actions as appropriate. The contractor shall promptly notify the Contracting Officer (CO) and the COTR of any problems, delays, or adverse conditions, which materially impair the contractor's ability to meet the requirements of the Contract.
- E. The Contractor shall submit a *Performance Monitoring Plan* (PMP) within 90 days of the Contract award to the COTR approval. The PMP shall identify the start date of each activity and the estimated completion date. When applicable, milestones will be established for the

more complex activities. Each sub-activity should be identified with a specific activity under other the specific sector.

- F. The Contractor shall submit *annual work plans* that detail the work to be accomplished during the upcoming year. The 2nd year, 3rd year, 4th year and 5th year work plan will be finalized 60 days prior to the end of the current year according to the USG reporting schedule, which begins October 1st. These Annual Work plans may be revised on an occasional basis, as needed, to reflect changes on the ground and with the concurrence of the COTR.
- G. The Contractor shall submit an *annual report* of each fiscal year shall be a comprehensive annual report combining the activities of all four quarters (a separate fourth quarter report is not necessary) and providing an assessment towards achieving the annual objectives set forth in the annual work plans. This report is due 30 days after the end of the fiscal year.
- H. At the end of the contract the Contractor shall prepare a *final project report*. The final report will be drafted to allow for incremental improvements in the process, both generally within USAID and specifically with respect to this contract. The final report shall contain the following information:
 - 1. Specific objectives of the program;
 - 2. Activities undertaken to achieve program objectives;
 - 3. Results achieved by objective, including life-of-program reporting according to the performance monitoring plan;
 - 4. Cost of efforts by sector;
 - 5. Actions taken to leverage resources and to ensure the continuation and sustainability of program objectives and the effectiveness of these actions;
 - 6. Recommendations regarding unfinished work and/or program continuation; and
 - 7. Lessons learned over the course of the program and recommendations for other related programs.
- I. The Contractor shall prepare periodic success stories and other outreach materials that can be utilized by the Contractor and USAID.

C.6 SPECIAL REQUIREMENTS

A. Inherently Government Functions

The Contractor will work closely with USAID personnel. The Contractor is prohibited from performing inherently governmental functions as defined in FAR 7.5, Inherently Governmental Requirements.

B. Quality Assurance/ Quality Control (QA/QC)

The COTR for the program will be assisted by staff from a QA/QC Contractor. Technical staff will be hired by this Contractor for quality checks and quality assurance of the relevant sites implemented under this program as well as other USAID staff in monitoring and supervising progress and quality under the Program. The names of such staff and their roles will be provided to the Contractor in writing. The Contractor is required to cooperate fully with the QA/QC Contractor staff in the implementation of the program.

C. Security Plan

The contractor is required to ensure that adequate security is maintained to protect the safety of its personnel and the safety of subcontractors and associations working in Afghanistan throughout the life and implementation of the project.

Security for the Contractor's personnel and offices is the responsibility of the Contractor. The Contractor shall assess the security situation in Afghanistan, and particularly in the provinces targeted by the program, and institute appropriate measures. The Contractor is responsible for establishing a security protocol allowing completion of program obligations in this environment. If security factors are expected to disrupt implementation or to cause delay in attaining established targets, it is the Contractor's responsibility to immediately notify USAID.

The Contractor shall develop a security plan, including adequate requirements for protecting all contract personnel in the field and at the base of operations, contingency planning in case of emergency evacuation, as well a chain of command for communication and reporting instructions. The Contractor's security policies will be provided along with the security plan, including the handling of any detainees.

D. Preclusion from Certain Other USAID/Afghanistan Contracts

This contract calls for the Contractor to be responsible for identifying, planning, designing and providing technical support and oversight of USAID/Afghanistan infrastructure projects and related engineering activities. Required technical assistance spans the full range of expert engineering advice, and analytical and technical support to the USAID/Afghanistan Offices of Infrastructure, Engineering and Energy and Provincial Reconstruction Teams, and other USAID offices as required. It is critical to USAID/Afghanistan that such services be provided with complete impartiality and objectivity, uninfluenced by the possibility that the Contractor might in the near future compete for further USAID/Afghanistan contracts in which the Contractor may have provided development services under this contract.

It is understood and agreed that, by accepting this contract, the Contractor shall be ineligible to furnish, as a prime, subcontractor, or otherwise, under any new USAID/Afghanistan contract (with the exception of a successor activity to this contract), or contract modification which increases funding or extends the term of the contract, any infrastructure services (including architect and engineering, design, construction, and related activities) to USAID/Afghanistan for a period of three (3) years after the last services are provided by the Contractor under this contract, unless the USAID Competition Advocate shall have granted a prior waiver, based upon the Agency Competition Advocate's determination, per FAR 9.503, that such preclusion of the Contractor would not be in the Government's interest.

C.7 WORK ORDERS

The work under this task order will be dictated by the work plan and work orders, issued by the COTR. The work order process is defined as follows:

- A. All work will be authorized by the COTR or the Alternate COTR (A/COTR).

- B. A work plan will be agreed to by USAID and the Contractor as specified in Section C.5 of this task order. The work plan will delineate broad programmatic support to ongoing OIEE activities and further delineate specific support needed on discrete tasks within those activities.
- C. The work plan will authorize staff to attend to basic administrative tasks through e-mail or verbal guidance by the COTR and A/COTR to the AESP Contractor's Chief of Party (COP) or to the COP's designate.

Administrative tasks will include, but are not be limited to, conducting site visits, review of plans and designs, logistical support for visits, drafting concepts, presentations, or correspondence, and providing technical analyses, so long as the task relates to energy, water, buildings, or roads and so long as the total level of effort (LOE) for each task is equal to or less than 18 business days.

- D. For activities where the COTR or A/COTR determines that the total LOE exceeds 18 business days, the following procedures are required:
 - (1) The requesting staff member will submit a Work Order (WO) Request to the COTR.
 - (2) The WO Request will include a brief description of the requirements including:
 - a) Background
 - b) Objective
 - c) Tasks
 - d) Deliverables
 - e) Timeframe
 - f) Proposed LOE and skill sets required
 - (3) After the COTR has approved the WO Request, it will be transmitted it to the Contractor's COP, or designate, to request concurrence or modification to the WO. With concurrence, the Contractor will include a budget for the effort. Modifications to the WO will take the form of a WO Proposal that includes all of the WO elements and any alterations proposed by the Contractor, including any implications to the budget.
 - (4) The WO Proposal will be agreed to by the COTR and OIEE Requestor prior to the initiation of work.
 - (5) It is the joint responsibility of the COTR and the Contractor to track the budget over the course of the year to ensure that WOs do not exceed sub-obligation budget authority.
 - (6) The WO shall be assigned a number and the COTR will maintain a tracking system to gauge workload and progress.
 - (7) Contractor vouchers are required to reference the specific WO for accounting purposes.
- E. In the event that Contractor receives a request from the COTR that it believes exceeds the threshold of 18 days LOE, it is the Contractor's responsibility to notify the COTR to request a WO.

C.8 PERFORMANCE MONITORING PLAN

The contractor's performance shall be evaluated based on the completion of specific tasks as outlined in the Task Order, adherence to the work plan, and reports submitted to the Task Order's Contracting Officer's Technical Representative (COTR).

END OF SECTION C

SECTION D – PACKAGING AND MARKING

D.1 AIDAR 752.7009 MARKING (JAN 1993)

(a) It is USAID policy that USAID-financed commodities and shipping containers, and project construction sites and other project locations be suitably marked with the USAID emblem. Shipping containers are also to be marked with the last five digits of the USAID financing document number. As a general rule, marking is not required for raw materials shipped in bulk (such as coal, grain, etc.), or for semi-finished products which are not packaged.

(b) Specific guidance on marking requirements should be obtained prior to procurement of commodities to be shipped, and as early as possible for project construction sites and other project locations. This guidance will be provided through the cognizant technical office indicated on the cover page of this contract, or by the Mission Director in the Cooperating Country to which commodities are being shipped, or in which the project site is located.

(c) Authority to waive marking requirements is vested with the Regional Assistant Administrators, and with Mission Directors.

(d) A copy of any specific marking instructions or waivers from marking requirements is to be sent to the Contracting Officer; the original should be retained by the Contractor.

D.2 BRANDING

The Contractor shall comply with the requirements of the USAID “Graphic Standards Manual” available at www.usaid.gov/branding, or any successor branding policy.

D.3 BRANDING STRATEGY, IMPLEMENTAION PLAN AND MARKING PLAN

In accordance with ADS 320 “Branding and Marking” this task order incorporates USAID’s policy directives and required procedures on branding and marking of USAID-funded programs, projects, activities, public communications, and commodities with the USAID identity. The Branding Strategy for the Global Architecture and Engineering IQC Contract is as follows. The Contractor provided a corresponding Branding Implementation Plan and Marking Plan at IQC award.

D.3.1 Branding Strategy

Program/Activity Name: Global Architecture and Engineering Infrastructure - Afghanistan Engineering Support Program

Positioning: All materials developed as a result of this activity will contain the following attribution statement:

“This project was made possible by the United States Agency for International Development and the generous support of the American People through USAID Global Architecture and Engineering IQC Contracts.”

Level of Visibility: All publications developed through this project, with the exception of research articles published in academic journals, will also display currently approved USAID Identity graphic and conform to other requirements of the USAID Graphic Standards Manual.

END OF SECTION D

SECTION E - INSPECTION AND ACCEPTANCE

E.1 TASK ORDER PERFORMANCE EVALUATION

Task order performance evaluation shall be performed in accordance with the Global Architect-Engineer Infrastructure Services IQC, Section E.2 Inspection and Acceptance of Contract EDH-I-00-08-00027-00.

END OF SECTION E

SECTION F – DELIVERIES OR PERFORMANCE

F.1 PERIOD OF PERFORMANCE

(a) The estimated period of performance for this task order can be found in blocks 7 and 8 of the task order cover page.

(b) Subject to the cost plus fixed fee amount of this task order, the Task Order Contracting Officer's Technical Representative (TO-COTR) may extend the estimated completion date, provided that the extension does not cause the elapsed time for completion of the work, including the furnishing of all deliverables, to extend beyond 60 calendar days from the original estimated completion date. Prior to the original estimated completion date, the contractor shall provide a copy of the TO-COTR's written approval for any extension of the term of this task order to the Contracting Officer; in addition, the contractor shall attach a copy of the TO-COTR's approval to the final voucher submitted for payment.

(c) It is the contractor's responsibility to ensure that the TO-COTR-approved adjustments to the original estimated completion date do not result in costs incurred that exceed the ceiling price of this task order. Under no circumstances shall such adjustments authorize the contractor to be paid any sum in excess of the task order amount.

(d) Adjustments that will cause the elapsed time for completion of the work to exceed the original estimated completion date by more than 60 calendar days must be approved in advance by the Contracting Officer.

F.2 REPORTS AND DELIVERABLES

In addition to the requirements set forth for submission of reports in Sections I and J, and in accordance with AIDAR clause 752.242-70, Periodic Progress Reports, the Contractor shall submit reports, deliverables or outputs as further described below to the TO-COTR. All reports and other deliverables shall be in the English language, unless otherwise specified by the COTR.

See Section C for full information and a definitive listing of deliverables. In addition to the requirements of these sections, all of the evaluation findings, conclusions, and recommendations shall be documented in the Final Report. All written deliverables shall also be submitted electronically to the TO-COTR. Bound/color printed deliverables may also be required, as directed by the TO-COTR.

F.3 WORKDAYS ORDERED

- (a) See Attachment 1 for the details of the level of effort ordered.
- (b) Subject to the ceiling price established in this delivery order and the prior written Approval of the TO-COTR, the contractor may adjust the number of workdays actually employed in the performance of the work by each position specified in this order. The contractor shall attach a copy of the TO-COTR's approval to the final voucher submitted for payment. Adjustments may only be within ceiling of the total workdays ordered.
- (c) It is the contractor's responsibility to ensure that the TO-COTR-approved adjustments to the workdays ordered for each functional labor specialist do not result in costs incurred which Exceed the ceiling price of this delivery order. Under no circumstances shall such adjustments authorize the contractor to be paid any sum in excess of the ceiling price.

F.4 DESIGNATION OF RESPONSIBLE USAID OFFICIALS

Deborah Simms-Brown
Contracting Officer
U.S. Agency for International Development
Office of Acquisition & Assistance
Great Massoud Road
Kabul, Afghanistan

The Contracting Officer's Technical Representative COTR will be designated separately.

F.5 PLACE OF PERFORMANCE

The task order will be implemented throughout Afghanistan.

F.6 AUTHORIZED WORK DAY / WEEK

A six-day (6) workweek is authorized for the contractor's overseas personnel with no premium pay. No overtime or premium pay is authorized under this Task Order. Section H.3, "Personnel Compensation," of IQC EDH-I-00-08-00027-00 will apply.

END OF SECTION F

SECTION G – TASK ORDER ADMINISTRATION DATA

G.1 CONTRACTING OFFICER'S AUTHORITY

The Contracting Officer is the only person authorized to make or approve any changes in the requirements of this task order and notwithstanding any provisions contained elsewhere in this task order, the said authority remains solely in the Contracting Officer. In the event the Contractor makes any changes at the direction of any person other than the Contracting Officer, the change shall be considered to have been made without authority and no adjustment shall be made in the contract terms and conditions, including price.

G.2 TECHNICAL DIRECTION

The USAID Afghanistan Office of Infrastructure, Engineering and Energy shall provide technical oversight to the Contractor through the designated COTR. The contracting officer shall issue a letter appointing the COTR for the task order and provide a copy of the designation letter to the contractor.

G.3 ACCEPTANCE AND APPROVAL

The COTR must accept and approve deliverables before payment may be made.

G.4 INVOICES

One (1) original of each invoice shall be submitted on an SF-1034 Public Voucher for Purchases and Services Other Than Personal to the Office of Financial Management. One copy of the voucher and the invoice shall also be submitted to the Contracting Officer and the COTR.

Electronic submission of invoices is encouraged. Submit invoices to the Office of Financial Management at this address: KabulAIDevouchers@usaid.gov .

The SF-1034 must be signed, and it must be submitted along with the invoice and any other documentation in Adobe.

Paper Invoices shall be sent to the Paying Office identified in block 6 of the task order cover page.

If submitting invoices electronically, do not send a paper copy.

END OF SECTION G

SECTION H – SPECIAL TASK ORDER REQUIREMENTS

H.1 KEY PERSONNEL

The following positions are considered key positions that are critical to the work being performed under this task order:

- a) Chief of Party and Transportation Sector Lead – Chester Drake
- b) Senior Engineer Vertical Structures Sector Lead – Najim Azadzo
- c) Senior Engineer Energy Sector Lead – Marc Laderman
- d) Senior Engineer Water Sector Lead – Marjory O'Brien

Candidates for the positions above require USAID prior approval. Prior to replacing any incumbent, the Contractor will immediately notify both the CO and the COTR reasonably in advance, and will submit written justification (including proposed replacements) in sufficient detail to permit evaluation of the impact on the TO activities. No replacement of Key Personnel will be made by the Contractor without the written consent of the CO.

H.2 AUTHORIZED GEOGRAPHIC CODE

The authorized geographic code for procurement of goods and services under this order is 935.

H.3 LANGUAGE REQUIREMENTS

All deliverables shall be produced in English.

H.4 GOVERNMENT FURNISHED FACILITIES OR PROPERTY

(a) The Contractor and any employee or consultant of the Contractor is prohibited from using U.S. Government facilities (such as office space or equipment) or U.S. Government clerical or technical personnel in the performance of the services specified in the Task Order unless the use of Government facilities or personnel is specifically authorized in the Task Order or is authorized in advance, in writing, by the CO.

(b) If at any time it is determined that the contractor, or any of its employees or consultants, have used U.S. Government facilities or personnel either in performance of the contract itself, or in advance, without authorization in, in writing, by the Contracting Officer, then the amount payable under the contract shall be reduced by an amount equal to the value of the U.S. Government facilities or personnel used by the contractor, as determined by the contracting officer.

(c) If the parties fail to agree on an adjustment made pursuant to this clause it shall be considered a "dispute" and shall be dealt with under the terms of the "Disputes" clauses of the contract.

H.5 CONFIDENTIALITY AND OWNERSHIP OF INTELLECTUAL PROPERTY

All reports generated and data collected during this project shall be considered the property of USAID and shall not be reproduced, disseminated or discussed in open forum, other than for the purposes of completing the tasks described in this document, without the express written approval of a duly-authorized representative of USAID. All findings, conclusions and recommendations shall be considered confidential and proprietary.

H.6 CONTRACTOR'S STAFF SUPPORT, AND ADMINISTRATIVE AND LOGISTICS ARRANGEMENTS

The Contractor shall be responsible for all administrative support and logistics required to fulfill the requirements of this task order. These shall include all travel arrangements, appointment scheduling, secretarial services, report preparations services, printing, and duplicating.

H.7 AIDAR 752.242-70 PERIODIC PROGRESS REPORTS (OCT 2007)

(a) The contractor shall prepare and submit progress reports as specified in the contract schedule. These reports are separate from the interim and final performance evaluation reports prepared by USAID in accordance with FAR 42.15 and internal Agency procedures, but they may be used by USAID personnel or their authorized representatives when evaluating the contractor's performance.

(b) During any delay in furnishing a progress report required under this contract, the contracting officer may withhold from payment an amount not to exceed US\$25,000 (or local currency equivalent) or 5 percent of the amount of this contract, whichever is less, until such time as the contractor submits the report or the contracting officer determines that the delay no longer has a detrimental effect on the Government's ability to monitor the contractor's progress.

H.7 USAID DISABILITY POLICY – ACQUISITION (DEC 2004)

(a) The objectives of the USAID Disability Policy are (1) to enhance the attainment of United States foreign assistance program goals by promoting the participation and equalization of opportunities of individuals with disabilities in USAID policy, country and sector strategies, activity designs and implementation; (2) to increase awareness of issues of people with disabilities both within USAID programs and in host countries; (3) to engage other U.S. government agencies, host country counterparts, governments, implementing organizations and other donors in fostering a climate of nondiscrimination against people with disabilities; and (4) to support international advocacy for people with disabilities. The full text of the policy paper can be found at the following website: http://pdf.dec.org/pdf_docs/PDABQ631.pdf.

(b) USAID therefore requires that the contractor not discriminate against people with disabilities in the implementation of USAID programs and that it make every effort to comply with the objectives of the USAID Disability Policy in performing this contract. To that end and within the scope of the contract, the contractor's actions must demonstrate a comprehensive and consistent approach for including men, women and children with disabilities.”

END OF SECTION H

SECTION I – CONTRACT CLAUSES

I.1 Reference Global Architecture and Engineering IQC EDH-I-00-08-00027-00

I.2 AIDAR 752.7028 DIFFERENTIALS AND ALLOWANCES (JUL 1996)

(This clause does not apply to TCN or CCN employees. TCN and CCN employees are not eligible for differentials and allowances, unless specifically authorized by the cognizant Assistant Administrator or Mission Director. A copy of such authorization shall be retained and made available as part of the contractor's records which are required to be preserved and made available by the "Examination of Records by the Comptroller General" and "Audit" clauses of this contract).

(a) Post differential. Post differential is an additional compensation for service at places in foreign areas where conditions of environment differ substantially from conditions of environment in the continental United States and warrant additional compensation as a recruitment and retention incentive. In areas where post differential is paid to USAID direct-hire employees, post differential not to exceed the percentage of salary as is provided such USAID employees in accordance with the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 500 (except the limitation contained in Section 552, "Ceiling on Payment") Tables-Chapter 900, as from time to time amended, will be reimbursable hereunder for employees in respect to amounts earned during the time such employees actually spend overseas on work under this contract. When such post differential is provided to regular employees of the Contractor, it shall be payable beginning on the date of arrival at the post of assignment and continue, including periods away from post on official business, until the close of business on the day of departure from post of assignment en route to the United States. Sick or vacation leave taken at or away from the post of assignment will not interrupt the continuity of the assignment or require a discontinuance of such post differential payments, provided such leave is not taken within the United States or the territories of the United States. Post differential will not be payable while the employee is away from his/her post of assignment for purposes of home leave. Short-term employees shall be entitled to post differential beginning with the forty-third (43rd) day at post.

(b) Living quarters allowance. Living quarters allowance is an allowance granted to reimburse an employee for substantially all of his/her cost for either temporary or residence quarters whenever Government-owned or Government-rented quarters are not provided to him/her at his/her post without charge. Such costs are those incurred for temporary lodging (temporary quarters subsistence allowance) or one unit of residence quarters (living quarters allowance) and include rent, plus any costs not included therein for heat, light, fuel, gas, electricity and water. The temporary quarters subsistence allowance and the living quarters allowance are never both payable to an employee for the same period of time. The Contractor will be reimbursed for payments made to employees for a living quarters allowance for rent and utilities if such facilities are not supplied. Such allowance shall not exceed the amount paid USAID employees of equivalent rank in the Cooperating Country, in accordance with either the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 130, as from time to time amended, or other rates approved by the Mission Director. Subject to the written approval of the Mission Director, short-term employees may be paid per diem (in lieu of living quarters allowance) at rates prescribed by the Federal Travel Regulations, as from time to time amended, during the time such short-term employees spend at posts of duty in the Cooperating Country under this contract. In authorizing such per diem rates, the Mission Director shall

consider the particular circumstances involved with respect to each such short-term employee including the extent to which meals and/or lodging may be made available without charge or at nominal cost by an agency of the United States Government or of the Cooperating Government, and similar factors.

(c) Temporary quarters subsistence allowance. Temporary quarters subsistence allowance is a quarters allowance granted to an employee for the reasonable cost of temporary quarters incurred by the employee and his family for a period not in excess of (i) 90 days after first arrival at a new post in a foreign area or a period ending with the occupation of residence (permanent) quarters, if earlier, and (ii) 30 days immediately preceding final departure from the post subsequent to the necessary vacating of residence quarters, unless an extension is authorized in writing by the Mission Director. The Contractor will be reimbursed for payments made to employees and authorized dependents for temporary quarters subsistence allowance, in lieu of living quarters allowance, not to exceed the amount set forth in the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 120, as from time to time amended.

(d) Post allowance. Post allowance is a cost-of-living allowance granted to an employee officially stationed at a post where the cost of living, exclusive of quarters cost, is substantially higher than in Washington, D.C. The Contractor will be reimbursed for payments made to employees for post allowance not to exceed those paid USAID employees in the Cooperating Country, in accordance with the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 220, as from time to time amended.

(e) Supplemental post allowance. Supplemental post allowance is a form of post allowance granted to an employee at his/her post when it is determined that assistance is necessary to defray extraordinary subsistence costs. The Contractor will be reimbursed for payments made to employees for supplemental post allowance not to exceed the amount set forth in the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 230, as from time to time amended.

(f) Educational allowance. Educational allowance is an allowance to assist an employee in meeting the extraordinary and necessary expenses, not otherwise compensated for, incurred by reason of his/her service in a foreign area in providing adequate elementary and secondary education for his/her children. The Contractor will be reimbursed for payments made to regular employees for educational allowances for their dependent children in amounts not to exceed those set forth in the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 270, as from time to time amended. (See Standardized Regulation 270)

(g) Educational travel. Educational travel is travel to and from a school in the United States for secondary education (in lieu of an educational allowance) and for college education. The Contractor will be reimbursed for payments made to regular employees for educational travel for their dependent children provided such payment does not exceed that which would be payable in accordance with the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 280, as from time to time amended.

(See Standardized Regulation 280) Educational travel shall not be authorized for regular employees whose assignment is less than two years.

(h) Separate maintenance allowance. Separate maintenance allowance is an allowance to assist an employee who is compelled, by reason of dangerous, notably unhealthful, or excessively adverse living conditions at his/her post of assignment in a foreign area, or for the

convenience of the Government, to meet the additional expense of maintaining his/her dependents elsewhere than at such post. The Contractor will be reimbursed for payments made to regular employees for a separate maintenance allowance not to exceed that made to USAID employees in accordance with the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 260, as from time to time amended. (See Standardized Regulation 260)

(i) Payments during evacuation. The Standardized Regulations (Government Civilians, Foreign Areas) provide the authority for efficient, orderly, and equitable procedure for the payment of compensation, post differential and allowances in the event of an emergency evacuation of employees or their dependents, or both, from duty stations for military or other reasons or because of imminent danger to their lives. If evacuation has been authorized by the Mission Director the Contractor will be reimbursed for payments made to employees and authorized dependents evacuated from their post of assignment in accordance with the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 600, and the Federal Travel Regulations, as from time to time amended. (See Standardized Regulation 600)

(j) Danger pay allowance. (1) The contractor will be reimbursed for payments made to its employees for danger pay not to exceed that paid USAID employees in the cooperating country, in accordance with the Standardized Regulations (Government Civilians, Foreign Areas), Chapter 650, as from time to time amended. (See Standardized Regulation 650)

(2) Danger pay is an allowance that provides additional compensation above basic compensation to an employee in a foreign area where civil insurrection, civil war, terrorism or wartime conditions threaten physical harm or imminent danger to the health or well-being of the employee. The danger pay allowance is in lieu of that part of the post differential which is attributable to political violence. Consequently, the post differential may be reduced while danger pay is in effect to avoid dual crediting for political violence.

SECTION J – ATTACHMENTS

J.1 WORKDAYS ORDERED (LEVEL OF EFFORT)

NAME	LABOR CATEGORY	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
TetraTech CIG							
Chester Drake	Program Manager/Senior	292	292	292	292	292	1460
Najim Azad	Structural Engineer/Senior	292	292	292	292	148	1316
Marc Laderman	Civil Engineer/Senior	292	292	292	292	148	1316
Marjory O'Brien	Water Resources Engineer/Sr	292	292	292	292	148	1316
To Be Named	Water Resources Engineer/Sr	212	292	292	292	0	1088
To Be Named	Contracts/FM Support/Senior	262	148	0	0	222	632
Deborah DeCrausaz	Computer Programmer/Senior	292	292	292	292	292	1460
Michael Dolleton	Contracts/FM Support/Senior	292	292	292	292	292	1460
Jessica Harris	Civil Engineer/Junior	292	292	292	292	148	1316
To Be Named	Civil Engineer/Junior	212	292	0	0	0	504
To Be Named	Computer Programmer/Senior	45	0	0	0	0	45
To Be Named	Civil Engineer/Senior	90	90	90	90	90	450
To Be Named	Civil Engineer/Senior	50	50	80	60	50	290
To Be Named	Civil Engineer/Mid	50	50	80	60	50	290
To Be Named	Civil Engineer/Junior	60	60	90	60	60	330
Various	Home Office Support	985	1079	1079	1079	1011	5233
TetraTech EMI							
Firouz Rooyani	Program Manager/Senior	40	40	40	40	40	200
To Be Named	Environmental Engineer/Sr	10	10	10	10	10	50
To Be Named	Environmental Engineer/Mid	10	10	10	10	10	50
Renee Valentino	Contracts/FM Support/Senior	22	22	22	22	22	110
Shelley Rice	Contracts/FM Support/Senior	18	18	18	18	18	90
TetraTech Afghans							
To Be Named	Deputy COP	0	156	312	312	234	1014
Amin Wahid	Government Liaison	312	312	312	312	312	1560
To Be Named	Admin/HR Manager	312	312	312	312	312	1560
To Be Named	Facility Manager	282	312	312	312	312	1530
To Be Named	IT Manager	291	312	312	312	282	1509
To Be Named	Accountant	282	312	312	312	312	1530
To Be Named	Office/Residence Support	1974	2184	2184	2184	2184	10710
To Be Named	Maintenance Technician	282	312	312	312	312	1530
To Be Named	IT Assistant	282	312	312	312	252	1470
To Be Named	Auditor/Buyer/Proc. Spec.	816	936	936	936	876	4500
To Be Named	Admin Assistant	534	624	624	624	594	3000
To Be Named	Structural Engineer/Mid	282	312	312	312	282	1500
To Be Named	Electrical Engineer/Mid	282	312	312	312	282	1500
To Be Named	Civil Engineer/Junior	282	312	312	312	282	1500
To Be Named	Structural Engineer/Junior	282	312	312	312	282	1500
To Be Named	Electrical Engineer/Junior	282	312	312	312	282	1500
To Be Named	Mechanical Engineer/Junior	282	312	312	312	282	1500
To Be Named	Architect/Junior	252	312	312	312	282	1470
To Be Named	Civil Engineer/Mid	282	312	312	312	282	1500

To Be Named	Mechanical Engineer/Mid	282	312	312	312	282	1500
To Be Named	Short Term Consultant/Senior	100	120	150	100	100	570
To Be Named	Short Term Consultant/Mid	100	120	150	100	100	570
To Be Named	Short Term Consultant/Junior	60	90	120	60	60	390
Winrock International							
To Be Named	Electrical Engineer/Senior	20	20	30	20	20	110
To Be Named	Electrical Engineer/Mid	20	20	30	20	20	110
Power Engineers							
To Be Named	Electrical Engineer/Senior	30	40	40	40	30	180
To Be Named	Project Manager/Senior	2	2	2	2	2	10
To Be Named	Electrical Engineer/Mid	30	30	30	30	30	150
To Be Named	Admin Assistant/Mid	1	1	1	1	0	4
TOTAL Level of Effort		12,348	13,540	13,456	13,206	11,933	64,483

ANNEX III: EVALUATION WORK PLAN



USAID | AFGHANISTAN
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WORK PLAN

FINAL PERFORMANCE EVALUATION

OF THE

AFGHAN ENGINEERING SUPPORT PROGRAM AESP

CONTRACT NUMBER 306-EDH-I-00-08-00027

Submitted on:

MARCH 16, 2014

1.0 PURPOSE OF EVALUATION

The purpose of this evaluation is to collect and review information recorded during the execution of specific and distinct Afghan Engineering Support Program (AESP) work orders in the effort to evaluate the performance of the team in delivering project objectives. This evaluation will identify strengths and weaknesses of the AESP and deliver conclusions and recommendations that will enable USAID Program Managers to design improved engineering support programs in the near future. Lessons learned can be shared with the larger USAID Mission, GIRoA Agencies, international donors and other GIRoA stakeholders planning to improve Afghanistan's Infrastructure.

The objectives of this evaluation are to:

1. Evaluate the design, planning, approach, implementation and effectiveness of USAID's engineering support in a wide range of construction project types and specific project activities including capacity building, preconstruction planning, contract administration, design and build, project close out, final acceptance and operations.
2. Develop a lessons learned for planning and implementing future engineering support programs.
3. Identify strengths and weaknesses within the ongoing engineering support program that can be enhanced or improved thereby maximizing the effectiveness of the programs objectives during its final year.

2.0 AFGHAN ENGINEERING SUPPORT PROGRAM (AESP) BACKGROUND

AESP Program Information

Program Name:	Afghan Engineering Support Program AESP
Contractor:	Tetra Tech
Contract Number:	306-EDH-I-00-08-00027
Contract Value:	\$62,984,016
Life of Program:	November 9, 2009 through November 8, 2014
Program Location:	Kabul various sites throughout Afghanistan

Progress has been made in the rebuilding of Afghanistan however much work remains as the Country has not fully recovered from the ravages of war and lack of regular maintenance. The Afghan Engineering Support Program (AESP) was developed to provide quick response Architectural and engineering technical services in the energy, water, buildings and transportation sectors. These services include design and engineering, project management, administrative and contract administration and capacity building activities.

The Office of Economic Growth and Infrastructure's AESP Program directly supports USAID strategic objectives in health, education, agriculture, economic growth, justice areas and infrastructure by providing these technical services for a wide range of project types within Afghanistan. The AESP is delivered through the Contractor Tetra Tech from offices based in Kabul and in other remote site locations.

2.1 AESP CONSTRUCTION INDUSTRY SECTORS

The AESP was developed and implemented to support the following project types:

Transportation Sector

Roads
Rail
Airports

Building Sector

Schools
Health Clinics
Judicial
Government Buildings

Energy Sector

Power Generation
Power Distribution
Renewable Energy
Industry Regulation

Water and Sanitation

Agricultural Irrigation, Drainage and Flood Control
Water Resource Management
Domestic Water Wells, Storage and Distribution

2.2 AESP'S ENGINEERING AND CONSTRUCTION MANAGEMENT SERVICES

The AESP was established to provide the following engineering support services:

Planning and Activities

Project Feasibility Studies
Social and Financial Impact Analysis
Environmental Impact Studies
Design Surveys
Architectural and Engineering Design Documents
Risk Management
Budget Estimating
Development of RFP's
Contract Administration and Change Management
Project Management
Capacity Development and Training Programs

Design Activities

Design of Complex Activities to Support OEGI
Owners 3rd Party Design Review
Limited Scope and Short term Design Activities
Review of Project Management Plans

Technical Support and Oversight

Value Engineering
Quality Assurance
Quality Control Inspections
Training of GIRoA and Contractors in Project Management
Cost Control and Change Management
Problem Solving and Design Changes
Review and Evaluation of Change Proposals
Performance Evaluations and Report Writing
Review of Project Controls and Communications
Project Recovery Planning
Contractors Dispute Resolution

Capacity Building for USAID Project Partners

Development of USAID Afghan Staff in AESP Management Roles
Development of GIRoA Agencies Ministry of Finance and Ministry of Public Works in Project Mgmt.

Development of USAID Project Implementers and Contractors in Construction Project Management

Stakeholder Management

Stakeholder Management Plan

Identification of Stakeholders

Ranking of Stakeholders

Inform Stakeholders of Progress and Issues as Required by the WO

This evaluation is primarily guided by five questions proposed in the scope of work. Since all AESP work orders cannot be covered in this evaluation the performance of projects that are selected for evaluation will be weighed against these five questions listed below:

1. **Planning Activities:** Did the AESP provide high quality engineering and technical assistance and guidance in the planning of new OEGI activities requested, including conceptualization, analysis, and approval documentation? Did the deliverables facilitate the advancement of OEGI's relevant objectives?
2. **Design Activities:** Were designs produced or managed by the AESP delivered in a timely manner and comply with appropriate national and international standards? Did they reflect Agency best practices and meet the needs of clients?
3. **Technical Support and Oversight:** Did the AESP provide project management oversight services for contracts/agreements in the sectors overseen? Did the Contractor provide guidance to Contractors/grantees in accordance with the terms of the contract/agreement?
4. **Technical Support and Oversight:** Did the AESP provide project management oversight services for contracts/agreements in the sectors overseen? Did the Contractor provide guidance to Contractors/grantees in accordance with the terms of the contract/agreement?
5. **Capacity Building:** Are the trainees and interns currently using the new skills/knowledge they gained from the AESP training and if so, which skills? What are the trainees' and interns' perceptions on the value and quality of the training they received?
6. **Collaboration/Coordination with Appropriate Stakeholders:** To what extent did the AESP's standard process for providing engineering support include collaboration to ensure that deliverables reflected stakeholder needs?

7. **USAID's Role:** How did USAID's AESP design, management, and oversight affect AESP performance? What lessons can be learned for future projects of a similar nature?
8. **Gender Considerations:** Did AESP include both men and women in the engineering service or capacity building activities?

3.0 METHODOLOGY FOR THE EVALUATION OF THE AESP'S PERFORMANCE

3.1 Project Selection and Review of Archived Project Management Documentation

Since the Afghan Engineering Support Program provides a wide range of engineering services to a wide range of project types it will be necessary to first carry out the following preliminary evaluation phase:

1. Review of AESP work orders and identify which type of engineering support was applied to each type infrastructure project, and the cost of each service. These assignments shown in Appendix 1
2. Determine which work order represents the best combination of AESP services and projects that provides USAID with the best information on program performance. The following considerations could be taken into account:
 - 2.1 Budget value of the work order
 - 2.2 Budget value of the related project to which the engineering service applied
 - 2.3 Selection of five work orders that relates to each of the five SOW questions
 - 2.4 Selection of work orders or projects that have direct GIRoA participation
2. *Analyze and review work orders, project management documentation, project or work schedules, performance data, design documents, training plans and communication archives for each work order and determine how effectively and efficiently WO requirements were delivered.
3. Compare the work orders scope of work, Contractor implementation plans and work order deliverables to industry best practice.

**Review of archived project management documentation (refer to Scope of Work page 6 VII. Existing Performance Information Sources) is an important step in the evaluation process. It is important to obtain and review all project management documents including*

work orders, work plans, design documents, project management plans, financial and cost reports, performance reports, meeting minutes, and other communications to effectively deliver a timely evaluation of the AESP.

The observations made from this review will enable our team to identify trends in the performance of the Contractor in executing any particular engineering service in transportation, building, energy or water and sanitation projects. This provides some level of insight as to the reason for above average performance and probable cause for difficulties in project execution, what went well and what can be improved upon.

3.2 Conduct Informative Meetings with Stakeholders

The second evaluation phase requires meetings with key stakeholders to verify preliminary findings for both positive and negative activity performance, and to identify possible oversights, missing or supplemental information. This phase would include the following activities:

1. Provide a meeting agenda that includes a brief on the purpose of this evaluation, basic methodology, and discussion of positive events and challenges in executing the work order.
2. Prepare a general questionnaire that covers performance observations, positive and negative, for all engineering support activity and project types.
3. Open discussion to identify possible steps that can improve AESP services both short term and long term.

With the exception of Contractor Tetra Tech COP Michael Petti a list of potential interviewees in Kabul will be submitted to USAID for approval prior to the scheduling of meetings.

3.3 Expert Judgment for Engineering and Construction Project in Afghanistan

The final phase of the AESP evaluation activity will require our team to collectively review all findings from both documentation archive review and the information gathered during interviews with project stakeholders. The performance information for each AESP service or project will be weighed against the following considerations:

- Access and security issues for field verification and construction activity inspections
- The availability of qualified or specialized engineers

- Foul weather
- Political issues
- Disputes within stakeholders

3.4 Summary of Evaluation Methodology

In summary the methodology for the evaluation of the performance of these projects involves a combination of the following processes:

- AESP service and project selection
- Review of archived project management documents and the comparison to best practice
- Informative meetings and questionnaires and with Kabul based stakeholders, including project sponsors, engineers and end users
- Expert judgment for Construction Management Projects in Afghanistan

The evaluation of AESP performance will take into consideration the constraints and limitations in executing both engineering service and project management in Afghanistan for transportation, buildings, energy, water and sanitation projects. The types of constraints could include:

- Security related events
- Availability of qualified or specialized engineers
- Foul weather
- Political events
- Stakeholder approvals, agreements and coordination

Possible constraints for this evaluation survey could include:

- Incomplete or missing project management record documents

- The unavailability of stakeholders, or members of the project management team for interview.

This evaluation will cover the design, implementation and effectiveness of USAID’s Afghan Engineering Support Program AESP and identify strengths and weaknesses. A lesson learned will be included in the final report so that future programs of this type can become more effective and deliver more effective solutions to ongoing challenges. As the AESP is an active engineering support program the final evaluation report will identify possible areas where changes may be considered in order to achieve improvements short term.

The scope of work puts forward five specific questions that need to be addressed by this evaluation. Below are some examples of the team’s evaluation activity that will be used to answer these questions:

1. **Planning Activities:** Did the AESP provide high quality engineering and technical assistance and guidance in the planning of new OEGI activities requested, including conceptualization, analysis, and approval documentation? Did the deliverables facilitate the advancement of OEGI’s relevant objectives?

Review the Contractors communications, feasibility studies, risk management plans, design narratives and design deliverables and make comparison to the work order statement of work and to industry best practice. Evaluate the efficiency and effectiveness of the planning and construction process, was value added?

2. **Design Activities:** Were designs produced or managed by the AESP delivered in a timely manner and comply with appropriate national and international standards? Did they reflect Agency best practices and meet the needs of clients?

Review the Contractors design deliverables including preliminary surveys, environmental impact studies, drawings and specifications, delivery schedules, and check for compliance with the appropriate international design standards. Did the documents facilitate and efficient construction process? Were design changes and change orders required?

3. **Technical Support and Oversight:** Did the AESP provide project management oversight services for contracts/agreements in the sectors overseen? Did the Contractor provide guidance to Contractors/grantees in accordance with the terms of the contract/agreement?

Review the Contractors project management documents including, scope of work, project schedules, project cost reports, quality control reports, communications

files ,safety reports, training schedules, communications files, risk management plans, RFP's, procurements, and stakeholder management. Comparison of baseline plans to actual plans will determine what went well and which activity can be improved upon for the next project.

4. **Capacity Building:** Are the trainees and interns currently using the new skills/knowledge they gained from the AESP training and if so, which skills? What are the trainees' and interns' perceptions on the value and quality of the training they received?

Review the training curriculums used for specific capacity building programs and interview trainees and interns to determine the effectiveness of the training program and to what extent the new skill is being utilized in their daily work place. Were the requirements of the work order satisfied?

5. **Collaboration/Coordination with Appropriate Stakeholders:** To what extent did the AESP's standard process for providing engineering support include collaboration to ensure that deliverables reflected stakeholder needs?

Review that Contractors stakeholder's management plans, management strategy and communications files to identify primary (donor) and secondary (end user) stakeholders, internal and external stakeholders, and or direct or indirect stakeholders. Identify the level of stakeholder participation and communications, how were stakeholder requirements identified and managed? To what extent were stakeholders kept informed of progress in meeting their interests.

6. **USAID's Role:** How did USAID's AESP design, management, and oversight affect AESP performance? What lessons can be learned for future projects of a similar nature?

Review of the AESP contract documents, work orders, communications files including meeting minutes, inter office memorandums, and program change directives. Meet with stakeholders to discuss program performance.

7. **Gender Considerations:** Did AESP include both men and women in the engineering service or capacity building activities?

Review of AESP contract documents and work orders to identify gender initiatives. Meet with stakeholders to discuss the participation of Afghan women in the AESP.

4.0 WORK SCHEDULE

In accordance with the scope of work the AESP evaluation task will be completed in within 45 days as illustrated in Appendix 2 Work Schedule.

5.0 TEAM MEMBERS

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Work Plan
ANNEX 1

AESP SERVICE

VS

CONSTRUCTION INDUSTRY SECTOR
MATRIX

AESP Project Activity Record

AESP TASK PROJECT RECORD	AESP PROJECT TYPE					
	A. Transportation Rail, Roads, Airports	B. Vertical Structures Structural Assess., Building Design	C. Energy Design, Gen., Distr., Regul., Transmission.			D. Water & Sanitation Drainage, Irrigation, Storage, Distribution
	WO - LT 009	WO - LT 005	WO - LT 063	WO - LT 048	WO - LT 024	WO - LT 005
	Amendment 1 Rev 3	Amendment 2 Rev 1	AMD 0 SOW R1	Amendment 5 Rev 1	WO	Amendment 8
	Sangai Khost Bridge Design and Bid	Kabul U. Mens Dorm MEP Renovation	Salang Tunnel Substation Tech Sections	Transmission Line from Ghazni to Mazar	Kud Bergh Mazar 48MW Power Plant	Ghazi Boys Highschool, Water, Sewer, Utilities
	21-Apr-11	19-Oct-10	21-Oct-12	19-Dec-13	5-Dec-10	17-Nov-10
ROM	\$ 333,000.00	\$ 619,664.00	\$ 328,000.00	\$ 663,000.00	\$ 140,000.00	see WO -LT 005 AMD 2
AESP WO ACTIVITY						
A. Planning						
Prepare Design Plans & Specs.	•		•	•		•
Develop SOW	•		•	•		
Prepare Project Schedule						
Prepare Cost Estimates/BoQ	•		•	•	•	
Develop RFP Bid Documents	•		•	•		
Provide Contract Guidance	•	•	•			•
Bid Review			•	•		•
Training Programs O&M						
Start Up and Testing						
Planning Logistical Support						
Final Inspections	•	•				•
Project Remediation Planning						
Project Upgrade A/E Application		•			•	
Tech & Financial Survey			•		•	•
Organizational & PM Plans						
Social & Economic Planning						
Environmental Impact Assess.						•
Reg. 216						
Risk Management Plan						
B. Design Activity						
A						•
A/E Design and Specifications	•		•	•		
Feasibility Study					•	
Limited Design Support Cap/RFI		•	•	•		•
USAID Rep Design Review		•				•
C. Technical Support & Oversight						

AESP TASK PROJECT RECORD	AESP PROJECT TYPE					
	A. Transportation Rail, Roads, Airports	B. Vertical Structures Structural Assess., Building Design	C. Energy Design, Gen., Distr., Regul., Transmission.			D. Water & Sanitation Drainage, Irrigation, Storage, Distribution
	WO - LT 009	WO - LT 005	WO - LT 063	WO - LT 048	WO - LT 024	WO - LT 005
	Ammendment 1 Rev 3	Ammendment 2 Rev 1	AMD 0 SOW R1	Ammendment 5 Rev 0	WO	Amemndment 8
	Sangai Khost Bridge Design and Bid	Kabul U. Mens Dorm MEP Renovation	Salang Tunnel Substation Tech Sections	Transmission Line from Ghazni to Kandahar East	Kud Bergh Mazar 48MW Power Plant Assessment	Ghazi Boys Highschool, Water, Sewer, Utilities Upgrade
	21-Apr-11	19-Oct-10	21-Oct-12	19-Dec-13	5-Dec-10	17-Nov-10
ROM	\$ 333,000.00	\$ 619,664.00	\$ 328,000.00	\$ 663,000.00	\$ 140,000.00	see WO -LT 005 AMD 2
AESP WO ACTIVITY						
Tech Support to USAID	.		.		.	.
Tech Support to GiROA	.		.	.	.	.
Tech Support to Contractors	.	.	.	.	.	.
Project Mgmt/Coord/Meetings		.			.	.
3rd Party Evaluation of PM Plans		.				
Project Contract Administration		.				.
Project Procurement Oversight			.		.	.
Project Quality Control			.	.	.	.
Project Quality Assurance		.	.	.	.	.
Project Recovery Planning					.	
Project Value Engineering					.	
Project Change Management		.	.	.	.	.
Project Close Out		.				.
D. Capacity Building						.
USAID Staff						
GoIRA Staff						
Afghan Contractors	.	.				.
Other Contractors						.
NGO						
D. Stakeholder Management						
USAID	.	.	.	.	.	.
GoIRA	.	.	.	.	.	.
DoD	.		.	.	.
Afghan Contractors	.	.	.	.	.	.

AESP TASK PROJECT RECORD	AESP PROJECT TYPE					
	A. Transportation Rail, Roads, Airports	B. Vertical Structures Structural Assess., Building Design	C. Energy Design, Gen., Distr., Regul., Transmission.			D. Water & Sanitation Drainage, Irrigation, Storage, Distribution
	WO - LT 009	WO - LT 005	WO - LT 063	WO - LT 048	WO - LT 024	WO - LT 005
	Ammendment 1 Rev 3	Ammendment 2 Rev 1	AMD 0 SOW R1	Ammendment 5 Rev 0	WO	Amemndment 8
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	21-Apr-11	19-Oct-10	21-Oct-12	19-Dec-13	5-Dec-10	17-Nov-10
ROM	\$ 333,000.00	\$ 619,664.00	\$ 328,000.00	\$ 663,000.00	\$ 140,000.00	see WO -LT 005 AMD 2
AESP WO ACTIVITY						
End Users
E. Other AESP Activity						

Work Plan
ANNEX 2

STAKEHOLDER MEETING AGENDA

Afghan Engineering Support Program AESP Evaluation

Meeting Agenda

Where: Checchi Meeting Room and Various in Kabul

Date: TBD

Attendees:

Various

Mr. Michael Petti COP Tetra Tech

Mr. Ron Francis Team Lead Checchi and Company Consulting Inc.

Mr. Michael Partridge Evaluation Specialist Checchi and Company Consulting Inc.

Mr. Aziz Ahmad Gulistani Engineering Specialist Checchi and Company Consulting Inc.

Mr. Faridun Faryad Engineering Specialist Checchi and Company Consulting Inc.

Purpose of Meeting:

To provide background on the purpose of this evaluation and to discuss the positive results and opportunities to improve the design and implementation of the AESP both short term and for future USAID engineering support programs of this type.

Meeting Agenda:

1. To meet the AESP Team and other stakeholder's provide an overview of the evaluation task to review project documentation and stakeholder observations and prepare lessons learned for the development of future engineering support programs.
2. To learn what the responsibilities were for each stakeholder in this USAID funded \$62.9 million program and to discuss the implementation with each stakeholder.
3. To distribute a survey that can assist to identify what went well and what can be improved upon both short and long term.

Ron Francis
Team Lead Checchi Consulting

Work Plan
ANNEX 3

QUESTIONNAIRE LESSONS LEARNED

QUESTIONNAIRE LESSONS LEARNED

Project Title: Afghan Engineering Support Program **Date Prepared:** _____

Program Performance Analysis

	What Worked Well	What Can Be Improved
Requirements definition and management		
Scope definition and management		
Schedule development and control		
Cost estimating and control		
Quality planning and control		
Human resource availability, team development, and performance		
Communication management		
Stakeholder management		
Reporting		
Risk management		
Procurement planning and management		
Process improvement information		
Product-specific information		
Other		

LESSONS LEARNED

Risks and Issues

Risk or Issue Description	Response	Comments

Quality Defects

Defect Description	Resolution	Comments

Vendor Management

Vendor	Issue	Resolution	Comments

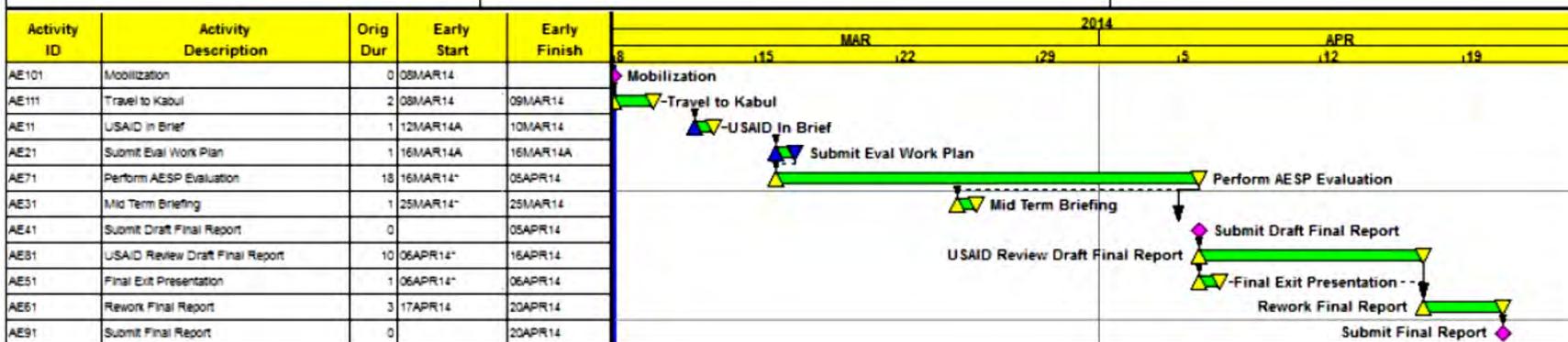
Other

Areas of Exceptional Performance	Areas for Improvement

Work Plan ANNEX 4

AESP EVALUATION TIMELINE

Afghanistan Support - II Project
 Checchi and Company Consulting Inc



Start Date 08MAR14
 Finish Date 20APR14
 Data Date 08MAR14
 Run Date 14MAR14 14:38



AESP - AESP
 Afghanistan SUPPORT - II Project
 AESP Evaluation Work Schedule
 Classic Schedule Layout

Sheet 1 of 1

Date	Revision	Checked	Approved

Work Plan
ANNEX 5

WORK ORDERS FOR PROPOSED PROJECTS
EVALUATION

April 21, 2011

REVISION 3

SCOPE OF WORK (SOW) AESP Work

Order (WO-LT-0009) Amendment 1 –

Khost Bridge Design

Survey, Geotechnical, Hydrological, Design, Bid, and Construction Services

PRT Technical Engineering Support

BACKGROUND

A conceptual design created by Tetra Tech for the Segai Bridge located in Khost province has been submitted by the Khost PRT for CERP approval and funding. A topographic survey, geotechnical subsurface investigation, and hydraulic / scour analysis are required to progress the design from the completed conceptual design to a final bridge design.

OBJECTIVE

The objective of this SOW is to prepare a final bridge design package, as well as to provide limited support during the bid and construction phases. The construction bid-phase support is limited to responding to bidder questions related to the design, providing a comparison of bids and making a recommendation for the Contractor selection. The construction-phase support is limited to responding to Requests for Information (RFIs). Additional detailed technical data and site information is required in order for USAID and their design team to proceed with the final step in the design process.

TASKS

USAID requires that Tetra Tech perform the following tasks:

- Through a competitive bidding process, engage geotechnical services to perform approximately eleven test borings (three advanced to rock) and conduct laboratory testing of rock/soils samples. Since the site is not anticipated to contain any existing utilities, no test pits are anticipated. The Tetra Tech (reach-back) design team shall furnish an AutoCAD version of the boring plan and review the investigation criteria, testing methods and final report. Tetra Tech (Kabul) shall provide limited on-site supervision of the Sub-Consultant by local national or expat staff as deemed necessary and as permitted by the current security situation.
- Through a competitive bidding process, engage hydraulic and scour analysis services to determine the required hydraulic opening of the bridge, investigate any adverse hydraulic effects of the bridge and determine the extent of scour mitigation required. The Tetra Tech (reach-back) design team shall provide analysis criteria and report review. Tetra Tech (Kabul) shall provide limited on-site supervision of the Sub-Consultant by local national or expat staff as deemed necessary and as permitted by the current security situation

- The ROM includes budget figures for consultant services. Actual cost of consultant services will be determined via the competitive bidding process. All bid information will be forwarded to USAID.
- Through a competitive bidding process, engage survey services to perform topographic survey of the bridge and approaches. The Tetra Tech (reach-back) design team shall provide survey criteria. Tetra Tech (Kabul) shall provide limited on-site supervision of the Sub-Consultant by local national or expat staff as deemed necessary and as permitted by the current security situation
- Tetra Tech (Kabul) will perform site visits (two assumed) to coordinate and direct consulting services.
- Tetra Tech will finalize Bridge Design Package to include roadway approach and bridge design drawings, technical specifications, BOQ and construction cost estimates.

Task 1 – Geotechnical Services

Tetra Tech will subcontract with a local national firm to perform a geotechnical investigation and provide a report of the site conditions and soil composition, as well as foundation recommendations. The purpose of the Geotechnical services is to determine general soil characteristics and depth to bedrock as a basis for the bridge design.

Tetra Tech (reach-back) shall furnish an AutoCAD version of the boring plan and review the investigation criteria, testing methods and final report. Tetra Tech (Kabul) shall provide oversight of the Sub-Consultant.

The Sub-Consultant will be responsible for the following:

- Conduct a field inspection at the project site to view site conditions, consider proposed substructures, foundation elements, and assess requirements for the subsurface investigation plan.
- UXO detection prior to commencing work.
- Review of Boring Layout Plan, testing types, depth, etc. For the purposes of this scope, it has been assumed that eleven borings are required, three of which are to be advanced to bedrock.
- Perform borings.
- Properly identify, describe and classify soil and rock encountered in sub-surface investigations. Examine all soil samples and rock cores.
- Review soil/rock samples and field/laboratory test results. Evaluate the foundation options and determine parameters for foundation design.
- Prepare a Geotechnical Report to summarize existing conditions, geotechnical investigation and analyses and make recommendations related thereto.

A Quality Assurance review will be performed by Tetra Tech (reach-back).

The ROM is based on the conceptual design which assumed the abutments would be constructed on concrete footings similar to other bridges constructed in Afghanistan. As part of the hydrological and geotechnical investigation the team will review the required depth of the footings to withstand

scour and provide a memo providing recommendations for the final foundation design along with estimated construction and design costs.

Task 2 – Hydrological Services

Tetra Tech will subcontract with a local national firm to perform hydraulic/scour analyses and provide a report.

The Tetra Tech (reach-back) design team shall provide analysis criteria and report review. Tetra Tech (Kabul) shall provide oversight of the Sub-Consultant.

The Sub-Consultant will be responsible for the following:

- Investigate hydrological characteristics of the wadi, as well as the hydraulic feeders of the wadi.
- Prepare calculations to determine the size of hydraulic opening to accommodate the design flows.
- Determine if the bridge construction causes any adverse effects either upstream or downstream of the bridge.
- Perform a scour analysis to determine depth to scour at substructure locations and identify potential scour countermeasures.
- Prepare a hydraulics and scour report with pertinent data and recommendations.
- Calculations and assumptions will be prepared using standard industry software.

Quality Assurance review will be performed by Tetra Tech (reach-back).

Task 3 – Survey Services

Tetra Tech will subcontract with a local national firm to perform a topographic survey of the site. The limits of survey will include the proposed bridge and approaches, since the profile increase will require grading on the approaches. The overall limits of the survey will include the bridge length, plus 150 meters on either side, for a total length of approximately 615 meters. The width of the survey will be approximately 50 meters, centered on the existing concrete roadway. It is assumed that Khost PRT will provide periodic on-site representation during survey operations.

Tetra Tech (reach-back) shall provide survey criteria. Tetra Tech (Kabul) shall provide oversight of the Sub-Consultant.

The survey will identify pertinent on-site physical features including the following:

- Elevation contours at 0.25-meter intervals with sufficient number of spot elevations to fully represent the lay of the land gradient(s) between elevation contours.
- Identification of existing roadway pavement.
- Identification of existing concrete causeway including location of damage areas.
- Survey will be provided a minimum width of 20 meters on either side of the bridge and 150 meters beyond each of the proposed abutments.

- Survey will include additional sections as required for Task 2 – Hydrological Services. Setting permanent monumentation for horizontal and vertical construction control.
- CAD and hard copy compilation of existing conditions plan.

Task 4 – Site Visit

Tetra Tech (Kabul) will conduct site visits to coordinate services and provide limited supervision as needed for services specified in Tasks 1-3. For the purposes of developing this scope, two site visits (each 4 days long) have been included to consult with subcontracted firms and with members of PRT Khost. Expat and/or local national staff will be utilized as deemed appropriate and as permitted by the security situation at the time.

Task 5 – Design Services

Tetra Tech (reach-back) will perform all highway and bridge design tasks in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Standard Specifications for Highways and Bridge, 17th Edition (2002) and AASHTO's Geometric Design of Highways and Streets, 2004.

Tetra Tech will set the horizontal and vertical geometry of the construction baseline for the project. The horizontal alignment will provide a smooth transition from the bridge to the existing roadway. The vertical profile is anticipated to extend approximately 100 meters outside the limits of the bridge (on both sides of the bridge) due to the increase in grade of approximately 5 meters at the bridge site.

The approach roadway cross-section will transition from the existing roadway cross-section to the AASHTO-compliant cross-section on the bridge. Tetra Tech will match the existing pavement thickness/type as determined by the field survey and site visits. Pavement analysis and design services are not included.

Along the approaches, Tetra Tech will develop proposed grading contours in order to minimize the length of the proposed retaining walls. In addition, Tetra Tech will develop details for the safe transition of traffic across the project, using guardrail for example.

Using the preliminary work performed during the Type Study phase of this project, Tetra Tech will design the proposed bridge superstructure, consisting of reinforced concrete rectangular beams and deck. A bridge railing, based on Federal Highway Administration (FHWA) standards, will be included in the superstructure design. The final superstructure design element is the elastomeric bridge bearings.

Tetra Tech will design the substructure, consisting of abutments and piers, as well as retaining walls along the approaches. For the purposes of developing this scope of services, it has been assumed that the substructure will utilize shallow foundations (spread footings), and that the design effort will be limited to the tallest abutment, the tallest pier and the two sections of retaining wall.

Tetra Tech's deliverables from the design phase include:

- Design Analysis
- Specifications
- Bill of Quantities
- Contract Plans (assumed to consist of approximately 25-30 drawings)

The conceptual design was based on standard concrete footings. Upon completion of the hydrological and geotechnical review, Tetra Tech will provide a memo identifying the appropriateness of the footings to withstand scour and the need for deeper footings or micro piles, along with an estimate of increased construction cost.

Task 5.1 – Deep Foundation Design

If the geotechnical engineer recommends the use of deep foundations due to the presence of soils susceptible to scour and erosion, Tetra Tech will design the abutments, piers and retaining walls to be pile-supported. The additional design and detailing effort associated with deep foundations has been broken out from the traditional design tasks for clarity.

Task 5.2 – Reinforcement Schedules

In order to expedite construction and to address the potentially limited capacity of local contractors and precast companies, Tetra Tech has included services to develop reinforcement schedules, which will result in approximately eight additional drawings. This effort has been broken out separately from the design effort in the event it is not required.

Task 6 – Bid Phase Services

During the Bid Phase of the project, Tetra Tech (Kabul) will perform the following services:

- Respond to bidder questions related to the design
- Review Contractor Bid Packages
- Provide a Comparison of Bids
- Make Recommendations for the Contractor selection

Task 7 – Construction Phase Services

Tetra Tech has assumed that Construction Phase Services will be limited to responding to Requests for Information (RFIs). Therefore, shop drawing review, on-site construction inspection and providing as-built drawings is not included.

SCHEDULE

Since water levels in the area peak in February to April, and then in July and August, Tetra Tech has developed an aggressive schedule that anticipates the field investigations will start in May and the construction work will start in August/September following design completion and recession of water levels to allow such work. It is anticipated that the field work and investigations (geotech, hydro, survey and site visits) will take approximately one month to complete. Following that, the design phase will commence and last for approximately two months. The design phase will be followed by the bid phase, and subsequently construction phase services.

As of April 12, 2011, it is assumed that CERP funding will take two months to complete. Therefore, it is anticipated that CERP funding will be in place prior to the bidding phase.

Tetra Tech will make best efforts to complete the survey, geotechnical, and hydraulic/scour work in a timely manner. Completion of this revised Amendment will be dependent upon the bidding and contract award of the subcontracts for the survey, geotechnical, and hydraulic/scour services. The schedule is subject to several factors, including the USAID Contracting Officer approval of the sub-contractors bid price.

DELIVERABLES

The following list of deliverables and services will be provided:

- Topographic survey
- Geotechnical Report including results from geotechnical borings, soil/rock analyses and foundation recommendations.
- Hydraulic and Scour Report including hydraulic and scour analysis, with recommended hydraulic opening and scour countermeasures.
- Final Bridge Design Package at Sagai crossing in Khost province, including construction plans, specifications, design analysis and bill of quantities.
- All electronic drawings and CAD data files will be in AutoCAD 2009 format.

EXECUTION

- Level of Effort. The estimated Level of Effort (LOE) is provided by discipline in the attached Summary of Rough Order of Magnitude (ROM) Estimated Costs. The estimate is approximate only and will not be considered a not to exceed proposal for the services.
- Skill Sets. A senior expatriate Structural Engineer (PE); senior expatriate Civil Engineer, senior expatriate Geologist, Project Manager, and expatriate Junior Engineer/AutoCAD Operator.

SUB-CONTRACT SERVICES REQUIRED

- Hydraulic/Scour, Survey, Geotechnical services canvassing and interviews approximately 4-6 days
- Survey services for approximately 1 month.
- Geotechnical and test boring services 1 month.
- Hydraulic / Scour services for approximately 1 month.

SERVICES NOT INCLUDED

- Inspection of Survey and Geotechnical Operations
- Environmental Assessment
- Permitting
- Pavement Analysis and Design
- Shop Drawing Review
- Construction Inspection

- As-Built Drawings

SPECIAL CONSIDERATIONS

The special considerations upon which this work is based include:

1. The estimated Level of Effort (LOE) to complete this SOW is provided in the attached Summary of Rough Order of Magnitude (ROM) Estimated Costs. The estimate is approximate only, based on assumptions regarding the size and complexity of the final scope of work and information derived from interaction between Tetra Tech and USAID staff. This ROM will not be considered a not to exceed proposal for the services.
2. The estimated LOE for each Task is for budgeting purposes only. The fee for the services shall be based on the overall project budget and actual time required to complete the full approved scope of work.
3. No follow-on construction administration services other than responding to contractor RFI's have been requested at this time by USAID. An updated SOW/ROM can be provided to accommodate these services.

19 October 2010

AESP Work Order (WO-LT-0015)

**Amendment # 2 - REVISED
Men's Dormitory Renovation MEP Review**

**Kabul University - Proposed Dining Facility
Kabul, Afghanistan**

BACKGROUND

USAID-OIEE has requested that Tetra Tech perform MEP reviews for the proposed Dining Facility (DFAC) building renovation at Kabul University in Kabul, Afghanistan. The reviews will be conducted by TetraTech home office support. Technical Representation and Support will be provided by the TetraTech Afghanistan team.

PLANNED PROJECT WORK ACTIVITIES

To perform the work outlined in this scope, reviews of the Men's Dormitory Renovation Mechanical, Electrical and Plumbing Documents will be conducted. In addition to these reviews TetraTech will be providing code evaluation based on code deviations approved by USAID. TetraTech will also provide Technical Representation at project coordination meetings and Technical Support for MEP related issues arising onsite.

TASKS

Task 1 - Review Dormitory MEP Designs

Design reviews are to be performed on the 35%, 65% and 95% construction documents including plans, design analysis, and specifications. Disciplines to be reviewed include Mechanical, Electrical and Plumbing. TetraTech will provide reviews based on 18 hours per discipline for the 35% review and 13 hours each per discipline, for both the 65% and 95% reviews. This includes review of plans, design analysis and specifications, including back checks.

Task 2 – Technical Support

Tetra Tech will provide the following services as they pertain to the Men's Dormitory. Review and provide insight on requests for information, and field change orders as requested by USAID. TetraTech will be available to answer questions from the contractor by phone or e-mail during construction, perform periodic site observations, attend project coordination meetings, and participate in the construction walk-through at substantial completion.

Task 3 – Code Evaluation

In addition to design review TetraTech will evaluate contractors MEP design on issues of code compliance. TetraTech will evaluate code compliance based on IBC for a renovated building, based on the code deviations approved from USAID.

PROJECT CONSIDERATIONS

The following listing identifies the special considerations upon which this scope of work is based:

- 1) The attached Rough Order of Magnitude (ROM) estimate is for the purpose of completing the Tasks listed within this scope of work. The estimate is approximate only, based on assumptions regarding the size and complexity of the final design package, and will not be considered a not-to-exceed proposal for these services.
- 2) Reviews of documents will not take more than 7 working days to review and return to the client.
- 3) Assuming a USAID Notice to Proceed (NTP) on or before October 21, 2010, the estimated completion date for this scope of work amendment will be on or before December 31, 2010.

October 21, 2012

Scope of Work (SOW)

AESP Work Order WO-LT-0063, Revision 1

Salang Tunnel Substation Technical Sections

BACKGROUND

This scope of work is in response to the USAID request on September 12, 2012 for Tetra Tech (Tt) to provide technical sections for others to use as part of an EPC package to build a primary substation near the northern terminus of the Salang Tunnel in Afghanistan.

The services provided in this SOW will be performed by Tt under the Afghanistan Engineering Support Program (AESP) Task Order with USAID.

OBJECTIVE

The objective of this work order is to develop new technical documents to extend work from the existing 220kV transmission line (T/L) between Pul-e-Khumri Substation (SS) and Chimtala SS to provide electrical power from the transmission line to customers near the northern terminus of the Salang Tunnel, Baghlan Province, Afghanistan, most notably the Afghan Ministry of Public Works¹ (MoPW) which owns and operates the tunnel.

The technical documents will contain sufficient detail for an engineering, procurement and construction (EPC) firm to continue the design and installation of the work. It is our understanding that USAID will deliver the technical documents to Da Afghanistan Breshna Sherkot (DABS). DABS will then solicit bids for the work and select an EPC contractor. This process is described as “on-budget”.

Customer connections include:

1. MoPW: A medium voltage (MV) bulk power meter will be included in the specifications to allow Da Afghanistan Breshna Sherkot² (DABS) / National Load Control Center³ (NLCC) / Northeast Power System⁴ (NEPS) Independent System Operator (ISO) billing to MoPW. The NLCC will control the load shedding and unmet demand distribution schedule at this metering point via an extension of the Supervisory Control and Data Acquisition (SCADA) system. NLCC power delivered to this site will allow for the displacement of diesel fuel usage by MoPW to feed this system.
2. Provincial Reconstruction Team (PRT) Site: A MV bulk power meter will be included in the specifications to allow DABS / NLCC / NEPS ISO billing to the PRT site. The NLCC will control the

¹ Ministry of Public Works, Islamic Republic of Afghanistan, <http://mopw.gov.af/en>.

² Da Afghanistan Breshna Sherkot, <http://www.dabs.af/en/>.

³ SCADA control of the NEPS system is done from the NLCC at Tarakhil.

⁴ NEPS will be defined, for the purposed of this work order, as the electrical grid controlled by the National Load Control Center (NLCC) at Tarakhil. The NLCC is, in effect, acting as an independent system operator (ISO) buy and selling bulk power to adjacent ISOs and providing power to distribution utilities for resale to utility customers.

load shedding and unmet demand distribution schedule at this metering point via an extension of the SCADA system.

3. Local loads to customers: There are no known Afghan populations within 5km of the SS site and therefore no other loads to serve from the SS.

TASKS

Task 1: Field Investigations and Data Gathering

1. Tt will meet with the Afghan Ministry of Energy and Water⁵ (MEW), DABS and MoPW to identify a suitable SS site and T/L right of way. See special considerations regarding SS siting. The scope of the proposed work will be reviewed with these agencies.
2. Tt will meet with USACE⁶ and the Baghlan PRT⁷ authorities to understand their plans for future works in the vicinity of the Salang SS.
3. Tt will visit the proposed SS site and mark the site corners based on hand-held GPS locating. Tt will visit the site of the customer connections to identify required interfaces to produce the necessary MV modifications. Tt will identify the proposed T/L tap point.

Task 2: Medium Voltage (MV) Substation Modification Technical Sections

Sub-transmission feeders will be extended to bulk metered customers. The lengths are approximate as listed below:

- To MoPW prime power plant: less than 5km.
- To PRT Site: less than 5km.

Tt will produce a technical section that will include enough detail for an EPC firm to continue the design and installation of the work at customer bulk metering sites. Tt will provide a Bill of Quantity (BoQ) for the proposed work. The work will include:

- Medium voltage (20kV) switchgear to be provided and installed at the MV bulk metering sites by the EPC firm.
- The technical sections will include equipment descriptions, general arrangement drawings and one-line diagrams to describe the proposed EPC work to be performed by the EPC firm.
- An automatic and SCADA controlled, motorized, open-transition transfer will be specified between the NEPS power source and the existing MoPW Thermal Power Plant (TPP) sources (diesel generators) at each of these sites.

⁵ Ministry of Energy and Water, Islamic Republic of Afghanistan, <http://mew.gov.af/en>.

⁶ USACE Salang Tunnel Improvements Project, Proj. No. CERP RD 2012-01, August 2012, Vincent.e.daniels@usace.army.mil. Per this solicitation a single 1.5MVA prime-rated genset is deemed sufficient for all MPW loads at the Salang Tunnel.

⁷ PRTs, http://afghanistan.usaid.gov/en/partnerships/partners_provincial_reconstruction_teams.

- Required remote terminal units (RTUs) and marshalling cabinets will also be described in the technical section.
- SCADA control to the NLCC will be included in the technical section.
- The existing TPP sources (diesel generators) will remain unaltered and unable to synchronize with imported power at each of these sites. Their function will henceforth be for standby use.
- The switchgear technical section will also include 20kV bulk power revenue meters.
- The design will also include 20kV sub-transmission feeders including fiber optic cable connectivity from the new SS to the existing TPP. It will produce approximate MV cable routing diagrams (on available USGS topographical and Google Earth maps).

Task 3: Transmission Line Technical Sections

It will produce a technical section that will include enough detail for an EPC firm to continue the design and installation of the work. The work will include a conceptual transmission line routing, (USGS topographic maps and Google Earth) and technical section to describe HV T/Ls. It will provide a BoQ outline for the proposed work.

The T/L will be an approximately 2km, 220kV T/L from a dead end tower in the vicinity to the proposed Salang Tunnel SS.

The T/L tap will be located approximately 94km south of Pul-e-Khumri SS and 108km north of Chimtala SS.

Task 4: High Voltage (HV) Substation Technical Sections

It will produce a technical section that will include enough detail for an EPC firm to continue the design and installation of the work. Technical section will include technical sections, general arrangement drawings and one-line diagrams to describe the proposed work. It will provide a BoQ outline for the proposed work. The BoQ outline is intended to list only the major components so as to assist concerned parties during the bidding process.

Salang SS will be a 220/20kV, single primary transformer, 4MVA tapped from just a single circuit substation to serve the Salang Tunnel. The size and configuration are as per the latest available NEPS single-line diagram (SLD), dated March 19, 2012⁸.

The location of Salang SS will be approximately 35.322N, 69.027E.

The Salang Tunnel SS design is very basic, inexpensive and minimally built-out. The lack of redundancy will cause periods of unavailability to serve the load during routine maintenance or when failure of various electrical components occurs.

⁸ An earlier version of this diagram is available of the Afghan Energy Information Center (AEIC) website, <http://www.afghaneic.org/>. <http://www.afghaneic.org/library/other/NEPS/NEPS-SLD-Pub-2012-02-06.pdf>.

Task 5: Engineering Estimates of Cost (EEC)

Tt will provide major equipment pricing and material and installation cost estimates produced by a Certified Professional Estimator (CPE) as a separate deliverable to USAID. Tt will provide SS pricing and a budgetary cost estimate for contractor design/build cost for the entire technical document as a separate deliverable to USAID.

Task 6: Quality Control (QC) and Quality Assurance (QA)

1. Tt will use engineering staff, independent of work preparation, to perform QC review of all deliverable products to USAID.
2. QA will be performed by Kabul based AESP staff.

Task 7: Contract Preparation Assistance

Tt will assist DABS in development of their contractual document, volume 1 and volume 3, to accompany the bid package for this work.

Task 8: Bidding Assistance

Tt will assist DABS, prior to contract award, to perform the following bidding assistance services:

1. Issuing bids to bidders.
2. Responding to bidders questions.
3. Evaluating bids.

SCHEDULE

Days are calendar days. The final deliverable package with the technical sections will be delivered to USAID 60 days after Notice to Proceed (NTP) is provided to Tt:

Task	Begin	End
Task 1	NTP+0	NTP+21
Task 2	NTP+21	NTP+35
Task 3	NTP+0	NTP+35
Task 4	NTP+0	NTP+35
Task 5	NTP+35	NTP+42
Task 6	NTP+42	NTP+56
Task 7	NTP+56	NTP+70
Task 8	NTP+105	NTP+119

EXECUTION

Tetra Tech will assign an expatriate LTTA Senior Electrical Engineer as the Technical Lead for the Work Order.

Task	Staffing
Task 1	Local National (LN) with Long Term Technical Assistance (LTTA) oversight
Task 2	LN and LTTA
Task 3	Reach Back (RB) with LTTA oversight
Task 4	Reach Back with LTTA oversight
Task 5	Reach Back (RB)
Task 6	QC by Reach Back (RB), QA by LTTA
Task 7	Short Term Technical Assistance (STTA) with LTTA oversight
Task 8	STTA with LTTA oversight

ASSUMPTIONS

1. Transmission line and sub-transmission line lengths are assumed to be no longer than 20% greater than the straight line distance between the SS.
2. The technical sections and BoQ for this work order will be based on the similar appropriate technical sections and BoQ provided by AESP in WO-LT-0048, Amendment 3 for 220kV transmission lines and substations.
3. USAID will make available documents and notes; reports, photographs, surveys and field logs, from the Salang Tunnel Feasibility Study⁹ (STFS) to AESP upon USAID obtaining these documents. USAID will exercise its best effort to obtain these documents and forward them to Tt as soon as possible. A delay of more than 7 days for AESP to receive these documents may result in a delayed completion of this work order.
4. Land acquisition and right of way acquisition are not included as part of Tt's responsibilities.
5. Environmental impact statement are not included as part of Tt's responsibilities.
6. Systems studies; load flow, dynamic stability, etc., are not required to support this work. The proposed substation will not significantly affect the Afghan electrical grid.

SPECIAL CONSIDERATIONS

The special considerations upon which this work is based include:

1. USAID shall be consulted on all decisions and informed as requested on progress and expenditures.
2. The estimated Level of Effort (LOE) to complete this SOW amendment is provided in the attached Summary of Rough Order of Magnitude (ROM) estimate of costs. The estimate is only an approximation. The estimate is based on assumptions regarding the size and complexity of the final scope of work and information derived from interactions between Tetra Tech and USAID staff. This ROM cost estimate will not be considered a fixed fee proposal for the services.

⁹ Information about the STFS is available through Chester Drake, Tetra Tech Chief of Party, chester.drake@tetratech.com,

3. The estimated LOE for each task is for budgeting purposes only. The fee for the services shall be based on the overall project budget and actual time required to complete the full, approved scope of work. The fee shall not exceed the level of effort as detailed in the ROM cost estimate without approval from USAID.
4. The costs of advertising the RFP and producing bid packages are considered to be the responsibility of DABS.
5. No services will be provided by Tetra Tech after contract award.
6. The deliverables that will be produced as a result of this SOW will not create an organizational Conflict of Interest (COI) as interpreted by Tetra Tech EM, Inc (Tetra Tech). This determination is based on the mitigation measures discussed in the letter dated April 25th, 2012 from Thomas J. Abdella to Teresa Miller, COR, titled "Analysis of Potential Organizational Conflict of Interest (OCI) Pending Work Orders WO-LT-0048 and WO-LT-0054." (Copy available upon request)

September 14, 2011

SCOPE OF WORK (SOW) AESP

Work Order (WO-LT-0044)

Bamyan Valley Electrical Transmission & Distribution (T&D) System Technical Design Services

Bamyan Province, Afghanistan

BACKGROUND

This Scope of Work (SOW) is in response to the USAID request for Tetra Tech (TT) to provide technical design services for the Bamyan Valley Electrical Transmission & Distribution (T&D) System. The services provided in this SOW will be performed by Tetra Tech under the Afghanistan Engineering Support Program (AESP) Task Order with USAID.

As part of the IRG Afghan Clean Energy Program (ACEP), USAID received preliminary Electrical Distribution Design documents associated with the development of a small hydropower plant (HPP) project proposed for the Bamyan Valley near the village of Topchi. That proposed HPP project has since been canceled.

USAID is now considering utilizing the preliminary Distribution Design documents in conjunction and collaboration with a New Zealand Agency for International Development (NZAID) funded solar power generation project and an Agha Khan Foundation (AKF) funded project for electrical generation and distribution within Bamyan Center.

OBJECTIVE

The objective of this SOW is to determine:

- a) The technical accuracy and completeness of the preliminary distribution design documents provided by IRG-ACEP for the proposed Bamyan Valley electrical distribution system.
- b) The feasibility of incorporating the appropriate elements of the preliminary distribution design documents provided by IRG-ACEP in support of the NZAID solar power generation project and the AKF generation & distribution project in Bamyan Center.
- c) The technical design services required to provide a set of construction level design documents to USAID for tender and construction of the Bamyan Valley electrical distribution system.

TASKS

Tetra Tech will provide the following services under this SOW:

1. Technical Review and Feasibility Report
2. Construction Documents

Task 1 – Technical Review and Feasibility Report

Tetra Tech (TT) will provide a thorough Technical Review of the preliminary design documents provided by USAID, as prepared by IRG-ACEP, dated August 2011. The documents to be reviewed include the Distribution Design Report and Transmission and Distribution Design drawings. The deliverable for this review will be a technical report outlining the TT findings to the accuracy and completeness of the design as presented. Elements of the report will include reviews of: load forecasting, electrical design, mechanical design (including Structural analysis), details, Environmental Impact/Mitigation and the conclusions.

As part of the Technical Review Report, TT will also provide commentary as to the feasibility of adapting the preliminary transmission and distribution design to support the proposed NZAID 1MW solar power generation project. The commentary will address such elements as to the initial design approach, design changes required, interface required with the NZAID design team and recommendations for proceeding to next steps.

TT will also review design documents being prepared by AKF for electrical generation and distribution within the Bamyan Center, specifically in the Bamyan Bazaar Road area. The review will determine steps necessary to integrate the AKF distribution system with the proposed USAID transmission and distribution system design.

Task 2 – Construction Documents

Upon USAID approval of the Technical Review and Feasibility Report provided as a deliverable to Task 1 above, Tetra Tech (TT) will proceed with the development of construction level design documents.

Preliminary steps to the completion of this Task may include several site visits to ensure the accuracy of the preliminary pole placement designs provided by IRG-ACEP, as well as geotechnical investigations in locations identified as potential problem areas.

The deliverables for this Task will include:

- a) Construction drawings providing detailed primary and secondary design information, including pole and service drop locations. The drawings will be developed to a level necessary to ensure accurate bids from qualified contractors and a high quality execution of the system installation.
- b) Specifications detailing products, materials and methods for proper installation and completion of the transmission and distribution system. Particular attention will be paid to coordination with product and installation standards being developed and implemented by Da Afghanistan Breshna Sherkat (DABS), Ministry of Energy and Water (MoEW) and the Afghan National Standards Authority (ANSA).
- c) Bill of Quantities (BoQ) cost estimate itemized in sufficient detail to allow USAID to properly budget the funds required for construction, as well as complete accurate, comparative bid analyses.
- d) Proposed Construction Schedule, provided in MS Excel format, outlined with Tasks and Sub-Tasks listed by calendar days for completion.

This Task of the Work Order will require extensive design coordination with the selected NZAID and AKF design teams. The design schedule timeline provided assumes all design information required will be provided in an accurate and timely fashion to complete the transmission and distribution design.

TT will also utilize reach back support to provide Quality Assurance / Quality Control (QA/QC) for the design of the distribution portion of the project, including assistance in development/review of standard pole details, hardware and review of design specifications, standard guying and pole tension calculations as required.

SCHEDULE

Tetra Tech understands that work will begin immediately upon receipt of USAID’s Notice to Proceed (NTP) to Tetra Tech for tasks, unless otherwise noted. The use of days is considered to be calendar days.

Task	Begin NTP+	End NTP+
Task 1	NTP+0	NTP+30 days
Task 2	NTP+0	NTP+120 days

Interim milestone dates include:

1. Task 1 will be authorized to begin as soon as reasonably possible upon the USAID Notice to Proceed and is anticipated to be complete within 30 calendar days.
2. Upon USAID approval of completed Task 1, remaining work associated with Task will be completed within an additional 120 calendar days.

EXECUTION

Tetra Tech will provide a Senior Project Manager based in Kabul to provide project management oversight for the Work Order. The Technical Review, Feasibility Study and development of the Construction Documents will be conducted by a Senior Electrical Engineer based in Kabul, utilizing ex-pat and LN Electrical Engineering staff as necessary to complete each Task. A Quality Assurance/ Quality Control (QA/QC) Review will be conducted by highly qualified Tetra Tech staff based in the United States.

SPECIAL CONSIDERATIONS

The special considerations upon which this work is based include:

1. The estimated Level of Effort (LOE) to complete this SOW is provided in the attached Summary of Rough Order of Magnitude (ROM) Estimated Costs. The estimate is approximate only, based on assumptions regarding the size and complexity of the final scope of work and information derived from interaction between Tetra Tech and USAID staff. This ROM will not be considered a not to exceed proposal for the services.
2. The estimated LOE for each Task is for budgeting purposes only. The fee for the services shall be based on the overall project budget and actual time required to complete the full approved scope of work.
3. No follow-on bidding support or construction administration services have been requested at this time by USAID. An updated SOW/ROM can be provided to accommodate these services.

SCOPE OF WORK (SOW) AESP

Work Order (WO-LT-0024)

Kud Bergh (Mazar) 48 MW Power Plant Assessment

BACKGROUND

This Scope of Work (SOW) is in response to the USAID request on November 16, 2010, for Tetra Tech to provide recommendations for the rehabilitation of the Power Plant at the Kud Bergh Fertilizer Plant, near Mazar-e-Sharif, in Balkh province, Afghanistan. The recommendations will include budgetary cost estimates.

This Power Plant was also assessed by Hill International, Inc in 2004¹.

The Power Plant was built at the same time as the Fertilizer Plant during the 1967-74 period, mainly to provide power to the large number of compressors and pumps that the old design Fertilizer Plant employs. It has a rated capacity to generate 48-megawatts (MW) of power from four turbine generators of 12-MW each. The steam for the turbines is supplied by five water tube boilers run on gas. The plant is currently (August 2004) only producing 18-MW of power, of which 16-MW is used to run the fertilizer plant². The generator output is 6-kilovolts (kV)³.

The services provided in this SOW will be performed by Tetra Tech under the Afghanistan Engineering Support Program (AESP) Task Order with USAID.

OBJECTIVE

The objective of the work is to identify and/or devise achievable and cost-effective means of rehabilitating the fertilizer plant power generation facility.

The study will utilize data collected and recommendations made in earlier reports as a starting point in the review of the facility. A site visit and consultations with the current operators and maintainers of the plant will be used to substantiate and validate the data in the earlier reports and will capture the current condition of the plant. The site visit and consultations with the operators and maintainers will also be used to form an assessment of the challenges to overcome in the rehabilitation of the plant.

The key objectives of the study will be to devise practical and cost-effective means for 1) the purchase of replacement parts, 2) the disassembly and overhaul of the plant, and 3) the successful return of the plant to service. To this end, it is proposed to engage the interest and obtain comment from potential suppliers and overhaul contractors, by meeting directly with a selection of qualified vendors which could provide parts and overhaul services.

Establishing a cost estimate and a schedule for the refurbishment of an elderly plant is more challenging than planning a new 'green field' project. The rehabilitation may be expensive and

¹ Hill International, Inc., Evaluation of Investment Options for the Development of Oil and Gas Infrastructure in Afghanistan, AFG/0361/TF 030397, Project No. PAG238 / R. Borhan / August 15, 2004, Task 1B: Rehabilitation of Gas Processing and Fertilizer Facilities.

² Ibid, paragraph 1.5.1, page 31.

³ Ibid, page 130.

require a fairly long duration to complete. Therefore, Tetra Tech proposes an investigation of building a new replacement plant by including a brief comparison of the costs and schedule of building a new generation plant, as an alternative to refurbishing and rebuilding the existing plant.

TASKS

Tetra Tech will provide the following services under this SOW:

Task 1 – Review of Pre-existing Reports and Data

Tetra Tech will require a copy of the reports already prepared concerning this facility. Tetra Tech's assessment will build on the following earlier studies:

1. Hill International, Inc⁴.
2. The report by the 'Brinkley Group' that we understand will also be available in the near future.

Task 2 – Field Assessment of Power Plant

Tetra Tech proposes that a two man expatriate team, with strong personal experience in the design, operation and maintenance of power plants, and including small steam plants, to visit the site. This team will be supplemented by Tetra Tech local national engineering staff to assist in the work and act as interpreters.

Power Plant: The field team is expecting to concentrate on mechanical engineering issues including: 1) the boilers which are likely to be in worst condition and 2) the turbine generators which are likely to be the most technically challenging and expensive to fix.

Consideration will also be given to 1) the electrical engineering issues; transformers and switchgear and 2) civil works, including whether refurbishment of foundations and other civil works are necessary. The difficulty and costs of replacing or repairing the electrical and civil works is likely to be much less severe than the mechanical engineering elements.

For an elderly plant of this type, it is likely that most of the controls and instrumentation will need to be replaced. Fortunately, advances in control and instrumentation technology have generated new solutions which could be applied to this plant. Drawing on experience from working on similar projects in Iraq, the team expects to be able to assess the existing controls and propose new control and instrumentation solutions which minimize site installation man-hours and can provide high levels of performance.

Consultations with Operators and Maintainers: Tetra Tech understands that little or no drawings or paperwork exist for this plant. This is to be expected and Tetra Tech is familiar with operating in this type of environment. It has been Tetra Tech's experience that developing a good dialogue with the operators and maintainers of the plant can result in a large amount of useful information and reveal real skills and understanding which are very useful to understanding the facility.

The experience of our engineers in developing countries has been that conversations with the plant management and, if possible, the leadership of the operations and maintenance team, are

⁴ Ibid.

useful even in the (unlikely) event that they are not well-informed as to their plant. Knowing their level of understanding of the plant and of local contracting practices will help us to tailor the implementation strategy when we devise the method for refurbishment of the plant.

Task 3 – Initial Report Preparation

Plant Conditions: Following the visit to Afghanistan, Tetra Tech will use the structure of its sub-consultant’s standard, in-house plant costing database as a skeleton on which to build a line-by-line listing of the plant system and infrastructure. Additional comments or observations which are available on significant items will be referenced where appropriate to supporting and ancillary paperwork or electronic records.

Definition of Required Future Operating Patterns: The refurbishment or large scale replacement of major plant elements such the boilers or switchyard will need to be directed toward fulfilling the future operational requirements for the plant. This would be discussed during the visit to Afghanistan. The proposed expected future operating patterns will be defined in the initial report.

Listing of Equipment Replacement, Repair or Refurbishment Requirements: The equipment listing will follow the same format as the conditions listing described above. This listing will be prepared based upon plant conditions recorded, plus (after approval by plant owner and USAID) the required future operational capability of the plant.

Definition of Plant Refurbishment Requirements: Tetra Tech will develop a definition of the refurbishment project working directly from the earlier stages of work described above and present them to USAID in an initial report. Upon approval or acceptance of the initial report by the owner and USAID, Tetra Tech will proceed with the later Tasks described below.

Task 4 – Consultations

Tetra Tech believes that the biggest challenge in this study will be to produce a practical strategy for the implementation phase of the project.

Consultations with Relevant Equipment Suppliers: Tetra Tech has noted that the Hill Report⁵ implied that spare or replacement parts would be available on a more-or-less standardized basis from a variety of Russian and Chinese sources, and from former Soviet and satellite countries.

Leningrad Metal Works⁶ (LMZ) is understood to be the original source of steam turbines or, at least, their design. LMZ is a well respected major turbine designer. Tetra Tech expects that it would be unwise to assume that current produced parts for their turbines can be interchanged very readily. This would be especially true for parts from other manufacturing works. Tetra Tech expects that any rebuild or overhaul would need assistance from LMZ, or that replacement components would need to be ‘reverse engineered’ from parts taken from the existing plant. Therefore, we believe consultation with LMZ is important.

⁵ Ibid, paragraph 5.1.3, page 143.

⁶ Leningradsky Metallichesky Zavod (LMZ) is the largest Russian power machine building enterprise, which carries out design, production and maintenance of steam, hydro and gas turbines of various capacity, <http://english.power-m.ru/themes/english/materials-document.asp?folder=1418&matID=2020>.

Consultations with Possible Overhaul Contractors: Tetra Tech does not believe that qualified and capable contractors will be compelled to quote for the site activities in this refurbishment. To encourage meaningful and realistically-priced offers for the refurbishment, it will be necessary to engage the interest of suitable vendors. We believe that, at this stage, it would be appropriate to consult with qualified vendors, to ascertain industry interest and attitudes to pricing the refurbishment project. The intent is that these consultations will provide information which can feed into the development of the implementation strategy for the project. Talking with these vendors will also, hopefully, start to raise the profile of the project within those organizations which might later take an invitation to tender for the project more seriously, if they are already familiar with it.

It will not be easy to obtain meaningful, competitive tenders for either replacement parts or on-site activities. It will be necessary to 'sell' the project to the potential suppliers and constructors. Tetra Tech knows very well that these organizations will be much more responsive if the effort is made to visit them personally to describe the project to them and to seek to engage them in providing budget estimates for parts, and equipment refurbishment and site works. We are therefore proposing visits to:

1. LMZ – St. Petersburg, Russia
2. Wood Group – Aberdeen Headquarters, Scotland
3. Siemens – Newcastle, UK

Task 5 –Intermediate Report Preparation

Production of an Estimate for Refurbishment: The cost estimate will be developed using the same format as (and developed from) the comprehensive listing of the plant and its supporting infrastructure, assembled and developed in the initial report. The estimating process will draw upon previous experience, information, and using in-house estimating software. Consultations with equipment suppliers and constructors should provide some budget data which can be used to enhance our modeling, especially for more major equipment replacement or refurbishments.

Development of a Schedule for the Refurbishment of the Plant: The production of this schedule will go hand-in-hand with the development of the implementation and contracting strategy. Experience from other similar projects and the consultations with equipment suppliers and constructors and overhaul organization will assist us towards a practical implementation schedule.

Development of a Comparison Project for the Provision of New Generating Plant: There is a little doubt that the refurbishment of a 40 year old steam plant, for which spare parts have been in short supply, will be expensive. The question therefore arises as to whether the construction of a new plant would be more cost-effective. This would be especially true if reasonable quality natural gas fuel can be made available. This would permit the use of gas turbines in place of the steam plant type with gas turbines being an intrinsically cheaper technology.

Tetra Tech is therefore proposing a short parallel exercise to develop a cost, gather efficiency data and prepare an outline layout for the alternative of new generation equipment.

When looking at alternative technologies, the choices are heavily dependent on the fuels. During the visit of Afghanistan, Tetra Tech will attempt to establish the likely fuel or fuels which could be assumed for future consumption and has experience in selecting generating technologies to suit

a wide range of fuels in developing country settings, including ‘sweet’ and ‘sour’ gases, and oils ranging from distillate, various crudes, through to heavier and residual oils.

Task 6 – Final Report

Preparation of Draft Final Report: The deliverables from each of the foregoing Tasks will be available as the study progresses and a final report is proposed that combines Tasks 1-6 into a single, integrated document. This would be submitted to USAID in draft form.

Meeting to Discuss the Draft Final Report: It is assumed that it would be useful to meet with USAID to review and receive feed-back on the report. This could be accomplished via teleconference or face-to-face at a location selected by USAID.

Final Report Delivery: Following receipt of USAID comments and suitable adjustment to the report, Tetra Tech will issue a final report.

SCHEDULE

Tetra Tech plans to begin work upon receipt of USAID’s Notice to Proceed (NTP). The use of ‘days’ in the following is considered to be calendar days. Interim milestone dates would be:

Task	Begin NTP+	End NTP+
Task 1 Review of existing reports and data	NTP+7	NTP+14
Task 2 Field Assessment	NTP+28	NTP+42
Task 3 Initial Report	NTP+45	NTP+84
Task 4 Consultations	NTP+98	NTP+120
Task 5 Intermediate Report	NTP+105	NTP+134
Task 6 Final Report	NTP+134	NTP+155

EXECUTION

It is proposed to carry out this study with a two man expatriate team which would conduct on-site visits and investigations. Personnel will include David Gardner and Stephen David.

SPECIAL CONSIDERATIONS

The special considerations upon which this work is based include:

1. The estimated Level of Effort (LOE) to complete this SOW is provided in the attached Summary of Rough Order of Magnitude (ROM) Estimated Costs. The estimate is approximate only, based on assumptions regarding the size and complexity of the final scope of work and information derived from interaction between Tetra Tech and USAID staff. This ROM will not be considered a not to exceed proposal for the services.
2. The estimated LOE for each Task is for budgeting purposes only. The fee for the services shall be based on the overall project budget and actual time required to complete the full approved scope of work.
3. The SOW assumes that USAID (or their designated implementing partner) will provide UXO survey certification prior to any initial required site visits.

4. This SOW assumes that the USAID will provide a USAID representative for all field investigation work. Tetra Tech will arrange and pay for air and ground transportation, life support and security for expatriate staff, for all site visits required outside Kabul.
5. This SOW assumes that language difficulties will not prevent us from conversing with the management, and the leaders of operation and maintenance operations at the power plant site, or that Tetra Tech local national technical staff will translate with some basic understanding of engineering concepts (working in Russian if appropriate) to assist us in this regard.

17 November 2010

AESP Work Order (WO-LT-0005)

**Amendment #8 – Construction
Administration Services**

**Ghazi Boys High School Site Layout, Grading, and Utilities
Kabul, Afghanistan**

BACKGROUND

Tetra Tech completed the design of the Site Layout, Grading, and Utilities Contract for the Ghazi Boys High School, which has been constructed by USAID under a Cooperative Agreement with UNOPS. The Site Layout, Grading, and Utilities Contract provides water, sewer, power, storm drainage, and various site amenities to the Ghazi Boys High School. USAID is continuing its Cooperative Agreement with UNOPS through the bidding, award, and construction phases of this project. UNOPS is currently making preparations to award the construction contract for the Site Layout, Grading, and Utilities Contract.

OBJECTIVE

The objective of this Amendment is to authorize Tetra Tech to perform Construction Administration Services during the construction phase of the Site Layout, Grading, and Utilities Contract as indicated in the tasks listed below.

TASKS

Construction Administration Services include the following tasks:

1. Contractor's Bid Submittal Review
2. Shop Drawings and Submittal Reviews
3. Respond to Requests for Information (RFI's)
4. Change Order Proposals
5. Construction Observation
6. Project Meetings
7. Project Closeout

Task 1 – Review the Contractor's Bid Submittal

Review the Contractor's bid submittal for compliance with the plans and specifications. The following information, requested in the UNOPS Invitation to Bid (ITB), will be reviewed:

- Bill of Quantities (Annex III-B) – Compare Contractor's costs with Tetra Tech estimated cost.
- Technical Approach and Work Plan Form (Annex III-C) – Review the Contractor's outline for completing the work, including the work plan (milestone bar chart), and the information submitted for the equipment required under this project, including for the packaged WWTP.

- Personnel and Resume Form (Annex III-D) – Review the resumes and qualifications of the project manager, construction supervisor, and key individuals that will be working on this project.
- Equipment Form (Annex III-E) – Review the equipment that the Contractor is proposing for completing this project.
- Subcontracting Form (Annex III-F-4) – Review the descriptive information submitted on the various subcontractors proposed by the Contractor for this project.

Provide USAID/UNOPS with review comments regarding the information submitted by the Contractor in accordance with the ITB. Identify potential concerns regarding the work plan, the preliminary information submitted on the equipment, the Contractor's personnel experience, and the qualifications of the Contractor's proposed subcontractors.

Note that the purpose of this task is for Tetra Tech to become familiar with the Contractor's bid package and to review it for compliance with the plans and specifications. The ROM assumes that UNOPS is responsible for any follow-up action deemed necessary as a result of this review.

Task 2 – Shop Drawings and Submittal Reviews

Review the shop drawing log submitted by the Contractor, and determine if required shop drawings and submittals included the technical specifications have been provided. Review the format and organization of the shop drawing log.

Review the technical information included in the shop drawings and submittal reviews, and provide review comments regarding conformance to the technical specifications. The review comments will include separate sections for each discipline (civil, structural, architectural, mechanical, electrical, and instrumentation and control) for submittals that have multi-disciplinary scope.

The review comments on the submittals will be returned within two weeks of the complete submittal being received by Tetra Tech. The review comments, including shop drawing markups, will be scanned into pdf files and e-mailed back to UNOPS, with an information copy going to USAID.

Tetra Tech will be responsible for answering technical comments from USAID on the submittal responses. However, UNOPS will be responsible for responding to non-technical questions from USAID. See the "Special Considerations" section for further discussion of submittal review issues.

The ROM estimates that there will be 52 submittals on this project, with an average of four engineering hours for the initial review, and two engineering hours for the review of the re-submittal (half of the submittals are assumed to require a re-submittal). In addition, two hours are allotted per submittal for our Afghan civil engineer to assist in the submittal reviews.

Task 3 – Respond to Requests for Information (RFI's)

Respond to Requests for Information (RFI's) from the Contractor. UNOPS has indicated that the Contract Documents do not currently contain Contractor requirements for submitting RFI's. The Contractor is expected to send an e-mail with his question to UNOPS, who will then forward the question to Tetra Tech. Tetra Tech will assign an RFI number to the request, and maintain an RFI tracking log.

Tetra Tech will return its response to UNOPS via e-mail (with an information copy going to USAID). If the RFI results in a modification or addition to a Contract Drawing, Tetra Tech will make this modification. If it would be beneficial for the Contractor to have this revised drawing, this will be

provided to UNOPS for forwarding to the Contractor. Otherwise, the revised drawing will become part of the record drawings submitted to UNOPS at the end of the construction phase.

The ROM estimates that there will be 30 RFI's on this project, with an average of two engineering hours per RFI. In addition, two hours are allotted per RFI for our Afghan civil engineer to assist in the RFI response.

Task 4 – Change Order Proposals

It may be necessary to incorporate modifications to the Contract Documents at some point during the construction phase. Change order procedures are to be as stated in the UNOPS General Conditions, Clause 48, Alterations, Additions, and Omission. For change orders that may result in an increase in Contract Price, Tetra Tech will coordinate with USAID to obtain approval, prior to assisting UNOPS with the implementation of the change order.

For change order proposals, Tetra Tech will develop a statement of work and modify Contract Drawings (if applicable) to describe the work. Tetra Tech will also develop the cost of the proposed change order, if this can be determined on the basis of the unit costs in the Contractor's Bill of Quantities. This information will be provided to UNOPS for further processing to get the change order incorporated into the Contract.

If the change order proposal does not involve work that is itemized in the Contractor's Bill of Quantities (See the "Special Considerations" section for further discussion) Tetra Tech will provide the statement of work and modified drawings to UNOPS for the purpose of obtaining a price for this work from the Contractor. Tetra Tech will evaluate the proposed price submitted by the Contractor, and recommend approval or further discussion with the Contractor. Assuming an acceptable price is agreed upon, UNOPS will process the change order to get it incorporated into the Contract.

The ROM estimates that there will be three Change Order Proposals on this project, with an average of 16 engineering hours required per proposal. In addition, 12 hours are allotted per Change Order Proposal for our Afghan civil engineer to assist in the preparation and follow-up of the proposal.

Task 5 – Construction Observation

It is recommended that Tetra Tech observe the construction of the sitework and utilities whenever practical (such as immediately before or after a project meeting), or when requested by UNOPS or USAID. Instances where Tetra Tech may be requested to visit the construction site and observe the construction could include the following:

- Piping installation—trenching, shoring, dewatering, pipe bedding, pipe joining, backfilling, and compacting.
- Buried concrete structures—excavation, shoring, dewatering, formwork, reinforcing.
- Well installation—well drilling, development of boring logs, well installation, well development, well capacity testing.
- Well pump installation—plumbness of pump column, installation of level sensing equipment, pump testing.
- Wastewater Treatment Plant—visit fabrication facility to observe welding, coating application, etc. Visit site to observe concrete pad construction, WWTP installation, clean water testing, wastewater treatment start-up and testing.
- Sewage Lift Station—installation, testing.

- Water Booster Pumping System—installation, testing.
- Chlorination System—installation, testing.

Tetra Tech will complete a construction observation report following the visit summarizing the construction activities observed. This report will be sent via e-mail to the UNOPS office (information copy to USAID) within a day of the visit. Refer to the Special Considerations section regarding Tetra Tech’s actions in the event unsafe construction practices are observed at the site.

The ROM assumes a weekly site visit at three hours per visit for the project lead engineer and for an Afghan National civil engineer. This includes construction observation as well as preparing the brief report. The ROM assumes a construction period of 5 months (See the “Special Considerations” section for further discussion).

Task 6 – Project Meetings

Tetra Tech will attend weekly project meetings at the construction site. The project meetings will be scheduled and conducted by UNOPS. Tetra Tech will report on the following at each project meeting:

- Submittal review status—Submittals received, submittals returned, submittals currently under review, issues needing discussion/resolution.
- Request for information (RFI) status—RFIs received, RFIs answered, issues needing discussion/resolution.
- Change order proposal status—Provided USAID has approved developing a change order proposal for a particular modification or addition to the work, and this proposal has been provided to UNOPS, and UNOPS has provided the proposal to the Contractor, Tetra Tech will discuss issues that may need addressing in order to move the processing of the change order forward.
- Construction observation—discuss any concerns, corrective actions needed, corrective actions implemented.

The ROM assumes a construction period of 5 months (See the “Special Considerations” section for further discussion). The Tetra Tech project lead engineer, and an Afghan National civil engineer will attend weekly meetings over this period. In addition, it has been assumed that the Tetra Tech Senior Electrical Engineer will attend approximately 6 meetings over this time period. It has been assumed that 3 hours per meeting per person is required, including travel time.

Task 7 – Project Closeout

Project closeout includes final acceptance of the operations and maintenance manuals for the equipment items included in this project, and the final revisions and additions to the project record drawings.

The technical specifications include requirements for the submission of operation and maintenance information for major equipment items, including the following:

- Diesel generators
- Sewage grinder pumps
- Water booster pumps
- Vertical turbine well pumps
- Packaged wastewater treatment plant

The Contractor is required to organize and submit this information for review and approval. Tetra Tech will review this information for accuracy, clarity, and completeness. Following Tetra Tech approval, the Contractor will submit the approved O&M manuals to UNOPS, who will turn these over to the Ministry of Education.

The General Conditions do not require the Contractor to maintain a set of marked-up drawings showing as-constructed information (See the Special Considerations section). However, it is anticipated that Tetra Tech will be able to incorporate modifications and additions to the Contract Drawings as they occur throughout the construction phase, based on the results of RFI responses, change order proposals, and construction observation. It is also anticipated that construction inspectors for UNOPS will provide marked-up design drawings to show any field changes as well as the as-constructed dimensions of various elements of the design (bend and branch locations on buried pipelines, buried ductbank locations, configuration of contractor-designed construction, etc.). The accuracy and completeness of the information received from the construction inspectors will determine to a great extent the accuracy and completeness of the project record drawings.

Special Considerations

1. Level of Effort. The estimated Level of Effort (LOE) is provided by discipline in the attached Summary of Rough Order of Magnitude (ROM) Estimated Costs. The estimate is approximate only, based on assumptions regarding the size and complexity of the final design package, and will not be considered a “not to exceed” proposal for the services.
2. Tetra Tech did not find a description of the submittal requirements for this project included in the ITB or in the General Conditions for this project. Tetra Tech requested and received from UNOPS the standard submittal cover sheet used in the Ghazi Boys High School construction contract. This SOW assumes that the Contractor is responsible for developing and maintaining the submittal log.
3. It is assumed that UNOPS will review the submittal cover sheet accompanying each item submitted (shop drawing, manufacturer’s literature, and samples) and determine if the cover sheet contains the required information (submittal number, specification identification, Contractor’s signature, etc). UNOPS will return submittals not having the required information to the Contractor for correction before transmitting these to Tetra Tech. It is UNOPS responsibility to provide submittals to USAID (if required). It has been assumed that UNOPS will send submittal information electronically, and no hard copies will be transmitted. If hard copies of submittal reviews are required to be returned to the Contractor it has been assumed that UNOPS will run these and make all necessary distributions.
4. Tetra Tech did not find a description of the Requests for Information (RFI) procedures in the ITB or in the General Conditions for this project. Discussions with UNOPS indicate that for the Ghazi Boys High School construction contract no formal RFI procedures were followed. The Contractor transmitted his questions, and UNOPS answered these questions, via e-mail.
5. The change order procedure outlined in the UNOPS General conditions (Clause 48, Alterations, Additions, and Omission) assumes that the value of the change orders can be calculated on the basis of the unit prices contained in the Bill of Quantities. This may not be possible in some cases. The work involved in the change order could be different from the work included in the BOQ, or the work involved in the change order could be included under

a “lump sum” item in the BOQ. For example, the ductbank for this project is listed as a lump sum in the BOQ. If additional ductbank is necessary, it will be necessary to negotiate a price for this with the Contractor.

6. A construction duration of five months is assumed. This is longer than the 3-1/2 months stated as the time frame for completion of this project in the UNOPS Invitation to Bid, however it appears that this duration is insufficient for the work involved. The fabrication of the wastewater treatment plant will require a minimum of 2-1/2 months after the order is received. The order cannot be placed until the shop drawings and submitted information has been approved. Assuming another month is required for installation, start-up, and testing, a construction duration of 5 months appears to be fairly aggressive, but achievable if the Contractor’s performance is of very high caliber.
7. The UNOPS General Conditions do not discuss a requirement for the Contractor to maintain a set of drawings solely for the purpose of recording as-built information. This SOW assumes that the UNOPS construction inspectors will perform this function.
8. Tetra Tech assumes no responsibility for worker safety during site observation visits. If a representative of Tetra Tech notices activities that could potentially be unsafe, the Tetra Tech representative will bring this to the attention of the UNOPS project manager or his designated representative at the site. In addition, Tetra Tech will record the potentially unsafe activity and the notifications made in the Construction Observation report for that visit.

ANNEX IV: EVALUATION ACTIVITIES CALENDAR

MARCH 2014

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1
2	3	4	5	6	7	8 Travel Day
9 Travel Day	10 RF Arrives Kabul	11 Prepare for in-brief	12 USAID In Brief MP Arrives Kabul	13 SoW submitted and approved by USAID	14	15 Review & sort AESP files Review A/E matrix
16 Email TT SoW R1 submitted an approved by USAID	17 WP approved Invite TT to meeting Review & sort AESP files;	18 Review & sort AESP files Prepare data charts	19 Prep data chart Review AESP Files Checchi Gender mtg. Review 3 sector deliv.	20 Review AESP Files Prepare cost vs. time evaluation worksheet	21	22 Review and sort AESP files Final report backgrnd
23 TT reply Review TT reports. mtg sched submitted	24 Team WO eval. cost, time schedule. Review TT	25 Eval WO files Mid Term Briefing USAID Eval of Elect Starts	26 Evaluate work order files Input final report	27 Evaluate work order files Input final report	28	29 Evaluate work order files Input final report
30 Evaluate work order files Input final report Prepare exit present	31 Evaluate work order files Input final report Prepare exit present.					

APRIL 2014

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 Evaluate work order files Input final report	2 Evaluate work order files Input final report	3 Evaluate work order files Input final report	4 Submit draft final report to Checchi for review.	5 Submit Draft Final Rpt. Eval to USAID
6 Exit Briefing	7 Exit Briefing (fall back date)	8 RF Departs Kabul	9 MP Departs	10 Justin Gordon USAID R&R	11	12
13	14	15 USAID Comments on Draft Final Report	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

ANNEX V: AESP WORK ORDER LOG

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
WOLT 0001	5-Jan-10	Requirements for Redesign of Civil Service Training Centers, District Centers and Government Buildings	Vert. Structures	Completed	10-Sep-10	10-Apr-12	\$1,369,486	\$746,761
WOLT 0002	18-Feb-10	Requirements for Concept Design for American University in Afghanistan (AUAF)	Vert. Structures	Completed	30-Aug-10	5-Aug-10	\$531,404	\$590,867
WOLT 0003	N/A	ICMA Garage	Vert. Structures	Cancelled	N/A	N/A	N/A	N/A
WOLT 0004	17-Mar-10	Survey, Geotechnical, Water Test Well, Percolation Tests, and Electrical Services-Proposed by Ministry of Public Health Complex, Kabul	Water/Sanitation	Completed	30-Nov-10	1-Jun-11	\$669,502	\$356,869
WOLT 0005	17-Mar-10	Potable Water, Sanitation and Electrical Services for Ghazi Boys High School	Water/Sanitation	Completed	15-Jun-10	25-Oct-11	\$619,664	\$614,480
WOLT 0006	17-Mar-10	Potable Water, Sanitation and Electrical Services for Sardar Girls High School	Water/Sanitation	Completed	15-Nov-11	4-Nov-13	\$597,041	\$596,308
WOLT 0007	7-Jun-10	Quality Assurance Oversight, Strategic	Transportation	Completed	7-Jun-11	8-Apr-12	\$1,618,923	\$896,347

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Provincial Roads-- Southern Eastern Afghanistan						
WOLT 0008	5-May-10	Airport Master Plans for Faizabad and Maimana Airports	Transportation	Completed	31-Oct-10	13-Dec-10	\$293,863	\$208,646
WOLT 0009	6-Jun-10	PRT Technical Support to the Field Regional Command/South and East, Afghanistan	Transportation	Open	6-Mar-11	N/A	\$624,358	\$421,410
WOLT 0009 AMD 1	6-Aug-10	PRT Field Support - Khost Bridge Final Design	Transportation	Completed	30-Apr-12	26-Nov-11	\$333,028	\$280,129
WOLT 0009 AMD 2	17-May-11	PRT Field Support - Bamyan Dam Sites Pre-Feasibility Studies	Water/Sanitation	Completed	6-Feb-12	21-Apr-13	\$624,514	\$243,504
WOLT 0009 AMD 3	N/A	PRT Field Support - Bamyan Airport	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0009 AMD 4	19-Apr-11	Matun and Lakan Crossings Conceptual Bridge Designs	Transportation	Completed	6-Feb-12	26-Nov-11	\$33,944	\$1,098
WOLT 0009 AMD 5	15-Oct-13	RC North Project Evaluations	Transportation	Open	20-Apr-14	N/A	\$75,762	\$21,760
WOLT 0009 AMD 6	21-Oct-13	RC East Project Evaluations	Water/Sanitation	Open	20-Apr-14	N/A	\$83,106	\$7,231
WOLT 0010	N/A	MopH Drawing Review	Vert. Structures	Cancelled	N/A	N/A	N/A	N/A
WOLT 0011	N/A	Tarakhil Start-Up	Energy	Cancelled	N/A	N/A	N/A	N/A

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Inspection						
WOLT 0012	10-Jun-10	Pul-e-Khumri to Chimtala Transmission Line Study	Energy	Completed	4-Sep-10	6-Nov-11	\$329,761	\$312,744
WOLT 0013	3-Jun-10	US Department of State Three Towers Project Afghanistan	Vert. Structures	Completed	30-Nov-10	14-Dec-10	\$393,187	\$460,573
WOLT 0014	2-Aug-11	Vocational Training Center, Ministry of Energy and Water Green Design and Scoping Narrative, Kabul, Afghanistan	Vert. Structures	Completed	31-Aug-11	12-May-12	\$37,595	\$23,311
WOLT 0015	25-Jul-10	Technical Support for the Design and Construction Phases of Kabul University DFAC and Laundry Facilities, Kabul, Afghanistan	Vert. Structures	Completed	31-Dec-10	22-Jul-12	\$195,173	\$187,908
WOLT 0016	N/A	Kandahar 10 MW Solar (not on disk)	Energy	Cancelled	N/A	N/A	N/A	N/A
WOLT 0018	N/A	Tara Kheyl School Site Civil	Vert. Structures	Cancelled	N/A	N/A	N/A	N/A
WOLT 0019	N/A	US Embassy Air Facility Construction QA	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0020	N/A	Sheberghan Pipeline EIA	Energy	Cancelled	N/A	N/A	N/A	N/A

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
WOLT 0021	23-Dec-10	Sheberghan Electrical Transmission Line Field Investigations	Energy	Completed	12-May-11	25-Oct-11	\$177,344	\$209,734
WOLT 0022	23-Dec-10	Highly Reliable Commercial electric power study for selected Kabul customers	Energy	Completed	9-May-11	13-Mar-12	\$199,583	\$94,606
WOLT 0023	23-Dec-10	Afghanistan Electrical Transmission and Generation (T&G) Long-Range Planning Study	Energy	Completed	8-Nov-11	27-Mar-12	\$606,410	\$616,113
WOLT 0024	23-Dec-10	Kud Bergh (Mazar0 48 MW Power Plant Assessment	Energy	Completed	27-May-11	25-Mar-12	\$139,808	\$147,905
WOLT 0025	25-Nov-10	RC-East Villages Electrification	Energy	Completed	20-Nov-11	19-Feb-12	\$136,275	\$74,934
WOLT 0026	N/A	NEPS to SEPS Connection Review	Energy	Cancelled	N/A	N/A	N/A	N/A
WOLT 0027	N/A	Bamyan Dam Study	Water/Sanitation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0028	N/A	Sorobi II Dam	Water/Sanitation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0029	12-Nov-10	Maimana & Faizabad Regional Airports Faryab & Badakhshan Provinces	Transportation	Completed	31-Jul-12	15-Oct-12	\$352,787	\$350,853
WOLT 0030	23-Dec-10	Jowzjan Province 200-MW Gas Fired Generating Plant Feasibility Study (Near	Energy	Completed	22-Apr-11	31-Aug-11	\$92,233	\$120,783

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		the Sheberghan Gas Field)						
WOLT 0031	23-Dec-10	20-KV Electrical Feeders	Energy	Completed	18-Dec-11	28-Sep-11	\$42,796	\$38,936
WOLT 0032	N/A	KHP QA Oversight	Energy	Cancelled	N/A	N/A	N/A	N/A
WOLT 0033 AMD 1	31-Jan-11	USAID/OAA Claims Assistance	Transportation	Completed		26-Jun-12	\$112,237	\$28,254
WOLT 0033 AMD 2	7-Sep-11	USAID, OAA Claims Assistance - UNOPS	Transportation	Completed		2-Jul-13	\$89,727	\$23,372
WOLT 0033 AMD 3	13-Oct-11	USAID, OAA Claims Assistance - IRD	Transportation	Completed		3-Sep-13	\$739,361	\$597,900
WOLT 0033 AMD 4	N/A	LBG	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0034	16-Feb-11	Design review and project coordination services topchi hydro power plant	Water/Sanitation	Completed	17-Apr-11	7-Jul-11	\$126,162	\$96,283
WOLT 0035	19-May-11	Afghanistan Electricity Sector Economic Study (AESES), Kabul	Energy	Completed	27-Aug-11	6-Nov-11	\$166,374	\$110,850
WOLT 0036	30-Mar-11	Tarakhil Power Plant Operational Evaluation	Energy	Completed	28-Jun-11	31-Aug-11	\$295,170	\$214,663
WOLT 0037	N/A	Judicial Training Center Site Services	Vert. Structures	Cancelled	N/A	N/A	N/A	N/A

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
WOLT 0038	N/A	Roads Operation and Maintenance--Permanent Repair of Slide Area at Kilometer 23.6 of the Gardez -Khost Road	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0039	2-Jun-11	Construction of Health and Education Facilities (CHEF) Environment Site Assessment Services	Transportation	Completed	28-Aug-11	8-Sep-11	\$109,833	\$19,809
WOLT 0040	N/A	Ghazi	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0041	6-Jul-11	MoTCA Capacity Building: Project Administration-Maimana and Faizabad Airports	Transportation	Completed	31-Oct-12	26-Nov-12	\$65,575	\$50,491
WOLT 0042	16-Sep-11	Afghan women Internship Program	Transportation	Open	8-Nov-14	N/A	\$77,353	\$52,821
WOLT 0043	26-Dec-11	PTEC-Environmental Assessments	Energy	Completed	23-Jun-12	25-Mar-12	\$267,033	\$30,950
WOLT 0044	23-Sep-11	Bamyan Valley Electrical Transmission & Distribution (T&D) System Technical Design Services	Energy	Completed	20-Feb-12	26-Nov-11	\$327,922	\$26,791
WOLT 0045	8-Nov-11	Darunta Dam Technical Services: Desalting Gates Field Evaluation & Design	Energy	Completed	21-Feb-12	17-Mar-12	\$296,379	\$61,382

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
WOLT 0046	N/A	Kajaki Units 1 and 3 Technical Services	Energy	Cancelled	N/A	N/A	N/A	N/A
WOLT 0047	N/A	OIEE Project Reference Binder	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0048	3-Sep-12	Engineering Study for 220 KV Transmission Line from Dasht-E-Barchi to Kandahar	Energy	Open	31-Oct-12	N/A	\$663,033	\$621,734
WOLT 0048 AMD 3	3-Sep-12	Transmission Line and Substations from Arghandi to Ghazni	Energy	Open	12/31/2013	N/A		\$0
WOLT 0048 Amd 4	24-Sep-12	Qarabagh to Kandahar East Substations	Energy	Open	12/31/2013	N/A		\$0
WOLT 0048 AMD 5	N/A	Transmission Lines from Ghanzi to Kandahar East	Energy	Pending	N/A	N/A	N/A	\$0
WOLT 0049	29-Oct-11	Capacity to Conduct Roadway Operations and Maintenance	Transportation	Completed	20-Dec-11	12-May-12	\$59,376	\$59,267
WOLT 0050	N/A	Kajaki Unit 2 Technical Review	Energy	Cancelled	N/A	N/A	N/A	N/A
WOLT 0051	12-Nov-11	Afghanistan Northeast Power System (NEPS) and Southeast Power System (SEPS) Connection Assessment	Energy	Completed	12-Dec-11	22-Feb-12	\$97,827	\$89,487
WOLT 0052	16-Jan-12	Annual Operations and Maintenance Cost	Water/Sanitation	Completed	9-Jun-12	21-Nov-12	\$38,902	\$36,071

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Budgets, Kabul						
WOLT 0053	8-Feb-12	NEPS and NEPS-SEPS Connection Assessments	Energy	Completed	7-Jun-12	22-Jun-12	\$375,630	\$360,913
WOLT 0054	5-Mar-12	Reactive Power Compensation (RPC) for Pul-e-Khumri to Chimtala	Energy	Completed	31-Oct-12	21-Feb-13	\$898,536	\$679,163
WOLT 0055	13-Mar-12	Darunta HPP Assessments	Energy	Completed	12-May-12	8-Oct-12	\$122,916	\$6,722
WOLT 0056	28-Mar-12	Structural Engineering and Cost Estimating Services for Seismic Retrofit Options	Vert. Structures	Completed	28-Jul-12	9-Sep-12	\$87,890	\$48,673
WOLT 0057	14-May-12	Fire Suppression Systems Assessment at Tarakhil thermal Power Plant	Energy	Completed	22-Jun-12	1-Jul-12	\$58,199	\$40,719
WOLT 0058	N/A	Substation Assessments	Energy	Cancelled	N/A	N/A	N/A	N/A
WOLT 0059	18-Dec-12	NEPS Protective Relay Coordination Studies	Energy	Open	8-Nov-14	N/A	\$1,089,203	\$907,911
WOLT 0059 AMD 1	27-Sep-13	NEPS Distribution Materials and Installation Specification Development	Energy	Open	8-Nov-14	N/A	\$67,492	\$53,250
WOLT 0059 AMD 2	23-Feb-14	NEPS Distribution Materials and Installation	Energy	Pending	N/A	N/A	N/A	\$0

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Specification Development final 61 MV						
WOLT 0059 AMD 3	2-Mar-14	NEPS Kabul Area Substation Assessments	Energy	Pending	N/A	N/A	N/A	\$0
WOLT 0060	N/A	Sar-e-Pul Hospital Assessment	Vert. Structures	Cancelled	N/A	N/A	N/A	N/A
WOLT 0061	N/A	NEPS Connections to Customers Kabul, Logar, Wardak, Ghazni, Zabul and Kandahar Provinces	Energy	Cancelled	N/A	N/A	N/A	N/A
WOLT 0062	N/A	Kajaki Dam Technical Services - Substation and Turbine Unit 2 Technical Support, Helmand Province, Afghanistan	Energy	Cancelled	N/A	N/A	N/A	N/A
WOLT 0063	22-Oct-12	Salang Tunnel Substation Technical Sections	Energy	Open	31-Oct-14	N/A	\$328,001	\$362,198
WOLT 0063 AMD 3	22-May-13	Salang Tunnel SS Technical Sections	Energy	Open	3/7/2014	N/A	N/A	\$0
WOLT 0063 Amd 4	24-Sep-13	Salang Tunnel SS Pre-purchase Specs	Energy	Open	3/7/2014	N/A	\$97,230	\$70,717
WOLT 0063 AMD 5	16-Oct-13	Salang Tunnel SS Survey and Geotech	Transportation	Open	3/7/2014	N/A	\$62,126	\$19,851
WOLT 0063 AMD 6	28-Oct-13	Salang Tunnel SS	Transportation	Open	3/7/2014	N/A	\$994,464	\$462,210

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Detailed Design						
WOLT 0064	14-Aug-13	Jalalabad to Rodat TL and Substations Technical Sections	Energy	Open	18-Jun-14	N/A	\$262,993	\$37,014
WOLT 0065	6-Nov-12	Media Assistance USAID Afghanistan, OEGI and DOC	Transportation	Open	8-Nov-14	N/A	\$35,010	\$19,011
WOLT 0066	3-Dec-12	Training and Support USAID Professional Local, N/Ation/Al and Direct Hire Engineering Staff	Transportation	Open	31-Mar-14	N/A	\$105,545	\$4,335
WOLT 0067	20-Dec-12	Gardez to Khost Road Value Engineering	Transportation	Open	31-Mar-14	N/A	\$241,871	\$220,148
WOLT 0068	3-Dec-12	Nangarhar and Hydro - Load and System Studies	Energy	Completed		21-Feb-13	\$53,842	\$22,713
WOLT 0069	N/A	Student Video Competition	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0070	2-Jun-13	Tarakhil Power Plant Water Piping System - Firefighting AN/Allysis	Energy	Open	2-Apr-14	N/A	\$172,682	\$155,598
WOLT 0070 AMD 2	25-Feb-14	Firefighting Capability Study	Energy	Open	25-Jul-14	N/A	N/A	\$0
WOLT 0070 AMD 3	2-Feb-14	Power Block B Controls	Energy	Open	30-Mar-14	N/A	N/A	\$0

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Technical Assistance						
WOLT 0071	N/A	FoHE Record Drawings and O&M Manuals	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0072	23-Oct-13	Power System AN/Alysis of Proposed NEPS Improvements	Energy	Open	26-Jul-14	N/A	\$583,693	\$1,548
WOLT 0073	N/A	Energy and Water Capacity Building	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0074	15-Aug-13	Road Annual Operations and Maintenance Cost Budgets	Transportation	Completed	24-Oct-13	15-Dec-13	\$73,924	\$29,298
WOLT 0075	N/A	DAB Condition Precedent Support	Transportation	Cancelled	N/A	N/A	N/A	N/A
WOLT 0076	N/A	Bagram Basim Load Study	Energy	Pending	N/A	N/A	N/A	\$0
WOLT 0077	4-Jan-14	Gardez to Khost Bridge No. 9 Hydrological, Roadway and Bridge Design and Bid Services	Transportation	Open	4-May-14	N/A	\$199,763	\$94,062
WOLT 0078	22-Feb-14	NEPS Kabul HV/MV Master Plan	Energy	Pending	N/A	N/A	N/A	\$0
WOLT 0079	22-Feb-14	Transformer Rewinding Facility	Energy	Pending	N/A	N/A	N/A	\$0
WOLT 0080	22-Feb-14	Meter Box / LV Distribution Panel	Energy	Pending	N/A	N/A	N/A	\$0
WOLT 0081	22-Feb-14	Concrete Pole	Vert. Structures	Pending	N/A	N/A	N/A	\$0

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Manufacturing						
WO-A-0001	28-Dec-09	Review Kabul Water Study	Water/Sanitation	Completed	15-Jan-10	17-Jan-10	\$20,075	\$20,075
WO-A-0001 AMD 1	2-Feb-10	Review of Kabul Water MTP-1 Bid Docs	Water/Sanitation	Completed	15-Mar-10	16-Mar-10	\$19,307	\$19,307
WO-A-0002	28-Dec-09	Review of AUAF Master Plan Infrastructure	Vert. Structures	Completed	4-Jan-10	6-Jan-10	\$20,008	\$20,008
WO-A-0002 AMD 1	25-Jan-10	AUAF Master Plan Rev & SOW/ROM	Vert. Structures	Completed	6-Feb-10	6-Feb-10	\$10,777	\$10,777
WO-A-0003	13-Jan-10	GBHS Sanitation	Water/Sanitation	Completed	28-Feb-10	22-Feb-10	\$11,532	\$11,532
WO-A-0004	13-Jan-10	GBHS Electrical	Energy	Completed	28-Feb-10	15-Feb-10	\$819	\$819
WO-A-0005	13-Jan-10	GBHS Water Supply	Water/Sanitation	Completed	28-Feb-10	22-Feb-10	\$9,952	\$9,952
WO-A-0006	16-Jan-10	Sardar GHS Sanitation	Water/Sanitation	Completed	28-Feb-10	22-Feb-10	\$194	\$194
WO-A-0007	16-Jan-10	Sardar GHS Electrical	Energy	Completed	28-Feb-10	15-Feb-10	\$0	\$0
WO-A-0008	16-Jan-10	Sardar GHS Water Supply	Water/Sanitation	Completed	28-Feb-10	22-Feb-10	\$65	\$65
WO-A-0009	30-Jan-10	Integration of Nangarhar into NEPS	Energy	Completed	31-Mar-10	11-May-10	\$22,219	\$22,219
WO-A-0010	2-Feb-10	Review of BS-25 Draft Position	Transportation	Completed	5-Feb-10	11-Apr-10	\$334	\$334
WO-A-0011	3-Feb-10	HFO Feasibility for Tarakhil Power Plant	Energy	Completed	3-Feb-10	26-Apr-10	\$16,697	\$16,697
WO-A-0012	15-Feb-10	Position Advertisements	Transportation	Completed	15-Feb-10	7-Mar-10	\$1,965	\$1,965
WO-A-0013	17-Feb-10	Third Party MEP Review of IOM 20 Bed Hospital	Energy	Completed	15-Mar-10	14-Mar-10	\$13,114	\$13,114
WO-A-0014	23-Feb-10	Construction Equipment	Transportation	Completed	4-Mar-10	25-Feb-10	\$2,286	\$2,286

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Costs						
WO-A-0015	4-Mar-10	MOT Electrical	Energy	Completed	30-Apr-10	10-May-10	\$1,121	\$1,121
WO-A-0016	6-Mar-10	AUAF Board of Trustees Support	Vert. Structures	Completed	31-Mar-10	19-Apr-10	\$25,296	\$25,296
WO-A-0017	15-Mar-10	Faculty of Education	Vert. Structures	Completed	6-Mar-10	19-Apr-10	\$8,673	\$8,673
WO-A-0018	28-Mar-10	Dam #1 Review for Pul-e-Khumri	Water/Sanitation	Completed	1-May-10	2-May-10	\$8,461	\$8,461
WO-A-0019	28-Mar-10	Dam #2 Review for Pul-e-Khumri	Water/Sanitation	Completed	1-May-10	2-May-10	\$13,222	\$13,222
WO-A-0020	1-Apr-10	SEPS Additional Work	Energy	Completed	30-Apr-10	18-Apr-10	\$82	\$82
WO-A-0021	6-Apr-10	MoEW VTC Rehab Drawing Review	Vert. Structures	Completed	20-Apr-10	20-Apr-10	\$10,072	\$10,072
WO-A-0022	6-Apr-10	50 Bed Wmn Hosp Drawing Review	Vert. Structures	Completed	12-Apr-10	12-Apr-10	\$8,194	\$8,194
WO-A-0023	11-Apr-10	Data Collection for Afghan Contractors Capacity Building	Transportation	Completed	7-Aug-10	22-Aug-10	\$25,089	\$25,089
WOA 0024	17-Aug-10	Afghan First COP Meetings	Transportation	Completed	30-Nov-10	20-Mar-12	\$268	\$268
WO-A-0025	12-Apr-10	Kajaki Dam	Water/Sanitation	Completed	30-Apr-10	2-Jun-10	\$15,087	\$15,087
WO-A-0026	N/A	Environmental Haz Waste Assessment	Transportation	Cancelled	N/A	N/A	N/A	N/A
WO-A-0027	18-Apr-10	National Electric Distribution Work Unit Quantity Model	Energy	Completed	31-May-10	10-Jul-10	\$16,906	\$16,906
WO-A-0028	18-Apr-10	IOM 50 BH Samangan Geotech Review	Vert. Structures	Completed	21-Apr-10	21-Apr-10	\$2,793	\$2,793

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
WO-A-0029	20-Apr-10	CHEF PTTC Drawing Review	Vert. Structures	Completed	28-Apr-10	29-Apr-10	\$9,925	\$9,925
WO-A-0030	22-Apr-10	ISD-DGA Proposal Review	Vert. Structures	Completed	28-Apr-10	28-Apr-10	\$4,755	\$4,755
WO-A-0031	28-Apr-10	100 BH IQC Comparison ROM	Vert. Structures	Completed	7-May-10	7-May-10	\$8,513	\$8,513
WO-A-0032	29-Apr-10	Pul-e-Khumri Cost Estimate	Water/Sanitation	Completed	10-May-10	2-Jun-10	\$20,548	\$20,548
WO-A-0033	12-May-10	MoPH Complex Structural Design Review	Vert. Structures	Completed	2-Jun-10	8-Jun-10	\$4,843	\$4,843
WO-A-0034	8-May-10	Kajaki Dam SOW	Water/Sanitation	Completed	19-Jun-10	6-Jul-10	\$28,271	\$28,271
WO-A-0035	N/A	VS Best Practices	Vert. Structures	Cancelled	N/A	N/A	N/A	N/A
WO-A-0036	9-May-10	AUAF 3D CDR Presentations	Vert. Structures	Completed	3-Jun-10	12-Jun-10	\$9,280	\$9,280
WO-A-0037	15-May-10	Doshi to Salang Tunnel Pavement Design Review	Transportation	Completed	29-May-10	11-Jul-10	\$14,540	\$14,540
WO-A-0038	12-May-10	Execution Plan for RC-East and Nangarhar Elec Power Distribution Program	Energy	Completed	30-Jun-10	9-Oct-10	\$13,840	\$13,840
WO-A-0039	18-May-10	Kajaki Dam Cost Review	Water/Sanitation	Completed	30-Sep-10	9-Oct-10	\$25,069	\$25,069
WO-A-0040	27-May-10	Power Point Presentation	Transportation	Completed	4-Jun-10	15-Jun-10	\$2,031	\$2,031
WO-A-0041	N/A	AVIPA Raison Drying	Vert. Structures	Cancelled	N/A	N/A	N/A	N/A

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Bed Review						
WO-A-0042	5-Jun-10	AVIPA Processing Plant Review	Vert. Structures	Completed	30-Jun-10	8-Aug-10	\$3,861	\$3,861
WO-A-0043	16-Jun-10	Shahtoot and Sarobi II Dam Review	Water/Sanitation	Completed	31-Aug-10	9-Oct-10	\$27,698	\$27,698
WO-A-0044	16-Jun-10	Kabul University DFAC and Laundry 35% Design Review	Vert. Structures	Completed	24-Jun-10	25-Jul-10	\$12,484	\$12,484
WO-A-0045	21-Jun-10	Chagcharan Airport Site Visit	Transportation	Completed	30-Dec-10	19-Oct-10	\$16,806	\$16,806
WO-A-0046	13-Jul-10	Jalalabad Elec Power Distribution	Energy	Completed	15-Sep-10	10-Feb-11	\$5,200	\$5,200
WO-A-0047	21-Jul-10	Technical Review Maimana & Faizabad Airport	Transportation	Completed	30-Dec-10	2-Nov-10	\$22,655	\$22,655
WO-A-0048	27-Jul-10	Action Memo SGFDP	Transportation	Completed	31-Jul-10	31-Jul-10	\$329	\$329
WO-A-0049	1-Aug-10	Badakshan Bridge Independent Review	Transportation	Completed	31-Aug-10	19-Oct-10	\$19,312	\$19,312
WO-A-0050	6-Aug-10	USAID DVD/CD Filing	Transportation	Completed	5-Oct-10	13-Oct-10	\$4,143	\$4,143
WO-A-0051	17-Aug-10	MOT Electrical Phase II Drawing Review	Vert. Structures	Completed	11-Sep-10	15-Nov-10	\$3,697	\$3,697
WO-A-0052	15-Aug-10	NEPS-SEPS Connection Review	Energy	Completed	30-Aug-10	9-Oct-10	\$19,753	\$19,753
WO-A-0053	18-Aug-10	ACEP Report Review	Energy	Completed	11-Sep-10	4-Jan-11	\$8,400	\$8,400
WO-A-0054	18-Aug-10	NLCC 30% Electrical Design Review	Energy	Completed	21-Aug-10	6-Sep-10	\$2,363	\$2,363
WO-A-0055	28-Aug-10	NLCC 90% Design	Vert. Structures	Completed	20-Sep-10	9-Oct-10	\$7,919	\$7,919

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Review						
WO-A-0056	N/A	LGCDNA070 Comm Tower Review	Vert. Structures	Cancelled	N/A	N/A	N/A	N/A
WO-A-0057	9-Sep-10	NEPS-Kandahar Construction Plan	Energy	Completed	14-Sep-10	9-Oct-10	\$8,455	\$8,455
WO-A-0058	20-Sep-10	Afghan Standardization	Transportation	Completed	30-Nov-11	20-Dec-11	\$10,298	\$10,298
WO-A-0059	13-Sep-10	Parwan Road Village Electrification	Energy	Completed	10-Jul-11	30-Jul-11	\$18,242	\$18,242
WO-A-0060	22-Sep-10	Embassy Biodigestion Study	Water/Sanitation	Completed	7-Nov-10	16-Nov-11	\$1,859	\$1,859
WOA 0061	19-Sep-10	Bamyan Dam Study	Water/Sanitation	Completed	15-Oct-10	12-Dec-10	\$17,853	\$17,853
WOA 0062	20-Sep-10	FOHE Schematic Design Review	Energy	Completed	27-Sep-10	17-Oct-10	\$1,224	\$1,224
WOA 0063	6-Oct-10	Topchi Hydropower Plant Canal Review	Water/Sanitation	Completed	30-Nov-10	12-Dec-10	\$25,216	\$25,216
WOA 0064	9-Oct-10	Sufyane Village Electrification	Energy	Completed	22-Oct-10	30-Jul-11	\$19,396	\$19,396
WOA 0065	28-Oct-10	Pre-Award Survey of Afghan Construction Companies	Transportation	Completed	7-Nov-10	18-Nov-10	\$2,567	\$2,567
WOA 0066	6-Nov-10	Roof Framing Plan Review for Sardar Girls High School	Vert. Structures	Completed	20-Nov-10	19-Jan-11	\$14,509	\$14,509
WOA 0067	28-Nov-10	Ghazi Building Design Review	Vert. Structures	Completed	30-Nov-10	18-Apr-11	\$14,192	\$14,192
WOA 0068	18-Nov-10	USAID Plan Filing	Transportation	Completed	15-Dec-10	16-Mar-11	\$2,371	\$2,371
WOA 0069	19-Nov-10	Construction Principles	Vert. Structures	Completed	1-Dec-10	10-Feb-11	\$6,168	\$6,168

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
WOA 0070	2-Dec-10	NLCC 100% Design Review	Vert. Structures	Completed	10-Dec-10	10-Feb-11	\$5,782	\$5,782
WOA 0071	14-Dec-10	CHEF PTTC Water Tower Design Review	Vert. Structures	Completed	31-Jan-11	10-Feb-11	\$16,472	\$16,472
WOA 0072	14-Dec-10	File Transfer Service	Transportation	Completed	31-Mar-11	31-Jan-12	\$366	\$366
WOA 0073	5-Jan-11	Roof Framing Plan Review for Sardar Girls High School	Vert. Structures	Completed	21-Jan-11	12-Mar-11	\$10,825	\$10,825
WOA 0074	1-Mar-11	Insulation Materials Technical Comparison	Vert. Structures	Completed		16-Mar-11	\$1,877	\$1,877
WOA 0075	27-Apr-11	Khost-Gardez Highway Investigation Review	Transportation	Completed	31-May-11	17-Jul-11	\$23,184	\$23,184
WOA 0076	2-Jun-11	Kabul Road Preliminary Costing	Transportation	Completed	23-Jun-11	19-Jun-11	\$8,922	\$8,922
WOA 0077	18-Jun-11	Review of the Environmental Mitigation Efforts of Installation and Operation of Diesel Generation Units for the Helmand Power Plant (KHPP)	Transportation	Completed	28-Jul-11	24-Mar-12	\$6,145	\$6,145
WOA 0078	12-Sep-11	Kajaki Unit 2 Assessment	Transportation	Completed	30-Sep-11	20-Dec-11	\$24,835	\$24,835
WOA 0079	27-Oct-11	Tarakhil Power Plant Operations and Maintenance (O&M)	Energy	Completed	17-Nov-11	13-Dec-11	\$8,024	\$8,024

WO	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost (ROM)	Total Cost to Date (USD)
		Estimate						
WOA 0080	27-Oct-11	Turkmenistan-Herat (Gas) Pipeline Pre-Feasibility Study	Energy	Completed	17-Jan-12	22-Feb-12	\$6,352	\$6,352
WOA 0081	31-Oct-11	KK Bridge Calculations Review	Transportation	Completed	14-Nov-11	4-Jan-12	\$14,471	\$14,471
WOA 0082	31-Oct-11	SEPS Technical Services	Energy	Completed	20-Nov-11	7-Dec-11	\$25,435	\$25,435
WOA 0083	20-Nov-11	Review of Sardar Girls High School Fire Doors	Vert. Structures	Completed	14-Dec-11	31-Jan-12	\$5,829	\$5,829
WOA 0084	15-Jan-12	Sardar Girls High School Fire Door Suppliers and Cost Estimates	Vert. Structures	Completed	9-Feb-12	10-Apr-12	\$10,316	\$10,316
WOA 0085	22-Jan-12	Ghazi Boys High School Winter Operations Support	Water/Sanitation	Completed	31-Mar-12	24-Apr-12	\$4,326	\$4,326
WOA 0086	N/A	Darunta Dam Field Investigation	Energy	Cancelled	N/A	N/A	N/A	N/A
WOA 0087	26-Nov-12	Salang Tunnel Feasibility Study Presentation Support	Energy	Completed	3-Dec-12	21-Feb-13	\$4,652	\$4,652
WOA 0088	16-Jan-13	Regak Bridge QA	Vert. Structures	Completed	31-Jan-13	12-Feb-13	\$1,877	\$1,877
WOA 0089	28-Jan-13	Salang Substation	Energy	Completed	20-Jan-14	24-Dec-13	\$1,453	\$1,453
WOA 0090	12-Mar-13	Tarakhil Fire Suppression System Recommendations (Tarakhil Power Plant)	Energy	Completed	30-Sep-13	4-Jun-13	\$2,589	\$2,589

W	NTP Date	Title of Work Order	Sector	Status	Estimated Completion Date	Completed Date	Estimated Cost	Total Cost to Date (USD)
WOA 0091	16-Jul-13	Condition Precedents 1,2,3,5,6-12 for Procurement	Energy	Completed	30-Sep-13	11-Dec-13	\$25,511	\$25,511
WOA 0092	18-Aug-13	Condition Precedents 1,2,3,5,6-12 for Procurement	Energy	Completed	30-Sep-13	11-Dec-13	\$11,622	\$11,622
WOA 0093	26-Aug-13	Technical Assistance to US Embassy Power Plant	Energy	Completed	8-Sep-13	4-Nov-13	\$3,195	\$3,195
WOA 0094	24-Nov-13	Salang Tunnel Exhibit Support	Energy	Completed	28-Nov-13	2-Dec-13	\$460	\$460

ANNEX VII: AESP WORK ORDER COST DISTRIBUTION

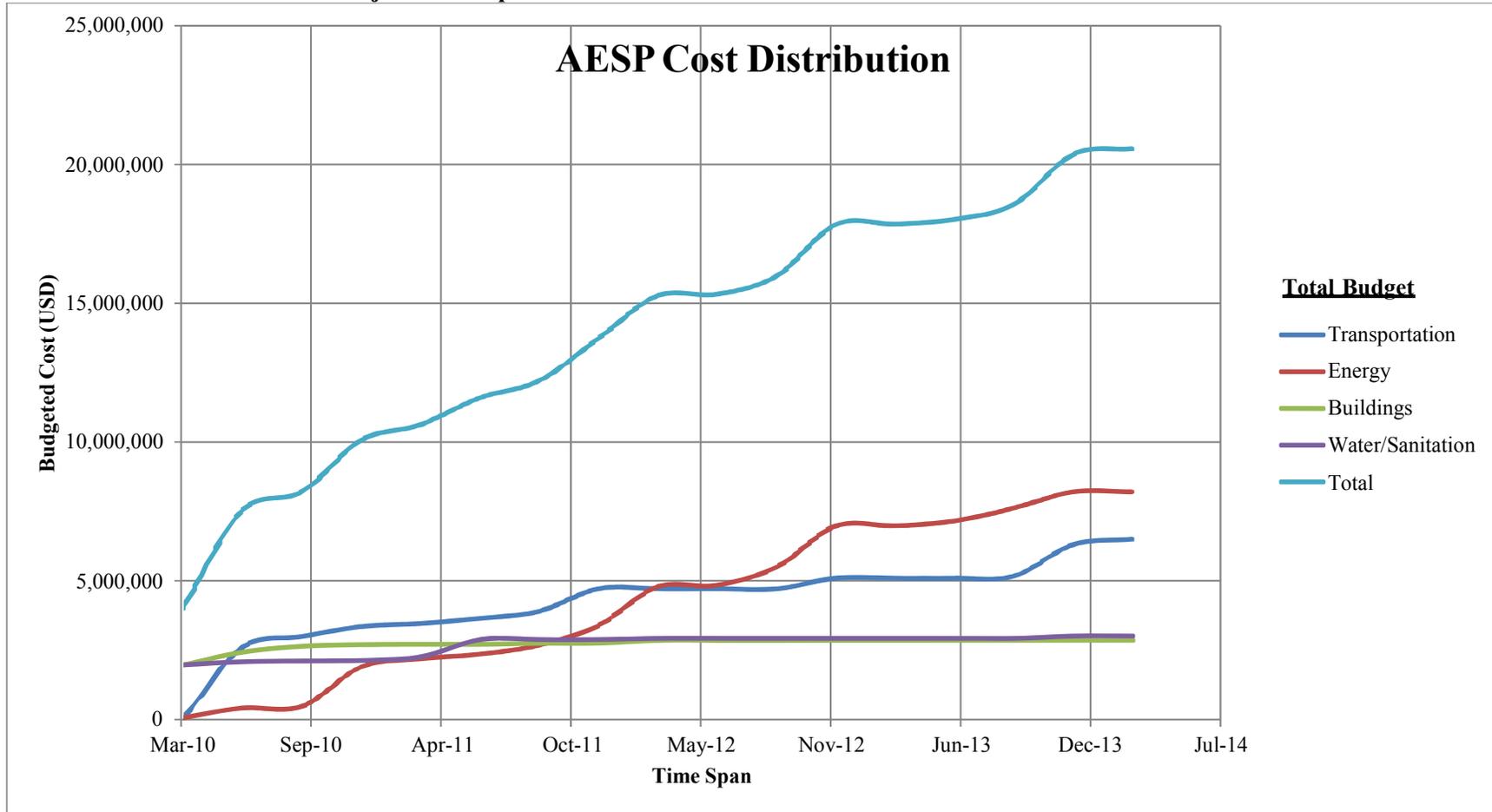
AESP Project Budget Details Based on Sectors and Years

DATES	TRANSPORTATION		ENERGY		BUILDINGS		WATER/SANITATION		TOTAL	
	WO	ROM (Cost)	WO	ROM (Cost)	WO	ROM (Cost)	WO	ROM (Cost)	WO	ROM (Cost)
2009	0	\$0.00	0	\$0.00	1	\$20,007.98	1	\$20,074.69	2	\$40,082.67
Jan-10	0	\$0.00	3	\$23,038.48	2	\$1,380,263.07	4	\$21,743.04	9	\$1,425,044.59
Feb-10	3	\$4,584.29	2	\$29,810.93	1	\$531,404.00	1	\$19,307.09	7	\$585,106.31
Mar-10	0	\$0.00	1	\$1,121.41	2	\$33,968.33	5	\$1,907,890.04	8	\$1,942,979.78
Apr-10	1	\$25,089.00	2	\$16,988.25	6	\$44,252.17	2	\$35,634.38	11	\$121,963.80
May-10	3	\$310,434.47	1	\$13,840.02	2	\$14,122.50	2	\$53,340.68	8	\$391,737.67
Jun-10	2	\$1,635,728.84	1	\$329,761.00	4	\$1,033,890.00	1	\$27,697.67	8	\$3,027,077.51
Jul-10	2	\$22,983.93	1	\$5,200.43	1	\$195,173.00	0	\$0.00	4	\$223,357.36
Aug-10	4	\$356,751.30	3	\$30,515.72	2	\$11,615.44	0	\$0.00	9	\$398,882.46
Sep-10	1	\$10,297.74	3	\$27,921.25	0	\$0.00	2	\$19,711.79	6	\$57,930.78
Oct-10	1	\$2,566.92	1	\$19,395.76	0	\$0.00	1	\$25,215.94	3	\$47,178.62
Nov-10	2	\$355,157.85	1	\$136,275.00	3	\$34,869.32	0	\$0.00	6	\$526,302.17
Dec-10	1	\$365.90	6	\$1,258,174.00	2	\$22,253.52	0	\$0.00	9	\$1,280,793.42
Total 2010	20	2723960.242	25	1892042.249	25	3301811.345	18	2110540.618	88	\$10,028,354.45
Jan-11	1	\$112,237.00	0	\$0.00	1	\$10,825.09	18	\$0.00	20	\$123,062.09
Feb-11	0	\$0.00	0	\$0.00	0	\$0.00	1	\$126,162.00	1	\$126,162.00
Mar-11	0	\$0.00	1	\$295,170.00	1	\$1,876.81	0	\$0.00	2	\$297,046.81
Apr-11	2	\$57,128.02	0	\$0.00	0	\$0.00	0	\$0.00	2	\$57,128.02
May-11	0	\$0.00	1	\$166,374.00	0	\$0.00	1	\$624,514.00	2	\$790,888.00
Jun-11	3	\$124,900.10	0	\$0.00	0	\$0.00	0	\$0.00	3	\$124,900.10
Jul-11	1	\$65,575.00	0	\$0.00	0	\$0.00	0	\$0.00	1	\$65,575.00
Aug-11	0	\$0.00	0	\$0.00	1	\$37,595.00	0	\$0.00	1	\$37,595.00
Sep-11	3	\$191,914.86	1	\$327,922.00	0	\$0.00	0	\$0.00	4	\$519,836.86
Oct-11	3	\$813,208.01	3	\$39,810.53	0	\$0.00	0	\$0.00	6	\$853,018.54

DATES	TRANSPORTATION		ENERGY		BUILDINGS		WATER/SANITATION		TOTAL	
	WO	ROM (Cost)	WO	ROM (Cost)	WO	ROM (Cost)	WO	ROM (Cost)	WO	ROM (Cost)
Nov-11	0	\$0.00	2	\$394,206.00	1	\$5,829.16	0	\$0.00	3	\$400,035.16
Dec-11	0	\$0.00	1	\$267,033.00	0	\$0.00	0	\$0.00	1	\$267,033.00
Total 2011	13	1364962.99	9	1490515.53	4	56126.06	20	750676	46	\$3,662,280.58
Jan-12	0	\$0.00	0	\$0.00	1	\$10,315.99	2	\$43,227.53	3	\$53,543.52
Feb-12	0	\$0.00	1	\$375,630.00	0	\$0.00	0	\$0.00	1	\$375,630.00
Mar-12	0	\$0.00	2	\$1,021,452.00	1	\$87,890.00	0	\$0.00	3	\$1,109,342.00
Apr-12	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
May-12	0	\$0.00	1	\$58,199.00	0	\$0.00	0	\$0.00	1	\$58,199.00
Jun-12	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Jul-12	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Aug-12	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Sep-12	0	\$0.00	3	\$663,033.00	0	\$0.00	0	\$0.00	3	\$663,033.00
Oct-12	0	\$0.00	1	\$328,001.00	0	\$0.00	0	\$0.00	1	\$328,001.00
Nov-12	1	\$35,010.00	1	\$4,651.86	0	\$0.00	0	\$0.00	2	\$39,661.86
Dec-12	2	\$347,416.00	2	\$1,143,045.00	0	\$0.00	0	\$0.00	4	\$1,490,461.00
Total 2012	3	382426	11	3594011.86	2	98205.99	2	43227.53	18	\$4,117,871.38
Jan-13	0	\$0.00	2	\$1,453.01	1	\$1,877.46	0	\$0.00	3	\$3,330.47
Feb-13	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Mar-13	0	\$0.00	1	\$2,589.41	0	\$0.00	0	\$0.00	1	\$2,589.41
Apr-13	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
May-13	0	\$0.00	1	\$0.00	0	\$0.00	0	\$0.00	1	\$0.00
Jun-13	0	\$0.00	1	\$172,682.00	0	\$0.00	0	\$0.00	1	\$172,682.00
Jul-13	0	\$0.00	1	\$25,510.84	0	\$0.00	0	\$0.00	1	\$25,510.84
Aug-13	1	\$73,924.00	3	\$277,809.21	0	\$0.00	0	\$0.00	4	\$351,733.21
Sep-13	0	\$0.00	2	\$164,722.00	0	\$0.00	0	\$0.00	2	\$164,722.00

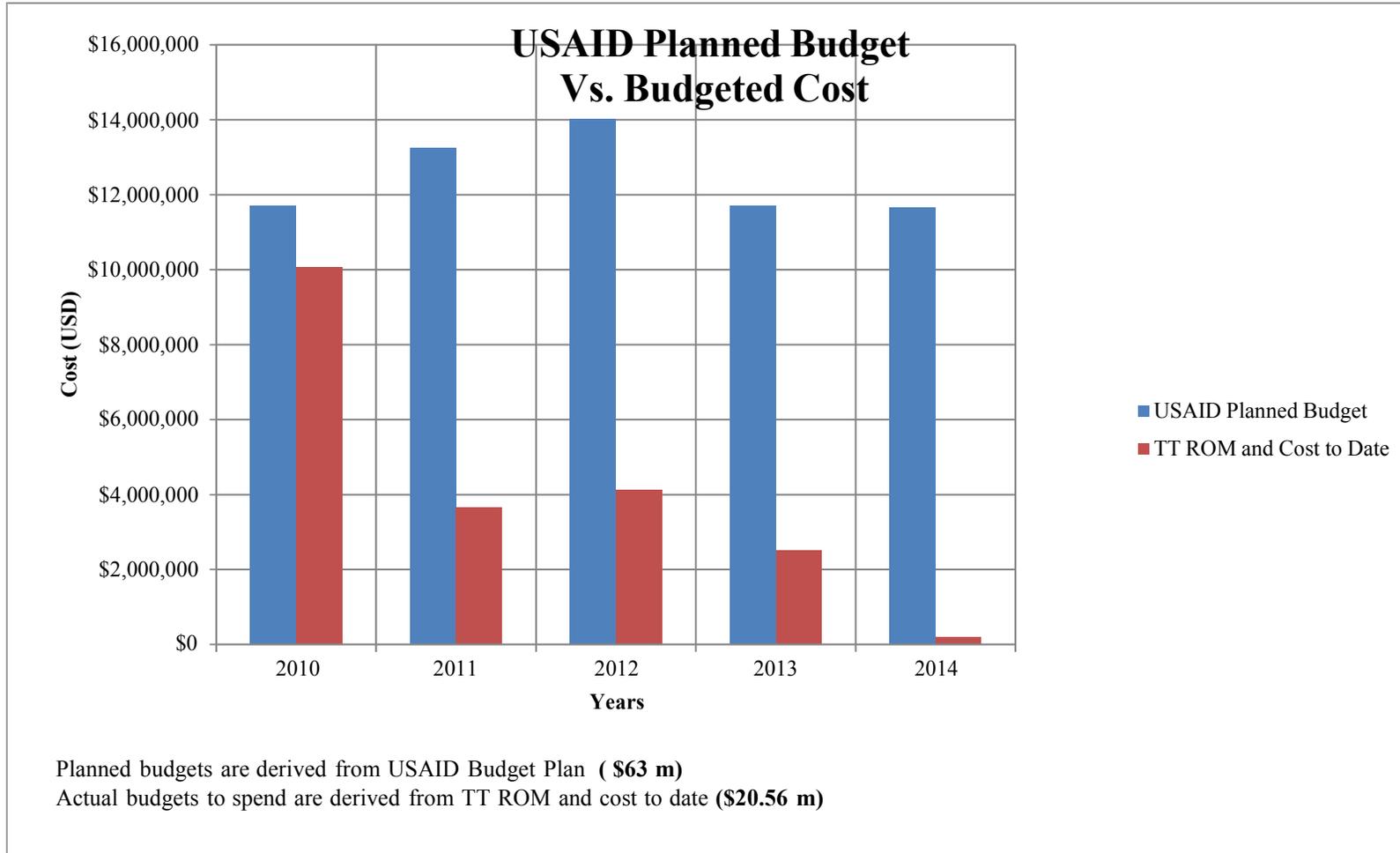
DATES	TRANSPORTATION		ENERGY		BUILDINGS		WATER/SANITATION		TOTAL	
	WO	ROM (Cost)	WO	ROM (Cost)	WO	ROM (Cost)	WO	ROM (Cost)	WO	ROM (Cost)
Oct-13	3	\$1,132,352.00	1	\$583,693.00	0	\$0.00	1	\$83,106.00	5	\$1,799,151.00
Nov-13	0	\$0.00	1	\$460.10	0	\$0.00	0	\$0.00	1	\$460.10
Dec-13	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Total 2013	4	1206276	13	1228919.57	1	1877.46	1	83106	19	\$2,520,179.03
Jan-14	1	\$199,763.00	0	\$0.00	0	\$0.00	0	\$0.00	1	\$199,763.00
Feb-14	0	\$0.00	3	\$0.00	1	\$0.00	0	\$0.00	4	\$0.00
Mar-14	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Apr-14	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
May-14	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Jun-14	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Jul-14	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Aug-14	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Sep-14	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Total 2014	1	\$199,763.00	3	\$0.00	1	\$0.00	0	\$0.00	5	\$199,763.00
Grand Total	41	\$5,877,388.23	61	\$8,205,489.21	34	\$3,478,028.84	42	\$3,007,624.84	178	\$20,568,531.12

AESP Cost Distribution over Project Time Span



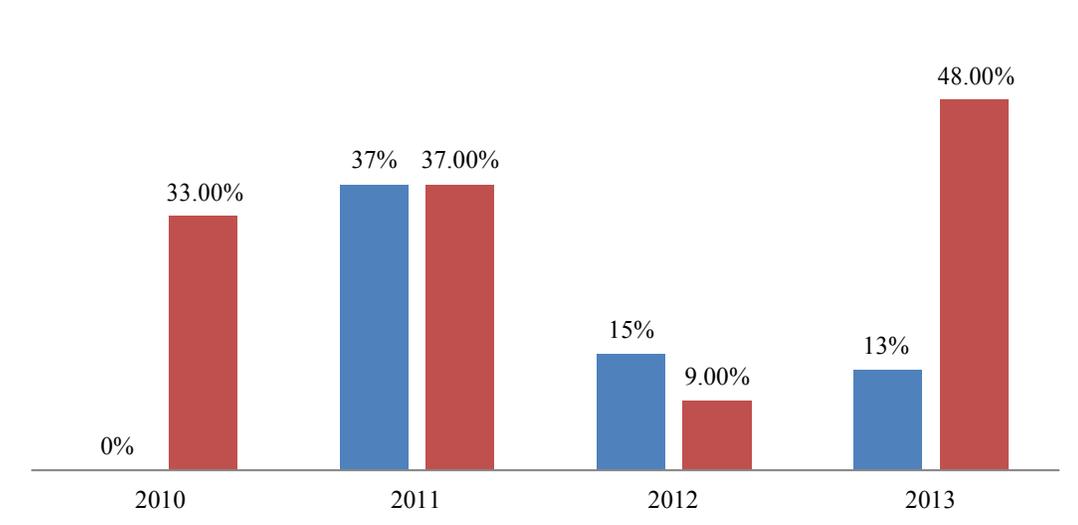
ANNEX VIII: PLANNED VS. ACTUAL COST

USAID Planned Budget Vs. Actual Budgeted Cost



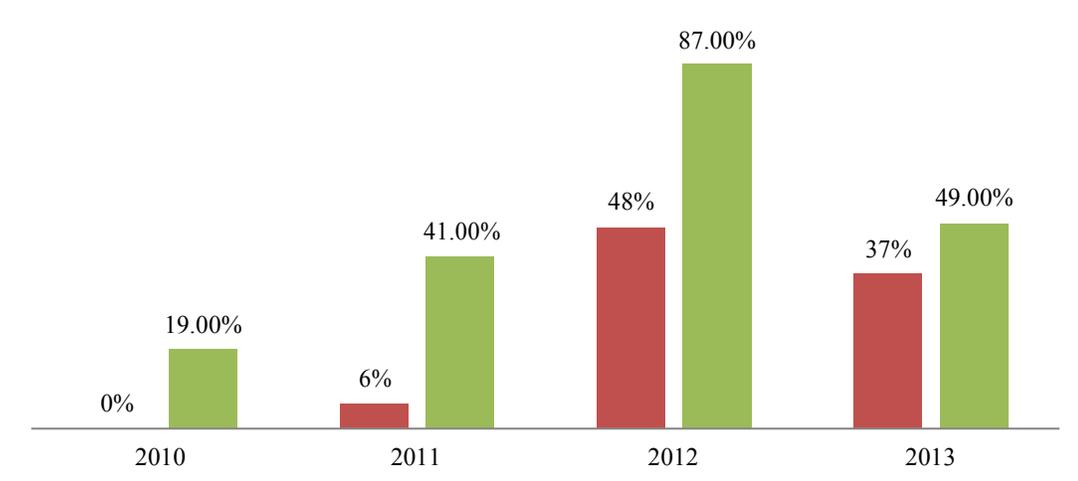
Planned Vs. Actual Budget for Transportation Sector

■ TT Planned (%) ■ USAID Actual Expenditure (%)

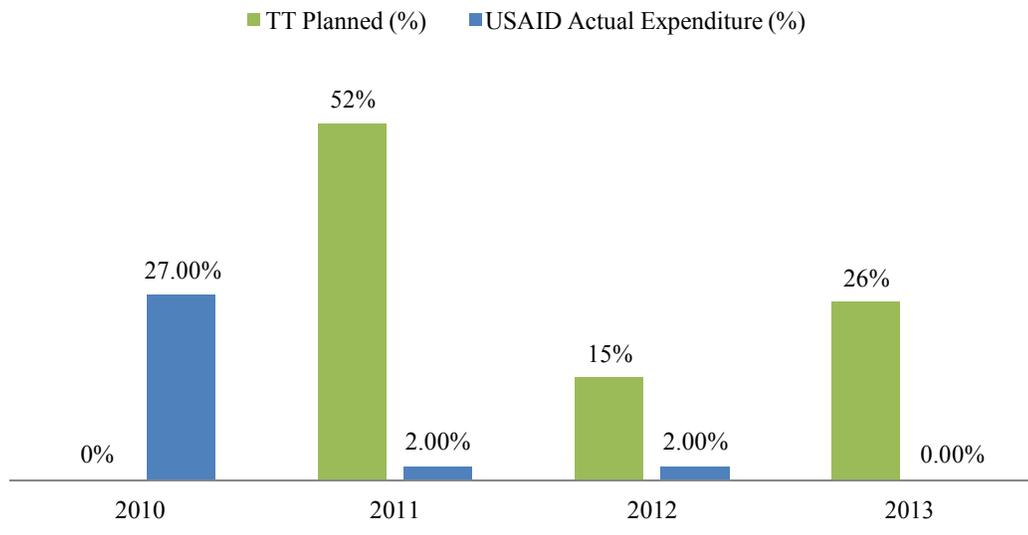


Planned Vs. Actual Budget for Energy Sector

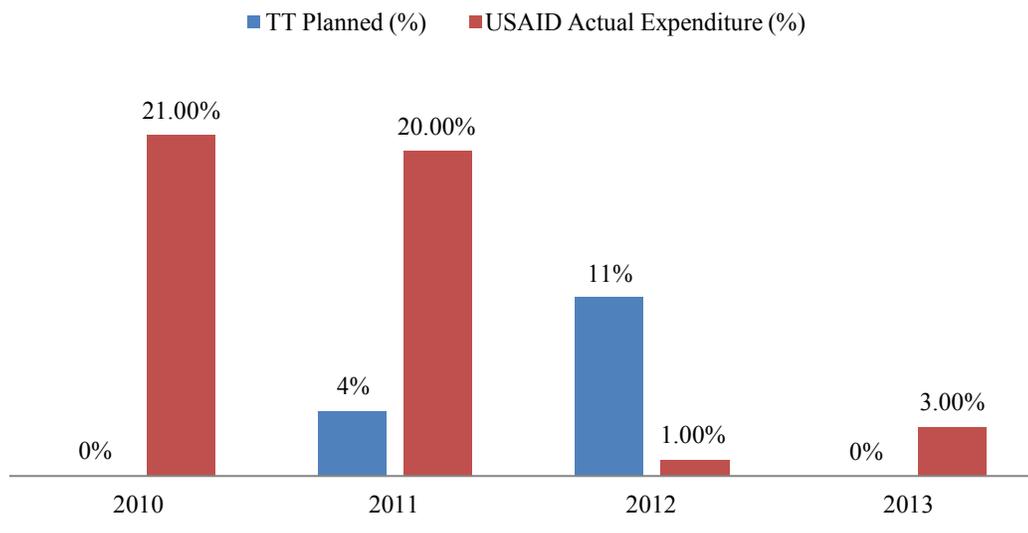
■ TT Planned (%) ■ USAID Actual Expenditure (%)



Planned Vs. Actual Budget for Vertical Structures Sector



Planned Vs. Actual Budget for Water/Sanitation Sector



ANNEX IX: AESP SERVICES VS. INDUSTRY SECTORS

AESP services vs. industry sectors

SECTORS	TYP. Of WO	STATUS	QUANTITY	PERCENTAGE (%)
Transportation	Long Term (LT)	Completed	12	6.1
		Canceled	10	5.1
		Pending	0	0.0
		Open	9	4.6
	Administrative (A)	Completed	21	10.7
		Canceled	1	0.5
		Pending	0	0.0
		Open	0	0.0
Energy	Long Term (LT)	Completed	19	9.6
		Canceled	10	5.1
		Pending	7	3.6
		Open	13	6.6
	Administrative (A)	Completed	27	13.7
		Canceled	1	0.5
		Pending	0	0.0
		Open	0	0.0
Vertical Structures	Long Term (LT)	Completed	6	3.0
		Canceled	5	2.5
		Pending	1	0.5
		Open	0	0.0
	Administrative (A)	Completed	26	13.2
		Canceled	3	1.5
		Pending	0	0.0

SECTORS	TYP. Of WO	STATUS	QUANTITY	PERCENTAGE (%)
		Open	0	0.0
Water/Sanitation	Long Term (LT)	Completed	6	3.0
		Canceled	2	1.0
		Pending	0	0.0
		Open	1	0.5
	Administrative (A)	Completed	17	8.6
		Canceled	0	0.0
		Pending	0	0.0
		Open	0	0.0

ANNEX X: LIST OF APPROVED PROJECTS FOR EVALUATION- DOCUMENTS REVIEWED

Work Order	AMD	Project	Document Type	Date	Pages	Other
Contract Documents						
		AESP	USAID TT Contract Agreement	9-Nov-09	25	
General		AESP	Global A/E IQC		93	
General		AESP	TT Work Order Procedure		2	
General		AESP				
General		AESP	Contract Mod 001	7-Dec-09	2	\$3.5 m
General		AESP	Contract Mod 002	4-Mar-10	2	\$497k
General		AESP	Contract Mod 003	1-Apr-10	2	\$495K
General		AESP	Contract Mod 004	4-May-10	2	\$8m
General		AESP	Contract Mod 005	16-May-10	2	\$300k
General		AESP	Contract Mod 006			
General		AESP	Contract Mod 007	3-Aug-10	2	\$200k
General		AESP	Contract Mod 008	3-Aug-10	2	\$0
General		AESP	Contract Mod 009	25-Sep-10	2	\$12.50
General		AESP	Contract Mod 010			
General		AESP	Contract Mod 011			
General		AESP	Contract Mod 012			
General		AESP	Contract Mod 013	18-Oct-11	2	\$110k
General		AESP	Contract Mod 014	20-Dec-11	2	\$10.5m
General		AESP	Contract Mod 015			
General		AESP	Contract Mod 016			
General		AESP	Contract Mod 017	8-Jul-12	2	\$9.6m
General		AESP	Contract Mod 018	24-Feb-13	2	\$0
General		AESP	Contract Mod 019	15-May-13	2	\$0
General		AESP	Contract Mod 020	14-Aug-13	6	\$12.8m
Work Plans						
General		AESP	100314 TT Year 1 Final Work Plan	14-Mar-10	38	
General		AESP	101011 TT Year 2 Work Plan	11-Oct-10	51	
General		AESP	111103 TT Year 3 Work Plan	3-Nov-11	47	

Work Order	AMD	Project	Document Type	Date	Pages	Other
General		AESP	121115 TT Year 4 Work Plan	15-Nov-12	43	
General		AESP	130802 TT Year 5 Work Plan	2-Aug-13	43	
General		AESP	130825 TT Year 5 Work Plan R1	25-Aug-13	42	
Security Plan						
General		AESP	on file	on file		
Performance Monitoring Plan						
General		AESP	100210A TT Perfm Monitoring Plan MP Draft	30-Jan-10	28	
General		AESP	100403 TT PMP	3-Apr-10	38	
Weekly Meetings with the COR						
General		AESP				
TT AESP Evaluation						
General		AESP	101120 FY 2010 Energy Evaluation	15-Apr-10	15	
General		AESP	101120 FY 2010 Transportation Eval	27-Oct-10	6	
General		AESP	101120 FY 2010 Vert Struct Eval	15-Apr-10	16	
General		AESP	101120 FY 2010 Water San Eval	14-Apr-10	7	
General		AESP	101120 FY 2010 Water Resource & Dams	10-Nov-10	8	
TT Periodic Performance Reports						
General		AESP				
Work Order Tracking Logs						
General		AESP	111016 TT AESP WO Tracking	16-Oct-11	2	
General		AESP	111023 TT AESP WO Tracking	23-Oct-11	2	
General		AESP	111030 TT AESP WO Tracking	30-Oct-11	10	
General		AESP	131125 TT AESP WO Tracking	25-Nov-13	1	
General		AESP	131125 TT AESP WO Tracking	25-Nov-13	2	
AESP TT Cost Accruals						
General		AESP	TT AESP Cost Accruals Letter	11-Dec-10	1	
General		AESP				
General		AESP	2011315 TT AESP Cost Accruals Letter	15-Mar-11	1	
General		AESP				

Work Order	AMD	Project	Document Type	Date	Pages	Other
General		AESP	100614 TT AESP Cost Accruals Letter	12-Jun-12	1	
General		AESP	100615 TT AESP Cost Accruals Letter	15-Jun-10	1	
General		AESP	100912 TT AESP Cost Accruals Letter	12-Sep-10	1	
General		AESP	101211 TT AESP Cost Accruals Letter	11-Dec-10	1	
General		AESP	TT AESP Cost Accrual Letter	20-Jun-11	1	
General		AESP	120917 TT AESP Cost Accruals Letter	17-Sep-12	1	
General		AESP	121215 TT AESP Cost Accruals Letter	15-Dec-12	1	
General		AESP	130313 TT AESP Cost Accruals Letter	13-Mar-13	1	
General		AESP	130608 TT AESP Cost Accruals Letter	8-Jun-13	1	
General		AESP	130911 TT AESP Cost Accruals Letter	11-Sep-13	1	
General		AESP	131211 TT AESP Cost Accruals Letter	11-Dec-13	1	
TT WO Tracking						
General		AESP	numerous see folder on server			
General		AESP				
General		AESP				
General		AESP				
General		AESP				
TT Quarterly Reports						
General		AESP	100506 TT YR 2010 Q2 Report	6-May-10	14	
General		AESP	100710 TT YR 2010 Q3 Report	10-Jul-10	25	
General		AESP	2010 Q4 Report			
General		AESP	110126 TT YR 2011 Q1 Report	26-Jan-11	30	
General		AESP	110419 TT YR 2011 Q2 Report	19-Apr-11	30	
General		AESP	110720 TT YR 2011 Q3 Report	20-Jul-11	31	
General		AESP	2011 Q4 Report			
General		AESP	120110 TT YR 2012 Q1 Report DRAFT	10-Jan-12	25	
General		AESP	120204 TT YR 2012 Q1 Report	4-Feb-12	25	
General		AESP	120418 TT YR 2012 Q2 Report	18-Apr-12	23	
General		AESP	120710 TT YR 2012 Q3 Report	10-Jul-12	23	
General		AESP	2012 Q4 Report			
General		AESP	130112 TT YR 2013 Q1 Report	12-Jan-13	21	
General		AESP	130406 TT YR 2013 Q2 Report	6-Apr-13	26	

Work Order	AMD	Project	Document Type	Date	Pages	Other
General		AESP	130710 TT YR 2013 Q3 Report	10-Jul-13	30	
General		AESP	2013 Q4 Report			
TT Annual Reports						
General		AESP	101113 TT YR 2010 Annual Report	13-Nov-10	39	
General		AESP	111222 TT YR 2011 Annual Report	22-Dec-11	36	
General		AESP	121128 TT YR 2012 Annual Report	28-Nov-12	33	
General		AESP	131212 TT YR 2013 Annual Report	12-Dec-13	40	
USAID Quarterly Reports						
General		AESP	USAID Yr. 2013 Q4 Report	24-Sep-13	3	
Weekly Meeting Minutes						
			2009 Weekly Meeting Minutes (0)			
			2010 Weekly Meeting Minutes (3)			
			2011 Weekly Meeting Minutes (0)			
			2012 Weekly meeting Minutes (0)			
			2013 Weekly Meeting Minutes (40)			
			2014 Weekly Meeting Minutes (8)			
Independent Financial Audit						
General		AESP	Financial Audit 9 Nov 2009 - 30 Sept 2012	30-Jan-14	55	
General		AESP	TT Reply to Audit 12 Observations	3-Nov-13	29	
Ghazi Boys High School Work Order Deliverables & Communications						
WO - LT0005	8	Ghazi Boys High School	101117 Scope of Work	17-Nov-10	6	
WO - LT0005	8	Ghazi Boys High School	101117 ROM	17-Nov-10	2	
WO - LT0005	8	Ghazi Boys High School	WO NTP Email	28-Nov-10	1	
WO - LT0005	8	Ghazi Boys High School	Contractor Bid Eval BoQ, WP, Sched			Task 1
WO - LT0005	8	Ghazi Boys High School	Shop Dwg and Subm Review Register			Task 2
WO - LT0005	8	Ghazi Boys High School	RFI Log Resp to RFI's			Task 3
WO - LT0005	8	Ghazi Boys High School	Change Order Proposals Mgmt			Task 4

Work Order	AMD	Project	Document Type	Date	Pages	Other
LT0005		School				
WO - LT0005	8	Ghazi Boys High School	Construction Observation			Task 5
WO - LT0005	8	Ghazi Boys High School	Project Meetings			Task 7
WO - LT0005	8	Ghazi Boys High School	Project Closeout Equip O&M			Task 8
WO - LT005	8	Ghazi Boys High School	TT WO Monitoring Evaluation Form	27-Oct-11	1	
WO - LT005	8	Ghazi Boys High School	Close Out Doc			
Khost Bridge Design						
WO - LT009	1R3	Khost Design	Bridge	110421 Scope of Work	21-Apr-11	7
WO - LT009	1R3	Khost Design	Bridge	110417 ROM	17-Apr-11	2
WO - LT009	1R3	Khost Design	Bridge	NTP		
WO - LT009	1R3	Khost Design	Bridge	Bid Geo. & UXO		Task 1
WO - LT009	1R3	Khost Design	Bridge	Bid Hydrological Survey		Task 2
WO - LT009	1R3	Khost Design	Bridge	Bid Topographical Survey		Task 3
WO - LT009	1R3	Khost Design	Bridge	Site Visits 8 days		Task 4
WO - LT009	1R3	Khost Design	Bridge	Design Services AASHTO FHWA		Task 5
WO - LT009	1R3	Khost Design	Bridge	110305 Design Analysis (Study)	5-Mar-11	48
WO - LT009	1R3	Khost Design	Bridge	111008 Design Analy/Final Design Sub	8-Oct-11	382
WO - LT009	1R3	Khost Design	Bridge	111008 Design Drawings	8-Oct-11	34
WO - LT009	1R3	Khost Design	Bridge	111008 Technical Specs	8-Oct-11	154

Work Order	AMD	Project	Document Type	Date	Pages	Other
009		Design				
WO - LT 009	1R3	Khost Bridge Design	BoQ			Task 5
WO - LT 009	1R3	Khost Bridge Design	Deep Foundation Design			Task 5.1
WO - LT 009	1R3	Khost Bridge Design	Reinforcement Schedules			Task 5.2
WO - LT 009	1R3	Khost Bridge Design	Bid Services, Review, Selection			Task 6
WO - LT 009	1R3	Khost Bridge Design	Construction Support RFI Log			Task 7
WO - LT 009	1R3	Khost Bridge Design	Close Out Doc			
Kabul Univ MEP Review						
WO - LT 015	2R1	Kabul Univ MEP Review	101019 Scope of Work	19-Oct-10	2	
WO - LT 015	2R1	Kabul Univ MEP Review	101019 ROM	19-Oct-10	1	
WO - LT 015	2R1	Kabul Univ MEP Review	WO NTP			
WO - LT 015	2R1	Kabul Univ MEP Review	35-65-95 MEP Design review			Task 1
WO - LT 015	2R1	Kabul Univ MEP Review	100905 65% Design Review	6-Sep-10	2	Task 1
WO - LT 015	2R1	Kabul Univ MEP Review	100830 65% Design Review	28-Aug-10	3	Task 1
WO - LT 015	2R1	Kabul Univ MEP Review	110209 95% Design Review	13-Oct-11	59	Task 1
WO - LT 015	2R1	Kabul Univ MEP Review	110616 100% MEP Back check	16-Jun-11	21	Task 1
WO - LT 015	2R1	Kabul Univ MEP Review	Tech Support RFI's and CO			Task 2
WO - LT 015	2R1	Kabul Univ MEP Review	Evaluate IBC Compliance			Task 3
WO - LT	2R1	Kabul Univ MEP	Close Out Doc			

Work Order	AMD	Project	Document Type	Date	Pages	Other
015		Review				
Kud Bergh (Mazar) 48MW PP						
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP	Review Hill International Inc. Study	31-Jan-11	41	Task 1
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Review Brinkley Group Report			Task 1
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Assessment of Power Plant	24-Mar-11	10	Task 2
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Consultations Operators & Maintainers	24-Mar-11	10	Task 2
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Plant Conditions	24-Mar-11	10	Task 3
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Future Operating Pattern	24-Mar-11	10	Task 3
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	List Equip Replace, Repair and Refurb	24-Mar-11	10	Task 3
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Definition of Plant Refurbishments	24-Mar-11	10	Task 3
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Consultations Equipment Suppliers			Task 4
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Consultations Overhaul Contractors			Task 4
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Estimate for Refurbishment BoQ	21-Apr-11	44	Task 5
WO - LT	R0	Kud Bergh (Mazar)	Schedule for Refurbishment	21-Apr-11	44	Task 5

Work Order	AMD	Project	Document Type	Date	Pages	Other
0024		48MW PP Assessment				
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	New Plant vs. Renovation Study	21-Apr-11	44	Task 5
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Preparation Draft Final Report	24-Jun-11	43	Task 6
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Meeting Draft Final Report			Task 6
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Final Report Delivery	5-Sep-11	43	Task 6
WO - LT 0024	R0	Kud Bergh (Mazar) 48MW PP Assessment	Close Out Doc			
Bamyan Valley Elec T & D S T D Se						
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	110914 Scope of Work	14-Sep-11	3	
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	110914 ROM	14-Sep-11	2	
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	110924 NTP Task 1	23-Sep-11	2	
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	11118 NTP Task 2	8-Nov-11	2	
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Technical Review of Preliminary Design Docs	23-Oct-11	31	Task 1
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Review of DD Report and Drgs			Task 1

Work Order	AMD	Project	Document Type	Date	Pages	Other
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Produce a Technical Report			Task 1
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Feasibility adapting Pre T&D design to Solar Prj			Task 1
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Review of design docs by AKF G&D			Task 1
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Review integrate AKF Dist Sys with USAID T&D			Task 1
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Approval of Tech Review & Feasibility Report			Task 2
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Develop Construction Level Design Docs			Task 2
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Site Visit Reports			Task 2
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Review pole placement designs by IRG-ACEP			Task 2
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Geotechnical investigations of problem areas			Task 2
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Develop Construction Drgs			Task 2
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Develop Specs based on DABS, MoEW & ANSA			Task 2
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Bills of Quantities cost estimate			Task 2

Work Order	AMD	Project	Document Type	Date	Pages	Other
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Proposed Construction Schedule in MS Excel			Task 2
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	Design coordination with NZAID & AKF Dgn Tms			Task 2
WO - LT 0044	R0	Bam Valley Electrical T&D System Design	QA & QC reachback support for Dist Design			Task 2
Salang Tunnel SS Tech Sections						
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	121021 Scope of Work	21-Oct-12	6	
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	ROM			
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	NTP			
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Meeting Afghan Ministries suitable SS site & T/L r of w			Task 1
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Meeting USACE & PRT Baghlan plan future works SS			Task 1
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Visit SS GPS pos & customer sites & propose T/L tap pts	29-Oct-13	8	Task 1
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Sub-transmission feeder to MoPW PPP < 5km			Task 2
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Sub-transmission feeder to PRT site < 5km			Task 2
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	20kVswitchgear supply & install by EPC firm			Task 2

Work Order	AMD	Project	Document Type	Date	Pages	Other
		Sections				
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	T section descriptions, drawings, SLDs for EPC firm			Task 2
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Auto/SCADA between NEPS & MoPW (TPP Gensets)			Task 2
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	RTU and Marshalling Cabinets			Task 2
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	SCADA control to the NLCC			Task 2
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	TPP Generators for standby use			Task 2
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	20kV feeders with fibre optic cable			Task 2
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Bill of Quantities (BoQ) for Task 2 proposed work			Task 2
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	T Section for design and installation work for EPC firm			Task 3
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Conceptual transmission line routing, topo maps, GE			Task 3
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Bill of Quantities (BoQ) for Task 3 proposed work			Task 3
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	T Section, Drwgs, One line diagram for Desgn & Inst			Task 4
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Bill of Quantities (BoQ) for Task 4 major components			Task 4

Work Order	AMD	Project	Document Type	Date	Pages	Other
		Sections				
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Major equipment pricing, material & install cost est			Task 5
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	SS pricing & budget cost est for contractor D/B cost all			Task 5
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	QC review of all deliverable products			Task 6
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	QA review by Kabul AESP staff			Task 6
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Contract Preparation Assistance to DABS			Task 7
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Issuing bids to bidders			Task 8
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Responding to bidders questions			Task 8
WO - LT 0063	R1	Salang Tunnel Substation Technical Sections	Evaluating bids			Task 8

ANNEX XI: COST AND SCHEDULE EVALUATION OF APPROVED PROJECTS

Work Order LT 005:AMD 8 Ghazi Boys Site layout Grading Utilities Clients: UNOPS. MoE., USAID										
Work Order Task	Month 1			Month 2			Month 5			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 19	Week 20
Task 1										
Evaluate ITB										
review contractors bid submittal										
BoQ, work plan, sched, equip										
subcontr form and HR plan										
planned	35%	65%	95%	21 days						
actual										
Task 2										
review shop drawings& Submittal										
planned										
actual										
Task 3										
respond to RFI's										
planned										
actual										
Task 4										
change management tasks										
planned										
actual										
Task 5										
construction observation weekly										
report for 5 months submittal,										
change & constr observ planned										
actual										

Task 6											
project meetings											
weekly meetings 5 months											
planned											
actual											
Task 7											
project closeout											
O&M manuals											
gens, booster p, sew p,											
wwtp, water well pump											
as-built dwgs											
Total WO POP Planned											20 wks
Actual											
Cost Assessment											
Cost x 1000	\$10	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100	
Task Order Budget Cost ROM											103,665
Task Order Actual Cost											

Work Order LT 009 AMD 1 Rev. 3 Khost Bridge Design USAID MoTCA DPW USACE

Work Order Task	Month 1				Month 2				Month 3			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
	Task 1											
geotechnical Services Bid												
field Inspection												
UXO clearing												
11 borings 3 to bedrock												
geotechnical report												
planned												
actual												
Task 2												
RFP's												
hydrological Survey												
hydrological survey stream												
Hydrological calculations												
project causes adverse effects?												
scour analysis												
hydraulics and scour report												
calculation software report												
planned												
actual												
Task 3												
topographical survey 615 x 50												
0.25 m elev contours												
planned												
actual												
Task 4												

Cost Assessment

Cost x 1000	\$50	\$75	\$100	\$150	\$175	\$200	\$225	\$250	\$300	\$400	\$500	\$1,000
Task Order Budget Cost ROM									\$251			
Task Order Actual Cost									\$333			

Work Order LT 0015 AMD 2 R1 Kabul U Men's Dorm MEP Renovation Design Review USAID MoE,												
Work Order Task	Month 1				Month 2				Month 3			
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Task 1												
review DFAC MEP Designs												
35-65-95% review												
design narrative, plans and spec												
planned	35%	65%	95%	21 days								
actual												
Task 2												
technical support RFI Q&A Logs												
attend coord meetings												
periodic site inspection, final												
change management												
planned				4 weeks								
actual												
Task 3												
code evaluation IBC												
planned				4 weeks								
actual												
Total WO POP Planned										10.3 wks		
Actual												
Cost Assessment												
Cost x 1000	\$50	\$75	\$100	\$150	\$175	\$200	\$225	\$250	\$300	\$400	\$500	\$1,000
Task Order Budget Cost ROM												
Task Order Actual Cost	\$27											

Work Order LT 0024 Kud Bergh (Mazar) 48MW Power Plant Assessment

Stakeholders: USAID AESP, Tetra Tech, Hill International Inc., Brinkley Group, LMZ, Wood Group, Siemens, Berg Fertilizer Plant Staff

Work Order Task	Month 1		Month 2		Month 3		Month 4		Month 5		Month 6	
	Week 1/2	Week 3/4	Week 5/6	Week 7/8	Week 9/10	Week 11/12	Week 13/14	Week 15/16	Week 17/18	Week 19/20	Week 21/22	Week 23/24
Task 1 - Review of Pre-existing Reports & Data												
Review Hill International Inc. Study												
Review Brinkley Group Report												
Planned		7 Days										
Actual												
Task 2 - Field Assessment of Power Plant												
Assessment of Power Plant Consultations Operators & Maintainers												
Planned			14 Days									
Actual												
Task 3 - Initial Report Preparation												
Plant Conditions												
Future Operating Pattern												
List Equip Replace, Repair and Refurb												
Definition of Plant Refurbishments												
Planned							39 Days					
Actual												

Task 4 - Consultations											
Consultations Equipment Suppliers											
Consultations Overhaul Contractors											
Planned										22 Days	
Actual											
Task 5 - Intermediate Report Preparation											
Estimate for Refurbishment BoQ											
Schedule for Refurbishment											
New Plant vs. Renovation Study											
Planned										29 Days	
Actual											
Task 6 - Final Report											
Preparation Draft Final Report											
Meeting Draft Final Report											
Final Report Delivery											
Planned										21 Days	
Actual											
										Total	117 Days
											459 Days
PROJECT PERIOD EXCEEDED BY 342 DAYS											
Schedule Assessment											
		Dec-10	Jan-11								Mar-12
	Start Date Planned	23-Oct-10									

	Start Date Actual	23-Dec-10											
Task 1 - Review of Pre-existing Reports & Data	Planned	7 Days											
	Actual												
Task 2 - Field Assessment of Power Plant	Planned		14 Days										
	Actual												
Task 3 - Initial Report Preparation	Planned					39 Days							
	Actual												
Task 4 - Consultations	Planned								22 Days				
	Actual												
Task 5 - Intermediate Report Preparation	Planned									29 Days			
	Actual												
Task 6 - Final Report	Planned										21 Days		
	Actual												
Completed Date Planned								16-Feb-11					117 Days
Completed Date Actual								25-Mar-12			Total	459 Days	
PROJECT PERIOD EXCEEDED BY 342 DAYS													
Cost Assessment													
Cost x 1000		\$5	\$15	\$25	\$35	\$45	\$55	\$65	\$75	\$100	\$125	\$150	
Task Order Budget Cost ROM													\$139,808
Task Order Actual Cost													\$147,905
PROJECT COST WAS EXCEEDED BY USD \$8097													

Work Order LT 0044 Bamyan Valley Electrical Transmission & Distribution (T&D) System Technical Design Services									
Stakeholders: USAID AESP, Tetra Tech, AKF, IRG-ACEP, NZAID, DABS, ANSA, MoEW									
Work Order Task	Month 1		Month 2		Month 3		Month 4		Month 5
	Week 1/2	Week 3/4	Week 5/6	Week 7/8	Week 9/10	Week 11/12	Week 13/14	Week 15/16	Week 17/18
Task 1 - Technical Review & Feasibility Report									
Technical Review of Preliminary Design Docs									
Review of DD Report and Drgs									
Produce a Technical Report									
Feasibility adapting Pre T&D design to Solar Prj									
Review of design docs by AKF G&D									
Review integrate AKF Dist Sys with USAID T&D									
Planned		30 Days							
Actual									
Task 2 - Construction Documents									
Approval of Tech Review & Feasibility Report									
Develop Construction Level Design Docs									
Site Visit Reports									
Review pole placement designs by IRG-ACEP									
Geotechnical investigations of problem areas									
Develop Construction Drgs									
Develop Specs based on DABS, MoEW & ANSA									
Bills of Quantities cost estimate									
Proposed Construction Schedule in MS Excel									
Design coordination with NZAID & AKF									

Dgn Tms										
QA & QC reachback support for Dist Design										
Planned									120 Days	
Actual										
									Total	150 Days
										65 Days
Schedule Assessment										
	Date	Sep-11	Oct-11	Nov-11						Mar-12
	Start Date Planned	23-Sep-11								
	Start Date Actual	23-Sep-11								
Task 1 - Technical Review & Feasibility Report	Planned	30 Days								
	Actual									
Task 2 - Construction Documents	Start Date Planned	8-Nov-11								
	Start Date Actual	8-Nov-11								
	Planned									120 Days
	Actual									65 days
	Completed Date Planned	6-Mar-12								150 Days
	Completed Date Actual	26-Nov-11								65 Days
PROJECT PERIOD UNDER EXCEEDED BY 85 DAYS										
Cost Assessment										
Work Order Cost Analysis x 1000		\$50	\$75	\$100	\$125	\$150	\$200	\$250		\$350
Task Order Budget Cost ROM										327,922
Task Order Actual Cost										\$26,971
PROJECT COST UNDER EXCEEDED BY USD \$300,951										

Work Order WO-LT-0063, Revision 1, Salang Tunnel Substation Technical Sections USAID USACE MPW DABS

Work Order Task	Month 1			Month 2			Month 3		Month 4		
	Week 1	Week 2	Week 3	Week 5	Week 6	Week 8	Week 9	Week 10	Week 14	Week 15	Week 16
Task 1 - Field Investigations & Data Gathering											
Meeting Afghan Ministries suitable SS site & T/L r of w											
Meeting USACE & PRT Baghlan plan future works SS											
Visit SS GPS pos & customer sites & propose T/L tap pts											
Planned			21 days								
Actual											
Task 2 - MV Substation Modification Technical Sections											
Sub-transmission feeder to MoPW PPP < 5km											
Sub-transmission feeder to PRT site < 5km											
20kVswitchgear supply & install by EPC firm											
T section descriptions, drawings, SLDs for EPC firm											
Auto/SCADA between NEPS & MoPW (TPP Gensets)											
RTU and Marshalling Cabinets											
SCADA control to the NLCC											
TPP Generators for standby use											
20kV feeders with fibre optic cable											
Bill of Quantities (BoQ) for Task 2 proposed work											
Planned				35 days							

ANNEX XII: DATA COLLECTION SURVEY INSTRUMENTS & QUESTIONNAIRES

LESSON LEARNED

Project Title: _____

Date: _____

Project Performance Analysis

Knowledge Areas	What Worked Well	What Can Be Improved
Requirements definition and management		
Scope definition and management		
Schedule development and control		
Cost estimating and control		
Quality planning and control		
Human resource availability, team development, and performance		
Communication management		
Stakeholder management		
Reporting		
Risk management		
Procurement planning and management		
Process improvement information		
Product-specific information		
Other		

ANNEX XIII: STAKEHOLDER MEETING MINUTES

STAKEHOLDER MEETING MINUTES ON ENERGY WORK ORDERS - 3rd April 2014

1. *WO-LT-0024 Kud Bergh (Mazar) 48MW Power Plant Assessment;*
2. *WO-LT-0044 Bamyan Valley Electrical Transmission & Distribution (T&D) System Technical Design Services; and*
3. *WO-LT-0063, Revision 1, Salang Tunnel Substation Technical Sections.*

FOR USAID AFGHANISTAN BY CHECCHI CONSULTING

Where: *Via Skype Conference Call between United Kingdom (London) and Afghanistan (Kabul)*

Date: *3rd April 2014*

Time: *08h32 to 11h09 United Kingdom or 12h02 to 14h39 Afghanistan*

Attendees: *Michael C Partridge (MP) – Evaluation Specialist - AESP/Checchi and Company Consulting Service Inc. (**Meeting Chairman**)*
Fraidon Faryad (FF) – Evaluation Electrical Engineering Specialist – AESP/Checchi and Company Consulting Service Inc.; and
David Young (DY) – Technical Services Manager – Tetra Tech;
Doug Tjader (DJ) – Professional Electrical Engineer – Tetra Tech;
Ben Sparks (BS) – Professional Electrical Engineer – Tetra Tech;

The meeting minutes were prepared and presented by the meeting Chairman.

1. *MP connected through Skype to DY the TT lead and his team at 08h32.*
2. *MP welcomed all present introduced himself briefly and asked all present to do the same going around the table. DY spoke confidently and introduced him as the TT lead with his team. DY, DT and BS gave their names and designations with a brief description of their proficiency, practice and function.*
3. *MP brought FF into the Skype conference at around 08h39 and asked FF to introduce himself to all. FF introduced himself confidently, and mentioned his title, engineering proficiency, function and role.*

4. *MP questioned and affirmed with TT that the meeting agenda and lessons learned documents were received by their team and that all present had these documents.*

The TT team confirmed that they had the meeting documents with them for the meeting.

5. *MP explained the purpose of the meeting, as written in the agenda, and also described:*

- *the different sectors being transportation, vertical structures, energy and water / sanitation; plus*
- *goals and objectives with the activities being: planning, design, technical support and oversight, capacity building and collaboration / coordination; and finally but most importantly;*
- *the need to answer the seven evaluation questions from the activities which also included USAID's role and gender considerations; and*
- *Applying the ten PMBOK knowledge areas as follows: Project Integration Management, Project Scope Management, Project Time Management, Project Cost Management, Project Quality Management, Project Human Resource Management, Project Communications Management, Project Risk Management, Project Procurement Management and Project Stakeholder Management (added in the 5th edition).*

6. ***DY of TT confirmed that they could not comment on work orders WO-LT 0024 and WO-LT 0044 as they had no involvement or knowledge of the work orders or their history.***

7. *DY of TT confirmed that they could discuss the creation, implementation and status of WO-LT-0063.*

8. *MP explained the meeting agenda, format methodology and mentioned that if anyone was lost or was not sure where we were in the agenda, or did not hear or understand a discussion that they please stop the meeting, at any time, and request clarification. All present agreed. MP also noted that the open dialogue approach necessary applied that there was never ever an empty or futile question.*

LESSONS LEARNED

WO-LT-0063, Revision 1, Salang Tunnel

Project Title: Substation Technical Sections

Date Prepared: 3rd April 2014 08h32-11h09 UK or 12h02-14h39 AT

Project Performance Analysis

Knowledge Areas	What Worked Well	What Can Be Improved
Requirements definition and management	<p><u>A1</u></p> <ul style="list-style-type: none"> • <i>DY – Written directives from COR to get SOWs and ROMs.</i> • <i>Identifying stakeholders and effectively drawing up a stakeholders list</i> • <i>Noted stakeholders:</i> <i>DABS, MoPW, MEW, USAID / AESP / TT, USACE, Hill Inc, Brinkley Group, MoM, NFPP Mgt & Staff, Land Owners and Conveyancers, NLCC, PRT Baghlan, NEPS, EPC Firm</i> 	<p><u>A2</u></p> <ul style="list-style-type: none"> • <i>Having a well-defined SOW from the start and overall team mgt;</i> • <i>Stakeholder Mgt / Scoping Meetings/ Culture and getting together;</i> • <i>Input from the ultimate client (end-user) needed;</i> • <i>Emphasis on having the opinion of all stakeholders from the onset of the WO;</i> • <i>Having the concept and technical expectations and ideas of stakeholders;</i> • <i>Discussing, negotiating best technical concepts and agreeing on a thorough SOW from the start;</i> • <i>Change Mgt / Time Mgt / Risk Mgt;</i> • <i>Integration/Communications Work Plan;</i> • <i>Developing an integrated project team with leader & designated responsibility to make quick decisions that have an accountability to ensure effect progress of the WO; with training on PMBOK;</i>

Knowledge Areas	What Worked Well	What Can Be Improved
		<ul style="list-style-type: none"> • <i>Knowledge of local conveyancing methods and land expropriation; and</i> • <i>Environmental assessments</i>
Scope definition and management	<p><u>B1</u></p> <ul style="list-style-type: none"> • <i>Meetings were held every week or every other week;</i> • <i>EPC documentation was effective;</i> • <i>Development or evolving of the SOW from Rev1 to Amendments 1-6; and</i> • <i>Costing development of the SOW from Rev1 to Amendments 1-6; and</i> • <i>Efficient documenting and tracking;</i> 	<p><u>B2</u></p> <ul style="list-style-type: none"> • <i>Scope management work plan;</i> • <i>Cost estimating and management;</i> • <i>Technical ability, understanding and proficiency to develop concepts from the start to ensure that what is prearranged as a model plan is understood, documented and developed;</i> • <i>Understanding design parameters that allow technology integration, advancement, capacity building with sustainability of plant;</i> • <i>Change Mgt / Time Mgt / Risk Mgt;</i> • <i>Communications Mgt;</i> • <i>Scope / Costing Management from the onset; Photographic library;</i> • <i>Quality and Quality Assurance of the negotiated concept; and</i> • <i>Monitoring and control with 360 degree feedback to enhance efficiency.</i>

Knowledge Areas	What Worked Well	What Can Be Improved
Schedule development and control	<p><u>C1</u></p> <ul style="list-style-type: none"> • <i>Delivery of Rev 1 very good: Original scope 21 Oct 2012 and delivered 27 Jan 2013; and</i> • <i>Effective productive meetings between TT, MEW, MoPW and USACE.</i> 	<p><u>C2</u></p> <ul style="list-style-type: none"> • <i>PMBOK Scheduled Work Plan and implementation; training;</i> • <i>More involvement of technical representations TT/AESP/Stakeholders;</i> • <i>Communications Mgt; and</i> • <i>Security flexibility of meetings time and haste and location.</i>
Cost estimating and control	<p><u>D1</u></p> <ul style="list-style-type: none"> • <i>Worked well with COR, updating, cost and scheduling, burned down report, tracking and feedback;</i> • <i>Rev 1 ROM – USD \$147,094, 90% used;</i> • <i>Progressive evolving of ROM for a reason; with</i> • <i>Estimated cost now for Amd 6 ROM – USD \$994,464; and</i> • <i>WO-LT-0063 tracking is precise and well managed.</i> 	<p><u>D2</u></p> <ul style="list-style-type: none"> • <i>Level of effort (LOE) assessment on WO from onset;</i> • <i>Noted large difference in costing at start and finish;</i> • <i>Cost Management;</i> • <i>Communications Management;</i> • <i>Accurate and effective Time Mgt / Change Mgt;</i> • <i>Risk Mgt and Quality and Quality Assurance thereof;</i> • <i>Overall Communications Mgt;</i> • <i>Continued or sustained POLC (Planning, Organizing, Leading and Control); and</i> • <i>Sustainability / Training</i>

Knowledge Areas	What Worked Well	What Can Be Improved
Quality planning and control	<p><u>E1</u></p> <ul style="list-style-type: none"> • <i>WO-LT_0063 reach back effort;</i> • <i>QC review of the scope;</i> • <i>QA Mgt with USAID;</i> • <i>Branding and standardization; and</i> • <i>Frequency of communications.</i> 	<p><u>E2</u></p> <ul style="list-style-type: none"> • <i>Better Internet; Better overall communications;</i> • <i>Communications Mgt; 360 Degree performance feedback monitoring and control;</i> • <i>Making reach back process more effective;</i> • <i>Time Mgt / Change mgt process;</i> • <i>Knowledge:USA/Int'l Codes of Practice;</i> • <i>Knowledge: Afghan Standards; and</i> • <i>Sustainability / Training.</i>
Human resource availability, team development, and performance	<p><u>F1</u></p> <ul style="list-style-type: none"> • <i>Capacity Building;</i> • <i>Intern and selection programme;</i> • <i>Expat mentoring of LN staff;</i> • <i>Reach back programme; and</i> • <i>Gender considerations e.g. Hosani - LN Lady Architect selected to work with the TT team in Kabul.</i> 	<p><u>F2</u></p> <ul style="list-style-type: none"> • <i>Professional Development of PEs and LN staff; thorough wide-performance job descriptions; Highly skilled hands-on personnel required;</i> • <i>Understanding local / Int'l culture; Integration Mgt;</i> • <i>Human Resources Management;</i> • <i>Training outside Afghanistan that would be effective, direct and applicable;</i> • <i>Fast track training in Dubai to achieve specific WO goals;</i> • <i>Sustained Team Mgt and rotation of expats; Efficient entry / exit</i>

Knowledge Areas	What Worked Well	What Can Be Improved
		<p><i>handovers;</i></p> <ul style="list-style-type: none"> • <i>Team morale and team effectiveness;</i> • <i>Keeping in country staff and incentives;</i> • <i>Team leading and performance;</i> • <i>360 degree performance feedback, monitoring and control; measuring team performance and effectiveness;</i> • <i>Sustainable Human Resources and Training;</i> • <i>Personal Development Plans;</i> • <i>Performance Appraisal Incentive System;</i> • <i>Setting HR goals and objectives for TT to achieve performance levels;</i> • <i>How to create, recognize and manage effective teams; and</i> • <i>Stakeholders input and feedback.</i>
Communication management	<p><u>G1</u></p> <ul style="list-style-type: none"> • <i>Evolving process works well;</i> • <i>Having list of Stakeholders with effective telecommunication details;</i> • <i>Uses highly qualified local</i> 	<p><u>G2</u></p> <ul style="list-style-type: none"> • <i>Effective Communications Mgt from the onset of a WO;</i> • <i>Communications with DABS COO;</i> • <i>Communications with top-end people;</i> • <i>Meeting the long term focal personnel with authority;</i>

Knowledge Areas	What Worked Well	What Can Be Improved
	<p><i>nationals in IT to assist with effecting resourceful communications;</i></p>	<ul style="list-style-type: none"> • <i>Scheduling of meetings and making communications effective;</i> • <i>Sustained communications performance, monitoring and control;</i> • <i>Risk, Quality and Quality Assurance of sustained communications;</i> • <i>Communications during travel; for safety and WO Mgt.</i> • <i>Improving Stakeholder Mgt through effective telecommunications and telecommunications apparatus;</i> • <i>Setting up advanced hardware telecommunication systems to ensure effective interactions mgt. Better internet, VOIP, Skype, VIPER, Face time; Networking; audio-visual, printing; radio links, faxing, using large document HD senders etc;</i> • <i>Effective communications using photographic illustrations;</i> • <i>Photographic and video library;</i> • <i>Printing and Drawings for distribution comment and construction. Effective documentation coordination.</i>
Stakeholder management	<p><u>H1</u></p> <p><i>(Discussed at length in previous sections)</i></p> <ul style="list-style-type: none"> • <i>When meetings with stakeholders took place they were productive</i> 	<p><u>H2</u></p> <ul style="list-style-type: none"> • <i>USAID / AESP / TT to assertively pursue stakeholders for information;</i> • <i>Retain real estate to build substations;</i> • <i>Authorities to have time to perform;</i>

Knowledge Areas	What Worked Well	What Can Be Improved
	<p><i>and friendly.</i></p>	<ul style="list-style-type: none"> • <i>Availability of resources and responsibility;</i> • <i>Communication Mgt;</i> • <i>Stakeholders' feedback (360 degree)</i> • <i>Knowledge of local conveyancing methods and land expropriation;</i> • <i>Stakeholders' involvement work plan;</i> • <i>Integration Mgt;</i> • <i>Stakeholders' Mgt;</i> • <i>Performance, monitoring and control of stakeholders; and</i> • <i>Safety and security of stakeholders.</i>
Reporting	<p><u>11</u></p> <ul style="list-style-type: none"> • <i>Reporting in general was very good, noting:</i> • <i>Process – Timings and Standards;</i> • <i>Process – Interim proficiency; and</i> • <i>Financials – Home office Kabul on target.</i> 	<p><u>12</u></p> <ul style="list-style-type: none"> • <i>Feedback on reporting could be improved noting:</i> • <i>Integration Mgt;</i> • <i>Stakeholders' Mgt;</i> • <i>Communications' Mgt;</i> • <i>Quality and Quality Assurance;</i> • <i>Performance reporting, monitoring and control; 360 degree feedback process;</i>

Knowledge Areas	What Worked Well	What Can Be Improved
Risk management	<p><u>J1</u></p> <p><i>(No comment on Risk Mgt per se)</i></p> <ul style="list-style-type: none"> • <i>Level of Effort (LOE) applies – High LOE and experience applied;</i> 	<p><u>J2</u></p> <ul style="list-style-type: none"> • <i>No proper assessment of project risks other than security and location issues;</i> • <i>WO Mgt;</i> • <i>Environmental assessments;</i> • <i>Risk Mgt and Assessments;</i> • <i>Improve risk register and risk action plans;</i> • <i>Risk contingency plans;</i> • <i>Efficient approval process of risk plans</i>
Procurement planning and management	<p><u>K1</u></p> <p><i>(Other than labour procurement.. no procurement)</i></p> <ul style="list-style-type: none"> • <i>Efficient, effective labour procurement.</i> 	<p><u>K2</u></p> <ul style="list-style-type: none"> • <i>POLC of labour;</i>
Process improvement information	<p><u>L1</u></p> <ul style="list-style-type: none"> • <i>Bringing in professional expats with high enthusiasm and expectations as a minimum 40/20 process - quality of applied personnel;</i> 	<p><u>L2</u></p> <ul style="list-style-type: none"> • <i>Reply on the professional ability of the teams to make responsible decisions;</i> • <i>Include more local professional staff in the decision making process;</i>

Knowledge Areas	What Worked Well	What Can Be Improved
	<ul style="list-style-type: none"> • <i>Good research on professional assessment of local national staff and expats;</i> • <i>Bringing in interns as a productive development process.</i> • <i>Using local national staff instead of expat professionals.</i> • <i>Include stakeholders in process improvement: and specifically DABS CFO, COO, Head of Planning, Head of Procurement</i> 	<ul style="list-style-type: none"> • <i>Identify responsible persons and decision makers.</i> • <i>Assertive project work plans and processes that get the WO completed on time.</i>
Product-specific information	<p><u>M1</u></p> <ul style="list-style-type: none"> • <i>Product specific outputs;</i> • <i>Abounding information is high-quality;</i> • <i>Sufficient detail; and</i> • <i>Technically consistent method of documentation; and</i> • <i>Working with Int'l and local vendors.</i> 	<p><u>M2</u></p> <ul style="list-style-type: none"> • <i>Low level folder system needs more detail and improving;</i> • <i>File transfer process</i> • <i>Better internet: and better</i> • <i>Communication Mgt;</i> • <i>Procurement Mgt;</i> • <i>Integration Mgt; and</i> • <i>Branding and Standardization;</i> • <i>Development and training;</i>

Knowledge Areas	What Worked Well	What Can Be Improved
		<ul style="list-style-type: none"> • <i>Having workable practical approach to technical solutions</i>
Other	<u>N1</u> <ul style="list-style-type: none"> • <i>TT has a good process of using expat and national staff</i> • <i>Noting good people and retaining good people;</i> 	<u>N2</u> <ul style="list-style-type: none"> • <i>Reality of working in Afghanistan is not in black and white;</i> • <i>Schedule reach back meetings;</i> • <i>Staff leave rotation to align with NTP of WOs and staff;</i> • <i>Many different factors that can play against a project – assess and improve POLC; and</i> • <i>Hard to find good people to come to Afghanistan: Incentive scheme</i>

Quality Defects

Defect Description	Resolution	Comments
<ul style="list-style-type: none"> • <i>Products - SOW and ROM Issues;</i> • <i>Services: Interfacing and Bidding Services.</i> 	<ul style="list-style-type: none"> • <i>TT mentions that USAID maintains the direction on stakeholders and USAID is always kept in the loop.</i> 	<ul style="list-style-type: none"> • <i>Better understanding, communication, direction, basis of SOWs and ROMs.</i>

Vendor Management

<u>Vendor</u>	<u>Issue</u>	<u>Resolution</u>	<u>Comments</u>
<ul style="list-style-type: none"> No Vendor Mgt. 			

Other

<u>Areas of Exceptional Performance</u>	<u>Areas for Improvement</u>
<ul style="list-style-type: none"> TT Team Classification – 7; 	<ul style="list-style-type: none"> Execution of WO specifically;
<ul style="list-style-type: none"> Capacity Building; 	<ul style="list-style-type: none"> Technical excellence required;
<ul style="list-style-type: none"> Helping Stakeholders; 	<ul style="list-style-type: none"> WOs Development;
<ul style="list-style-type: none"> Array of Technical Services and Reach Back; and 	<ul style="list-style-type: none"> Cost – Historical Information
<ul style="list-style-type: none"> AESP Support. 	<ul style="list-style-type: none"> Feedback is limited;
	<ul style="list-style-type: none"> COR to POC – Change of staff, situation in country not always ideal
	<ul style="list-style-type: none"> Monitoring feedback and control of outputs;
	<ul style="list-style-type: none"> Attracting Key Personnel;
	<ul style="list-style-type: none"> Noting have had 3 CORs: some are more technical, more hands on required; and
	<ul style="list-style-type: none"> Must always visit project sites on review.

MEETING EXIT COMMENTS:

Ben Sparks - PE (Electrical Engineer) - Have been in country for 62 days and communications is always in a formal way.

Dave Young - Technical Services Director - The concept of AESP is good. Many thanks.

Doug Tjader - PE (Electrical Engineer) – TT has become the in house engineering firm for USAID. The concept of AESP is good. Operating in Afghanistan is not always in black and white. The function is to make order out of disorder and the main process is developing conceptual designs with costs. Outputs required are dramatically different at start and finish.

Fraidon Faryad- AESP Electrical Engineering Evaluation Specialist – No comment but mentioned thanks to all

Michael C Partridge - AESP Evaluation Specialist – Many thanks to all for attending and the positive feed back

The meeting was closed at 11h09 UK time

ANNEX XIV: RISK REGISTER

Risk	Risk Description	Category	Impact H-L	Probability 1-10	Risk Response	Risk Owner
Engineering team exposed to safety risk on site	Lost time accidents	<ul style="list-style-type: none"> ▪ Human Resource 	H	7	<ul style="list-style-type: none"> ▪ Provide OSHA safety training ▪ Submit a safety plan for field work 	PM
Entry level staff lack experience with engineering survey process	Design and survey inaccurate or incomplete	<ul style="list-style-type: none"> ▪ Human Resource ▪ Schedule ▪ Cost ▪ Quality 	M	5	<ul style="list-style-type: none"> ▪ Implement in-house technical training ▪ Prepare work plan for each work order 	PM
Insufficient engineering teams on staff to execute the work order	WO's overloads the engineering resources for a particular sector schedule delays	<ul style="list-style-type: none"> ▪ Human Resource ▪ Schedule 	M	5	<ul style="list-style-type: none"> ▪ Plan annual work order delivery schedule ▪ Temporarily delay work order ▪ Temporarily outsource HR 	PM
Design, service or study does not meet stakeholder expectations	Failure for project by in and support from GoIROA or local people	<ul style="list-style-type: none"> ▪ Scope ▪ Communication ▪ Stakeholder 	M	5	<ul style="list-style-type: none"> ▪ Identify stakeholders and have regular management ▪ Keep stakeholders informed of progress ▪ Issue survey to obtain stakeholder needs. ▪ Prepares stakeholders management plan 	PM
Field surveys are delayed by inclement field or security conditions	Snow fall delays geotechnical and topographical survey	<ul style="list-style-type: none"> ▪ Schedule ▪ Cost 	M	5	<ul style="list-style-type: none"> ▪ Schedule work orders to meet seasonal condition. ▪ Integrate security threats with master schedule. 	PM

Risk	Risk Description	Category	Impact H-L	Probability 1-10	Risk Response	Risk Owner
Document control and communications does not establish project doc archives	Documents misfiled, missing directives, performance data unreliable, reports incomplete,	<ul style="list-style-type: none"> ▪ Schedule ▪ Communication 	M	5	<ul style="list-style-type: none"> ▪ Establish web based productivity software ▪ Establish a document controls team ▪ Consult w/ a document control specialist ▪ Provide report templates in the contract ▪ File each work order as a separate project 	PM
Document schedule delivery and approvals delay engineering work	Cost estimates, preliminary reports or deliverables plans are not submitted & approved on time	<ul style="list-style-type: none"> ▪ Schedule ▪ Cost 	M	5	<ul style="list-style-type: none"> ▪ Include submittal and approval required in Contract ▪ Implement a submittal register ▪ Include SR in weekly meeting minutes 	PM
Design deliverables and specifications must be high quality and meet IBC/NEC	Per contract requirements	<ul style="list-style-type: none"> ▪ Schedule ▪ Cost ▪ Quality 	M	5	<ul style="list-style-type: none"> ▪ Hire independent 3rd party design review ▪ Hire independent QA/QC agency 	PM
Difficulty in measuring project performance, gauging success for cost plus contracts	Unable to identify and implement effective change to follow up programs	<ul style="list-style-type: none"> ▪ Schedule ▪ Cost ▪ Quality 	M	5	<ul style="list-style-type: none"> ▪ Plan cost and schedule WO baseline ▪ Record actual performance in sectors ▪ Record change directives & cause ▪ Define performance targets and assess annually 	PM

ANNEX XV: DISCLOSURE OF ANY CONFLICTS OF INTEREST

No conflicts of interest to disclose.

ANNEX XVI: EVALUATION TEAM PROFILE

Ron Francis, Team Leader (International Consultant):

Ron Francis is an international construction management professional PMP with more than 20 years experience in large projects. His project experience includes a wide range of project types for Department of Defense Afghanistan, USAID Baghdad Iraq, US Embassy Rome, and MCA Philippines.

Michael C. Partridge, Evaluation Specialist (International Consultant):

Michael C Partridge is an internationally-practised, Professional Consultant Senior Electrical Engineer and authorised person with 31 years of experience. He has a Master of Business Administration Degree with post-graduate management qualifications and is registered as a Professional Certificated Electrical Engineer with the Engineering Council of South Africa (ECSA). He is a Senior Member of the South African Institute of Electrical Engineers and a Senior Member of the Institute of Certificated Mechanical and Electrical Engineers of South Africa. He has had his own business since 2004, Professional Electrical Contractors and Consultants (PEC & C), and has completed over two hundred power generation system projects in various parts of the world.

Aziz Ahmad Gulistani, (Local Consultant):

Aziz Ahmad Gulistani holds a Bachelor of Science degree in Civil Engineering from Kabul University in Kabul, Afghanistan and a Master of Science degree in Civil Engineering from Ohio University, USA. He has served as an Assistant Professor at Kabul University Faculty of Engineering for over five years. He has also worked on research and infrastructure projects inside Afghanistan and has served as the director of Engineering Partnership Research and Services Organization (EPRSO).

Fraidon Faryad, (Local Consultant):

Fraidon Faryad holds a Bachelor of Science degree in Power Engineering from Kabul Polytechnic University and currently pursuing Masters of Business Administration from INDIRA GANDHI NATIONAL OPEN UNIVERSITY India as distance learning . He has more than 7 years of experience in the field of electrical engineering, low voltage & high voltage projects, implementation, project monitoring and QA/QC.

ANNEX XVII: DESCRIPTION OF AESP CAPACITY BUILDING ACTIVITIES

Afghan First Contractor Capacity Building: Tetra Tech completed the Afghan Contractor Capacity Building Data Collection administrative work order in Year 1, and continued with this endeavor into Year 3 of the AESP. Tetra Tech contracted USACC, an Afghan multi-disciplined engineering company to help staff AESP activities with Afghan engineers. Tetra Tech also contracted SMART, a Kabul-based Afghan company, to provide a bank of qualified local Afghan engineers for Tetra Tech's AESP work force.

University Cooperative Education Program: Tetra Tech established a cooperative education program with Kabul Polytechnic University and Kabul University's Faculty of Engineering. This program provided students with mentors from AESP engineering staff, as well as hands-on experience. Tetra Tech is also committed to recruiting from the Afghanistan Technical & Vocational Institute (ATVI) to provide a source of technical staff to assist with building the capacity of the local Afghan supply chain and vendor community.

Women in Engineering: Tetra Tech established a gender specific capacity building program. Tetra Tech's female engineering staff scheduled regular visits to Kabul University and Kabul Polytechnic where they hosted a series of informal meetings for the female students. These meetings allowed the female students to discuss issues in the engineering profession, and also allowed mentorship opportunities.

Technical Academic Resources: Tetra Tech established dialogue with the deans of the Kabul University Engineering School, Kabul University School of Agriculture, and Kabul Polytechnic to organize networking events. This plan has extended into Year 3.

Engineering Field Trips and Demonstrations: Tetra Tech also continued to develop training programs such as field trips to local construction and infrastructure sites to provide real world examples of engineering projects. Examples for potential field trip destinations include roadway construction projects, wastewater treatment plants, and power plants. TT planned this development initiative in conjunction with ATVI to provide practical training.

Professional Society Program: Tetra Tech has proposed to develop a written plan to establish an Afghanistan Society of Architects. The first year would involve preparing the written plan, gathering support, and compiling a list of possible members.

Tetra Tech Local Afghan Hires: Tetra Tech demonstrated its commitment to capacity development of individual Afghan staff members by hiring four local nationals in information technology (IT), architecture, and administration. Tetra Tech also recruited an Afghan local national, with the intent to train him and build his capacity to take over the role of Deputy Chief of Party (DCOP) for the AESP. On October 1, 2012 Haseebullah Rasouli was promoted to Deputy Chief of Party (DCOP). The AESP contract also states

that eventually the Chief of Party position will be staffed by an Afghan local national but this was not done.

Tetra Tech Afghan Engineers Assuming a Lead Role: According to TT, President Karzai's Decree 62, which disbanded Private Security Companies, affected the ability of expat engineers to travel and thereby led to changes in how work orders were accomplished. The local national engineering staff therefore had to become more familiar with the engineering design requirements in order to conduct site visits and assessments.

AESP Capacity Building Work Orders:

WO-LT-0007 SPR Roads Program: Tetra Tech provides quality assurance (QA) review services on new roadways projects. These services include development of a QA plan, monitoring of construction activities, and roadways inspections. This three year program includes hiring and training 28 local national inspectors to complete monitoring and oversight for construction activities that value more than \$12 million.

WO-LT-0009 PRT Support Program: Tetra Tech provided five teams of specialists to visit the provincial reconstruction teams (PRTs) to identify potential development projects for local community development. The teams included an engineer and a community development specialist to work with the PRTs to identify projects, draft details scopes of work, and develop schematic drawings to be used to secure CERP funding.

WO-A-0040 Training on the Proper Use of PowerPoint: Tetra Tech provided a 15 minute presentation on the proper use of PowerPoint and the use of pictures and other visuals embedded in slides. The audience was USAID staff.

WO-LT-0029 QA Training for Airport Rehabilitation Projects: This work order tasked Tetra Tech with assuming FHK (Asia Development Bank Project Manager) responsibility for the airport rehabilitation projects. This was a work order with an initial 6 month duration that went past schedule by 12 months. TT signed off on project completion in September of 2012.

WO-LT-0041 Technical Assistance Airport Rehabilitation: Tetra Tech provided cost management training to MoTCA PIU and MoF Staff in an effort to administer the \$15 million grant as required by the implementation letter IL-17. The purpose of this work order was to upgrade regional airports at Faizabad and Maimana, and to train MoTCA and MoF staff in cost management and execution of the contractual requirements stipulated in the implementation letter. The airport rehabilitation project was originally scheduled to last six months, but the schedule slipped to 18 months. TT began training MoTCA and MoF staff in September 2011. In January 2012, the PIU staff indicated in a coordination meeting that they lacked the project engineering skills to properly understand job cost reporting. As a result, the cost management training extended into July 2012, at which point TT confirmed that the PIU lacked the skillset to implement the job cost reporting required in the implementation letter. Final project close out reports were not delivered to USAID until December 2013.

WO-LT-0042 Afghan Women Internship Program 2014: As outlined in the original SOW dated August 28, 2011, the objective was to design and implement an internship program for female students studying Architecture, engineering and other related fields in their last year (or as qualified) at universities in Kabul. The program was designed to provide students opportunities to apply skills and concepts learned through coursework to “real world” situations.

WO-LT-0049 Evaluation of the Ministry of Public Works: Reviewed the Ministry of Public Works (MoPW) capability of performing operation and maintenance on Afghanistan roadways system and developed a capacity building program to train MoPW in operations and maintenance. Delivered "Evaluation of the Ministry of Public Works Capacity to Conduct Roadway Operations and Maintenance" revised draft report on March 29, 2012.

WO-A-0050 Assisting IOEE Staff in Document CD Filing: Technical support services in the USAID Kabul Office August 2010.

WO-LT-0059 NEPS Distribution Materials and Installation Specification for 61 feeders: TT reviewed the DABS self-performed installation schedule for equipment procured by DABS, and monitored and evaluated the actual installation of that equipment by DABS. TT prepared a brief feeder evaluation report for each medium voltage (MV) feeder, documenting the completed MV feeder improvements. TT also assisted Da Afghanistan Breshna Sherkat (DABS) with the development of technical portions of the bid package, as well as assisted in bid evaluations.

WO-LT-0066 Training and Support: The Scope of Work (SOW) for this work order responded to USAID’s October 25, 2012 request that Tetra Tech provide project management training and support to USAID’s local national engineering staff. TT provided the services detailed in this SOW under the AESP task order. This work order generated interest from local national staff at USAID, and resulted in Project Management Professional (PMP) training for 32 Foreign Service Nationals.

WO-LT 0067 GK Road Value Engineering: Workshop held March 7, 2013. The summary report stated that work was underway, and that the bridge design and schedule had been submitted to USAID. Capacity building was provided to MECC.

WO-A-0068 Assisting IOEE Staff in Organizing Engineering related Documentation/
WO-A- 0069 Assisting IOEE Staff by Preparing a Standardized Guide Construction Principles: In November 2010, AESP provided these technical support services in the USAID Kabul Office.

WO-LT 0073 Energy and Water Capacity Building: The objective of this work order was to support USAID’s efforts to broaden the capacity of the Ministry of Energy and Water (MEW) and the national electric utility (DABS) to carry out their core activities. This was to be accomplished through building the technical capacity of MEW/DABS staff and strengthening local universities and vocational training centers to produce qualified energy and water graduates for these institutions. Tetra Tech hosted an American University of Afghanistan (AUAF) workshop, as well as the USAID/OIEE Implementing

Partners Capacity Building Coordination Meeting. OIEE, IOM, and UNOPS also attended these meetings at the Tetra Tech Office.

2013 Q1 Report: Tetra Tech AESP continued to provide capacity building opportunities for local national engineering staff. Staff attended construction quality management and Primavera training offered through Champion Technical Training Center (CTTC) in Kabul. Additional training for the remainder of FY2013 at CTTC will continue. Conversational English was offer to all interested.

ANNEX XVIII: DESCRIPTION OF AESP COLLABORATION/COORDINATION

Tetra Tech Annual Work Plan 2010: “Tetra Tech team will collaborate and coordinate with appropriate stakeholders when directed by the COR. Appropriate stakeholders include International Security Assistance Force (ISAF), U.S Military, key Afghan ministries (e.g. Ministry of Finance (MoF), Ministry of Foreign Affairs (MoFA), and Ministry of Energy and Water (MEW), provincial elected officials, donors, NGOs, communities, and others as identified by requirements of the work.”

WO-LT-0005 SGHS Utility Construction Documents: Tetra Tech continued to provide project management and coordination services, and developed a finalized set of construction documents and bill of quantities. Project Management tasks included attendance at weekly construction meetings, providing ongoing technical support to USAID, and construction coordination with other USAID contractors.

WO-LT-0006 USAID/OAA Claims Assistance: ACEP/Winrock/IRG and Tetra Tech reconciled major hydrologic, hydraulic, and structural design concerns through bi-weekly design coordination meetings between both parties and also involving USAID.

WO-LT-0023 Kabul University Men’s Dormitory, DFAC & Laundry: Tetra Tech continued third party technical support by attending the weekly construction coordination project meetings and providing field observation for these three projects.

WO-LT 0064 Jalalabad to Rodat Transmission Line: Tetra Tech coordinated with the Deputy COO of Nangarhar, the survey manager, and the planning manager (all from DABS) in the preliminary design and bidding of this transmission line project. (Meeting Sept 29, 2013)

WO-LT-0072: Tetra Tech submitted NEPS 2013 power study scope of work to ADB and WB for comment.

2010 Q1 Report: December 22, 2009 TT met with Kabul Polytechnic University.

2010 Q2 Report: The Tetra Tech Kabul Staff attended a large number of meetings and teleconferences with USAID, IRD, URS, UNOPS, ADB, Kabul University, Kabul Polytechnic University and others. Marc Laderman had several meeting with stakeholders regarding the integration of Nangarhar into NEPS. Marjory O’Brien was involved in meeting with AUAF and UNOPS. Najim Azad Zoi was equally involved in meeting regarding the District and Training center. Chester Drake attended the weekly meeting with OIEE, and attended random meeting with members of the staff at AUAF, UNOPS, and JTC.

2010 Q3 Report: Visited the Kajaki Dam site in Helmand Province with USAID/OIEE, USACE, and Louis-Berger project personnel to perform a site reconnaissance and technical evaluation of the work previously completed at the dam site by others as well as to further assess the project for moving forward.²⁵

2011 Q1 Report: Tetra Tech conducted QA site visits to the Maimana Regional Airport with the Ministry of Transport and Civil Aviation (MOTCA) and the construction contractor (FKH) personnel on October 20, 2010, and with USAID, an FAA/MOTCA liaison, and FKH personnel on December 30, 2010. (During the October 20 visit and at the request of Mr. Shafaq, the Faryab Province Governor, Tetra Tech personnel also visited with the Governor to discuss the Maimana Airport construction progress). Site visit/site inspection reports for both airports were prepared and submitted to USAID. On May 25, 2011, Tetra Tech, FAA, MoTCA, FKH, and GHI traveled to Maimana Airport to observe and investigate outstanding issues.

WO-LT -0029 Afghan First COP Meetings: Tetra Tech conducted two to three meetings with the Implementing Partner COPs to discuss the finding of the Afghan First Contractor Capacity Building Report.

WO-A-0024 NEPS-Kandahar Construction Plan: Tetra Tech provided planning services that included developing a simplified construction plan to build the NEPS transmission line extension to Kandahar. The main purpose of this activity was to identify enough information to the ISAF Joint Command so that they could analyze of the security requirements they might need to protect the work in the field.

WO-A-0057 SGHS Utility Construction Documents: Coordinated with USAID and UNOPS to begin finalize site grading, drainage, and utility plans. Finalized the design of an elevated water storage tank to serve the school.

WO-LT-0006 QA Oversight SPR - Southern & Eastern Afghanistan QA: Monitors made site visits to Roads 2,4,5,8 9A/9B,11, & 41. Staff coordinated with IRD to continue making site visits to balance of ongoing road projects in SPR Program.

WO-LT-0007: TT prepared several Khost bridge conceptual designs; the different designs were designed to assist the USAID/Khost PRT in determining which design was most cost effective. Tetra Tech followed-up with final design documents.

WO-LT-0009 2011 Q2 Report: Tetra Tech was in the process of assisting DABS to provide electric power to the US Embassy. Tetra Tech met with DABS, USAID, and the US Embassy to discuss the various technical issues for such power supply.

WO-LT-0022 Afghan Electrical Transmission and Generation: An engineer gathered data on the transmission and generation system from several governmental entities such as DABS, the Ministry of Energy and Water (MEW), the Afghan Energy Information Center

²⁵ Records of meetings were dropped off the TT quarterly reports in 2010 Q3

(AEIC), etc. This data would be used to prepare a long-term plan on the transmission /generation facilities required to meet Afghanistan's long-term electric growth.

GBHS Utility Construction Documents: Tetra Tech continued to provide support reviewing submittals and other engineering assistance during the utility construction by working closely with USAID, UNOPS, DABS, and IRD. Additionally, work continued on the Administration Building Contract.

2011 Q3 Report- Topchi HPP Design Review: Tetra Tech was in the midst of providing technical design review and project coordination services for the Topchi Hydro Power Plant (HPP) project design prepared by Winrock International through the Afghan Clean Energy Program (ACEP)

WO-LT 0034 Khost-Gardez Highway Failure Investigation: Tetra Tech sent a lead transportation engineer, a geologist, and LBG project manager to Gardez to conduct the site visit.

WO-A-0075 Bamyan Valley T & D Design- The Bamyan Small Hydro Project: TT reviewed the Distribution Design Report created by National Rural Electric Cooperative Association (NRECA). The initial Task 1 report was submitted on October 23rd, 2011 outlining the design and implementation coordination required between USAID, NZAID and the Aga Khan Foundation (AKF).

WO-LT-0044 Evaluation of MoPW Capacity to Conduct Roadway O&M: Under WO-LT-0049, Tetra Tech evaluated the capacity of the Ministry of Public Works (MoPW) to perform Operations and Maintenance (O&M). Tetra Tech personnel attended meetings with USAID, LBG, MoPW and IRD regarding their experiences and insight into the Ministry's O&M operations (WO-LT-0049).

2012 Q1 Report- SEPS Technical Services: Tetra Tech supported USAID at the joint SEPS Scoping meetings held at KAF with USACE. A field trip report and informal meeting observations were issued to USAID. This work order was closed during this quarter. WO-A-0082

2012 Q2 Report- PRT Support – Bamyan Dam Sites Pre-Feasibility Studies: In February 2012, Tetra Tech attended briefings with OEGI personnel at the Bamyan PRT to discuss a strategy for a comprehensive electrification program for the region. WO-LT-0009 Amendment 2

2013 Q1 Report- Training and Support: NTP was received on December 3, 2012. The intent of this work order was to support USAID's efforts in building project management capabilities and leadership skills of the USAID local national engineering staff in preparation of the "2014-2024 Decade of Transition." WO-LT-0066

2013 Q2: Gardez-Khost Road Construction Project: Through the use of existing precast reinforced concrete materials, Tetra Tech provided scheduling assistance for the construction contractor Mashriq Engineering Construction Company (MECC), and hosted an "Off-Site" team building session at the Tetra Tech Villa. Three local national engineers attended writing training, and three staff members attended safety training in

the month of January 2013. Three local national engineers attended construction quality control (CQM) training, and four individuals attended construction safety and health training in the month of February 2013.

Internship program: Tetra Tech AESP efforts to achieve gender equitable staffing took a giant step forward in the quarter. One of the former female Kabul University Civil Engineering student interns was hired and began work as a junior civil engineer. Four new female university engineering students were hired as 2013 interns.

Afghan Women Internship Program Update: The four female Civil Engineering students from Kabul University completed their 2012 Tetra Tech AESP internship program at the beginning of January. Four new interns were selected for the 2013 Tetra Tech AESP internship program which began on January 12, 2013. Three students are from Kabul University and one is from the Polytechnic University. Their respective educational backgrounds and experiences include structural engineering and construction, civil engineering, water resources engineering, and architectural engineering (WO-LT-0042).

Regak Bridge QA: Tetra Tech AESP QA engineer accompanied the Louis Berger Group team to the Uruzgan province for a warranty inspection of the Regak Bridge in the Shahidi Hassas district (WO-A-0088).

2013 Q3 Report: NEPS System Protective Relay Coordination Studies: Tetra Tech AESP and Power Engineering worked together to create a high voltage and medium voltage system relays study and proposed relay settings. WO-LT-0059

November 25 2014 Coordination Meeting Inter-Ministerial Commission for Energy: USAID & TT attended the third meeting for the ICE coordination chaired by Minister of Economy to discuss all aspects of energy program development and progress.

September 30, 2013 DABS Coordination Meeting (ref 130903 Meeting): TT and DABS meet to discuss design deliverables and project schedule.

October 21, 2013 DABS Meeting to Discuss Conditional Precedent #3: Meeting to review and discuss requirements for financial reporting as required by conditional precedent #3 WO-A-0091

Cecchi and Company Consulting, Inc.

Afghanistan SUPPORT-II Project

Wazir Akbar Khan

Kabul, Afghanistan