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# **INSTALLATION REPORT OF AUDIT**

**F2010-0028-FDD000**

**American Recovery and  
Reinvestment Act of 2009  
Military Construction  
81st Training Wing  
Keesler AFB MS**

**Gulf Coast Area Audit Office**

**15 January 2010**

### INTRODUCTION

On 17 February 2009, the President signed into law the American Recovery and Reinvestment Act of 2009. The goal of the Recovery Act is to provide an infusion of money within specific guidelines that will result in a jump start to the United States economy. The 81st Training Wing (TRW) was allocated \$20.8 million in Recovery Act funds to construct a 144 room dormitory.

### OBJECTIVES

We accomplished this centrally directed audit to determine whether 81 TRW personnel properly managed Recovery Act military construction (MILCON) requirements. Specifically, we determined whether wing personnel:

- Conducted environmental studies for the project.
- Properly justified the Recovery Act project.
- Prepared an economic analysis or obtained a certificate of exception.
- Properly scoped and supported primary and supporting facility costs identified on the DD Form 1391, Military Construction Project Data.
- Reported contract information so it was transparent to the public.
- Included all new Federal Acquisition Regulation clauses in the contract.
- Met the goals of the Recovery Act by fostering competition, expeditiously awarding the contract, and creating or retaining jobs.

### CONCLUSIONS

The 81 TRW could improve management of Recovery Act requirements. Specifically, wing personnel:

- Conducted an environmental assessment and properly justified the Recovery Act project. Accomplishing the environmental assessment assures Air Force decision makers consider environmental factors prior to commitment of resources and prevent environmental damage. Properly justifying the Recovery Act projects validates Air Force dollars are spent on higher priority projects and achieve the goal of the Act. (Tab A, page 1)

- Did not obtain an economic analysis or certificate of exception as required for one project totaling \$20.8 million. Completing an economic analysis provides leadership accurate information to make construction decisions that are in the best interest of the Air Force before contracts are awarded. (Tab A, page 2)
- Did not properly scope and support primary and supporting facility requirements identified on the MILCON project data form. As a result, eliminating \$2 million of overstated requirements would allow the Air Force to use these funds for other valid Recovery Act MILCON projects and achieve a potential monetary benefit. Further, Air Force civil engineer personnel could potentially obligate \$591,000 MILCON funds for unsupported requirements. (Tab B, page 3)
- Had not awarded the dormitory construction contract. Therefore, audit was unable to determine whether the contract reported transparently to the public; included all new Federal Acquisition Regulation clauses or met the goals of the Act by fostering competition, expeditiously awarding the contract, and creating or retaining jobs.

### **MANAGEMENT CORRECTIVE ACTIONS**

During the audit, the civil engineer manager submitted an economic analysis waiver request to the comptroller squadron for review and approval. (Tab A, page 2)

### **RECOMMENDATIONS**

We made four recommendations to improve the overall effectiveness of supporting planning costs. (Reference the individual tabs for specific recommendations.)

### **MANAGEMENT'S RESPONSE**

Management officials agreed with the audit results, recommendations, and potential monetary benefits in Tab A of this report, and the corrective actions taken and planned are responsive to the issues included in this report. Therefore, this report contains no disagreements requiring elevation for resolution.

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## **BACKGROUND**

**Project Planning.** While the purpose of the American Recovery and Reinvestment Act of 2009 is to quickly infuse money into the United States economy, civil engineers must fully justify and follow economic guidelines for MILCON projects. During the planning stage, an environmental assessment must be completed to document the construction's impact on the environment. It also identifies additional costs due to environmental factors. In addition during the planning phase civil engineers must also complete an economic analysis to determine the most economic and effective method of project accomplishment. For example, whether an installation should renovate or construct a new building. Finally, the civil engineer programmer justifies the need for the project by completing a DD Form 1391. The justification data on the form includes information about the project such as mission impact, people and productivity, and the effect if the project is not accomplished.

**Project Management.** In November 2008, the 81 TRW began transition of base operation support to Computer Science Corporation Applied Technologies (CSC). This contract includes civil engineering functions which affect work orders and construction projects. The base infrastructure support division manages and evaluates the performance of the CSC.

## **AUDIT RESULTS 1 – JUSTIFICATION AND ENVIRONMENTAL ASSESSMENT**

**Condition.** Civil engineer personnel properly conducted an environmental assessment and properly justified the Recovery Act project. Specifically, personnel:

- Completed an environmental assessment study on the project site, as part of the Hurricane Katrina development plan, and determined no significant impact on the environment existed.
- Provided justification that identified 629 substandard dormitory rooms at Keesler AFB. Further, the justification explained that if the dormitory was not built, it could degrade students' learning environment, productivity, and career satisfaction.

**Cause.** This condition occurred because personnel adhered to Air Force guidance by following construction planning and programming procedures.

**Impact.** Accomplishing the environmental assessment assures Air Force decision makers consider environmental factors prior to commitment of resources and prevent environmental damage. In addition, properly justifying the Recovery Act projects validates Air Force dollars are spent on higher priority projects and achieve the goal of the Act.

**Management Comments.** Management officials concurred with the audit results.

## **AUDIT RESULTS 2 – ECONOMIC ANALYSIS**

**Condition.** Civil engineer personnel did not obtain an economic analysis or certificate of exception as required for one project totaling \$20.8 million. Specifically, personnel did not complete an economic analysis to determine whether new construction or renovation was more cost effective prior to issuing a contract solicitation for the 144 room dormitory project.

**Cause.** This condition occurred because installation civil engineer personnel were instructed to treat this MILCON funding as a Congressional insert which does not require an economic analysis. However, personnel were later informed (April 2009) by MAJCOM personnel those instructions were incorrect and an economic analysis was required. As a result, the civil engineer programmer did not obtain an economic analysis evaluating the cost and benefits of all feasible alternatives prior to programming the project as required to determine whether construction was the best alternative.

**Impact.** Completing an economic analysis provides leadership accurate information to make construction decisions that are in the best interest of the Air Force before contracts are awarded.

**Management Corrective Actions.** During the audit, the civil engineer manager submitted a request for waiver from the economic analysis to the comptroller squadron for review and approval.

**Recommendation A.1.** The Director, 81st Infrastructure Support Division, should monitor the progress of the waiver from economic analysis until complete and verify the waiver is maintained in the project folder.

**Management Comments.** The Commander, 81st Mission Support Group, concurred with the audit results and recommendation, and stated, “The Director, 81st Infrastructure Support Division, required the Civil Engineering Performance Manager to monitor the progress of the waiver from economic analysis until complete and verify the waiver is maintained in the project folder. Estimated completion date: 16 February 2010.”

**Evaluation of Management Comments.** Management comments addressed the issues presented in this tab, and actions planned should correct the problems.

**BACKGROUND**

The civil engineer programmers plan (or scope) MILCON projects. Part of scoping a project requires the programmer to develop floor space and infrastructure requirements, cost estimates, and record the data on the DD Form 1391. Cost estimates are categorized into primary (price per floor space unit, anti-terrorist protection, and sustainability costs) and supporting facility costs (utilities, pavements, communications, site improvements, and other requirements). Cost estimates are developed by using Department of Defense (DoD) and Air Force guidance or other fully justifiable cost data. The DD Form 1391 must be closely scrutinized, first by the installation engineering flight chief, and second by the command MILCON programmer to validate estimates comply with guidance or fully justified with historical cost data. The DD Form 1391 explains and justifies the project to all levels of the Air Force, Office of the Secretary of Defense, Office of Management and Budget, and Congress.

**AUDIT RESULTS 3 – SCOPE AND SUPPORT**

**Condition.** Civil engineer personnel did not properly scope and support primary and supporting facility requirements identified on the MILCON project data form. Specifically:

- Scope. The dormitory project reviewed was overstated by approximately \$1.7 million (see Table 1).

<b>Cost Type</b>	<b>Programmed on DD Form 1391</b>	<b>Validated by Audit</b>	<b>Difference</b>
Facility Cost	11,238,000	10,910,000	328,000
Anti-terrorism/Force Protection	1,153,000	109,000	1,044,000
Environmental	231,000	218,000	13,000
Contingency	868,000	770,000	98,000
Supervision, Inspection, and Overhead	1,039,000	921,000	118,000
Design	695,000	616,000	79,000
<b>Total</b>	<b>15,224,000</b>	<b>13,544,000</b>	<b>1,680,000</b>

**Table 1. Total Project Cost**

- Support. Personnel did not maintain documentation for \$591,000 in total facility costs which included primary facility costs to support 122 square meters of floor space,<sup>1</sup> valued at approximately \$289,000 (see Table 2) and \$302,000 in estimated supporting facility costs (see Table 3).

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<sup>1</sup> We calculated the unsupported floor space costs by multiplying 122 square meters X \$2,365 unit cost.

Cost Type	Programmed on DD Form 1391	Validated by Audit	Difference
Square Meters	4,874	4,752	122
Unit Cost	2,365	2,365 <sup>2</sup>	
Primary Facility Cost (Square Meters X Unit Cost) Rounded	11,526,000	11,238,000	289,000

**Table 2. Primary Facility Costs**

Cost Type	Programmed on DD Form 1391	Validated by Audit	Difference
Communications	368,000	368,000	0
Utilities	525,000	452,000	73,000
Site Improvements	235,000	151,000	84,000
Pavements	483,000	483,000	0
Other Supporting Costs	2,706,000	2,561,000	145,000
Passive Force Protection	140,000	140,000	0
Total Supporting Facilities Costs	4,457,000	4,155,000	302,000

**Table 3. Supporting Facility Costs**

**Cause.** These conditions occurred because programmers:

- **Scope.** Used incorrect unit costing data (\$2,365 versus \$2,296 per square meter) resulting in a requirements error of \$328,000. Further, an input error on the DD Form 1391 recorded antiterrorism/force protection at 10 percent instead of one percent resulting in an additional requirements error of \$1,044,000. This input error caused additional line items (environmental, contingency, SIOH, and design) to be overstated by \$308,000 because they were calculated as a percentage of the erroneous figure.
- **Support.** Adjusted the original estimated supporting costs developed in 2005 but did not maintain supporting documentation.

**Impact.** As a result, eliminating \$2 million<sup>3</sup> of overstated requirements would allow the Air Force to use these funds for other valid Recovery Act MILCON projects and achieve a potential

<sup>2</sup> Audit validated \$2,296 unit cost per square meter. However, we used \$2,365 from the DD Form 1391 in the table to reflect the total amount that was unsupported.

<sup>3</sup> Per the rounding rules in the Historical Air Force Construction Cost Handbook, February 2007, programmed amounts were rounded to the nearest \$500,000. This created a programmed amount on the DD Form 1391 of \$20 million (\$19,968,000 rounded) and a programmed amount validated by audit of \$18 million (\$17,699,000 rounded). Therefore, the potential monetary benefit for overstated requirements would be \$2 million due to the rounding requirement.

monetary benefit. Further, Air Force civil engineer personnel could potentially obligate \$591,000 MILCON funds for unsupported requirements.

**Recommendations.** The Director, 81st Infrastructure Support Division, should direct the performance manager to take actions to:

- Recommendation B.1. Correct the unit cost, antiterrorism/force protection, environmental, contingency, SIOH, and design costs shown on the DD Form 1391 for the Keesler AFB 144 room dormitory to agree with MILCON program guidance.
- Recommendation B.2. Document the specific source of each cost estimate recorded on the DD Form 1391 and identify how the costs were derived.
- Recommendation B.3. Validate cost estimates listed on DD Forms 1391 are in line with DoD and Air Force guidance or fully justified with other cost data prior to obligating the funds.

**Management Comments.** The Commander, 81st Mission Support Group, concurred with the audit results, recommendations, and potential monetary benefits, and stated, “The Director, 81st Infrastructure Support Division directed the Civil Engineering Performance Manager to coordinate with CSC civil engineer personnel to ensure they:

- Recommendation B.1. “Correct the unit cost, antiterrorism/force protection, environmental, contingency, SIOH, and design costs shown on the DD Form 1391 for the Keesler AFB 144 room dormitory to agree with MILCON program guidance. CSC has been notified to correct the discrepancy noted in this audit. Estimated completion date: 16 February 2010.
- Recommendation B.2. “Document the specific source of each cost estimate recorded on the DD Form 1391 and identify how the costs were derived. CSC has been notified to correct the discrepancy noted in this audit. Estimated completion date: 16 February 2010.
- Recommendation B.3. “Validate cost estimates listed on DD Forms 1391 are in line with DoD and Air Force guidance or fully justified with other cost data prior to obligating the funds. CSC has been notified to correct the discrepancy noted in this audit. Estimated completion date: 16 February 2010.”

**Evaluation of Management Comments.** Management comments addressed the issues presented in this tab, and actions planned should correct the problems.

### AUDIT SCOPE

**Audit Coverage.** To determine whether 81 TRW personnel properly managed Recovery Act MILCON requirements, we reviewed MILCON documentation dated from June 2004 to August 2009. We performed audit field work from 3 August to 8 September 2009 and issued a draft report to management on 20 November 2009. To determine whether:

- Civil engineer personnel conducted an environmental assessment for the project, we obtained and reviewed environmental impact study documentation and assessment report. We compared assessed areas (air installation compatible zone/land use, air quality, water resources, safety and occupational health, hazardous materials/waste, biological resources, cultural resources, geology and soils, and socioeconomic) to guidance and determined if appropriate areas were reviewed.
- Wing personnel properly justified the 144 room dormitory project, we discussed the project with civil engineer personnel and reviewed the project DD Form 1391, the 2004 Keesler AFB General Plan, the 2007 Hurricane Katrina Recovery Plan, and other project documentation.
- Wing personnel prepared an economic analysis or certificate of exception, we held discussions with civil engineer personnel and reviewed project folder documentation.
- Civil engineer programmers properly scoped and supported primary and supporting facility costs, we compared floor space unit cost, anti-terrorism protection, sustainable design, utilities, pavements, communications, site improvements, contingency, design, and supervision, inspection and overhead costs estimates listed on the DD Form 1391 against guidance requirements and supporting documentation. Additionally, we discussed design cost development with base-level and command civil engineer personnel.

**Sampling Methodology.** We used the following sampling and computer-assisted auditing tools and techniques (CAATTs) to select and analyze data in this audit.

- Sampling. The DoD Inspector General developed an American Recovery and Reinvestment Act MILCON sample based on predictive analysis of critical risk factors (a form of judgmental sampling). The Air Force Audit Agency received a sample of 13 MILCON projects at Air Force bases from the DoD Inspector General. The 144 room dormitory at Keesler AFB was 1 of the 13 projects.
- CAATTs. We used MS-Excel™ to input and calculate cost estimates for MILCON projects. Specifically, we used IF/THEN formulas to determine project overstatements to determine potential monetary benefits.

**Data Reliability.** We did not use or rely on computer-generated data to support conclusions in this audit. Floor space and cost estimates listed on the DD Form 1391 were not developed from Parametric Cost Estimating System, but rather manually generated by the civil engineer programmer. Data on the DD Form 1391 is entered into Automated Civil Engineer System - Program Management; however, we were unable to validate all cost data on the DD Form 1391 because supporting documentation was not available for all of the estimates. Additionally, no other documentation or information reviewed during the audit was system generated.

**Auditing Standards.** We accomplished this audit in accordance with generally accepted government auditing standards, and accordingly, included tests of management controls over documentation of transactions, document retention, and management oversight.

**Discussion with Responsible Officials.** We discussed/coordinated this report with the Commander, 81st Training Wing; Commander, 81st Mission Support Group; Director, 81st Infrastructure Support Division; and other interested officials. We advised management this audit was part of an Air Force-wide evaluation on American Recovery and Reinvestment Military Construction projects (Project F2009-FD1000-0655.000). Therefore, selected data not reflected in this report, as well as data contained herein, may be included in a related Air Force report of audit. Management's formal comments were received on 14 January 2010 and are included in this report.

### **PRIOR AUDIT COVERAGE**

We did not identify any Air Force Audit Agency, DoD Inspector General, or Government Accountability Office reports issued to the 81 TRW within the past 5 years that related to our specific objectives.

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**PROJECT NUMBER**

We accomplished this audit under project number F2009-FD1000-0655.004.

**FREEDOM OF INFORMATION ACT**

The disclosure/denial authority prescribed in AAFP 65-3, *Internal Auditing*, will make all decisions relative to the release of this report to the public.