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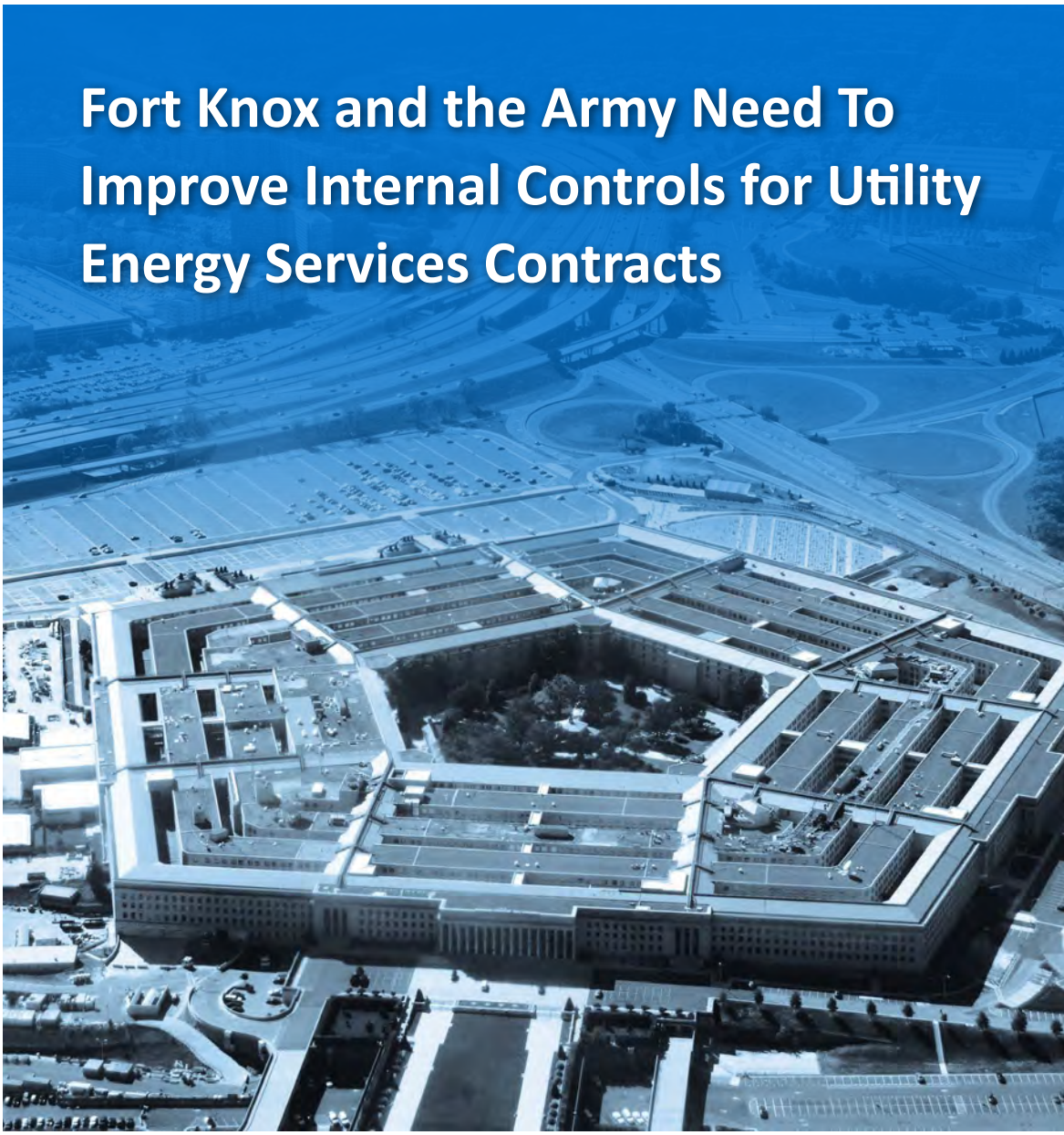
Inspector General

U.S. Department of Defense

SEPTEMBER 8, 2014

Fort Knox and the Army Need To Improve Internal Controls for Utility Energy Services Contracts



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Results in Brief

Fort Knox and the Army Need To Improve Internal Controls for Utility Energy Services Contracts

September 8, 2014

Objective

Our audit objective was to determine whether the contract and task orders related to the energy program at Fort Knox, Kentucky, were properly awarded and administered. We reviewed 108 task orders, totaling about $270 million, awarded by Fort Knox officials, related to the energy program at Fort Knox.

Finding

Fort Knox officials did not properly award and administer 108 task orders, valued at about $270 million, for energy-saving projects. In addition, Fort Knox officials could not support the claim that projects achieved the projected energy savings. This occurred because Fort Knox officials did not:

- establish adequate internal controls over the award and administration of the task orders, or
- determine whether the Government received fair and reasonable prices.

As a result, Fort Knox officials spent millions on projects that may not have achieved sufficient energy savings to repay the utility company's investment as required. This means the projects might not meet Department of Defense financing requirements for energy-savings projects using Utility Energy Services Contracts (UESC), and Fort Knox officials do not have assurance that they paid fair and reasonable prices. Furthermore, the lack of adequate internal controls increases the risk of fraud, waste, and abuse. During our

Finding (cont'd)

audit, the U.S. Army Installation Management Command issued guidance to correct the problems we found, so we will not make a recommendation to this organization.

Recommendations

We recommend the Garrison Commander, Fort Knox, Kentucky:

- Establish policies and procedures to track energy savings for individual projects awarded under UESC task orders.
- Coordinate with appropriate contracting officials and establish internal controls over the process for awarding and administering UESC task orders under contract DABT23-84-C-0089 and for any future energy contracts.

We recommend the Director, Mission and Installation Contracting Command:

- direct Fort Knox contracting officials to discontinue awarding task orders under contract DABT23-84-C-0089 until adequate internal controls are in place;
- develop standard operating procedures and contracting officer guidance to complete fair and reasonable price determinations for UESCs; and
- review the contracting officer's actions in negotiating and determining prices for contract DABT23-84-C-0089 task orders and, as appropriate, initiate actions to hold the contracting officer accountable.

Management Comments and Our Response

Comments from the Garrison Commander, Fort Knox, were responsive. We did not receive comments from the Director, Mission and Installation Contracting Command. We request the director to provide comments to the final report. Please see the Recommendations Table on the back of this page.

Recommendations Table

Management	Recommendations Requiring Comment	No Additional Comments Required
Garrison Commander, Fort Knox, Kentucky		1.a and 1.b.
Director, Mission and Installation Contracting Command	2.a, 2.b, and 2.c.	

Please provide Management Comments by October 8, 2014.

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

September 8, 2014

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION, TECHNOLOGY, AND LOGISTICS
AUDITOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Fort Knox and the Army Need To Improve Internal Controls for Utility Energy Services Contracts (Report No. DODIG-2014-107)

We are providing this report for review and comment. The Director, Mission and Installation Contracting Command, did not respond to the draft report; however, we considered comments from the Garrison Commander, Fort Knox, Kentucky, when preparing the final report. Fort Knox officials did not properly award and administer 108 task orders, valued at about $270 million, from contract DABT23-84-C-0089, in energy-saving projects. In addition, Fort Knox officials could not support the claim that projects achieved the projected energy savings. As a result, Fort Knox officials spent millions on projects that may not have achieved sufficient energy savings to pay back the utility company's investment as required, and they have no assurance they received fair and reasonable prices. Furthermore, the lack of adequate internal controls increases the risk of fraud, waste, and abuse.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. Comments from the Garrison Commander, Fort Knox, Kentucky, addressed all the specifics of the recommendations, and we do not require additional comments. We request comments from the Director, Mission and Installation Contracting Command, on Recommendations 2.a, 2.b, and 2.c by October 8, 2014.

Please send a PDF file containing your comments to audcmp@dodig.mil. Copies of your comments must have the actual signature of the authorizing official for your organization. We cannot accept the /Signed/ symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Please direct questions to Deborah L. Culp at (703) 604-9335 (DSN 664-9335).

Amy J. Frontz
Principal Assistant Inspector General
for Auditing

Contents

Introduction

Objective 1

Background 1

Review of Internal Controls 4

Finding. Fort Knox Utility Energy Services Contract Projects May Not Have Generated Required Energy Savings

5

Adequate Internal Controls Not Established 5

Fort Knox Officials Did Not Make Fair and Reasonable Price Determinations 13

Conclusion 15

Management Comments on the Finding and Our Response 16

Recommendations, Management Comments, and Our Response 17

Management Comments Required 19

Appendixes

Appendix A. Scope and Methodology 20

Review of Documentation and Interviews 20

Use of Computer-Processed Data 21

Use of Technical Assistance 21

Appendix B. Prior Coverage 22

Appendix C. Contract Comparison 24

Appendix D. Task Orders Reviewed 25

Contents (cont'd)

Appendix E. Standards for Internal Control in the Federal Government 31

Control Environment 32

Risk Assessment 32

Control Activities 32

Information and Communications 33

Monitoring 33

Appendix F. Reviewer of Task Order Award Documentation 35

Management Comments

U.S. Army Garrison, Fort Knox 39

Acronyms and Abbreviations

44

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Introduction

Objective

Our audit objective was to determine whether the contract and task orders related to the energy program at Fort Knox, Kentucky, were properly awarded and administered. Specifically, we reviewed utility contract DABT23-84-C-0089, 3 modifications, and 108 task orders, totaling about $270 million, awarded under the contract. See Appendix A for scope and methodology and Appendix B for prior coverage.

Background

According to the Department of Energy, the Federal Government is the largest energy consumer in the United States. Legislation and presidential executive orders require and enable Federal agencies to implement energy-efficiency, water-conservation, and renewable-energy projects. For example, under federally mandated energy-reduction goals, all Federal facilities must reduce their energy consumption per square foot of building space by 3 percent annually through the end of FY 2015, or 30 percent by the end of FY 2015, compared with the agency's energy use in FY 2003.

Federal facilities nationwide have historically needed to cut energy use but lacked funding to implement energy-conserving upgrades. Federal agencies, based on 42 United States Code (U.S.C.) 8256, "Incentives for Agencies," are eligible to use utility incentive programs to procure financing for comprehensive energy projects. Therefore, the heads of executive departments and agencies have the contracting flexibility to use Utility Energy Services Contracts (UESCs) and Energy Savings Performance Contracts (ESPCs) to complete energy-savings projects when direct funding is not available. UESCs and ESPCs provide a cost-effective way for agencies to reduce energy consumption without incurring up front capital costs.

UESCs

According to the U.S. Department of Energy's Federal Energy Management Program, UESCs allow Federal agencies to contract with utility companies to implement facility energy-reduction projects. To fund project capital costs, agencies may arrange all financing through the utility company, use congressional appropriations, or do both. If the project is financed through the utility provider, the Federal agency repays it over the contract term from the energy-cost savings generated by the project, plus interest. According to the contracting officer's representative, under a UESC, the contractor or the Government, or both, identifies projects that will reduce energy consumption. If the parties agree to implement one or more "energy conservation

opportunities," then the parties negotiate a price, and the contracting officer issues a task order to complete the project. Figure 1 shows a Hybrid Geothermal Pond constructed under a UESC task order for the purpose of heat exchange for the Maude Complex, Fort Knox.

Figure 1. Hybrid Geothermal Pond
Source: DOD OIG

ESPCs

By using ESPCs, Federal agencies can also complete energy-savings projects without using up front capital costs or special congressional appropriations. Installation officials may enter into ESPCs for terms up to 25 years, as authorized by 42 U.S.C. 8287, "Authority to Enter into Contracts." In an ESPC, a Federal agency partners with an energy-service company, which identifies potential projects, designs and constructs a project to meet the agency's needs, and arranges the funding. The energy-service company guarantees the projects will generate energy-cost savings, and the agency pays the contractor directly from actual performance savings that resulted from the contractor's actions. The agency accrues all additional cost savings after the contract ends. See Appendix C for a comparison of ESPCs and UESCs.

Defense Policy on Funding UESCs

DoD Instruction 4170.11, "Installation Energy Management," December 11, 2009, recognizes that partnerships with the private sector through alternative financing mechanisms, such as UESCs, are a crucial tool for financing energy-efficiency measures and allowing installations to improve their infrastructure. The Instruction requires that any funds a DoD Component uses to pay for a financed energy project:

> shall be from funds made available through the same project's recurring or nonrecurring energy or water-related cost savings. Payments may be made only when the project is determined to be life cycle cost

effective and when actual savings generated from the financed project exceed the payment amount in the same year. Non-recurring savings, or ancillary savings, are those such as utility rebates and avoided costs from repairs, replacements, retrofits, or capital improvements that have been budgeted for but are no longer required because of the financed energy project. Recurring savings are reductions in energy, water, or wastewater consumption; maintenance; or operations costs because of the financed energy project. The basis for all cost savings used to pay for these projects must be fully documented in the contract file.

Fort Knox

Fort Knox officials entered into a UESC in 1996, by modifying contract DABT23-84-C-0089, with their utility provider, Nolin Rural Electric Cooperative Corporation (RECC). Fort Knox officials issued a contract modification to install new, energy-efficient equipment and systems or upgrading existing ones and pay for these upgrades with savings on Fort Knox's energy bills.[1] Fort Knox contracting officials issued 108 task orders under contract DABT23-84-C-0089, with a total value of about $270 million[2] in project investment as of April 2014. Figure 2 shows ongoing construction for geothermal heating and cooling upgrades at Fort Knox. See Appendix D for a list of all task orders Fort Knox officials have issued under contract DABT23-84-C-0089.

Figure 2. Ongoing Construction of Underground Loop of Pipes
Source: DOD OIG

[1] This modification was issued under authority of 10 U.S.C. 2865 and 42 U.S.C. 8256. Title 10 U.S.C. 2865, "Energy savings at military installations," was repealed in 2006 and replaced in part by 10 U.S.C. 2913, "Energy savings contracts and activities."

[2] As of April 2014, the task order's value, including modifications, totals about $310 million.

Review of Internal Controls

DoD Instruction 5010.40, "Managers' Internal Control Program Procedures," May 30, 2013, requires DoD organizations to implement a comprehensive system of internal controls that provides reasonable assurance that programs are operating as intended and to evaluate the effectiveness of the controls. Fort Knox officials did not properly award 108 task orders, valued at about $270 million, from contract DABT23-84-C-0089 because they did not establish internal controls over the award and administration of the task orders. We will provide a copy of the report to the senior official responsible for internal controls in the Department of the Army.

Finding

Fort Knox Utility Energy Services Contract Projects May Not Have Generated Required Energy Savings

Fort Knox officials did not properly award and administer 108 task orders, valued at about $270 million, from contract DABT23-84-C-0089, in energy-saving projects. In addition, Fort Knox officials could not support the claim that projects achieved the projected energy savings. This occurred because Army and Fort Knox officials did not:

- establish internal controls over the award and administration of the task orders, or
- determine whether the Government paid a fair and reasonable price.

As a result, Fort Knox officials spent millions on projects that may not have achieved sufficient energy savings to pay back the utility company's investment as required. These projects may therefore not meet Department of Defense financing requirements for UESC energy-savings projects, and Fort Knox officials have no assurance that they received fair and reasonable prices. Furthermore, the lack of adequate internal controls increases the risk of fraud, waste, and abuse.

Adequate Internal Controls Not Established

Army and Fort Knox officials did not establish adequate internal controls for the process of awarding and administering 108 task orders for energy-savings projects under contract DABT23-84-C-0089 valued at about $270 million. According to the Government Accountability Office (GAO),[3] "Standards for Internal Control in the Federal Government," November 1999, there are five standards of internal control in Government: Control Environment, Risk Assessment, Control Activities, Information and Communications, and Monitoring. These

Army and Fort Knox officials did not establish adequate internal controls for the process of awarding and administering 108 task orders for energy-savings projects valued at about $270 million.

[3] GAO was known as the General Accounting Office when it published "Standards for Internal Control in the Federal Government" in November 1999. The Federal Managers' Financial Integrity Act of 1982 required the GAO to issue standards for internal control in government. The standards provide the overall framework for establishing and maintaining internal control and for identifying and addressing major performance and management challenges and areas at greatest risk of fraud, waste, abuse, and mismanagement.

standards define the minimum level of quality acceptable for internal controls in Government and provide the basis against which internal controls are to be evaluated. Army and Fort Knox officials did not meet the control activities standard. See Appendix E for further information on GAO, "Standards for Internal Control in the Federal Government."

Lack of Control Activities

Army and Fort Knox officials did not establish control activities for the process of awarding and administering task orders under contract DABT23-84-C-0089. The control activities that Fort Knox and Army officials need to improve are:

- oversight of UESC projects above the installation level,
- installation-level review of the Fort Knox Energy Program Manager's role in managing UESC projects, and
- segregation of duties related to the UESC projects.

According to GAO, "Standards for Internal Control in the Federal Government," control activities are the policies, procedures, techniques, and mechanisms that enforce management's directives. Control activities should occur at all levels and functions of the entity, including a wide range of diverse activities such as approvals, authorizations, verifications, performance reviews, and the creation and maintenance of related records, which provide evidence of execution of these activities as well as proper documentation. Some examples of control activities are:

- top-level reviews of actual performance,
- reviews by management at the functional or activity level,
- management of human capital,
- establishment and review of performance measures and indicators, and
- segregation of duties.

Army Regulation 11-2, "Managers Internal Control Program," March 26, 2012, prescribes policies and responsibilities for the Army Managers' Internal Control Program. Heads of Army commands, such as the U.S. Army Installation Management Command, are responsible under Army Regulation 11-2 for understanding and applying the GAO standards for internal control in the Federal Government and carrying out the Managers' Internal Control Program within their organizations.

The Army Needs Higher Level Oversight of the UESC Program

U.S. Army Installation Management Command officials did not establish top-level reviews of actual UESC installation program performance and, until recently, have performed no direct oversight of the UESC program. In particular, the Army does not specify how UESCs should be administered, leaving this to the discretion of the installations. Additionally, before March 2014, the Army did not require UESC projects to be approved above the installation level, although some of the projects are just as costly as ESPC projects.

The Army, however, exercises much more oversight and guidance over similar ESPCs. Specifically, the Department of the Army Policy Guidance for Implementation of an ESPC (Version 3, November 2008), states that the proper approving official for an ESPC project depends on the total dollar amount the Government will be obligated to pay. Officials from Headquarters, Installation Management Command review and approve all ESPC projects below $10 million and, before awarding an ESPC task order, notify officials from the Office of the Assistant Chief of Staff for Installation Management, who approve all ESPC projects more than $10 million. Additionally, as part of its oversight of the ESPC Program, the Office of the Assistant Chief of Staff for Installation Management requests that all Army activities submit a "Notice of Intent to Pursue an ESPC Project Task Order." The installation must submit the notice to the Office of the Assistant Chief of Staff for Installation Management once the installation receives the initial proposal but not less than 30 days before accepting the initial proposal.

An installation, when submitting an ESPC project for review and approval, must also supply the following documentation, which higher authorities will evaluate:

- a description/scope of the project indicating boundaries, technologies, and which responsibilities belong to the energy-services company and which belong to the installation;
- the installation's requirement for the project—identifying potential benefits as well as costs and problems to be faced without the project;
- a statement regarding the absence of appropriated funds;
- the installation's ability to administer the project—identifying who will perform the inspection, quality control, measurement and verification, etc;
- the installation's ability to isolate the proposed ESPC project savings from other ongoing energy-savings initiatives;

- the installation's ability to establish an accurate baseline;
- the installation's ability to monitor savings; and
- the estimated savings the ESPC will generate and how savings will be divided between the Energy Services Company and the Government.

In comparison, the Army did not require approval of UESC projects at the headquarters level nor notification from Fort Knox officials before the Fort Knox contracting officer awarded task orders for large amounts. The Fort Knox contracting officer awarded 48 task orders over $1 million, and 8 of those were more than $10 million. For example, the Fort Knox contracting officer awarded task order 79 (June 27, 2006), for geothermal heating and cooling systems and energy-management controls in various buildings on Fort Knox, for $31,831,340.36. In addition, no authority above the installation monitored the savings or ensured that someone at the installation monitored the savings for this or any other UESC project. Figure 3 shows geothermal heating and cooling upgrades like the one completed with task order 79 at Fort Knox.

Figure 3. Geothermal Heating and Cooling Upgrades
Source: DOD OIG

According to a Fort Knox official, there is a lack of regulation over the UESC program. The Fort Knox official stated that executive orders mandate bases to reduce energy consumption and allow the use of financing tools such as UESCs but do not provide guidance on how to use those tools.

During our audit, on March 13, 2014, the U.S. Army Installation Management Command headquarters issued guidance in support of the ESPC and UESC processes. The guidance requires installations to submit all proposed ESPCs and UESCs to Headquarters Installation Management Command for review and approval. Additionally, the guidance is consistent with DoD Instruction 4170.11, in that it requires garrison funding of financed energy projects to be from funds made available through the same project's recurring or nonrecurring energy or water-related cost savings; and it permits payments to be made only when the project is determined to be life-cycle-cost effective and when actual savings generated from the financed project exceed the payment amount in the same year. Because the U.S. Army Installation Management Command issued adequate guidance in support of the UESC process during our audit, we will not make a recommendation for improvement in this area.

Sufficient Payback on Individual Projects Uncertain

Fort Knox Department of Public Works officials did not have a method to monitor any of the energy projects performed from task orders awarded under contract DABT23-84-C-0089 to verify sufficient payback on investment. Fort Knox Department of Public Works officials tracked energy savings throughout the installation but did not track energy savings by individual projects, making it impossible to ensure that projects were efficient investments. According to the U.S. Department of Energy's Federal Energy Management Program, and the UESC between Fort Knox and Nolin RECC, when a UESC's project is financed through the utility company, the Federal agency must repay the utility company over the contract term from the energy cost savings generated by the project with interest. Additionally, compliance with DoD Instruction 4170.11 and U.S. Army Installation Management Command March 2014 guidance requires the tracking of cost savings by individual project. Even though Fort Knox Department of Public Works officials tracked energy savings throughout the installation, they could not ensure that individual projects awarded from contract DABT23-84-C-0089 generated the energy savings necessary to repay the cost of the project.

Fort Knox Department of Public Works officials tracked energy savings throughout the installation but did not track energy savings by individual projects, making it impossible to ensure that projects were efficient investments.

According to the energy program manager, no method was available to track the energy savings by individual UESC project. Fort Knox Department of Public Works officials tracked energy savings only through building report cards.[4] The contracting officer awarded task orders that contained projects spanning across multiple buildings; however, some buildings could be part of numerous projects, making it impossible to determine which task order generated the energy savings from each building. For example, Fort Knox officials awarded four separate task orders for projects performed on building 1730, as well as other buildings on the installation. Therefore, Fort Knox officials did not have a method to identify how much energy was saved from the individual task orders awarded using contract DABT23-84-C-0089. In addition, the energy projects may not have achieved sufficient energy savings to pay back the cost of the project as required—which means they may not meet financing requirements for UESC energy-savings projects. See the Table for the individual task orders containing energy-savings projects for building 1730.

Table. Task Orders that Include Building 1730 at Fort Knox

Task Order	Description of Task Order
18	Retrofit lighting in building 1730
41	Install Infrared heat in 5 buildings including 1730
47	Install windows in building 4768, and install HVAC-ground coupled heat pump system in multiple buildings including 1730
109	Make geothermal upgrades in 7 buildings including building 1730

Fort Knox officials should establish policies and procedures to track individual projects awarded from UESC task orders.

Lack of Segregation of Duties

Fort Knox officials did not segregate the duties and responsibilities in key steps in the process for awarding and administering task orders from the contract DABT23-84-C-0089. GAO, "Standards for Internal Control in the Federal Government," and Army Regulation 11-2, "Managers Internal Control Program," discusses the importance of "segregation of duties," explaining that "key duties and responsibilities needed to be divided or segregated among different people to reduce the risk of error or fraud. This should include separating the responsibilities for authorizing transactions, processing and recording transactions, reviewing the transactions, and handling any related assets. No one individual should control all key aspects of a transaction or event."

[4] Building report cards are itemized documents displaying the consumption of energy for a specific timeframe and building. Each report card contains the baseline use for the building analyzed and the use per square foot. A summary of the report card displays the base use, the current use and the savings in a dollar amount.

The energy program manager at Fort Knox, however, was the sole person responsible for most of the steps in identifying and administering the UESC energy project task orders. In awarding and administering task orders under contract DABT23-84-C-0089, according to the energy program manager, he was solely responsible for:

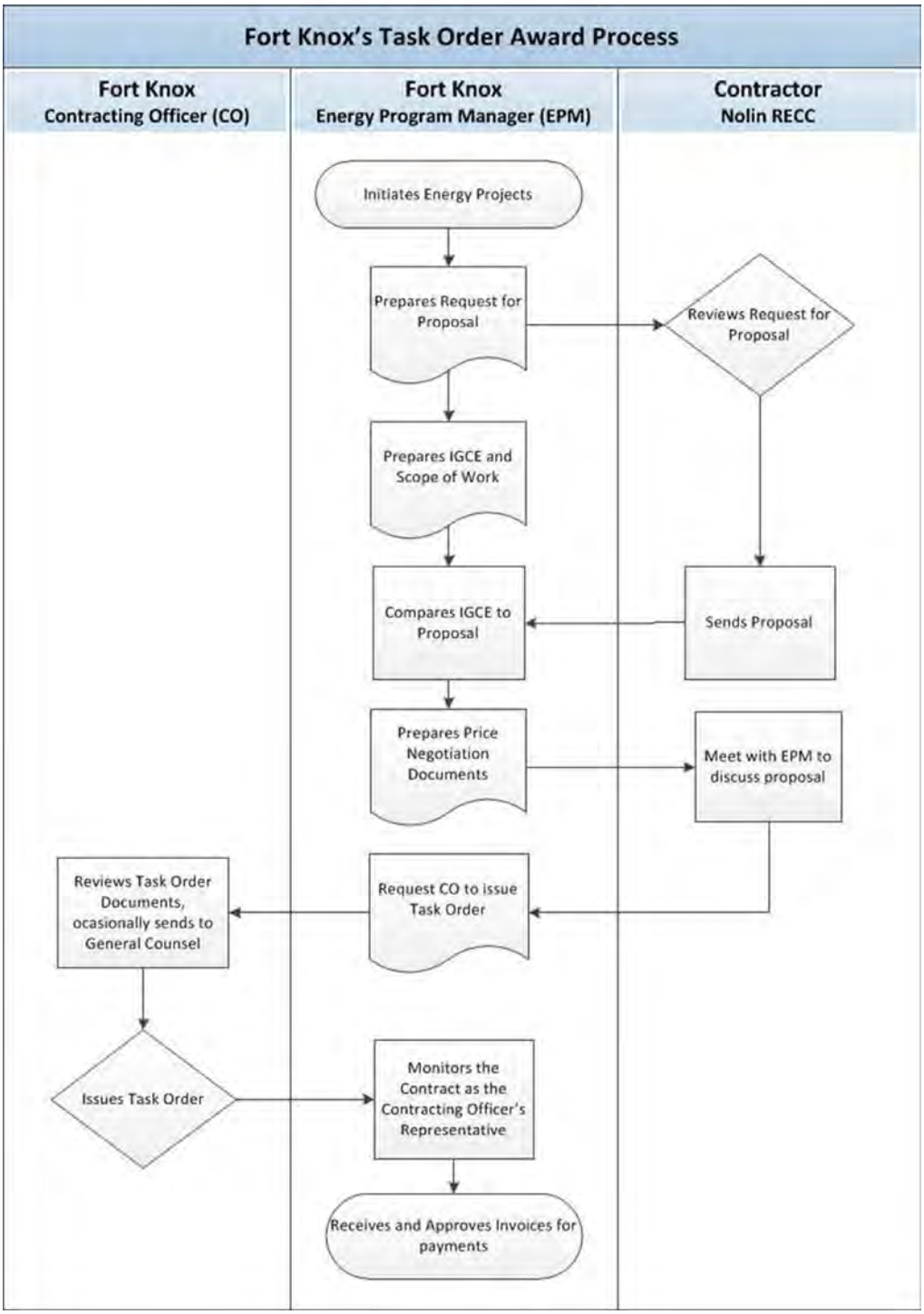
- identifying energy-saving projects, from building-user complaints or contractor suggestions;
- preparing requests for proposals;
- preparing all 108 scope of work documents and signing approvals for 49 of the 108 scope of work documents;
- preparing all 108 independent Government cost estimates (IGCEs) and signing approval of 82 of the 108 IGCEs;[5]
- comparing contractor proposals with the IGCEs;
- preparing all 99 prenegotiation documents and signing approval of 98 of 99 prenegotiation documents;
- preparing and signing approval of 95 of 95 price negotiation memorandums;
- preparing and sending the task order package to the contracting officer for approval;
- acting as the contracting officer's representative for contract DABT23-84-C-0089; and
- receiving and verifying contractor invoices for payment.

Figure 4 is a flow chart of the process Fort Knox officials used to award task orders under contract DABT23-84-C-0089. It shows that the energy program manager was involved in 8 of the 10 steps in the process of awarding a task order. He was also involved, after the task order was awarded, as the contracting officer's representative, and verified the invoices received from the contractor. Without segregation of key steps in the process of awarding and administering the task orders, the Army increases the risk for fraud, waste, and abuse. See Appendix F for the titles of the Fort Knox officials who prepared the documents associated with the award of each task order. The Director, Mission and Installation Contracting Command, should direct Fort Knox contracting officials to discontinue awarding task orders under contract DABT23-84-C-0089 until adequate internal controls are in place. The Garrison Commander, Fort Knox, Kentucky, should establish internal controls over the process

[5] The project manager provided signature for 21 of the 108 IGCEs.

for awarding and administering UESC task orders, to include developing standard operating procedures that incorporate internal controls throughout the process of awarding and administering task orders under contract DABT23-84-C-0089 and for any future energy contracts. At a minimum, those internal controls should include monitoring, supervision, and segregation of duties.

Figure 4. Fort Knox's Task Order Award Process



Fort Knox Officials Did Not Make Fair and Reasonable Price Determinations

The Fort Knox contracting officer did not determine whether the prices paid for energy projects awarded using contract DABT23-84-C-0089 were fair and reasonable, as required by the Federal Acquisition Regulation (FAR), and he was rarely involved in the negotiation process. The FAR requires that a contracting officer make a price reasonableness determination before awarding a contract and that documentation supporting this determination be retained in the contract file. In the contract DABT23-84-C-0089 task order's price negotiation memorandums, Fort Knox Department of Public Works officials did not document discussions of price negotiations. Instead, most officials included only the boilerplate statement: "The utility and contractors appear to understand the scope of work and the proposal appears reasonable." The Fort Knox Department of Public Works official's statements in the price negotiation memorandums did not adequately document a determination of fair and reasonable pricing, as required by the FAR.

The Fort Knox contracting officer did not determine whether the prices paid for energy projects awarded were fair and reasonable, and he was rarely involved in the negotiation process.

FAR 15.402, "Pricing Policy," requires contracting officers to "purchase supplies and services from responsible sources at fair and reasonable prices." In addition, FAR 15.405 states,

> The purpose of performing cost or price analysis is to develop a negotiation position that permits the contracting officer and the offeror an opportunity to reach agreement on a fair and reasonable price. A fair and reasonable price does not require that agreement be reached on every element of cost, nor is it mandatory that the agreed price be within the contracting officer's initial negotiation position. Taking into consideration the advisory recommendations, reports of contributing specialists, and the current status of the contractor's purchasing system, the contracting officer is responsible for exercising the requisite judgment needed to reach a negotiated settlement with the offeror and is solely responsible for the final price agreement.

Price Negotiation Memorandums Were Vague

Fort Knox Department of Public Works officials prepared price negotiation memorandums that did not describe how they determined the price was fair and

reasonable. The contracting officer awarded 99 of 104 task orders for the same amount Nolin RECC proposed.[6] In addition, Fort Knox Department of Public Works officials prepared IGCEs that were frequently higher than the amount Nolin RECC proposed, making it appear that the price Nolin RECC's proposed was fair and reasonable. The amounts the Department of Public Works officials proposed were higher than the amounts Nolin RECC proposed for 100 of 103 task orders.[7] According to the Fort Knox energy program manager, the IGCEs were developed for multiple buildings and were broad; therefore, he did not have the specifics to develop a more detailed estimate.

However, Fort Knox officials provided vague explanations in the price negotiation memorandums for why Nolin RECC's proposals were accepted and why the IGCEs were higher. For example, in the price negotiation memorandum for task order 51, the energy program manager explained that the amount Nolin RECC proposed was accepted because "the utility and contractors appear to understand the scope of work, and the proposal appears reasonable."

Additionally, the Fort Knox Department of Public Works official's statements in the price negotiation memorandums did not adequately demonstrate he had determined prices were fair and reasonable, as required by the FAR. For example, the contracting officer awarded task order 51 (January 22, 2004) for base-wide automation integration; heating, ventilation, and air-conditioning improvements; and preventive maintenance across 26 base facilities at Fort Knox, totaling $10,105,212.32. Nolin RECC proposed a price for the improvements to the 26 buildings to be $10,105,212.32, on October 31, 2003. In addition, the energy program manager's statement in the price negotiation memorandum for task order 51 did not adequately show a determination of fair and reasonable price, as required by the FAR.

Contracting Officer Not Involved in the Price Negotiation Process

Department of Public Works officials prepared the IGCEs and received a price proposal from Nolin RECC, but the contracting officer was rarely involved in the price negotiation process. FAR 15.402, "Pricing Policy," requires contracting officers

[6] Of the 108 task orders, 4 were missing Nolin RECC's proposal or the proposal did not have a set amount; therefore, we could not determine whether the 4 task orders were awarded for the same amount Nolin RECC proposed.

[7] Of the 108 task orders, 5 were missing Nolin RECC's proposal, the proposal did not have a set amount, or the IGCE did not have a set amount; therefore, we could not determine whether the IGCE was more than Nolin RECC's proposal for those 5 task orders.

to "purchase supplies and services from responsible sources at fair and reasonable prices." However, the contracting officer was seldom involved in the price negotiation and did not make fair and reasonable price determinations. According to the contracting officer, after the Department of Public Works official sent the contracting officer the task order package, he checked to make sure the project forecast a payback in energy savings and that Nolin RECC's proposal was in line with the IGCE. The contracting officer stated he had evaluated the package from an energy-savings standpoint but that he could not verify the price was fair and reasonable because of the number of technical factors involved in deciding whether the project should be awarded. Therefore, Department of Public Works officials performed the price evaluation before the contracting officer received it. The U.S. Army Installation Management Command issued guidance on March 13, 2014, requiring proposals to be evaluated for fair and reasonable pricing and that pricing that appears significantly higher than what is available on the market must be justified. The Director, Mission and Installation Contracting Command, should develop standard operating procedures and contracting officer guidance to complete determinations of fair and reasonable price for UESCs, and should document the rationale for award amounts in the price negotiation memorandums. In addition, the Director, Mission and Installation Contracting Command, should review the contracting officer's actions in negotiating and determining prices for contract DABT23-84-C-0089 task orders and, as appropriate, take actions to hold the contracting officer accountable.

Conclusion

Fort Knox officials did not properly award and administer 108 task orders, valued at about $270 million, from contract DABT23-84-C-0089, in energy-saving projects. In addition, they could not document that projects achieved projected energy savings. Fort Knox officials also did not establish internal controls over the award and administration of the task orders; they did not meet the internal control standard of control activities, including segregation of duties. They also did not determine whether the Government paid fair and reasonable prices. As a result, Fort Knox officials spent millions on projects that may not have achieved sufficient energy savings to pay back the utility company's investment as required, resulting in projects that potentially failed to meet Department of Defense UESC criteria, and they have no assurance they paid fair and reasonable prices. Finally, the lack of adequate internal controls increase the risk of errors or fraud.

Management Comments on the Finding and Our Response

Fort Knox Department of Public Works Comments on the Finding

The Fort Knox Director of Public Works stated that the number of task orders we reviewed should be fewer than 108, because many of the early UESC task orders were to replace lighting systems on unmetered buildings. He stated that measurement and verification were conducted through a review of engineering calculations, which does not require metering.

The Fort Knox Director of Public Works stated that the report appears to inaccurately assert that detailed energy savings calculations were not considered in the submission of projects being considered for task orders under the UESC. He also stated that energy savings under the UESC were generally calculated for facilities using acceptable engineering standards. In addition, Fort Knox officials provided a chart showing a decline in gas and electricity usage per square foot of space for the entire base since 2003, below the goal established by the Energy Policy Act of 2005.

The Fort Knox Director of Public Works stated that the report suggests the ESPC model should have been used, rather than the UESC authority. He added that several agencies continue to support the ongoing use of the UESC model to achieve energy savings and Fort Knox plans to transition to a new UESC in the next several months.

Our Response

We disagree with the Director's comment that the number of reviewed task orders should be fewer than 108. The lack of internal controls over the award and administration of the task orders, and the failure to determine whether the Government paid a fair and reasonable price apply to all 108 task orders. Therefore, we did not revise this number.

We disagree with the Director's comment that "the report appears to assert that detailed energy savings calculations were not considered in the submission of projects being considered for task orders under the UESC." Although we agree that energy-savings estimates were completed before the award of each task order, no verification of actual savings was computed for each project. Therefore, as discussed

in the report, Fort Knox officials have no assurance the projects actually achieved the projected savings. In addition, we do not dispute that gas and electricity usage has declined for the base as a whole as shown in the chart provided. However, our concern is whether the individual projects completed using the UESC met the intent of the program and achieved sufficient energy savings to pay back the investment. Therefore, we did not revise the report.

Finally, we disagree with the Director's comment that the report suggests Fort Knox officials should be using the ESPC model, rather than the UESC authority. The report compares ESPCs and UESCs to show the similarities as well as the differences in the policies and procedures that regulate each. We discussed the policies and procedures used with the ESPC model to demonstrate the types of controls that should be in place for UESCs. By implementing policies and procedures similar to those in place for ESPCs, Army officials will improve internal controls and reduce the risk of errors or fraud. Therefore, we did not revise the report.

Recommendations, Management Comments, and Our Response

Recommendation 1

We recommend that the Garrison Commander, Fort Knox, Kentucky:

a. Establish policies and procedures to track energy savings for individual projects awarded under utility energy services contract task orders.

U.S. Army Garrison, Fort Knox Comments

The Garrison Commander, Fort Knox, Kentucky agreed, stating that in coordination with the Huntsville Corps of Engineers, policies and procedures to track energy savings for individual projects will be developed jointly. Furthermore, and effective immediately, the Department of Public Works will not request additional task orders under contract DABT23-84-C-0089.

Our Response

Comments from the Garrison Commander, Fort Knox, Kentucky, addressed all specifics of the recommendation, and no further comments are required.

b. Coordinate with appropriate contracting officials and establish internal controls over the process for awarding and administering utility energy services contract task orders, to include developing standard operating procedures that incorporate internal controls throughout the process of awarding and administering task orders under contract DABT23-84-C-0089 and for any future energy contracts. At a minimum, those internal controls should include monitoring, supervision, and segregation of duties.

U.S. Army Garrison, Fort Knox Comments

The Garrison Commander, Fort Knox, Kentucky, agreed, stating that the Department of Public Works will work with the Huntsville Corps of Engineers to verify internal controls over the process for awarding and administering utility energy services contract task orders and that all controls will be in place before Fort Knox awards a task order against the new utility energy services contract. The expected time needed to award a new utility energy services contract is 6 months to 1 year. Furthermore, the Department of Public Works established an analyst position to allow for segregation of duties from those of the energy manager. The Deputy Garrison Manager anticipates filling the position by December 31, 2014.

Our Response

Comments from the Garrison Commander, Fort Knox, Kentucky, addressed all specifics of the recommendation, and no further comments are required.

Recommendation 2

We recommend that the Director, Mission and Installation Contracting Command:

a. Direct Fort Knox contracting officials to discontinue awarding task orders under contract DABT23-84-C-0089 until adequate internal controls are in place.

b. Develop standard operating procedures and contracting officer guidance to complete fair and reasonable price determinations for utility energy services contracts, and to document the rationale for award amounts in the price negotiation memorandums.

c. **Review the contracting officer's actions in negotiating and determining prices for contract DABT23-84-C-0089 task orders and, as appropriate, initiate actions to hold the contracting officer accountable.**

Management Comments Required

The Director, Mission and Installation Contracting Command, did not provide comments on the draft report. We request that the director provide comments on the final report.

Appendix A

Scope and Methodology

We conducted this performance audit from August 2013 through July 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Review of Documentation and Interviews

We obtained and reviewed contract DABT23-84-C-0089 (April 1, 1984) between the Department of the Army and Nolin RECC for electrical services at Fort Knox. We obtained and reviewed the three modifications to contract DABT23-84-C-0089. The first modification (January 22, 1996), created the UESC agreement between the Department of the Army and Nolin RECC. The other two modifications (May 16, 2002, and February 1, 2006), made minor changes to the existing UESC agreement. We obtained and reviewed all 108 task orders issued from the contract, totaling about $270 million, with award dates ranging from March 28, 1996, to September 25, 2013. Of the 108 task orders, 8 were missing the prenegotiation memorandum, 13 were missing the price negotiation memorandum, and 2 were missing Nolin RECC's proposal. contract DABT23-84-C-0089 was the only UESC awarded by Fort Knox; therefore, we limited our review to contract DABT23-84-C-0089, the modifications, and task orders awarded from the contract. For each task order, we reviewed the available award document, scope of work, IGCE, Nolin RECC's price proposal, prenegotiation memorandum, and price negotiation memorandum.

We interviewed personnel from the Office of the Deputy Under Secretary of Defense for Acquisition, Technology, and Logistics; the Assistant Chief of Staff for Installation Management; and the U.S. Army Installation Management Command, to determine their involvement with the oversight of UESCs. At Fort Knox, we interviewed personnel from Contracting, Department of Public Works, and Resource Management to understand their involvement in awarding and administering the UESC at Fort Knox. We visited some projects Fort Knox officials have completed using the UESC.

We reviewed FAR Part 15, "Contracting by Negotiation"; Section 8256, Tile 42, United States Code (10 U.S.C. § 8256), "Incentives for Agencies"; 10 U.S.C. § 2913, "Energy Savings Contracts and Activities"; Energy Policy Act 2005; the U.S. Department of Energy's Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management"; Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance"; Federal Energy Management Program, UESC, Enabling Documents; Army Managers' Internal Control Program; DoD Instruction 5010.40, "Managers' Internal Control Program Procedures"; and Government Accountability Office, "Standards for Internal Control in the Federal Government," November 1999.*

Use of Computer-Processed Data

We did not use computer-processed data to perform this audit.

Use of Technical Assistance

We did not use technical assistance in conducting this audit.

* GAO was known as the General Accounting Office when it published "Standards for Internal Control in the Federal Government" in November 1999.

Appendix B

Prior Coverage

During the last 5 years, GAO, Army Audit Agency, and Naval Audit Service issued 11 reports discussing utility energy services contracts and internal controls. Unrestricted GAO reports can be accessed over the Internet at http://www.gao.gov. Unrestricted Army reports can be accessed from .mil and gao.gov domains over the Internet at https://www.aaa.army.mil/. Naval Audit Service reports are not available over the Internet.

GAO

Report No. GAO-12-260, "Federal Agencies Implement Hundreds of Initiatives," February 27, 2012

Report No. GAO-10-22, "Agencies Are Taking Steps to Meet High-Performance Federal Building Requirements, but Face Challenges," October 30, 2009

Army

Report No. A-2013-0107-ALC, "Contracting Oversight, Quality Control and Accountability," June 25, 2013

Report No. A-2013-0089-IEE, "Use of Energy Efficient Lighting," May 8, 2013

Report No. A-2013-0085-ALE, "Energy Conservation in Europe," April 19, 2013

Report No. A-2013-0027-FMR , "The Army Managers' Internal Control Program for FY 12," December 21, 2012

Report No. A-2012-0017-ALC, "U.S. Army Mission and Installation Contracting Command Center, Fort Knox and U.S. Army Corps of Engineers, Sacramento District" November 10, 2011

Navy

Report No. N2013-0031, "Follow up on Internal Controls Over Department of the Navy Energy Funding and Financing Tools," June 13, 2013

Report No. N2012-0004, "Strategy for Considering Energy Efficient and Renewable Energy Initiatives Associated with the United States Marine Corps Guam Relocation Effort," November 15, 2011

Report No. N2011-0049, "Internal Controls Over Spending Within the Department of the Navy Shore Energy Program," August 9, 2011

Report No. N2011-0023, "Internal Controls Over Department of the Navy Energy Funding and Financing Tools," March 4, 2011

Appendix C

Contract Comparison

UESCs and ESPCs both provide a cost effective way for agencies to reduce energy consumption without incurring up front capital costs. The Table shows a comparison of UESCs and ESPCs.

Table. Comparison of Contracts

	ESPC	UESC
Authorization	Energy Policy Act 2005; 42 U.S.C. 8287; 10 CFR 436	Energy Policy Act 2005; 42 U.S.C. 8256; 10 U.S.C. 2913; 10 U.S.C. 2866; 48 CFR 41; 48 CFR 16
Competition	Competitive	Sole source to utility
Contracting Party	Contract with energy services company	Contract with utility
Performance	Guaranteed performance required	Guaranteed performance negotiable
Term	25 years maximum	Up to 25 years allowed; Varies by agency
Payments	Invoice	Utility bill or invoice
M&V	M&V and annual energy audit required	M&V and annual energy audit negotiable
Operation and Maintenance	Operation and Maintenance typically included	Operation and Maintenance negotiable
Contract Coordination	Agency coordinates contract	Agency coordinates contract
Contractor Relationship	Typically, no existing relationship is in place with energy services company.	Relationship with utility usually well established
Time and Resource Requirements	Time and resource-intense process	Reduced time and resources needed for selection process

Legend
CFR Code of Federal Regulations
ESPC Energy Savings Performance Contract
M&V Measurement and Verification
UESC Utility Energy Services Contract
U.S.C United States Code

Appendix D

Task Orders Reviewed

Task Orders issued from contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	Description	Award Date	Award Amount	Value after Modification
1	1	Replace/retrofit lighting in building T-15	3/28/1996	$6,294.38	
2	2	Replace/retrofit lighting in buildings T-16 and 73	3/28/1996	6,332.47	
3	3	Replace/retrofit lighting in buildings 1384 and 4248	4/19/1996	37,484.78	
4	4	Power factor correction substation 12C	5/6/1996	12,412.00	
5	5	Replace/retrofit lighting in three buildings	5/16/1996	51,963.27	
6	6	Replace/retrofit lighting in buildings 4554 - 2781	7/18/1996	42,879.29	
7	7	Install infrared heating in building 1703	8/14/1996	35,154.85	
8	8	Insulate glass in buildings 850, 5927, and 6591	6/11/1996	38,728.03	
9	9	Replace/retrofit lighting in Yano tank Range	8/14/1996	3,926.04	
10	10	Power factor correction water plant	7/18/1996	16,050.00	
11	11	Replace/retrofit lighting in buildings 167 and 9309	8/14/1996	26,295.14	
12	12	Replace/retrofit lighting in three buildings	9/18/1996	113,537.38	$138,929.98
13	13	Decrease electrical demand	9/11/1997	603,855.57	
14	14	Retrofit lighting in buildings 6546, 6547, and 6548	2/27/1997	96,808.95	
15	15	Retrofit lighting in building 1720	2/20/1997	23,930.66	
16	16	Retrofit lighting in building 1724	2/20/1997	77,431.25	
17	17	Retrofit lighting in building 1726	2/20/1997	52,225.25	
18	18	Retrofit lighting in building 1730	3/11/1997	27,813.53	
19	19	Retrofit lighting in five buildings	2/6/1997	122,307.42	
20	20	Retrofit lighting in buildings 6010, 6011, 6015, and 6017	2/27/1997	105,935.99	

Acronyms used throughout Appendix D are defined on the final page of Appendix D.

Task Orders Reviewed (cont'd)

Task Orders issued from contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	Description	Award Date	Award Amount	Value after Modification
21	21	Insulate pipes and water heaters	9/11/1997	26,706.13	
22	22	Retrofit lighting in building 6578	1/13/1998	15,888.75	
23	23	Retrofit lighting in buildings 2601, 2607, and 2778	11/12/1997	11,066.05	
24	24	Retrofit lighting in buildings 2783, 4401 and 6590	1/13/1998	40,700.50	
25	25	Replace and renovate HVAC in building 1468	7/16/2004	1,418,892.97	1,685,146.42
26	26	Retrofit lighting in buildings 1197 and 4768	1/15/1998	26,682.43	
27	27	Install infrared heating system in three buildings	3/5/1998	160,446.50	
28	28	Retrofit lighting in 29 buildings	3/5/1998	389,486.10	
29	29	Retrofit lighting in six buildings	3/12/1998	99,185.58	
30	30	Retrofit lighting in 12 buildings	7/9/1998	58,874.56	
31	31	Retrofit lighting in buildings 1131, 1726, 5217, and 6551	7/9/1998	62,536.47	
32	32	Install infrared heating system in buildings 1054A and 5222	9/30/1998	182,898.31	
33	33	Replace lighting in 11 buildings and weather proofing	1/8/1999	121,723.48	
34	34	Retrofit lighting in 12 buildings; miscellaneous insulation	4/1/1999	145,468.59	
35	35	Replace lights, exit signs, occupancy sensors, etc.	6/15/1999	284,414.56	
36	36	Retrofit lighting in 14 buildings; miscellaneous insulation	4/22/1999	103,121.83	
37	37	Replace lighting in 16 buildings; miscellaneous infrared thermostats	8/24/1999	193,743.35	
38	38	Replace lights in several buildings; miscellaneous insulating, weatherproofing and infrared heating	2/4/2000	271,577.77	
39	39	Replace lights in buildings 1054 and 2944; replace porch light family housing quarters; spray foam insulate glass in eight buildings	7/19/2000	232,112.96	
40	40	Install windows and HVAC; spray foam insulate glass in six buildings	9/26/2000	693,128.88	

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Task Orders Reviewed (cont'd)

Task Orders issued from contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	Description	Award Date	Award Amount	Value after Modification
41	41	Install water heater in building 6580; infrared heater in five buildings in high bay areas; install lighting in miscellaneous buildings	11/30/2000	956,533.99	
42	42	Insulate steam pipes in the 6500 block; Install light-stats and reduce glass area in two buildings; install lighting and occupancy sensors	4/11/2001	572,347.28	
43	43	Replace heat to airport complex; seal windows and roof leaks	6/18/2001	739,120.69	
44	44	Building automation system	7/19/2001	3,102,447.05	
45	45	Replace hospital chiller	7/11/2001	6,723,311.52	7,697,741.52
46	46	Replace traffic signal, guard shack, and five buildings with efficiency lighting; insulate about 10 buildings; install occupancy sensors, porch lights, infrared heating	9/20/2001	997,026.00	
47	47	Install window and HVAC in several buildings	5/7/2002	5,661,824.06	
48	48	Improve and repair energy recovery system	7/30/2002	5,168,241.30	
49	49	Replace and renovate HVAC in the Disney-area barracks	6/22/2004	12,164,165.00	20,881,885.54
50	50	Perform energy conservation measures in six buildings	8/22/2002	2,083,947.10	2,101,007.62
51	51	Integrate base-wide automation, improve HVAC, and conduct preventive maintenance across 26 base facilities	1/22/2004	10,105,212.32	9,957,075.35
52	52	Replace and renovate HVAC in buildings 126 and 127	8/3/2004	1,566,120.03	
53	53	Renovate HVAC and retrofit controls	7/16/2004	4,825,759.82	7,187,541.32
54	54	Replace and renovate HVAC in buildings 1384 and 2368	2/20/2003	1,723,763.48	
55	55	Conduct HVAC energy conservation measures in medical facilities	9/25/2004	661,935.37	1,051,892.00
56	56	Replace and renovate HVAC in four buildings	12/9/2005	4,471,971.53	6,233,157.52
57	57	Improve and maintain HVAC	7/23/2003	2,097,938.28	
58	60	Install tracer summit controls on infrared and HVAC systems	1/30/2006	3,809,482.09	13,663,369.60

Acronyms used throughout Appendix D are defined on the final page of Appendix D.

Task Orders Reviewed (cont'd)

Task Orders issued from contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	Description	Award Date	Award Amount	Value after Modification
59	61	Renovate HVAC in Wickham guest house	9/9/2004	622,545.00	691,328.34
60	62	Replace and renovate HVAC in buildings including boiler installation, fan coil replacement, and controls	4/23/2004	1,715,503.07	
61	64	Replace and renovate HVAC in buildings 2385 and 2723	8/13/2004	1,921,089.05	1,978,408.45
62	65	Install geothermal heat pumps for new Army lodging facility	4/21/2006	1,175,243.38	1,209,085.38
63	66	Install geothermal heat pump system in buildings 6573 and 6574	6/25/2010	1,160,535.21	
64	67	Replace and renovate HVAC in building 1227	10/14/2004	775,013.18	
65	69	Renovate HVAC for 2300 Hammerhead block of facilities	7/7/2005	10,129,634.49	10,287,994.49
66	70	Extract natural gas	8/7/2007	2,801,298.64[1]	
67	71	Renovate HVAC in Hammerhead facilities	2/2/2006	6,486,077.64	
68	72	Add resources efficiency management services	9/28/2007	2,057,456.81	
69	73	Renovate geothermal HVAC system in five buildings	3/10/2006	4,733,217.89	5,194,641.75
70	74	Replace and renovate HVAC in building 1053	4/21/2006	997,937.33	985,865.04
71	75	Retrofit geothermal heat pump system	3/28/2007	13,576,652.22	14,725,336.57
72	76	Perform energy services and preventive maintenance for buildings 296, 297, 298, and Performing Arts Center	10/17/2006	6,146,410.51	6,499,104.66
73	77	Install geothermal heating, cooling, and domestic hot water systems in buildings 6578 and 6579	10/25/2007	3,238,680.35	12,374,759.82
74	78	Convert several buildings in to geothermal heating and cooling	6/18/2009	16,680,416.52	
75	79	Install geothermal heating and cooling systems and energy management controls in various buildings	6/27/2006	31,831,340.36	33,922,715.50
76	80	Upgrade HVAC in building 6434	1/22/2010	11,795,624.17	
77	81	Expand building automation controls in barracks buildings	6/27/2008	1,386,046.40	5,151,436.87
78	82	Install auto flush valves, microbial urinal system, and aerators	3/17/2008	1,070,000.00	

Acronyms used throughout Appendix D are defined on the final page of Appendix D.

Task Orders Reviewed (cont'd)

Task Orders issued from contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	Description	Award Date	Award Amount	Value after Modification
79	84	Install energy saving technologies in Henry House to establish net zero building	9/27/2009	966,000.28	
80	85	Repair HVAC in 6500 block, including new control systems and conversion to condensing boiler technology	9/11/2007	4,792,369.51	
81	86	Repair HVAC in building 5949, including replacing existing boiler and chiller system with new geothermal heat pump system	9/11/2007	407,435.82	
82	87	Spray foam roofs of McDonald school buildings and Crittenberger building	9/28/2007	502,161.74	
83	88	Upgrade lighting commissary	10/25/2007	59,083.49	
84	89	Replace domestic hot water system and retrofit exit lighting	5/21/2009	3,634,954.46	
85	91	Install solar photovoltaic grid	9/15/2010	5,809,030.00	
86	93	Install geothermal heating and cooling systems in building 9310	2/19/2009	1,968,659.26	
87	94	Convert four buildings in to geothermal; convert building 2730 to air source heat pumps	9/8/2010	7,499,870.45	
88	95	Upgrade electric and gas meters to 2010 standard in 168 buildings	5/21/2009	3,565,553.11	
89	96	Install geothermal system in building 6289 and install program controls	9/4/2009	618,601.96	
90	97	Install prismatic sun optic daylights; replace halide fixtures with photocell and occupancy sensors in miscellaneous buildings; update carpenter test road facilities	11/2/2009	1,107,752.00	
91	99	Add blown insulation into 1,100 home attics	11/2/2009	1,448,151.38	
92	100	Add resource efficiency management services II	1/24/2011	2,248,238.69	
93	101	Install lighting controls in building 1307	5/24/2011	458,374.00	
94	102	Extract natural gas	6/10/2011	0.00[2]	
95	103	Install geothermal heating, cooling exhaust system in building 9312 and install day light system in building 1101	6/10/2011	2,015,344.58	2,497,025.67
96	105	Perform energy efficient upgrades to six buildings	9/2/2011	10,075,388.62	

Acronyms used throughout Appendix D are defined on the final page of Appendix D.

Task Orders Reviewed (cont'd)

Task Orders issued from contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	Description	Award Date	Award Amount	Value after Modification
97	106	Perform energy efficient upgrades to include converting to geothermal heat pumps, high efficiency hot water boilers, and sub metering in miscellaneous buildings	7/12/2011	8,587,318.23	
98	109	Install geothermal upgrades to seven buildings	9/19/2012	8,314,175.33	9,282,985.55
99	110	Create a hybrid geothermal pond/lake for Maude complex	8/3/2012	1,403,500.81	1,548,817.51
100	111	Provide metered gas tap for in and out movement of gas including biogenic renewable methane gas production	7/26/2012	2,034,755.69	
101	112	Provide energy services for Army Community Hospital	9/27/2012	4,019,482.68	
102	113	Relocate 6500 block boilers for domestic hot water system in the 2300 block to high efficiency domestic hot water system	9/19/2012	463,308.22	
103	114	Perform preventive maintenance and energy sustainment services to 16 buildings	6/12/2013	1,261,655.52	
104	115	Perform preventive maintenance and energy sustainment services to six buildings	6/12/2013	646,707.00	
105	119	Upgrade water system to Ireland Army Community Hospital	9/25/2013	2,079,545.00	
106	2C	Retrofit lighting in building 121	9/11/1997	66,560.09	
107	1S	Replace lights in community schools	4/14/1997	259,944.20	
108	3S[3]	Install occupancy sensors and emergency lights	9/11/1997	32,581.50	
Total				$270,118,394.77	**$310,394,315.80**

[1] Total value of task orders 70 and 102 as of January 2012.

[2] Value added in task order 70.

[3] Not all proposed energy projects resulted in the Fort Knox Contracting Officer awarding a task order resulting in some task order numbers not being used.

Legend
HVAC Heating, ventilation and air conditioning

Appendix E

Standards for Internal Control in the Federal Government

The Federal Managers' Financial Integrity Act of 1982 requires the Government Accountability Office (GAO)[1] to issue standards for internal control in Government. The standards provide the overall framework for establishing and maintaining internal control and for identifying and addressing major performance and management challenges and areas at greatest risk of fraud, waste, abuse, and mismanagement. "Internal Control" is defined as an integral component of an organization's management that provides reasonable assurance that the following objectives are being achieved:

- effectiveness and efficiency of operations,
- reliability of financial reporting, and
- compliance with applicable laws and regulations.

A major part of managing an organization, internal control comprises the plans, methods, and procedures used to meet missions, goals, and objectives and, in doing so, support performance-based management. Internal control also serves as the first line of defense in safeguarding assets and preventing and detecting errors and fraud.

The Five Standards for Internal Control are:

- Control Environment,
- Risk Assessment,
- Control Activities,
- Information and Communications, and
- Monitoring.

These standards define the minimum level of quality acceptable for internal control in Government and provide the basis against which internal control is to be evaluated. These standards apply to all aspects of an agency's operations: programmatic, financial, and compliant.

[1] GAO was known as the General Accounting Office when it published "Standards for Internal Control in the Federal Government" in November 1999.

Control Environment

Management and employees should establish and maintain an environment throughout the organization that sets a positive and supportive attitude toward internal control and conscientious management. A positive control environment is the foundation for all other standards. It provides discipline and structure as well as the climate that influences the quality of internal control.

Risk Assessment

Internal control should provide for an assessment of the risks the agency faces from both external and internal sources. A precondition to risk assessment is the establishment of clear and consistent agency objectives. Risk assessment is identifying and analyzing of relevant risks associated with achieving the objectives, such as those defined in strategic and annual performance plans developed under the Government Performance and Results Act, and forming a basis for determining how risks should be managed.

Control Activities

Internal controls activities help ensure that management's directives are carried out. The control activities should be effective and efficient in carrying out the agency's control objectives. Control activities are the policies, procedures, techniques, and mechanisms that enforce management's directives, such as the process of adhering to requirements for budget development and execution. They help ensure that actions are taken to address risks and are an integral part of an entity's planning, implementing, reviewing, and accountability for stewardship of Government resources and achieving effective results. Control activities occur at all levels and functions of the entity. They include a wide range of diverse activities such as approvals, authorizations, verifications, reconciliations, performance reviews, maintenance of security, and the creation and maintenance of related records, which provide evidence of execution of these activities as well as proper documentation. Activities may be classified by specific control objectives, such as ensuring completeness and accuracy of information processing.

The categories of control activities that are common to all agencies as listed below.

- Top-Level Reviews of Actual Performance;
- Reviews by Management at the Functional or Activity Level;
- Management of Human Capital;
- Controls over Information Processing;
- Physical Control Over Vulnerable Assets;
- Establishment and Review of Performance Measures and Indicators;
- Segregation of Duties;
- Proper Execution of Transactions and Events;
- Accurate and Timely Recording of Transactions and Events;
- Access Restrictions to and Accountability for Resources and Records; and
- Appropriate Documentation of Transactions and Internal Control.

Information and Communications

Individuals should record and communicate information to management and others in a form and within a time frame that enables the entity to carry out internal control and other responsibilities. For an entity to run and control its operations, it must have relevant, reliable, and timely communications relating to internal as well as external events. Information is needed throughout the agency to achieve all its objectives. Management should identify, capture, and distribute pertinent information in a form and time frame that permits people to perform their duties efficiently.

Monitoring

Internal control monitoring should assess the quality of performance over time and ensure the prompt resolution of findings of audits and other reviews. Agencies should design internal control to ensure that ongoing monitoring occurs in the course of normal operations and that it is performed continually and is ingrained in the agency's operations. It includes regular management and supervisory activities, comparisons, reconciliations, and other actions people take in performing their duties. Separate evaluations of controls can also be useful by focusing directly on the control's effectiveness at a specific time. The scope and frequency of separate

evaluations should depend primarily on the assessment of risks and the effectiveness of ongoing monitoring procedures. Separate evaluations may take the form of self-assessments as well as review of control design and direct testing of internal control.

Monitoring of internal controls should include policies and procedures for ensuring the resolving of findings of audits and other reviews. Managers will (1) promptly evaluate findings from audits and other reviews, including those showing deficiencies and recommendations reported by auditors and others who evaluate agencies' operations; (2) determine proper actions in response to findings and recommendations from audits and reviews; and (3) complete, within established time frames, all actions that correct or otherwise resolve the matters brought to management's attention. The resolution process begins when audit or other review results are reported to management, and is completed only after action has been taken that (1) corrects identified deficiencies; (2) produces improvements; or (3) demonstrates the findings and recommendations do not warrant management action.[2]

[2] Quoted from the Government Accountability Office, "Standard for Internal Control in the Federal Government Report," November 1999.

Appendix F

Reviewer of Task Order Award Documentation

Task Orders issued From Contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	SOW Signature	PNM	Pre-Negotiation Memorandum	IGCE Signature
1	1	Chief, DPW	No PNM	None	PM
2	2	Chief, DPW	No PNM	None	PM
3	3	No signature	No PNM	None	PM
4	4	No signature	PM and EPM	PM and EPM	PM
5	5	Chief, DPW	No PNM	None	PM
6	6	Chief, DPW	PM and EPM	PM and EPM	PM
7	7	Chief, DPW	PM and EPM	PM and EPM	PM
8	8	Chief, DPW	PM and EPM	None	PM and EPM
9	9	Chief, DPW	PM and EPM	PM and EPM	PM
10	10	Chief, DPW	PM and EPM	PM and EPM	PM
11	11	Chief, DPW	PM and EPM	PM and EPM	PM
12	12	EPM	No PNM	None	PM
13	13	Chief, DPW	EPM	PM and EPM	PM
14	14	Chief, DPW	PM and EPM	PM and EPM	PM
15	15	Chief, DPW	PM and EPM	PM and EPM	PM
16	16	Chief, DPW	PM and EPM	PM and EPM	PM
17	17	Chief, DPW	PM and EPM	PM and EPM	PM
18	18	Chief, DPW	PM and EPM	PM and EPM	PM
19	19	Chief, DPW	PM and EPM	PM and EPM	PM
20	20	Chief, DPW	PM and EPM	PM and EPM	PM
21	21	Chief, DPW	PM and EPM	PM and EPM	PM
22	22	Chief, DPW	EPM	EPM	EPM
23	23	Chief, DPW	EPM	EPM	EPM
24	24	Chief, DPW	EPM	EPM	EPM
25	25	EPM	EPM	EPM	EPM
26	26	Chief, DPW	EPM	EPM	EPM
27	27	Chief, DPW	EPM	EPM	EPM

Acronyms used throughout Appendix F are defined on the final page of Appendix F.

Reviewer of Task Order Award Documentation (cont'd)

Task Orders issued From Contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	SOW Signature	PNM	Pre-Negotiation Memorandum	IGCE Signature
28	28	Chief, DPW	EPM	EPM	EPM
29	29	Chief, DPW	EPM	EPM	EPM
30	30	Chief, DPW	No PNM	EPM	EPM
31	31	Chief, DPW	EPM	EPM	EPM
32	32	Chief, DPW	EPM	EPM	EPM
33	33	Chief, DPW	No PNM	EPM	EPM
34	34	Chief, DPW	EPM	EPM	EPM
35	35	Chief, DPW	EPM	EPM	EPM
36	36	Chief, DPW	No PNM	EPM	EPM
37	37	Chief, DPW	EPM	EPM	EPM
38	38	Chief, DPW	EPM	EPM	EPM
39	39	Chief, DPW	EPM	EPM	EPM
40	40	Chief, DPW	EPM	EPM	EPM
41	41	Chief, DPW	EPM	EPM	EPM
42	42	Chief, DPW	EPM	EPM	EPM
43	43	Chief, DPW	EPM	None	EPM
44	44	Chief DPW	EPM	EPM	EPM
45	45	Chief DPW	EPM	EPM	EPM
46	46	DPW	EPM	EPM	EPM
47	47	DPW	EPM	EPM	EPM
48	48	DPW	No PNM	EPM	EPM
49	49	EPM	EPM	EPM	EPM
50	50	Chief, DPW	EPM	EPM	EPM
51	51	Chief, DPW	EPM	EPM	EPM
52	52	Chief, DPW	EPM	EPM	EPM
53	53	Chief, DPW	EPM	EPM	EPM
54	54	DPW	EPM	EPM	EPM
55	55	EPM	EPM	EPM	EPM
56	56	Chief, DPW	EPM	EPM	EPM

Acronyms used throughout Appendix F are defined on the final page of Appendix F.

Reviewer of Task Order Award Documentation (cont'd)

Task Orders issued From Contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	SOW Signature	PNM	Pre-Negotiation Memorandum	IGCE Signature
57	57	Chief, DPW	EPM	EPM	EPM
58	60	EPM	EPM	EPM	EPM
59	61	EPM	EPM	EPM	EPM
60	62	EPM	EPM	EPM	EPM
61	64	EPM	EPM	EPM	EPM
62	65	EPM	EPM	EPM	EPM
63	66	EPM	EPM	EPM	EPM
64	67	EPM	EPM	EPM	EPM
65	69	EPM	EPM	EPM	EPM
66	70	EPM	EPM	EPM	EPM
67	71	EPM	EPM	EPM	EPM
68	72	EPM	EPM	EPM	EPM
69	73	EPM	EPM	EPM	EPM
70	74	EPM	EPM	EPM	EPM
71	75	EPM	EPM	EPM	EPM
72	76	EPM	EPM	EPM	EPM
73	77	EPM	EPM	EPM	EPM
74	78	EPM	No PNM	None	EPM
75	79	EPM	EPM	EPM	EPM
76	80	EPM	No PNM	EPM	EPM
77	81	EPM	PM and EPM	PM and EPM	EPM
78	82	EPM	PM and EPM	PM and EPM	DPW
79	84	EPM	EPM	EPM	EPM
80	85	DPW	No PNM	None	DPW
81	86	EPM	EPM	EPM	EPM
82	87	EPM	EPM	EPM	EPM
83	88	EPM	EPM	EPM	EPM
84	89	EPM	EPM	EPM	EPM
85	91	EPM	EPM	EPM	EPM

Acronyms used throughout Appendix F are defined on the final page of Appendix F.

Reviewer of Task Order Award Documentation (cont'd)

Task Orders issued From Contract DABT23-84-C-0089 by U.S. Army Contracting Command, Fort Knox

	Task Order	SOW Signature	PNM	Pre-Negotiation Memorandum	IGCE Signature
86	93	EPM	EPM	EPM	EPM
87	94	EPM	EPM	EPM	EPM
88	95	EPM	EPM	EPM	EPM
89	96	EPM	EPM	EPM	EPM
90	97	EPM	EPM	EPM	EPM
91	99	EPM	EPM	EPM	EPM
92	100	EPM	No PNM	EPM	EPM
93	101	DPW	EPM	EPM	EPM
94	102	EPM	EPM	EPM	EPM
95	103	EPM	EPM	EPM	EPM
96	105	EPM	EPM	EPM	EPM
97	106	EPM	EPM	EPM	EPM
98	109	EPM	EPM	EPM	No
99	110	EPM	EPM	EPM	EPM
100	111	EPM	EPM	EPM	EPM
101	112	EPM	EPM	EPM	EPM
102	113	EPM	EPM	EPM	No
103	114	EPM	EPM	EPM	EPM
104	115	EPM	EPM	EPM	EPM
105	119	DPW	EPM	DPW	DPW
106	2C	Chief, DPW	EPM	EPM	PM and EPM
107	1S	Chief, DPW	PM and EPM	PM and EPM	PM
108	3S*	Chief, DPW	EPM	EPM	EPM

* Not all proposed energy projects resulted in the Fort Knox Contracting Officer awarding a task order resulting in some task order numbers not being used.

Legend

Chief DPW	Chief, Engineer Plans and Service Division, Department of Public Works
EPM	Energy Program Manager
IGCE	Independent Government Cost Estimate
PM	Project Manager
PNM	Price Negotiation Memorandum
SOW	Scope of Work

Management Comments

U.S. Army Garrison, Fort Knox

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
2405 GUN SHED ROAD
JOINT BASE SAN ANTONIO FORT SAM HOUSTON, TEXAS 78234-1223

REPLY TO
ATTENTION OF

IMIR

AUG 07 2014

MEMORANDUM FOR Inspector General, Department of Defense, 4800 Mark Center Drive, Alexandria, Virginia 22350-1500

SUBJECT: Command Reply - Audit of Fort Knox Energy Program Contracts (D2013-D000CG-0205)

1. The US Army Installation Management Command (IMCOM) has reviewed the subject draft report. We concur with the enclosed US Army Garrison Fort Knox response and the IMCOM Atlantic Region endorsement.

2. The Internal Review point of contact is [redacted]

Encls
as

CAMILLE N. NICHOLS
Major General, USA
Deputy Commanding General

U.S. Army Garrison, Fort Knox (cont'd)

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, US ARMY GARRISON COMMAND, FORT KNOX
111 EAST CHAFFEE AVENUE
FORT KNOX, KENTUCKY 40121-5719

REPLY TO
ATTENTION OF:

25 July 2014

IMKN-IR

MEMORANDUM THRU COMMANDER, U.S. Army Installation Management Command, Atlantic Region, 111 East Chaffee, Fort Knox, KY, 40121-5719

FOR Commanding General, Installation Management Command, 2405 Gun Shed Road, Fort Sam Houston, TX 78234

SUBJECT: Command Reply - Audit of Fort Knox Energy Program Contracts (D2013-D000CG-0205)

1. The U. S. Army Garrison, Fort Knox was provided an opportunity to review the subject report. We appreciate that and acknowledge several corrective actions already completed or accepted as part of our overall energy savings efforts stemming from the report. We also provided additional information about the Fort Knox energy program highlighting the contract's long-term success in creating one of the Army's top energy programs. Finally, we address some points of disagreement with portions of the report's findings.

2. The Internal Review point of contact is [redacted]

Encl

COL THOMAS J. EDWARDS
COL, USA
Commanding

U.S. Army Garrison, Fort Knox (cont'd)

U.S. Army Garrison, Fort Knox Comments
Draft Report, DODIG Audit of Fort Knox Energy Program
Contracts (D2013-D000CG-0205)

DODIG Recommendation 1.a:

Establish policies and procedures to track energy savings for individual projects awarded from utility energy services contract task orders.

Command Comments to Recommendation 1.a:

Concur. Corrective Action:

Effective immediately DPW will not request additional task orders against utility energy services contract DABT23-84-C-0089. In fact, no task orders have been awarded under that contract since September 2013. Policies and procedures to track energy savings for individual projects awarded from utility energy services contract task orders will be developed jointly with Huntsville Corps of Engineers (see answer to Recommendation 1.b).

DODIG Recommendation 1.b:

Coordinate with appropriate contracting officials and establish internal controls over the process for awarding and administering utility energy services contract task orders, to include developing standard operating procedures that incorporate internal controls throughout the process of awarding and administering task orders under utility energy services contract DABT23-84-C-0089 and for any future energy contracts. At a minimum, those internal controls should include monitoring, supervision, and segregation of duties.

Command Comments to Recommendation 1.b:

Concur. Corrective Actions:

1. DPW has initiated contact with the Huntsville Corps of Engineers Energy Division seeking assistance on executing a future energy services contract. DPW will work with Huntsville to verify internal controls over the process for awarding and administering utility energy services contract task orders, to include developing standard operating procedures that incorporate internal controls throughout the process of awarding and administering task orders. All controls will be in place prior to awarding a task order against the new UESC. The expected timeframe is six months to a year to get a new UESC awarded.

2. DPW is establishing an additional TDA authorization for an Analyst position within the Business Operations and Integration Div (BOID). The Analyst position will allow for segregation of duties from the Energy Manager such as review of UESC billing and review of utility bills. The Deputy Garrison Manager has given the fill of the position a high priority within the Garrison. Anticipate having the position filled NLT 31 December 2014.

U.S. Army Garrison, Fort Knox (cont'd)

PROGRESS GRAPH

FORT KNOX

Army Water and Energy Reporting System (AWERS)

23 JULY 2014

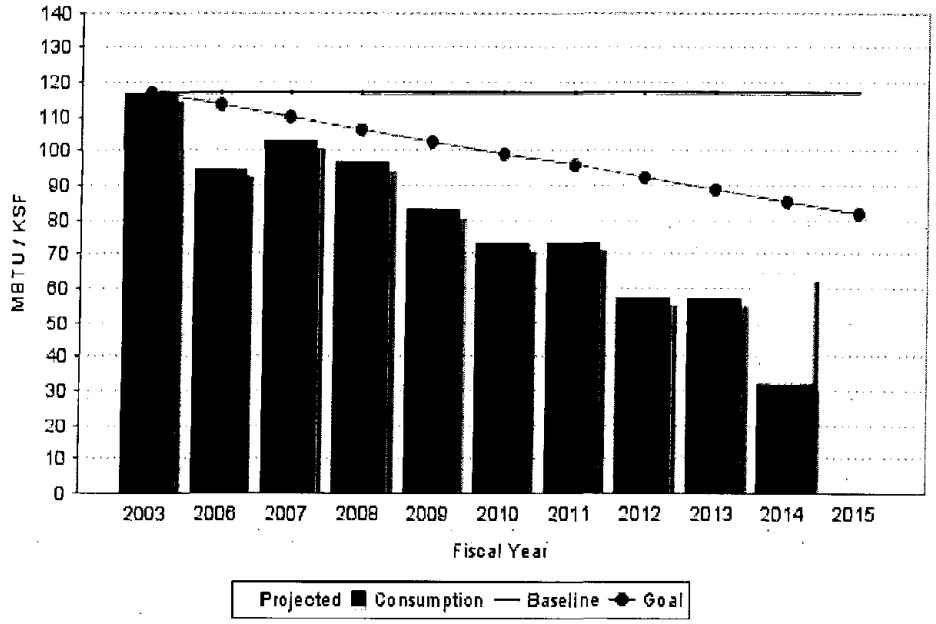

Chart shows all of Fort Knox Energy Performance (gas and electricity) per square foot of space. The goal is established from the Energy Policy Act of 2005.

TOP PERFORMING ARMY INSTALLSTIONS AS OF EOY 20113

SOURCE: IMCOM JAN 2014

Top Army Installations 2013

Army Installation & Location	% energy decrease since 2003
USAG Schinnen Netherlands	68.78 %
USAG Heidelberg Germany	51.68 %
Fort Knox, Kentucky	51.04 %
Picatinny Arsenal, New Jersey	42.98 %
USAG Livorno, Italy	42.04 %

U.S. Army Garrison, Fort Knox (cont'd)

U.S. Army Garrison, Fort Knox Comments
Draft Report, DODIG Audit of Fort Knox Energy Program
Contracts (D2013-D000CG-0205)

Additional Comments

[redacted], Fort Knox Director of Public Works:

IG ISSUE: Proper Award and Administration of 108 Task Orders:

DPW Observation: The number should be less than 108 task orders. Regarding many of the "early" UESC task orders involving replacement of lighting systems on unmetered buildings, measurement and verification was conducted through review of engineering calculations. It is straightforward and does not require metering. Example: Replacing 100 ea. 100W fixtures with 30W fixtures that burn 10 hrs per day 250 days per yr results in: 70W/fixture saved X 100 fixtures X 2500 Hrs/yr= 17,500 KWH saved per year. The calculated savings is much more accurate than what a building meter could provide anyway as building electric load is subject to other variable uses (number of computers, number of peripheral devices, heating system pump or blower motor usage, etc.). At the time these projects were accomplished, the private sector was executing similar projects for the same reason, calculated life cycle savings.

IG ISSUE: Savings Calculations Concerns.

DPW Observation: In addition to the lighting issues discussed above, the report appears to assert that detailed energy savings calculations were not considered in the submission of projects being considered for task orders under the UESC contract. That is not accurate. Energy savings under the UESC were generally calculated for facilities using acceptable engineering standards (International Measurement and Validation Protocols). Engineering staff at the installation would welcome the opportunity to provide a detailed review of individual facility calculations with technical or engineering staff at higher headquarters to more plainly set forth that analysis.

IG ISSUE: ESPC vs. UESC Contract Model

The report may suggest that the ESPC contract model should have utilized rather than the UESC authority. Several agencies, including the Army Corps of Engineers and the US Department of Energy, continue to support the ongoing use of the UESC model to achieve energy savings. The Fort Knox plan is to transition to a new UESC contract within the next several months.

Acronyms and Abbreviations

ESPC	Energy Savings Performance Contract
FAR	Federal Acquisition Regulation
GAO	Government Accountability Office
IGCE	Independent Government Cost Estimate
RECC	Rural Electric Cooperative Corporation
UESC	Utility Energy Services Contract
U.S.C.	United States Code

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U.S. Department of Defense

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