



U.S. Department of Energy  
Office of Inspector General  
Office of Audits and Inspections

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# INSPECTION REPORT

Allegations Regarding the Consolidation of  
Central Alarm Stations at the Oak Ridge  
Reservation

DOE/IG-0929

December 2014


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**Department of Energy**  
Washington, DC 20585

December 16, 2014

MEMORANDUM FOR THE SECRETARY

FROM:   
Gregory H. Friedman  
Inspector General

SUBJECT: INFORMATION: Inspection Report on "Allegations Regarding the Consolidation of Central Alarm Stations at the Oak Ridge Reservation"

BACKGROUND

The Department of Energy's Oak Ridge Reservation is home to multiple unique sites, including the Oak Ridge National Laboratory (ORNL), the East Tennessee Technology Park, and the Oak Ridge Office, each with its own mission and operations. To ensure the protection of assets under its control, each site is equipped with an alarm station that monitors security alarms and video feeds 24 hours a day. The Office of Science (Science) is responsible for managing the portion of the Oak Ridge Reservation that contains these three sites. In late 2011, Science, in an effort to cut security costs and reduce Government spending, recommended the consolidation of the sites' alarm stations. In March 2013, Science selected ORNL as the site to host the consolidated alarm station.

The Office of Inspector General received a hotline complaint alleging that the decision to consolidate the alarm stations at ORNL: (1) would not result in cost savings to the Government, (2) did not have a true cost estimate, and, (3) could put security at risk. The objective of our review was to examine the facts and circumstances regarding the consolidation of the alarm stations on the Oak Ridge Reservation.

RESULTS OF INSPECTION

We found the decision to approve the Alarm Station Consolidation Project, was based on incomplete information regarding the viability and economic feasibility of the project. Specifically, although Science took some project management actions, it did not fully develop:

- Economic analyses to provide reasonable assurance that the consolidation project would be advantageous to the Department;
- Total project cost estimates to assist project managers in controlling the effort; and,
- Assessments of security impacts to ensure appropriate protection throughout the project.

According to Federal guidelines, well-informed decisionmaking promotes efficient resource allocation by the Government. We determined, however, that Science officials did not conduct sufficient analysis to support the decision to pursue the project. For instance, when making the decision to initiate a project, managers are expected to conduct an economic analysis that weighs anticipated costs against potential benefits. Such analysis should consider alternative means of achieving program objectives, including the costs and benefits of not pursuing the project, but these were not evaluated as part of the decision to pursue the project. Another important component is the total estimated cost of the project, which should be developed before project approval and refined prior to making a decision to proceed. We found, however, that Science had not completed this basic project prerequisite prior to starting work on the effort.

We determined that project management weaknesses were at the root of the problems we observed. While we noted management had completed some cost estimates, the estimates were not comprehensive, and security considerations were not fully addressed. For example, the cost estimate from the approved proposal omitted several significant costs, including costs associated with removing components, such as those for sensors or keypads, and replacing them with units compatible with the systems to be used in the new consolidated alarm station. Further, the potential impacts of altering site security configurations were not adequately assessed to determine whether planned alterations could introduce weaknesses and put security at risk. Additionally, the analysis did not adequately consider that the Department already had a plan in place to remove the only asset requiring an alarm station by the end of fiscal year 2018. Without the customary and fundamental information provided by an economic analysis and a security impact assessment, management was unable to make an informed decision as to whether the project was a good use of taxpayer dollars or even necessary.

Our review determined that the consolidation project will not save the Government money, but instead, could result in more than \$1 million in additional annual costs to the Department and leave no possibility for recovery of the \$6.2 million requested for initial setup costs. In addition, without an assessment of planned alterations to each site's security configurations, there is no assurance that the Department's assets will retain the appropriate level of protection if the project proceeds. For these reasons, we believe that extra care should be exercised as Science proceeds with the project.

We discussed our preliminary findings with senior Science officials in May 2014. After those discussions, on June 5, 2014, a senior official issued a memorandum directing that Departmental project management guidance be applied more rigorously. The memorandum directed that no additional funds be spent on the project until several actions are completed. Consistent with this reconsideration, we recommended that the Department apply appropriate project management rigor to the approval of similar projects in the future and determine whether the consolidation of the alarm stations will save the Government money and address security concerns.

## MANAGEMENT REACTION

Management concurred with the report's recommendations and indicated that it had initiated or planned corrective actions to address our recommendations. Management's comments and our response are summarized and more fully discussed in the body of the report. Management's formal comments are included in Appendix 3.

cc: Deputy Secretary  
Acting Under Secretary for Science and Energy  
Chief of Staff  
Manager, Oak Ridge Office  
Manager, Oak Ridge National Laboratory Site Office  
Manager, Oak Ridge Office of Environmental Management

# INSPECTION REPORT ON ALLEGATIONS REGARDING THE CONSOLIDATION OF CENTRAL ALARM STATIONS AT THE OAK RIDGE RESERVATION

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# ALLEGATIONS REGARDING THE CONSOLIDATION OF CENTRAL ALARM STATIONS AT THE OAK RIDGE RESERVATION

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## PROJECT MANAGEMENT

We substantiated the allegations. Notably, we found that the Alarm Station Consolidation Project was not adequately supported, thus management lacked the information necessary to make an informed decision regarding whether to pursue the project. The Department of Energy (Department) allows project managers to sometimes tailor their application of Department Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, to the size and complexity of projects. Notwithstanding, the Order describes several activities that managers can use as tools to develop and articulate a mission need in support of a project.

While reviewing the allegations, we noted that several activities designed to establish a mission need had not been performed. Specifically, we found that Department officials had not fully developed (1) an economic analysis sufficient to provide reasonable assurance that the consolidation project would be advantageous to the Department, (2) an estimate of total project cost to assist in managing the effort, or (3) an assessment of security impacts to ensure appropriate protection throughout the project. According to Federal guidelines, well-informed decisionmaking promotes efficient resource allocation by the Government.

### Project Justification

We noted that Science's decision to approve the Alarm Station Consolidation Project was made without the benefit of some of the analysis described in Department project management guidance. For instance, Science officials did not fully evaluate appropriate alternatives before initiating the project, nor did they develop a comprehensive estimate of the project's cost. In addition, a complete assessment of the project's possible impacts on security was not performed; therefore, compensatory measures were not identified or budgeted. Further, the officials did not adequately consider that the Department currently has a plan in place to remove the only asset that requires an alarm station by the end of fiscal year 2018.

### Economic Analysis

Although Science undertook efforts to complete some analysis, these efforts did not fully consider alternatives to consolidating the central alarm stations. According to the Office of Management and Budget's Circular A-94, *Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs*, an economic analysis is a useful tool for supporting decisions to initiate projects and should "consider alternative means of achieving program objectives," including weighing the cost of doing nothing against the loss of the potential benefits to be gained by taking action. As part of an economic analysis, the relevant costs and benefits of each alternative are identified, quantified and used to compare the alternatives. We found that appropriate alternatives were not evaluated as part of the decision to pursue the project. For instance, Science officials were unable to provide documentation that a "do-nothing" alternative was considered. After we discussed this alternative with Science officials in May 2014, they developed an estimate of the annual cost to operate the three distinct alarm stations, which they

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later provided to us. This estimate, though mostly comprehensive, was developed more than a year after the project was initiated. Only when current costs are established before initiating a project can they be used to help guide the decision to implement a project.

### **Project Costs**

We also determined that the project lacked a comprehensive estimate of how much the Alarm Station Consolidation Project would cost. Based on Department Order 413.3B, total project cost should be fully developed prior to executing the project; however, we found that work had begun before a comprehensive estimate was completed. According to senior officials, "The [ORNL] proposal was based on a number of assumptions due to the limited knowledge of other sites' [alarm station] operations." We found that, at the time management reviewed and approved ORNL's proposal, some costs were either omitted or lacked certainty. These omitted costs included issues with collective bargaining agreements, relationships/agreements between other sites, component compatibility, infrastructure capabilities, network communications charges, existing hardware configurations, existing contractor fees, facility lease/ownership issues, and several other concerns. Moreover, ORNL's plan anticipated that each site would cover the costs of installing the new hardware components and infrastructure, such as new wiring, card readers, keypads, motion detectors and so forth, at their respective sites. As such, these costs were not included in ORNL's cost estimate.

Further, we were informed that the future operation of the single consolidated alarm station would result in the need for the Department to fund additional personnel. Specifically, as of June 2014, the 3 alarm stations had a total of 17 personnel, but we noted that the consolidation could result in as many as 22 personnel, including operators necessary to perform nonsecurity functions that are currently performed by the existing alarm stations but will not transfer to the new consolidated alarm station. In a May 2014 report, the contractor responsible for staffing the consolidated alarm station indicated that the number of personnel previously proposed by ORNL "is not adequate to provide sufficient relief during the off-shift hours" for the operators of the new consolidated alarm station. Therefore, the consolidated alarm station could require more personnel than the three current alarm stations combined.

### **Security Concerns**

Department officials had not conducted a comprehensive assessment of the project's potential security impacts. Therefore, we could not determine, and Science is unable to assert, that potential security concerns had been considered, addressed and mitigated. The Order states that a project's security requirements must be considered while developing alternative actions to meet the mission need. We were told by several senior Department officials that security impacts had been assessed, but these officials were unable to provide any documentation supporting such assertion. According to a technical support contractor at the Oak Ridge Office, installation of certain Intrusion Detection System components, planned as part of the consolidation, would introduce weaknesses exploitable through insider threats. We communicated this concern to Science officials, who modified the planned actions to address the issue; however, an assessment of security impacts performed early in the planning process would likely have disclosed this situation.

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## **Contributing Factors and Impact**

This situation occurred, in part, because Science officials did not follow established project management practices, which are necessary to successfully develop and implement the project. This omission led to unassessed operational needs and a lack of consideration of potential consequences to security. In addition, the absence of a comprehensive security assessment can allow changes to the sites' security configurations to introduce unforeseen security risks. Therefore, we have little assurance that the Department's assets will retain the appropriate level of security protection if the project proceeds. For these reasons, we believe that extra care should be exercised as Science proceeds with the project.

Our review determined that the project to consolidate the alarm stations at ORNL will not actually save the Government money, but instead, could result in more than \$1 million in additional annual costs to the Department and leave no possibility for recovery of initial setup costs, estimated to be as high as \$6.2 million.

## **On-Going Project Remediation Efforts**

After a series of meetings to discuss our preliminary findings with senior Science officials in May 2014, Science decided to revisit the project's origins and complete the steps necessary to lay the groundwork for a more informed decision regarding project approval. On June 5, 2014, a senior Science official issued a memorandum that directed the initiation of a number of actions with the intent of applying Departmental guidance more rigorously. Among the actions listed was direction that, "Effective immediately, no additional funds will be spent on the project until a project baseline, including Key Performance Parameters, has been formally established." Additionally, several other actions regarding cost and security implications were prescribed, which should address some of the issues we observed.

Subsequently, ORNL formally requested permission from Science to terminate the Alarm Station Consolidation Project. In a memorandum dated June 9, 2014, the Federal manager of the ORNL Site Office called the project a "failed experiment." According to the memorandum, as ORNL proceeded with the consolidation project and more information became known to ORNL officials, and as actions taken in response to unrelated security incidents were implemented, the project became more complicated and costly. Therefore, the manager recommended that Science refocus its security spending elsewhere, and that this project be terminated. In an e-mail response on July 21, 2014, a senior Science official conceded that Science did not follow best practices to develop and implement the project, nor fully assess operational constraints and unintended consequences. Nonetheless, the e-mail directs the ORNL Site Office manager to continue the previously directed actions "to put the project back on the correct footing." In September 2014, a senior Science official directed that an Independent Validation Review be performed at the end of October 2014 to ensure that the project is adequately planned and executed.



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## RECOMMENDATIONS

Although Science has begun to address a number of the project management weaknesses we discovered, more needs to be done. To ensure that this project will serve the best interest of the Government and the taxpayers, we recommend that the Under Secretary for Science and Energy:

1. Determine whether the consolidation of the alarm stations will save the Government money and address security concerns; and
2. Ensure that appropriate rigor is applied to project management activities such as conducting appropriate analysis, establishing a mission need and developing adequate project planning documents, for similar projects.

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## MANAGEMENT RESPONSE AND INSPECTOR COMMENTS

Management concurred with the report's recommendations and indicated that it had initiated or planned corrective actions to address our recommendations. Specifically, the Office of Science chartered an Independent Validation Review of the Alarm Station Consolidation Project. That review concluded that, "At this time, no capability gaps have been identified in [Alarm Station] operations. This allows sufficient time to fully evaluate safeguards and security requirements, further develop potential alternatives, and complete the detailed analyses necessary to prepare a comprehensive MNS [mission need statement] and AS [acquisition strategy]." Until this evaluation is complete, Science does not intend to pursue alarm station consolidation activities.

Federal officials will evaluate potential efficiencies in [Alarm Station] operations, and the results of that evaluation will be documented in routine updates to appropriate Site Security Plans. If that evaluation reveals sufficient potential for achievable efficiencies, Science will then pursue alarm station consolidation activities, using the principles of project management outlined in Department Order 413.3B.

Regarding the possible monetary impact of the Alarm Station Consolidation Project, Management recognized that we had reported the best estimates available at the time of the review but anticipated revised estimates resulting from the further analysis recommended by both this report and the Independent Validation Review chartered by Science.

Management's comments and planned corrective actions were responsive to our recommendations. Management's comments are included in Appendix 3.

## **OBJECTIVE, SCOPE AND METHODOLOGY**

### **Objective**

In August 2013, the Office of Inspector General received a hotline complaint alleging that the decision to consolidate the alarm stations on the Oak Ridge Reservation 1) would not result in cost savings to the Government, 2) did not have a true cost estimate, and 3) could put security at risk. The objective of our review was to determine the facts and circumstances surrounding the allegations concerning the consolidation of alarm stations on the Oak Ridge Reservation.

### **Scope**

We conducted fieldwork for this allegation-based inspection between October 2013 and December 2014 at the Oak Ridge National Laboratory (ORNL), Oak Ridge Office, East Tennessee Technology Park (ETTP), and the Office of Science. The inspection was conducted under Office of Inspector General Project Number S14IS001.

### **Methodology**

To accomplish our objective, we performed the following:

- Interviewed key personnel from ORNL, Oak Ridge Office, ETTP and the Office of Science.
- Reviewed site Physical Security Risk Assessments for ORNL, Oak Ridge Office and ETTP.
- Reviewed consolidation proposals submitted by ORNL and the Oak Ridge Office.

We conducted this allegation-based inspection in accordance with the Council of the Inspectors General on Integrity and Efficiency's *Quality Standards for Inspection and Evaluation*. Those standards require that we plan and perform the inspection to obtain sufficient, appropriate evidence to provide a reasonable basis for our conclusions and observations based on our inspection objective. We believe the evidence obtained provided a reasonable basis for our conclusions and observations based on our inspection objective. Accordingly, the inspection included tests of controls and compliance with laws and regulations to the extent necessary to satisfy the inspection objective. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our inspection. Finally, we relied on computer-processed data, to some extent, to satisfy our objective. We confirmed the validity of such data, when appropriate, by reviewing source documents. On December 8, 2014, the Office of Science waived an exit conference.

**PRIOR REPORT**

- Audit Report on [\*Protective Force Training Facility Utilization at the Pantex Plant\*](#) (DOE/IG-0855, September 2011). As part of an audit to determine whether the Department of Energy is effectively utilizing its protective force training facilities, we determined that the National Nuclear Security Administration's Office of Secure Transportation (OST) plans to spend approximately \$2 million for a new Physical Training/Intermediate Use of Force (PT/IUF) facility at the Pantex Plant (Pantex) near Amarillo, Texas. Our preliminary analysis suggests that the new facility may not be needed, making the \$2 million expenditure unwarranted. Specifically, we noted that OST plans to construct the PT/IUF facility although Pantex has existing facilities that have the capability and capacity to fulfill OST's training needs. Our review of the analysis supporting construction of the PT/IUF facility revealed that officials did not fully consider Pantex's existing training facilities before deciding that they did not meet OST's needs. As such, we concluded that OST should reconsider the decision to construct its own PT/IUF facility at Pantex.

## MANAGEMENT COMMENTS



Department of Energy  
Office of Science  
Washington, DC 20585

MEMORANDUM FOR GREGORY H. FRIEDMAN  
INSPECTOR GENERAL

FROM: JOSEPH MCBREARTY  
DEPUTY DIRECTOR FOR FIELD OPERATIONS  
OFFICE OF SCIENCE

*Joseph MCBrearty* 12/5/17

SUBJECT: Response to Inspector General's Draft Report, "Allegations Regarding the Consolidation of Central Alarm Stations at the Oak Ridge Reservation"

Thank you for the opportunity to review and comment on the subject draft report. The Office of Science (SC) responses to the recommendations and comments on the report are as follows:

**Recommendation 1:** Determine whether the consolidation of the alarm stations will save the Government money and address security concerns.

**Management Reaction:** Concur.

**Action Plan:** Based on the preliminary findings the Inspector General (IG) presented in May 2014, SC chartered an Independent Validation Review of the Central Alarm Station (CAS) Consolidation project. That review concluded the following. "At this time, no capability gaps have been identified in CAS operations. This allows sufficient time to fully evaluate safeguards and security requirements, further develop potential alternatives, and complete the detailed analyses necessary to prepare a comprehensive MNS [mission need statement] and AS [acquisition strategy]." As a result, the appropriate Officially Designated Federal Security Authorities will evaluate potential efficiencies in CAS operations in the broader context of the overall security strategy for the Oak Ridge Reservation. Results of the evaluation will be documented in routine updates to the site Risk Assessment and Site Security Plan if appropriate. Until this evaluation is complete, SC does not intend to pursue CAS consolidation activities; however, if and when efficiencies are expected from such actions, we will move forward using the principles of project management outlined in DOE Order 413.3.

**Estimated Completion Date:** Affected Site Security Plan updates will be completed by December 2015.

**Recommendation 2:** Ensure that appropriate rigor is applied to project management activities such as conducting appropriate analysis, establishing a mission need and developing adequate project planning documents.

**Management Reaction:** Concur.



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**Action Plan:** Based on the preliminary findings the IG presented in May 2014, SC chartered an Independent Validation Review of the Central Alarm Station (CAS) Consolidation project. That review concluded the following. "At this time, no capability gaps have been identified in CAS operations. This allows sufficient time to fully evaluate safeguards and security requirements, further develop potential alternatives, and complete the detailed analyses necessary to prepare a comprehensive MNS [mission need statement] and AS [acquisition strategy]." As a result, the appropriate Officially Designated Federal Security Authorities will evaluate potential efficiencies in CAS operations in the broader context of the overall security strategy for the Oak Ridge Reservation. Results of the evaluation will be documented in routine updates to the site Risk Assessment and Site Security Plan if appropriate. Until this evaluation is complete, SC does not intend to pursue CAS consolidation activities; however, if and when efficiencies are expected from such actions, we will move forward using the principles of project management outlined in DOE Order 413.3.

**Estimated Completion Date:** Affected Site Security Plan updates will be completed by December 2015.

**Monetary Impact:** The draft report states the Department would spend approximately \$5.8 million in consolidation costs and an additional \$4.4 million (over the next three years) to implement the project. Office of Science appreciates that these were the best estimates available at the time of the review, but anticipates that revised estimates will likely result from the further analysis recommended by both this report and the Independent Validation Review chartered by SC.

If you have any questions on these comments please contact me at 202-586-5434.

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