



OFFICE OF INSPECTOR GENERAL

U.S. Department of Energy

# INSPECTION REPORT

OAI-L-17-05

April 2017

**ALLEGED SECURITY AND SAFETY  
CONCERNS AT THE OAK RIDGE  
NATIONAL LABORATORY**



**Department of Energy**  
Washington, DC 20585

April 20, 2017

MEMORANDUM FOR THE MANAGER, OAK RIDGE NATIONAL LABORATORY SITE  
OFFICE

*Michelle Anderson*

FROM: Michelle Anderson  
Deputy Inspector General for  
Audits and Inspections  
Office of Inspector General

SUBJECT: INFORMATION: Inspection Report on "Alleged Security and Safety  
Concerns at the Oak Ridge National Laboratory"

BACKGROUND

The Oak Ridge National Laboratory (ORNL) is the Department of Energy's largest science and energy laboratory. ORNL operates in an open campus environment to encourage collaboration and the sharing of knowledge, and is co-located with a Federal site office managed by the Office of Science, which oversees its operations. Federal managers are responsible for ensuring that ORNL is adequately defended against actions that could result in destruction of Government property or endanger the health and safety of employees or the public. ORNL is also subject to additional security requirements because it is home to Building 3019, a facility that stores Special Nuclear Materials (SNM).

The Office of Inspector General received a complaint involving perceived security concerns at Building 3019 and safety and security concerns at a vehicle entry portal on the ORNL site. In particular, the complaint alleged that: (1) unauthorized personnel could access an SNM staging area and place explosive charges next to an SNM storage container before security forces could respond to stop such actions; (2) numerous false and nuisance alarms caused a diminished protective force response; (3) a secondary response force could take too much time to respond to Building 3019; (4) construction workers, some of them un-cleared, could view an SNM staging process and even see inside Building 3019; (5) officials displayed a lax security attitude toward a nuclear device stored in Building 3019; (6) security officers were restricted from performing certain vehicle search procedures at a vehicle entry portal; (7) a necessary vehicle search lane at a vehicle entry portal was closed; and (8) managers showed a lack of concern when informed of potential security issues. We initiated a review to determine the severity of these issues and whether Department management had taken or planned any necessary corrective actions.

RESULTS OF INSPECTION

We substantiated that some of the situations described by the complainant did exist, as alleged. We noted however, that these situations were aligned with procedures and strategies approved by cognizant managers, and Federal officials were aware of the practices employed at the site.

After reviewing the results of our observations and testing, we concluded that the allegations were likely based on the complainant's interpretations of activities at Building 3019, which did not always benefit from a full understanding of the observed operations. During our review, we also identified other concerns related to vehicle searches at the site's entry portals and the secondary response force.

### **Access to the Staging Area**

We substantiated that unauthorized individuals could potentially gain access to the area where SNM was staged for shipment and place explosives next to the SNM storage containers before protective force personnel could stop them. However, ORNL officials stated that this area was intentionally not designed to prevent access, but to prevent unauthorized individuals from performing certain actions upon the SNM and to prevent the escape of such individuals. We confirmed that Federal officials approved this design, as consistent with applicable requirements.

### **False and Nuisance Alarms**

Although Building 3019 experienced false and nuisance alarms, nothing came to our attention to indicate a diminished response to alarms. Our determination was based, in part, on a review of numerous test reports produced between July 2014 and December 2015, which showed that no protective force test responses had exceeded the Department's allowed times. Also, in discussions with several protective force staff and supervisors, none believed response times had been affected by the number of alarms. We were told that alarm system components contributed to the number of false and nuisance alarms, but upgrades to the system were already underway prior to our review, and expected to be completed by June 2017.

### **Secondary Response Force**

We substantiated that it could take as much time as the complainant had alleged for the secondary response force to respond to a serious incident at Building 3019, but found that the time specified by the complainant was within requirements previously established by security analysis. A shared services agreement between ORNL and the National Nuclear Security Administration's Y-12 National Security Complex (Y-12) stated that Y-12's management and operating contractor would dispatch a secondary response force to ORNL in the event of a serious incident. This agreement allowed more time for the secondary response force to be present and ready for action at ORNL than was stated in the allegation because recent security assessments had determined that it was not possible to access the SNM at Building 3019 in that amount of time due to the robustness of the SNM storage containers.

### **Operational Security**

We also substantiated the allegation that construction workers could view the activities taking place outside Building 3019, but not see inside the building. Specifically, the activities taking place outside the building were easily visible to construction workers as well as passersby walking alongside the chain-link fence surrounding it. We discussed our concerns with a senior contractor security official who subsequently initiated an assessment that concluded such

viewing was acceptable and not a concern. Regarding the ability to see inside Building 3019, we were told that it would have been impossible for any of the construction workers to see into the building itself due to the basic design and layout of the building.

### **Nuclear Device Storage**

We did not substantiate the allegation regarding a lax security attitude toward a nuclear device stored in Building 3019 because the device referenced in the allegation did not exist.

### **Security at Vehicle Entry Portals**

We substantiated the claim that security officers were restricted from performing certain vehicle search procedures at the site's entry portal, but found nothing to indicate an increase in security risk. Specifically, contractor officials stated that the security officers had been directed not to open any containers or lift any coverings in the course of vehicle inspections unless there was a reason to be suspicious. Senior site officials told us that these inspections were intended to be visual inspections only, and that procedures such as opening containers and lifting coverings were not necessary because the current search process already reduced security risk to an acceptable level. ORNL's designated security authority explained that the requirements of the entry screening program had been designed within a certain risk tolerance, and the site's protective force contractor had issued General Order WX-G0-006 "*Searches*," to meet those requirements with acceptable risk. General Order WX-G0-006 outlined the methodologies and frequencies for searches at ORNL's entry portals, and did not include the restricted search procedures mentioned in the allegation.

### **Safety at Vehicle Entry Portals**

Likewise, we also substantiated the allegation that a vehicle search lane had been closed at one of the site's vehicle entry portals, but found nothing to indicate an increase in safety risk. Specifically, the allegation claimed that closure of this lane resulted in a higher risk of vehicular accidents, but we determined through analysis of relevant data that there was no increased risk of accidents associated with the closure of this lane. We were told by senior ORNL officials that the supplemental lane had been established as a temporary measure while new procedures were developed, tested, and implemented at the entry portal. Therefore, its closure upon completion of those actions would not constitute an unacceptable increase in the level of risk to the site.

### **Management Concern**

We did not substantiate the allegation that managers showed a lack of concern when potential security issues were brought to management's attention. The managers involved stated that the actions taken were within management's purview and it was appropriate to rely upon their professional judgment in responding to the security issues raised. We were told that after the issues were discussed with the designated security authority at a meeting with both managers and employees present, the decision was made not to pursue the issues. At this meeting, the designated security authority made it clear that he did not consider the issues to be valid

concerns, so contractor management was not inclined to take any further action to address those concerns. Further, the majority of employees we interviewed believed managers would respond appropriately to security issues.

### **Other Matters**

During our review, we identified other concerns related to vehicle searches at the entry portals and the secondary response force. While observing search procedures at ORNL's entry portal, we identified two instances where the search was not conducted in accordance with established requirements. In both cases, the protective force's security officer was unable to access the interior of sealed shipping containers, and failed to compare numbered seals on the containers to previously approved lists of seals from authorized shipments. Instead, we observed the officer instruct the driver to continue onto the site without fully completing the search. These numbered seals, when properly affixed to the containers before shipping, provide reasonable assurance that cargo has not been tampered with in transit. A senior protective force official concurred with our conclusions after viewing the related security video, and promptly issued clarification of procedures to be followed in such cases, including verifying seal numbers against approved lists. Further, site officials developed official policy on this matter and agreed to coordinate with protective force management to prevent future occurrences.

While discussing the allegation regarding secondary response force response times, Y-12 officials expressed concerns about the amount and quality of ORNL mission-specific training that could be provided to secondary response force members. The shared services agreement between Y-12 and ORNL was intended to satisfy security requirements temporarily until Building 3019 was decommissioned; however, it had been in force for several years while Y-12's pool of resources had become strained. Officials from the responsible Headquarters program offices, Office of Science and the National Nuclear Security Administration, were aware of this situation and were working toward initiating actions to alleviate it. As such, we are not making any recommendations regarding the secondary response force agreement at this time.

### **Actions Taken and Path Forward**

The false and nuisance alarms at Building 3019 were due, in part, to the selection and configuration of alarm system components, but upgrades to the system were underway prior to our review and are expected to be completed by June 2017. Therefore, we are not making any recommendations, but we suggest that the ORNL Site Office Manager ensure these upgrades are completed to mitigate the possibility of alarms causing complacency among protective force personnel in the future.

### **Attachments**

cc: Deputy Secretary  
Chief of Staff  
Administrator, National Nuclear Security Administration  
Deputy Director for Field Operations, Office of Science  
Principal Deputy Assistant Secretary for Environmental Management

## **OBJECTIVE, SCOPE, AND METHODOLOGY**

### OBJECTIVE

The Office of Inspector General received a complaint involving perceived security concerns at Building 3019 and safety and security concerns at a vehicle entry portal on the Oak Ridge National Laboratory (ORNL) site. In particular, the complaint alleged that: (1) unauthorized personnel could access a Special Nuclear Materials staging area and place explosive charges next to an Special Nuclear Materials storage container before security forces could respond to stop such actions; (2) numerous false and nuisance alarms caused a diminished protective force response; (3) a secondary response force could take too much time to respond to Building 3019; (4) construction workers, some of them un-cleared, could view an Special Nuclear Materials staging process and even see inside Building 3019; (5) officials displayed a lax security attitude toward a nuclear device stored in Building 3019; (6) security officers were restricted from performing certain vehicle search procedures at a vehicle entry portal; (7) a necessary vehicle search lane at a vehicle entry portal was closed; and (8) managers showed a lack of concern when informed of potential security issues. We initiated a review to determine the severity of these issues and whether Department of Energy management had taken or planned any necessary corrective actions.

### SCOPE

We conducted fieldwork for this allegation-based inspection between September 2015 and April 2017 at ORNL, located in Oak Ridge, Tennessee. Our fieldwork focused on a review of specific safety and security controls and practices at ORNL. The inspection was conducted under Office of Inspector General project number S15IS019.

### METHODOLOGY

To accomplish our objective, we:

- Reviewed Federal, Department, and ORNL policies and procedures related to nuclear material security and safety, contract management, and separation of duties;
- Interviewed officials from Department Headquarters, the Oak Ridge Office, the Oak Ridge Office of Environmental Management, the ORNL Site Office, the Y-12 National Security Complex, and various prime contractors at ORNL;
- Obtained and reviewed information related to ORNL's contract and governance structure;
- Reviewed photographs and security video of the ORNL site;
- Obtained and reviewed, but did not evaluate the appropriateness of, variances, surveys, inspections, and reviews related to ORNL's security configuration;
- Conducted on-site observations of specific security procedures at ORNL;
- Obtained and analyzed data related to intrusion detection system alarms at ORNL; and

- Obtained and reviewed Y-12 National Security Complex's Special Response Team related reports, correspondence, and the Memorandum of Agreement with ORNL.

We conducted this allegation-based inspection in accordance with the Council of 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 conclusions 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 satisfy our objective. We confirmed the validity and completeness of such data through direct observation of the processes used to enter and extract the data from the system.

We held an exit conference with the Department's Office of Environmental Management Headquarters and Oak Ridge officials on March 28, 2017. Office of Science, Oak Ridge Office, ORNL, and the National Nuclear Security Administration waived an exit conference.

**PRIOR REPORT**

Special Report on [\*Inquiry into the Security Breach at the National Nuclear Security Administration's Y-12 National Security Complex\*](#) (DOE/IG-0868, August 2012). The Y-12 National Security Complex security breach represented multiple system failures on several levels. For example, we identified troubling displays of ineptitude in responding to alarms, failures to maintain critical security equipment, over reliance on compensatory measures, misunderstanding of security protocols, poor communications, and weaknesses in contract and resource management. Contractor governance and Federal oversight failed to identify and correct early indicators of these multiple system breakdowns. When combined, these issues directly contributed to an atmosphere in which the trespasser could gain access to the protected security area directly adjacent to one of the nation's most critically important and highly secured weapons-related facilities.



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