



U.S. Department of Energy  
Office of Inspector General  
Office of Audit Services

# Audit Report

## Management Alert on Environmental Management's Select Strategy for Disposition of Savannah River Site Depleted Uranium Oxides



OAS-RA-10-07


April 2010



**Department of Energy**  
Washington, DC 20585

April 9, 2010

MEMORANDUM FOR THE UNDER SECRETARY OF ENERGY

FROM:   
Gregory H. Friedman  
Inspector General

SUBJECT: INFORMATION: Management Alert on Environmental  
Management's Select Strategy for Disposition of Savannah River Site  
Depleted Uranium Oxides

BACKGROUND

The Administration and the Congress, through policy statements and passage of the American Recovery and Reinvestment Act of 2009 (Recovery Act), have signaled that they hope that proactive actions by agency Inspectors General will help ensure that Federal Recovery Act activities are transparent, effective and efficient. In that context, the purpose of this management alert is to share with you concerns that have been raised to the Office of Inspector General regarding the planned disposition of the Savannah River Site's (SRS) inventory of Depleted Uranium (DU) oxides. This inventory, generated as a by-product of the nuclear weapons production process and amounting to approximately 15,600 drums of DU oxides, has been stored at SRS for decades. A Department source we deem reliable and credible recently came to the Office of Inspector General expressing concern that imminent actions are planned that may not provide for the most cost effective disposition of these materials.

During April 2009, the Department chose to use funds provided under the Recovery Act to accelerate final disposition of the SRS inventory of DU oxides. After coordination with State of Utah regulators, elected officials and the U.S. Nuclear Regulatory Commission, the Department initiated a campaign to ship the material to a facility operated by EnergySolutions in Clive, Utah. Although one shipment of a portion of the material has already been sent to the EnergySolutions facility, the majority of the product remains at SRS. As had been planned, both for the shipment already made and those planned in the near term, the EnergySolutions facility was to have been the final disposal location for the material.

IMMEDIATE CONCERN

Recently, a member of Congress and various Utah State officials raised questions regarding the radioactive and other constituents present in the DU oxides to be disposed of at the Clive, Utah, facility. These concerns revolved around the characterization of the material and its acceptability under existing licensing criteria. As a consequence, the Governor of Utah met with Department officials to voice concerns regarding further shipments of the material and to seek return of the initial shipment of DU oxides to SRS. Utah's objections and the Department's agreement to accede to the State's demands effectively prohibit the transfer of the remaining material from South Carolina to Utah.

In response, the Department evaluated its options and issued a draft decision paper on March 1, 2010, which outlined an alternative for temporary storage until the final disposition issue could be resolved. Under the terms of the proposed option, the remaining shipments from SRS are to be sent on an interim basis to a facility owned by Waste Control Specialists (WCS) in Andrews, Texas. Clearly, this choice carries with it a number of significant logistical burdens, including substantial additional costs for, among several items, repackaging at SRS, transportation to Texas, storage at the interim site, and, repackaging and transportation to the yet-to-be-determined final disposition point.

The Department source expressed the concern that the proposal to store the material on an interim basis in Texas was inefficient and unnecessary, asserting: (i) that the materials could remain at SRS until a final disposition path is identified, and that this could be done safely, securely and cost effectively; and, (ii) that the nature of the material was not subject to existing compliance agreements with the State of South Carolina, suggesting the viability of keeping the material in storage at SRS until a permanent disposal site is definitively established. We noted that, while the Department's decision paper referred to "numerous project and programmatic factors...that make it impractical to retain the remaining inventory at Savannah River," it did not outline the specific issues involved nor did it provide any substantive economic or environmental analysis supporting the need for the planned interim storage action. The only apparent driver in this case was a Recovery Act-related goal established by the Department to accelerate the general disposition of the SRS material.

We recognize that decisions such as the one proposed for the SRS inventory of DU oxides are often more complex and nuanced than might appear on the surface. Consideration of factors such as cost, state interest, posture of local regulators, etc., are important elements in this process. Although, we have not completed sufficient work to reach an independent judgment on the merits of this matter, we wanted to ensure that the Department was aware of the concerns that have been raised before imminent decisions and resource commitments were made regarding the path forward. To the credit of the employee who brought these concerns to our attention, the hope was expressed that the decision reached would be both sensitive to the needs of the people in and around the SRS as well as the best interests of the taxpayers and citizens of the Nation.

In that light, we suggest that the Department consider the expressed concerns as it evaluates the economic feasibility and programmatic impact of the planned or pending move of the SRS DU oxides to the WCS facility in Texas.

#### MANAGEMENT COMMENTS AND AUDITOR RESPONSE

Management stated that although a final decision on the storage and disposal of the DU oxides has not been made, they are aware of the concerns that a decision to pursue interim storage at WCS may result in increased cost to the Department. In response to those concerns, management requested a cost assessment analysis of various interim storage alternatives. However, they emphasized that cost is only one among multiple factors that must be balanced with issues such as potential impacts to other site efforts, community input, leveraging existing resource investments, and future Environmental Management liabilities. They concluded that the Department intends to permanently dispose of the DU oxides off-site while delivering the

overall best value to the taxpayers, considering both cost and non-cost factors. Given our interest in this project, management agreed to keep the Office of Inspector General informed of ongoing evaluations and any future decisions.

We consider management's comments responsive to our suggestion. Our primary concerns are that the method that the Department selects for disposing of the DU oxides achieve the best value for the taxpayer and, to the extent possible, ensures that Recovery Act goals are met and funds are well spent. We understand that a final decision has not been made and will ultimately involve consideration of a number of complex variables. Accordingly, we will continue to monitor the Department's progress on the ultimate disposition of the DU oxides.

Management's written comments are attached in their entirety.

Attachment

cc: Deputy Secretary  
Administrator, National Nuclear Security Administration  
Assistant Secretary, Environmental Management  
Special Advisor to the Secretary for the Recovery Act  
Chief of Staff  
Manager, Savannah River Site  
Chief Financial Officer



## Department of Energy

Washington, DC 20585

April 5, 2010

MEMORANDUM FOR RICKEY R. HASS

DEPUTY INSPECTOR GENERAL FOR AUDIT SERVICES  
OFFICE OF INSPECTOR GENERAL

FROM:

INÉS R. TRIAY *Inés Triay*  
ASSISTANT SECRETARY FOR  
ENVIRONMENTAL MANAGEMENT

SUBJECT:

Response to Draft Management Alert on Environmental  
Management's Select Strategy for Disposition of Savannah  
River Site Depleted Uranium Oxides

On March 19, 2010, the Office of Environmental Management (EM) received the Office of Inspector General's Draft Management Alert regarding the strategy for disposition of the remaining depleted uranium oxide (DUO) drums from the Savannah River Site (SRS), a project funded by the American Recovery and Reinvestment Act (ARRA). The Draft Management Alert summarizes the regulatory circumstances impacting the original project plan to dispose of the DUO drums at the EnergySolutions disposal facility at Clive, Utah, as well as recent evaluations to place the drums in interim storage at the Waste Control Specialists (WCS) facility in Texas. The Draft Management Alert describes concerns that these actions may not provide the most cost effective disposition of these materials and suggests that the Department should consider cost as it evaluates the economic feasibility and programmatic impact of moving the oxides to WCS.

EM remains committed to the safe, compliant and cost-effective disposition of the DUO drums from Savannah River, and it appreciates the Office of Inspector General's interest in the project. A final decision on the storage and disposal of the depleted uranium oxides has not been made, but moving forward, EM will continue to consider the Inspector General's comments.

EM is aware of the concerns that a decision to pursue interim storage at WCS may result in increased cost to the Department, and has subsequently requested a cost assessment analysis of various interim storage alternatives. While project cost is an important factor in EM's project plans and decisions, it is only one of multiple criteria that must be considered. In the case of the SRS DUO project, other factors – including potential impacts to other site efforts, community input, leveraging existing resource investments, and future EM liabilities – must be balanced. The Department's goal is to deliver the overall best value to the taxpayers, considering both cost and non-cost factors.



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The following additional background information is provided for consideration in the Final Management Alert, as it provides important context on issues that are currently impacting the original project plan.

- EM has been working to disposition the legacy DUO from SRS for nearly a decade. More than 20,000 drums have been shipped off-site in four previous campaigns. The current project would disposition the final 15,600 legacy drums. The SRS DUO is source material which was contaminated with byproduct contaminants in the production of nuclear materials in accordance with the definitions of 10 CFR Part 40. Disposition is necessary to support ongoing foot-print reduction efforts at SRS.
- Disposition of the remaining DUO is funded by the ARRA, as part of the SRS Transuranic and Solid Waste Recovery Act Project. Details on the plan have been shared extensively with stakeholders, who remain very interested in the Department's continued progress to completely remove this inventory from the site.
- The DUO cannot be disposed of on-site, because it does not meet the waste acceptance criteria for the SRS Low Level Waste disposal facilities. Although a portion of the original inventory was disposed at the Nevada Test Site (NTS) in the past, disposal at NTS is not currently a viable disposal option. EM has committed to the State of Nevada that a new site-wide environmental impact statement (EIS) will be completed prior to shipment of waste streams of significant volumes from other sites. The new EIS has been initiated, but will not be completed until mid-2011.
- On March 18, 2009, the Nuclear Regulatory Commission (NRC) approved their staff's recommendation to conduct a rulemaking to specify a requirement for a site-specific analysis for large quantities of depleted uranium (DU), which includes DUO). The NRC emphasized that they do not intend for the rulemaking to change the current classification of DU as Class A waste. The NRC, the staff, and the NRC Atomic Safety and Licensing Board have noted that, in the interim, DU is Class A waste under 10 CFR 61.55(a).
- The Utah Radiation Control Board has initiated efforts to promulgate additional requirements, through a rule-making process, related to DU disposal at Clive in the interim, as the NRC completes its limited rulemaking. The Board has issued its draft rule requiring a site-specific performance assessment for the Clive facility. *EnergySolutions* is in the process of developing the site-specific performance assessment. The Board is expected to vote on its final rule in mid-April. Some in the state have requested that the Department refrain from continued disposal of DU at Clive until the Utah rule is in place and the site-specific performance assessment is completed, demonstrating DU can safely be disposed at Clive.
- EM decided to initiate the SRS DUO shipping campaign to Clive in December 2009, only after careful coordination with the Utah regulator, elected officials and NRC. The first of three planned rail shipments was made on December 15, 2009, and arrived safely and without incident. On December 15, 2009, Governor Herbert sent a letter to Secretary Chu expressing disappointment that the DU shipments began before the Utah rulemaking process was completed. On December 17, 2009, EM

discussed these issues with the Governor's office. An agreement was reached that would enable the drums on the first shipment to be received at Clive, off-loaded and placed in a storage configuration, rather than disposed. Additionally, the remaining two shipments would not be initiated until *EnergySolutions* and the Utah regulators identified and agreed to additional measures addressing the safety of DU disposal at the Clive facility. It was discussed that these actions could be accomplished within approximately two months, such that the final two shipments could be completed in spring 2010, consistent with the ARRA project milestones.

On January 5, 2010, EM sent a letter to Governor Herbert documenting the agreement and committing to coordination prior to future shipments. *EnergySolutions* developed the required plan addressing the additional safety measures and submitted it to the Utah regulators for their approval in early January.

On February 22, 2010, EM met with Governor Herbert to discuss the remaining shipments. At that meeting, the Governor stated that he did not support the remaining two shipments being made prior to the Utah Radiation Control Board completing its rulemaking effort and the completion of the site-specific performance assessment. These efforts could take up to two years.

- EM has initiated discussions with WCS and the Texas Commission on Environmental Quality regarding possible interim storage of the DUO at their facility. WCS and their regulators continue to discuss technical requirements associated with potential transport, receipt and storage at WCS. Until these requirements are fully defined, the estimated cost of the interim storage alternative cannot be finalized.
- The Department will consider the cost analysis, along with a range of other factors, in determining the next steps in the project. It should be noted that in the near-term, it is always less expensive to leave waste on-site; but, there are frequently important policy factors and constraints that must be considered. In this case, storing the waste at *EnergySolutions* and/or WCS means that the waste is closer to its final disposal at one of those facilities, rather than at the SRS where the waste cannot be disposed. It is important to note that EM's ultimate objective is permanent off-site disposal of the DUO.

Given your office's interest in this project, my office will keep you informed of our ongoing evaluations and any future decisions. If you have any further questions, please call me at (202) 586-7709 or Mr. Frank Marcinowski, Acting Chief Technical Officer, at (202) 586-0370.

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