

**Department of Energy**

Washington, DC 20585

March 29, 2010

The Honorable John E. Mansfield
Vice Chairman
Defense Nuclear Facilities Safety Board
625 Indiana Avenue, NW
Suite 700
Washington, DC 20004-2901

Dear Vice Chairman:

In your January 20, 2010, letter you expressed concerns with the management of aging apparatus in the fire department fleet; the oversight of fire protection exemptions, equivalencies, and position papers; and whether known fire protection deficiencies and conditions are managed effectively throughout the Savannah River (SR) site. There were also concerns that the SR fire protection program plan is five years out-of-date and that the Federal staffing is inadequate. You specifically requested that the Defense Nuclear Facilities Safety Board be informed of progress in replacing the fire department fleet.

The enclosure addresses all the concerns in your January 20 letter and provides an update regarding replacement of fire equipment at SR.

If you have any questions, please contact me at (202) 586-7709, or Dr. Steven L. Krahn, Deputy Assistant Secretary for Safety and Security Program at (202) 586-5151.

Sincerely,

A handwritten signature in cursive script that reads "Inés R. Triay".

Inés R. Triay
Assistant Secretary for
Environmental Management

Enclosure



ENCLOSURE

Fire Protection Program at Savannah River Site (SRS):

National Nuclear Security Administration-Savannah River Site Office (NNSA-SRSO) relies on Department of Energy (DOE)-Savannah River (SR) for fire protection engineering expertise and other engineering functions.

Response:

The Memoranda of Understanding (MOU) between DOE-SR and NNSA-SRSO were finalized when NNSA-SRSO did not have a fire protection engineer. NNSA has since hired one of the two fire protection engineers DOE-SR had at that time. Although, the Landlord/Tenant MOU still provides for DOE-SR fire protection engineering support as needed, NNSA no longer relies on DOE-SR as its prime source of fire protection engineering technical support. The support interface between DOE-SR and NNSA is now primarily a coordination function to ensure direction provided by both agencies to the contractors is consistent.

DOE Savannah River Implementing Procedure (SRIP) 400, Chapter 440.1, DOE-SR Fire Protection Program Plan, was last revised April 19, 2004. This procedure has not been updated to reflect requirements contained in DOE O 420.1B.

Response:

The SRIP has been completely rewritten as a Savannah River Manual (SRM) in order to incorporate current Orders, Guides and Standards, including DOE Guide 420.1-3. The new SRM was developed jointly with NNSA. The Fire Protection SRM was approved with an effective date of February 19, 2010.

Fire Protection Staffing (Federal):

DOE-SR is authorized three Full Time Equivalent (FTE) fire protection engineers. The present staffing level is one engineer with responsibilities for both fire protection and aviation safety that focuses on matters related to the fire protection program about 75 percent of the time and this individual is eligible to retire. This staffing shortage limits the effectiveness of the site office fire protection program. Hiring additional fire protection engineering staff would alleviate this situation while also ensuring continuity of subject matter expertise if the current staff member retires.

Response:

DOE-SR agrees that obtaining and qualifying replacement fire protection engineers is essential to maintaining continuity of the fire protection program and has included fire protection engineers in the list of critical staffing needs. There are currently 28 positions

to be filled on the critical needs list among which the fire protection engineering positions will be prioritized.

Fire Protection Evaluations, Position Papers, Fire Protection Deficiencies and Conditions are Managed Effectively throughout the Site:

Improvements are needed to enable effective management of exemptions, equivalencies, and position papers: Fire protection evaluations and position papers need to identify specific buildings, facilities, systems, components, or portions thereof to which they apply.

Response:

SRS procedures require all Hazard Category 1, 2 and 3 facilities to have a fire hazards analysis that identifies all the engineering evaluations that address both facility specific and applicable site wide/generic conditions. These include exemptions, equivalencies, variances and position papers. Savannah River Nuclear Solutions (SRNS) maintains compliance matrix documents for these facilities which identify all equivalences, exemptions, variances and position papers that are associated with each Hazard Category 1, 2 or 3 facility. The compliance matrix documents the engineering evaluations, all non-compliances and any compensatory measures and is used by the facility to maintain compliance with the fire hazards analysis. The compliance matrix is a controlled document that is reviewed during the assessment frequencies specified in Standard/Requirement Identification Document Functional Area 12, Fire Protection.

SRNS reviewed compliance matrices for the required facilities and determined that additional measures are needed to ensure site-wide/generic engineering evaluations for the water supplies are included in each affected facilities' documentation. SRNS has drafted supporting compliance matrices for the approved engineering evaluations specific to the Site Infrastructure Fire System Testing and Maintenance Group and Fire Water Team. These matrices list the engineering evaluations documenting alternative testing and inspections requirements used by these groups. These compliance matrices will be included in the appropriate sections of the facility fire hazards analysis as applicable.

SRNS and Savannah River Remediation (SRR) reviewed all existing engineering evaluations for facilities at SRS and, with DOE-SR concurrence, have determined which engineering evaluations are acceptable in their current revision and which need to be retired or revised. Those requiring revision have been prioritized ranging from "immediate revision" to "next scheduled facility assessment". These are scheduled for completion by December 2013.

Equivalencies need to be approved by the head of field element(s) to which they apply, and this information needs to be included in the individual documents.

Response:

The new DOE-SR Fire Protection Program Manual (SRM 420.1.1A dated February 19, 2010) retracts the previous Authority Having Jurisdiction (AHJ) given to Assistant Managers and Office Directors to approve equivalencies and position papers for consensus standards. The SR Manager now approves all equivalencies and position papers for DOE-SR. NNSA-SRSO has concurred to adopt SRM 420.1.1A and will retain the Manager-SRSO as the AHJ for NA-10 facilities.

Fire Department Fleet Management:

DOE needs to establish long-term funding and a vehicle replacement schedule to improve fleet reliability and firefighter safety.

Response:

SRNS has documented in the Baseline Needs Assessment (BNA) the need to replace the following Fire Department apparatus within the next three years: two fire pumper trucks, one ladder truck, and one rescue vehicle. On February 11, 2010, SRNS awarded a contract for two fire pumper trucks with an expected shipping date of January 5, 2011. Additionally, procurement specifications are being prepared for a ladder truck and rescue truck planned to be implemented in FY 2011. Additional funds will be included as part of the FY 2012 baseline budget request to complete the current replacement strategy.

DOE O 420.1B requires the Site Manager to approve the Fire Department's Baseline Needs Assessment (BNA) which is updated at least every three years. The BNA contains the contractor's apparatus replacement schedule. The DOE-SR Manager will review the procurement status to the BNA schedule prior to approval and provide direction to the contractor as needed to ensure the schedule is met.

Configuration of the K-Area fire protection system, specifically:

- *The fire protection water supply is subject to single point failure since the mains are not looped or gridded.*
- *A single 500,000-gallon water storage tank provides fire protection water; another potential single point of failure.*
- *Portions of the existing fire protection water supply have been reclassified as safety-significant in support of a new nondestructive evaluation capability project.*
- *The design features of the fire protection system relied upon for safety significant or safety-class functions will require additional review in support of new projects.*

Response:

Environmental Management (EM) approved an exemption for the lack of automatic fire suppression in K-105 facility (old reactor) with a stipulation that all new activities would

require installation of fire suppression systems. All new projects will evaluate the level of fire protection needed to meet DOE Order requirements and to meet the Defense Nuclear Facilities Safety Board (Board) Recommendation 2008-1 guidance which was recently adopted by both EM and NNSA. The projects will provide funding for fire protection upgrades determined to be necessary. Proposed projects include the Pit Disassembly and Conversion Facility and expansion of the K-Area Material Storage Area. For clarification on the third bullet of the report, please note that the water supply is currently being evaluated against the recent direction of the Board Recommendation 2008-1, which was adopted by EM on February 4, 2010. This evaluation will determine what modifications may be needed to classify the fire suppression for the new shuffler system as safety-significant.

Tank 48 Project, specifically:

- *The preliminary fire hazards analysis for the Tank 48 project has been completed and will need to be incorporated into the Building 241-96H fire hazards analysis during Preliminary Design.*
- *Project plans encompass compliance with DOE Standard 1066, including confinement ventilation.*

Response:

The Board Fire Protection Engineering staff has been aware of our activities and made several notes during their tour of the Tank 48 Project, but did not identify any issues. The Tank 48 Project will comply with the design requirements of DOE Standard 1066-99.