

Joyce L. Connery, Chair
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**DEFENSE NUCLEAR FACILITIES
SAFETY BOARD**

Washington, DC 20004-2901



June 14, 2024

Ms. Candice Robertson
Senior Advisor
Office of Environmental Management
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1000

Dear Ms. Robertson:

The U.S. Department of Energy (DOE) relies on the facility representative program's oversight of day-to-day contractor operations to provide DOE management with accurate, objective information on the effectiveness of contractor work, performance, and practices. DOE can use this information to proactively ensure that work is completed in a safe manner. A staff team from the Defense Nuclear Facilities Safety Board (Board) reviewed the effectiveness of the DOE-Savannah River Field Office's (DOE-SR) implementation of the facility representative program. The Board's staff at the Savannah River Site (SRS) has been examining this issue over the course of the past 18 months and has identified several concerns with the implementation of DOE-SR's facility representative program, which are summarized in the enclosed staff report. These issues were discussed with the field office during the Board's visit to SRS during the week of May 8, 2023.

The documents and implementing procedures in DOE-SR's facility representative program align with DOE requirements and establish a robust outline for facility representative oversight. However, DOE-SR's program does not fully implement these requirements, which has driven DOE-SR to rely too much on the expertise of its facility representatives. Given recent attrition and the short tenure and experience of many current facility representatives, reliance on expertise has not been an adequate substitute for implementation of requirements. Namely, DOE-SR is not consistently ensuring that:

- Facility representatives are providing adequate facility coverage,
- Facility representatives' assessments are of high quality,
- Facility representatives' management is providing the necessary guidance and safety oversight of the facility representative program,
- Facility representatives and their management are tracking safety issues and reviewing them to identify trends, and

- DOE-SR is prioritizing higher risk areas for facility representative safety oversight.

The Board appreciates that DOE-SR has begun efforts to improve facility representative program guidance, but the effectiveness of the program will be contingent on the implementation of these new program requirements.

Therefore, the Board requests, pursuant to 42 United States Code 2286b(d), that DOE provide a report and briefing within six months of receipt of this letter regarding progress toward resolving the identified shortcomings with DOE-SR's facility representative program. The report and briefing should include any changes to the DOE-SR programmatic implementing requirements, guidance provided on those changes, and the assessed effectiveness of the facility representative program based on the results of DOE-SR's 2024 Facility Representative Triennial Assessment.

Sincerely,



Joyce L. Connery
Chair

Enclosure

- c: The Honorable Jennifer Granholm, Secretary of Energy
The Honorable Jill Hruby, Administrator, National Nuclear Security Administration (NNSA)
Mr. Todd Lapointe, Director, Office of Environment, Health, Safety and Security
Mr. Michael Budney, Manager, DOE Savannah River Operations Office
Mr. Michael Mikolanis, Manager, NNSA Savannah River Field Office
Mr. Joe Olencz, Director, Office of the Departmental Representative to the Board

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Staff Report

May 10, 2024

DOE Facility Representative Assessments at the Savannah River Site

Summary. The Defense Nuclear Facilities Safety Board's (Board) Savannah River Site (SRS) resident inspectors conducted a review of the Department of Energy's (DOE) Savannah River Field Office (DOE-SR) facility representative program and identified several deficiencies in the program's implementation. In general, DOE-SR's facility representative program exhibits insufficient safety oversight in certain areas, a lack of responsiveness to negative trends in contractor safety performance, and a lack of meaningful documented engagement from line management. While some facility representatives are high performing, evidence suggests the program is not implemented such that all facility representatives are performing at expected levels.

The requirements for DOE-SR's facility representative program establish a robust outline for field oversight through assessments, planning, and management engagement. However, aspects of these requirements are not fully implemented, which drives DOE-SR to rely too heavily on an expert-based approach to safety oversight. This approach is challenged by attrition rates, shortfalls in staffing, and the relative inexperience of many facility representatives. In particular, DOE-SR is not consistently ensuring that:

- Facility representatives are providing adequate facility coverage,
- Facility representatives' assessments are of high quality,
- Facility representatives' management is providing the necessary guidance and safety oversight of the facility representative program,
- Facility representatives and their management are tracking safety issues and reviewing them to identify trends, and
- DOE-SR is prioritizing higher risk areas for facility representative safety oversight.

Weaknesses in facility representatives' assessments and their management engagement are hampering the effectiveness of operational safety oversight of the SRS defense nuclear facilities. DOE-SR has initiated efforts to address these concerns by revising the implementing procedures for its facility representative program to provide additional guidance and more prescriptive processes. Although revision of DOE-SR's facility representative program requirements can be used to drive specific changes, it is important that DOE-SR places the appropriate value and priority on implementation of such changes. Successful execution of DOE-SR's facility representative program is essential to ensure meaningful federal safety oversight. DOE-SR should use the program with other existing metrics to evaluate contractor

performance. Without a strong facility representative program to provide independent safety oversight, DOE-SR is instead relying heavily on the contractors to evaluate their own safety performance and identify and manage risk. As a self-regulator, DOE must maintain proper independent safety oversight and cognizance of contractor safety performance.

Background. The Board’s SRS resident inspectors reviewed DOE-SR’s operational oversight of the defense nuclear facilities at SRS in three main areas. First, the resident inspectors compared DOE-SR’s program to the requirements and expectations in DOE Order 226.1B, Chg. 1, *Implementation of Department of Energy Oversight Policy*, and DOE Standard 1063-2021, *Facility Representatives*. The staff team then evaluated DOE-SR’s specific implementing procedures, SRIP 400 Chapter 430.1, Rev 11, *Facility Representative Program*, and SRM 226.1 Revision I, Chg. 2, *Integrated Performance Assurance Manual (IPAM)*. Finally, the resident inspectors reviewed facility representative assessments of three DOE-SR operational line organizations—Nuclear Materials Operations Division (NMOD), Waste Disposition Operations Division (WDOD), and Savannah River Laboratory Office (SRLO)—completed in calendar year 2022.

In August 2023, the staff team transmitted lines of inquiry to DOE-SR management that focused on (1) development and execution of facility representative assessment plans, (2) facility representative assessment quality, (3) tracking and trending of facility representative oversight, and (4) management review of facility representative oversight. The staff team met and discussed the lines of inquiry with representatives of NMOD, WDOD, SRLO, and the DOE-SR Office of the Manager in November 2023 and conducted a factual accuracy briefing in February 2024.

Discussion. The staff team identified the following observations.

Annual Assessment Plan (AAP) Development—DOE Order 226.1B states that DOE line management organizations must “evaluate contractor and DOE programs and management systems, including site assurance systems, for effectiveness of performance (including compliance with requirements). Such evaluations must be based on the results of operational awareness activities; assessments of facilities, operations, and programs; and assessments of the contractor’s assurance system. DOE line management organizations may tailor the level and/or mix (i.e., rigor or frequency in a particular area) of oversight based on considerations of hazards, the maturity and operational performance of the contractor’s programs and management systems.” The site IPAM states that “The organizational AAPs contain assessment requirements that are specific to each organization.” In practice, AAPs for the operational line organizations at SRS are neither drafted nor implemented in a way that allows individual line organizations to use them as guidance for their oversight. They are also not drafted in a way that incorporates past issues, assessments, or insights.

The assessments scheduled in the plan rarely change year-to-year as they consist mainly of the generic types of assessments to be performed (i.e., operational awareness, surveillance requirement observation, work planning and control or maintenance observation, and operations activity observation). While there is a risk of being too prescriptive in an assessment plan, the lack of guidance on assessment topics in the operations division AAPs is a missed opportunity to

provide the facility representatives an understanding of management priorities or to ensure that minimum expectations for safety oversight breadth and depth are met.

Since the line organization AAPs only provide a targeted number and type of assessments, DOE-SR does not benefit from identifying topics that are particularly relevant to the covered facilities or that reflect current performance trends. The staff team observed instances where management directs reactive assessments, but they are not captured in the AAP. For example, the Defense Waste Processing Facility (DWPF) experienced a significant number of conduct of operations issues during 2023. The process for developing the Fiscal Year 2024 AAP could have identified a need for a focused review based on the issues at that facility. While DOE-SR ultimately performed a focused review of DWPF in December 2023, this decision was not driven by the AAP process.

Facility representatives and their management could better use the AAP development process as a deliberate means to review past safety issues from completed facility representative assessments, other organizations' assessments, and the broader Annual Performance Assessment Plan to identify targeted review topics for its facility representatives. This would provide DOE-SR with insight on the extent to which previously identified issues may exist in other facilities.

Facility Representative Assessment Execution and Review—The Board's SRS resident inspectors' review of calendar year 2022 facility representative assessments across all line organizations revealed a high degree of variability in the quality of assessments and very little improvement in quality over the course of the year. This indicates that line management mentoring and guidance to facility representatives may be lacking in some organizations. While the writeups of some assessments provided valuable insights into contractor performance, other similarly scoped assessments at other facilities provided very little. For example, those assessments offering little insight often made observations with limited, one sentence descriptions of what was observed. Others noted recurring minor issues like "housekeeping" with no elaboration.

Facility representatives determined the scope and focus of assessments with little input or oversight from line management. Many assessments utilized recycled lines of inquiry. In instances where new lines of inquiry were developed, facility representatives did so with limited and informal input from others. The rigor of the facility representatives' reviews varied significantly, resulting in corresponding variability in the number and significance of the safety-related observations documented for facilities of a similar size and operational pace. More substantial facility representatives' management oversight and feedback are needed for the overall process to ensure that facility representatives provide consistent and effective safety oversight that targets important areas. The lack of facility representatives' management engagement represents a lost opportunity to redirect safety oversight based on feedback from other facility representatives and organizations.

The Board's resident inspectors found assessments in some instances that languished without facility representatives' management approval for months. Facility representatives' management approved others despite significant weaknesses in assessment quality. For example, an assessment with lines of inquiry related to pre-job briefings, procedural compliance, communications, and radiological controls for an operations activity was completed based on

observing a meeting of the Facility Operations Safety Committee, which normally approves safety basis changes. The assessment scope could not have been evaluated through observation of this activity, but the assessment report was approved, nonetheless.

A DOE-SR management review board (or equivalent) in each line organization only reviews assessments with findings and opportunities for improvement. As a result, management misses the opportunity to provide feedback on assessments that may be weak in rigor or scope. Feedback on completed assessments is not documented outside of the management review board. These shortfalls in management review and feedback have allowed facility representatives to continue to conduct less than adequate assessments, which management has approved in some instances.

DOE-SR credits the facility representative assessment process with fulfilling several facility representative program requirements. However, line management does not evaluate or document whether these program requirements are being satisfied. For example, SRIP 400, Chapter 430.1, requires facility representatives to “tour selected portions of the accessible facility area, including radiological control areas, radiation areas, contamination areas, exterior areas, such that the entire facility is toured on periodic basis (e.g., weekly),” and to “tour a sampling of all areas on a routine basis to include generally facility/equipment conditions, fire hazards, activities in progress, radiation protection controls, Occupational Safety and Health controls, housekeeping, missile hazards, criticality safety, etc.” The same chapter also states, “the FR’s [facility representative] should perform sufficient backshift assessments to ensure consistency in the contractor’s performance and should be sensitive to the element of non-predictability in performing backshift assessments.”

DOE-SR’s facility representatives’ management have not documented facility coverage and oversight of backshift operations to demonstrate compliance with the SRIP. This allowed at least one significant activity (i.e., a 24/7 high-hazard operation at a Hazard Category 2 nuclear facility) to proceed for more than a year with less than two hours of DOE-SR field oversight in calendar year 2022.

Tracking and Trending—DOE Standard 1063, Section 4.1.10.F, states that “minor events or problems may indicate more general problems in the contractor’s organization, management, personnel abilities, or practices. Therefore, attention to detail in the identification, tracking, trending, collective significance evaluation, and correction of minor problems can result in significant improvements in the contractor’s performance.” Additionally, the SRS IPAM, Section 4.3.G, requires line management to “monitor assessment results for emerging trends and determine the need for additional safety oversight activities (i.e., ‘for cause’ assessments).”

In some instances, individual facility representatives informally track and trend issues at their facilities. However, none of the DOE-SR operational line organizations formally tracked and trended safety issues, and, with limited exceptions, DOE-SR did not formally use past assessments and issues to identify areas for future safety oversight. As a result, DOE-SR may not be ensuring adequate safety oversight in areas where contractor performance is weakest, instead relying on the contractor assurance system to identify trends and programmatic weaknesses across the site. This has proved ineffective. For example, DOE-SR’s review of DWPF in December 2023 identified that the contractor’s self-assessment program did not

sufficiently respond to negative trends and that the contractor was not developing corrective actions in a timely manner. DOE-SR acknowledged the staff team's concern and is revising its implementing procedure for the facility representative program to include more detailed guidance and training for issue tracking and trending.

Ongoing Efforts. DOE-SR leadership broadly agreed with the identified weaknesses in its facility representative program and has initiated efforts to improve the program. For instance, DOE-SR now requires each operational division to conduct a quarterly assessment to identify and assess trends associated with recent DOE-SR safety oversight. In addition, DOE-SR has initiated a revision to SRIP 400 Chapter 430.1, and the IPAM to include the quarterly assessments and provide more detailed guidance to the facility representatives. While these changes to the relevant DOE-SR requirements will improve the facility representative program guidance, the effectiveness of the program will be contingent on the implementation of these program requirements.

Conclusion. DOE-SR's facility representative program requirements outline a safety oversight process consisting of assessments, planning, and management engagement consistent with DOE requirements. However, DOE-SR does not consistently or fully implement aspects of the facility representative program. DOE-SR management does not formally track and review safety issues to identify trends from facility representative assessments. The operational groups do not implement a robust process for safety oversight planning that identifies and prioritizes higher risk areas. DOE-SR line management does not consistently or formally provide necessary feedback and timely review of assessments. Lastly, facility representative management does not appear to be taking the opportunity to help mentor and train less-experienced facility representatives. The programmatic deficiencies result in an over-reliance on an expert-based approach to safety oversight. Addressing these gaps and improving implementation of the facility representative program will improve the effectiveness of DOE's operational safety oversight of SRS defense nuclear facilities.

References

1. Department of Energy, *Facility Implementation of Department of Energy Oversight Policy*, DOE Order 226.1B, Chg. 1, May 3, 2022.
2. Department of Energy, *Facility Representatives*, DOE-STD-1063-2021, December 10, 2021.
3. Department of Energy Savannah River Operations Office, *Facility Representative Program*, SRIP 400 Chapter 430.1, Rev. 11, January 4, 2022.
4. Department of Energy Savannah River Operations Office, *Integrated Performance Assurance Manual (IPAM)*, SRM 226.1, Revision I, Chg. 2, March 10, 2023.