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**DEFENSE NUCLEAR FACILITIES
SAFETY BOARD**

Washington, DC 20004-2901



January 7, 2016

The Honorable Ernest J. Moniz
Secretary of Energy
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1000

Dear Secretary Moniz:

The Defense Nuclear Facilities Safety Board's (Board) Recommendation 2014-1, *Emergency Preparedness and Response*, recommended that the Department of Energy (DOE) "confirm that all sites with defense nuclear facilities ... [a]re identifying deficiencies with emergency preparedness and response, conducting causal analysis, developing and implementing effective corrective actions to address these deficiencies, and evaluating the effectiveness of these actions." Los Alamos National Laboratory (LANL) recently self-identified that "[a] sustainable, comprehensive, and coordinated training and drills program has not been fully implemented as required per DOE Order 151.1C [*Comprehensive Emergency Management System*]." The Board is aware that LANL is taking some action based on this finding to begin developing drill programs at its defense nuclear facilities, but we are concerned with the pace and completeness of the effort. Additionally, our staff has made the enclosed preliminary observations indicating weaknesses in emergency preparedness and response at LANL.

Our staff plans to perform a comprehensive review of emergency preparedness and response programs at LANL in early 2016. In the meantime, based on the enclosed observations and the noted lack of a comprehensive drill program at LANL defense nuclear facilities, DOE should consider whether additional requirements or oversight are needed in this area consistent with Recommendation 2014-1.

Sincerely,


Joyce L. Connery
Chairman

Enclosure

c: Mr. Joe Olencz

Enclosure

Preliminary Observations of Weaknesses Associated with Emergency Preparedness and Response at Los Alamos National Laboratory

1. The emergency response plans that contain protective action recommendations for members of the public in the event of an accident involving the inappropriately remediated nitrate salts have not been updated to reflect the current understanding of the release hazard associated with these materials. Consequently, pre-planned evacuation zones may be of insufficient size.
2. While two defense nuclear facilities (the Plutonium Facility and the Weapons Engineering Tritium Facility) that recently underwent federal readiness assessments have made some progress developing programs to drill responses to emergencies and abnormal events, these programs are in a nascent stage and there has been little effort to date to develop similar programs at the other defense nuclear facilities, such as Area G, the Chemistry and Metallurgy Research building, and the Waste Characterization, Reduction, and Repackaging Facility.
3. Planning and conduct of drills and exercises do not ensure that scenarios are sufficiently challenging and minimize artificiality and simulation.
4. Based on published after-action reports since 2008, exercise scenario types and associated scope are incomplete and do not represent the spectrum of documented credible accident types.
5. Provisions for the handling of patients contaminated with radiological materials and the periodic practice and evaluation of those provisions need improvement.
6. Command and control practices between facility and external responders are inconsistent across the nuclear facilities, and performance in exercises has not always been effective.
7. Evaluations of exercise performance often lack critical review, and resulting corrective actions are prolonged, result in obviously unsustainable solutions, or otherwise fail to correct the problem.
8. Exercise performance suggests the inability to effectively shelter laboratory workers in place during a release of hazardous materials.
9. There are recurring issues involving key response equipment, such as inoperability of radios and incomplete efforts to outfit facility incident command centers with the capability to directly monitor facility status.
10. Facility-level procedures do not always reflect institutional policy on the notification process required for an emergency.