

A.J. Eggenberger, Chairman
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DEFENSE NUCLEAR FACILITIES SAFETY BOARD

625 Indiana Avenue, NW, Suite 700 Washington, D.C. 20004-2901
(202) 694-7000
July 28, 2009



The Honorable Thomas P. D'Agostino
Administrator
National Nuclear Security Administration
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-0701

Dear Mr. D'Agostino:

The Defense Nuclear Facilities Safety Board (Board) provided a letter and report to you on January 18, 2008, identifying significant deficiencies in the fire protection system in the Device Assembly Facility (DAF) at the Nevada Test Site. The Board observed in particular that long-standing deficiencies with the water supply piping needed to be resolved before more hazardous nuclear operations such as nuclear explosive operations or criticality experiments began at DAF. As discussed below, the site's management and operating contractor is making progress in characterizing the extent of the facility's deficiencies and identifying the required repairs and upgrades. It remains imperative that the National Nuclear Security Administration (NNSA) fully support the required facility upgrades and not allow administrative compensatory measures to serve as a long-term substitute for reliable engineered safety systems.

The DAF fire suppression system provides safety-significant and safety-class functions respectively to control the consequences of a fire and prevent a fire from affecting nuclear explosive operations. Numerous reviews have shown this system does not meet the minimum requirements of the standards set by the National Fire Protection Association and the Department of Energy. Near-term upgrades being pursued include installation of strainers with sufficient capacity to capture debris that would impair sprinkler heads, installation of additional sprinkler heads and larger sprinkler piping where needed, refurbishment of the tank used to supply fire water, and investigation of installing stand-alone fire suppression units to provide needed redundancy and risk reduction for specific operations. The Nevada Site Office is also pursuing a line item project to replace the seismically inadequate water tank and the deteriorating lead-in piping for the water supply.

The site management and operating contractor has implemented a continuous fire watch as an administrative compensatory measure to justify continued operation of this facility prior to completing the required upgrades. This compensatory measure is inadequate as a long term safety-related control. The Board is concerned that unless there is continued commitment and emphasis from NNSA, this administrative compensatory measure will become established as part of the normal control set, and consequently, engineered upgrades will be viewed as an unnecessary expense.

Continued diligence and commitment to completion of the proposed initiatives, as well as long-term funding, is required to improve the safety posture of the facility. Further, nuclear explosive operations cannot be performed safely until the reliability of the fire suppression system is improved and its safety function is complemented by installation of a redundant system such as a stand-alone system like the one being pursued by the contractor.

Therefore, pursuant to 42 U.S.C. § 2286b(d), the Board requests to be briefed in October 2009 on modifications or upgrades planned for the fire suppression system to provide a reliable and effective safety-related function. The briefing should include a discussion regarding actions that will be taken by NNSA headquarters to ensure effective implementation of these plans.

Sincerely,

A handwritten signature in black ink, appearing to read "A. J. Eggenberger". The signature is fluid and cursive, with a large initial "A" and "E".

A. J. Eggenberger
Chairman

c: Mr. Stephen A. Mellington
Mr. Mark B. Whitaker, Jr.