

August 14, 2003

The Honorable Spencer Abraham
Secretary of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1000

Dear Secretary Abraham:

The Defense Nuclear Facilities Safety Board (Board) has received your letter dated July 11, 2003, enclosing the Department of Energy's (DOE) response to the Board's January 9, 2003, letter concerning testing of High-Efficiency Particulate Air (HEPA) filters. The Board has reviewed the response and is pleased to note your continued commitment to performing 100 percent testing at the Filter Testing Facility (FTF) of HEPA filters that will be used in safety-related applications.

However, the Board notes that, contrary to your previous direction, 11 percent of the HEPA filters recently installed in safety-significant systems in facilities at the Savannah River Site (SRS) did not go through the FTF. This situation is of particular concern considering that the FTF annually rejects for physical and performance-related defects a significant number of filters that have already passed the vendor's tests and inspections. While the majority of these defects are discovered by visual inspection, many defects are related to inadequate filter performance (e.g., failure to meet penetration and/or resistance requirements) and cannot be detected consistently and reliably by means of in-place testing.

While the in-place testing performed on site for newly installed and regularly maintained HEPA filters is necessary for ensuring general system leak-tightness, inherent limitations prevent use of such testing as a substitute for that performed at the FTF and by the vendors. Sample point location, flow rate, flow distribution, and particle size are but a few examples of test conditions that cannot be simulated or produced in the field to the degree of accuracy achieved at the FTF. Thus without FTF testing, defective filters may pass in-place testing and remain installed in safety systems—an unacceptable situation. Accordingly, the Board would like to be briefed by the Assistant Secretary, Environment, Safety and Health within the next 30 days on how DOE is assured that currently installed filters not tested at the FTF can adequately perform their safety function.

Your June 4, 2001, letter concerning HEPA filters requires 100 percent quality assurance (QA) testing at the FTF for habitability HEPA filters, "e.g., filters that protect workers who must not evacuate in emergency situations because of the necessity to shut down or control the situation." Your letter of July 11, 2003, however, notes that no such filters exist for any of the Environmental Management (EM)

sites surveyed. The letter also notes that no such filters exist at the Device Assembly Facility, the Pantex Plant, the Kansas City Plant, or the SRS Tritium Facilities. The response of the National Nuclear Security Administration (NNSA) for Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and the Oak Ridge Y-12 Facility contains generic discussion of the site policy for HEPA filter testing at those sites, but does not specifically note whether habitability-related HEPA filters exist at those sites. The Board would appreciate a clarification of the EM and NNSA responses for habitability-related HEPA filters within the next 60 days. For each EM and NNSA site, please identify whether any HEPA-filtered ventilation systems exist for the protection of personnel who must shelter or continue operations in nuclear or non-nuclear facilities (including emergency operations centers) following an accident in a nearby nuclear facility. For those sites where such ventilation systems exist, please identify the QA testing program for HEPA filters used in those ventilation systems.

The Board also notes that DOE plans to fund the FTF only through 2005. As offered in your letter of July 11, 2003, the Board would like to be informed of DOE's plans for HEPA filter testing prior to any changes in HEPA filter testing protocols, including deactivation of the FTF.

Sincerely,

John T. Conway
Chairman

c: The Honorable Linton Brooks
The Honorable Jessie Hill Roberson
The Honorable Beverly Ann Cook
Mr. Jeffrey M. Allison
Mr. Mark B. Whitaker, Jr.