



**The Secretary of Energy**  
Washington, DC 20585

June 4, 2001

The Honorable John T. Conway  
Chairman  
Defense Nuclear Facilities Safety Board  
625 Indiana Avenue, NW, Suite 700  
Washington, DC 20004

Dear Mr. Chairman:

Pursuant to the Department of Energy's (DOE) report and action plan addressing issues raised in the May 1999 Technical Report 23, *HEPA Filters Used in the Department of Energy's Hazardous Facilities*, and the associated commitment (No. 29) in the Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2000-2, the enclosed memorandum describes the measures the Department is taking with regard to 100 percent quality assurance testing of HEPA filters at the DOE Filter Test Facility (FTF).

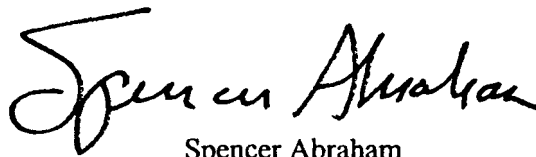
These measures include the immediate implementation of the enclosed filter testing protocols and procedures by cognizant Lead Program Secretarial Officers at their sites. Further, I have directed the Assistant Secretary for Environment, Safety and Health to begin the process to incorporate these important measures in the Departmental directives system or Technical Standards Program to further ensure that these quality assurance testing procedures are assimilated across the DOE Complex. The Department will continue to update and enhance HEPA filter testing guidance, as well as develop and execute an assessment program for continually monitoring the implementation, efficacy and appropriateness of these protocols and procedures. The Department has committed to maintain operation and funding of the FTF at Oak Ridge. This will be accomplished by funding provided by the Office of Environmental Management, until such time as the FTF is required to move, which is expected in approximately two years.

We believe that these actions will help ensure the integrity of confinement ventilation systems intended to protect the environment, our workers and the public. We appreciate the Board's advice and support in this important matter.



If you have any further questions, please contact me or Dr. Carolyn L. Huntoon, Acting Assistant Secretary for Environmental Management on (202) 586-7710, or have a member of your staff contact Mr. Randal S. Scott, Director, Office of Safety, Health and Security, Office of Environmental Management on (202) 586-0755.

Sincerely,

A handwritten signature in black ink that reads "Spencer Abraham". The signature is written in a cursive style with a large, sweeping initial "S".

Spencer Abraham

Enclosure

## ENCLOSURE

### **BACKGROUND INFORMATION: 100 PERCENT QUALITY ASSURANCE (QA) TESTING OF HEPA FILTERS AT THE FILTER TEST FACILITY (FTF)**

The May 1999 Defense Nuclear Facilities Safety Board (Board) Technical Report 23, *HEPA Filters Used in the Department of Energy's Hazardous Facilities*, raised concerns with the DOE HEPA filter program. In December 1999 the Secretary submitted a plan to the Board to address those concerns. The plan tasked the Office of Environmental Management (EM) to chair a working group to explore options and make recommendations on the subject issue. This task was incorporated into the Implementation Plan for the Board's Recommendation 2000-2. The recommendations of the EM-led working group were subsequently presented to, and accepted by, the Chief Operating Officers (COOs) on February 2, 2001, and then forwarded to the Field Management Council (FMC) for review and comment. The attached protocols and procedures reflect the consensus of the FMC review.

Individual HEPA filters are subjected to a variety of visual and performance checks by the vendor (who guarantees they meet specification). DOE operating contractors on-site perform various receiving inspection tests. After installation, a system leak test is conducted. The working group considered the costs and increased value of using the FTF for independent quality assurance (QA) testing of every filter used in the DOE complex prior to its installation on-site. The working group considered whether the Department should: require FTF testing; permit sites to tailor QA testing based on specific situations and filter applications; or, specify some combination of FTF testing and site-tailored approaches that would provide sufficient assurance of fitness for service. The Board has advocated that the Department strengthen QA programs for HEPA filters used at defense nuclear facilities.

On February 2, 2001, a meeting of COOs was held to consider three proposed sets of recommendations (options) drafted by the working group. The working group had unanimously agreed that some level of independent filter QA testing and inspection prior to installation, beyond what the manufacturer provides, is necessary and appropriate for filters used in certain nuclear materials confinement-related applications. However, the working group's review of the existing regime of filter testing, the relatively successful record of HEPA filter procurement and use, and a pragmatic evaluation of the opportunities for system improvement, led to a general consensus that this independent QA approach may be tailored (graded) to the specific needs and situations at each site. This approach would include 100 percent QA testing at the FTF for HEPA filters used for certain safety applications, while allowing the sites the flexibility of establishing a documented QA testing program - that includes sample QA testing at the FTF - to achieve a high degree of fitness for service in other filter applications.

This approach is consistent with the principles of Integrated Safety Management and requires the sites to remain accountable and in direct control of these critical safety activities.

The Board has advocated that the Department strengthen QA and Quality Control programs for HEPA filters used at defense nuclear facilities and will likely critically evaluate any tailored approaches proposed.

Previously, EM paid for the fixed and variable costs of operating the FTF. The working group recommended to the COOs that future funding for the FTF should be structured so as not to discourage use of the FTF in site-tailored approaches.

A graded HEPA filter testing program, which includes sample QA testing at the FTF for non-critical applications (in lieu of 100 percent QA testing) may realize cost-efficiencies.

## ATTACHMENT

### **DEPARTMENT OF ENERGY PROTOCOLS AND PROCEDURES CONCERNING 100 PERCENT QUALITY ASSURANCE TESTING OF HEPA FILTERS AT THE DOE FILTER TEST FACILITY (FTF)**

The following protocols and procedures are intended to ensure that an appropriate level of quality assurance (QA) in the design, integrity and performance of new/replacement HEPA filters used at DOE defense nuclear facilities is achieved and maintained to adequately protect workers and public health and safety. It is further recommended that these protocols and practices be considered for HEPA filters used at non-defense facilities, as appropriate, in implementing facility Integrated Safety Management programs.

- (1) Conduct 100 percent QA testing at the DOE Filter Test Facility (FTF) of new HEPA filters that are used in confinement ventilation systems for Category 1 and Category 2 nuclear facilities that perform a safety function in accident situations, or are designated as important to safety (i.e., safety class or safety significant equipment per DOE-STD-3009-94).**
- (2) Conduct 100 percent QA testing at the FTF of HEPA filters necessary for habitability systems, e.g., filters that protect workers who must not evacuate in emergency situations because of the necessity to shutdown or control the situation.**
- (3) For all other applications where HEPA filters are used in confinement ventilation systems for radioactive airborne particulates, develop and document an independent, tailored filter QA testing program that achieves a high degree of fitness for service. The program should include the testing of a sample of filters at the FTF. The size of the sample to be tested should be large enough to provide sufficient statistical power and significance to assure the required level of performance.**
- (4) Periodically analyze and publish FTF data to provide filter reliability and performance information for the complex. The analysis would include vendor, product description, and type of deficiency.**
- (5) Funding for the FTF shall be maintained by DOE Headquarters so as not to discourage FTF usage. Funding will be provided by the Office of Environmental Management until such time as the FTF is required to move, at which time the funding arrangement will be reviewed.**
- (6) Establish a formal self-assessment program to evaluate the above QA protocols and procedures and determine their continued benefit and cost-effectiveness, and to identify opportunities for improvement and lessons learned. Task the DOE Quality Assurance Working Group to develop and execute an appropriate implementing strategy, including supporting program objectives, evaluative criteria, assessment procedures, and periodic status and assessment reports.**



The Secretary of Energy  
Washington, DC 20585

June 4, 2001

MEMORANDUM FOR DISTRIBUTION

FROM: SPENCER ABRAHAM

A handwritten signature in cursive script that reads "Spencer Abraham".

SUBJECT: 100 Percent Quality Assurance Testing of HEPA Filters At The DOE Filter Test Facility

The May 1999 Defense Nuclear Facilities Safety Board (Board) Technical Report 23, *HEPA Filters Used in the Department of Energy's Hazardous Facilities*, raised concerns with the DOE HEPA filter program. In December 1999, Secretary Richardson submitted an Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 2000-2, which included actions intended to address these concerns. One of the Plan's commitments was to review the benefit of testing 100 percent of HEPA filters at the DOE Filter Test Facility (FTF) in Oak Ridge, Tennessee, and also to explore other options in lieu of this approach. The attached background paper provides additional information on the HEPA filter testing issue (Attachment 1). Based on the recommendations of a DOE working group tasked to examine the issue, which were reviewed by the Field Management Council, I am hereby directing the Lead Program Secretarial Officers to immediately implement the attached HEPA filter testing protocols and procedures at their sites (Attachment 2).

Further, I direct the Assistant Secretary for Environment, Safety and Health to begin the process to incorporate these important measures in the Departmental directives system or Technical Standards Program in a timely manner to further ensure that these quality assurance testing procedures are assimilated across the DOE Complex. The Department will also ensure that HEPA filter testing guidance will continue to be updated and enhanced, as appropriate, and that an assessment program, including associated evaluative criteria, is established for continually monitoring and reporting on the implementation, efficacy and appropriateness of these quality assurance protocols and procedures. The Department has committed to maintain operation and funding of the FTF at Oak Ridge. This will be accomplished by funding provided by the Office of Environmental Management, until such time as the FTF is required to move, which is expected in approximately two years.

I believe that these actions will help ensure the integrity of confinement ventilation systems intended to protect the environment, our workers and the public. Assuring the quality and integrity of new HEPA filters used in critical safety systems using this graded testing approach, is consistent with and supports comprehensive site Integrated Safety Management programs.

Attachments



Distribution

C. Huntoon, Acting Assistant Secretary, Office of Environmental Management, EM-1  
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cc:

Beverly Cook, Manager, Idaho Operations Office (ID)  
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T. Gioconda, Acting Assistant Secretary, Office of Defense Programs, DP-1  
R. Erickson, Acting Chief Operating Officer, Office of Defense Programs, DP-3  
FMC Secretariat, MA-4

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**DEPARTMENT OF ENERGY PROTOCOLS AND PROCEDURES CONCERNING 100 PERCENT QUALITY ASSURANCE TESTING OF HEPA FILTERS AT THE DOE FILTER TEST FACILITY (FTF)**

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(5) Funding for the FTF shall be maintained by DOE Headquarters so as not to discourage FTF usage. Funding will be provided by the Office of Environmental Management until such time as the FTF is required to move, at which time the funding arrangement will be reviewed.

(6) Establish a formal self-assessment program to evaluate the above QA protocols and procedures and determine their continued benefit and cost-effectiveness, and to identify opportunities for improvement and lessons learned. Task the DOE Quality Assurance Working Group to develop and execute an appropriate implementing strategy, including supporting program objectives, evaluative criteria, assessment procedures, and periodic status and assessment reports.