October 4, 2013

EA-13-108

Ms. Sandra Warren, General Manager
Aerotest Operations, Inc.
3455 Fostoria Way
San Ramon, CA 94583

SUBJECT: AEROTEST OPERATIONS, INC. – REQUESTING RESPONSE TO AN UNRESOLVED ITEM IDENTIFIED IN NRC INSPECTION REPORT NO. 50-228/2012-201

Dear Ms. Warren:

This letter refers to an inspection conducted by the U.S. Nuclear Regulatory Commission (NRC) on January 17 and 18, 2012, at the Aerotest Radiography and Research Reactor facility. The purpose of this inspection was to review the results of a fuel inspection conducted by your facility in December 2011. During that fuel inspection, you identified cracks in four of the fuel elements and on January 11, 2012, you submitted a letter to the NRC describing your findings. A copy of the letter is available under Agency Documents Access Management System (ADAMS) Accession No. ML12018A336. On August 10, 2012, you submitted a letter to the NRC (ADAMS Accession No. ML12250A659) documenting that a followup fuel inspection at the facility revealed that there were a total of 22 fuel elements with cracks in the cladding. The subject inspection report (ADAMS Accession No. ML120310173), which was issued on February 7, 2012, documented the results of the NRC's inspection and identified an unresolved item (URI) associated with operation of the reactor with damaged fuel (URI 50-228/2012-201-01).

During a telephone conference on September 6, 2013, Mr. Gregory T. Bowman of my staff informed you that the NRC had completed its review of the URI and was considering escalated enforcement for an apparent violation involving operation of the reactor with significantly damaged fuel, contrary to the facility's Technical Specifications. Mr. Bowman also informed you that the NRC has sufficient information regarding the apparent violation to make an enforcement decision without the need for a predecisional enforcement conference or a written response from you. During that telephone conference, you indicated that Aerotest Operations, Inc. believes that a predecisional enforcement conference or written response is needed.

Based on the information developed during the subject inspection, subsequent inspection activities, and the information that you provided in letters dated January 20, 2012 (ADAMS Accession No. ML12026A344), August 10, 2012 (ADAMS Accession No. ML12250A659), and August 15, 2013 (ADAMS Accession No. ML13247A668), one apparent violation of NRC requirements was identified and is being considered for escalated enforcement action in accordance with the NRC Enforcement Policy. The current NRC Enforcement Policy is on the NRC's Web site at http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html. The

apparent violation was associated with the facility's operation at varying power levels from 2006 (the date of the last fuel inspection) to October 15, 2010, with a number of fuel elements with varying degrees of cracking in the aluminum cladding.

The actual radiological consequences of this issue are low due to the fact that, while some elevated levels of fission products were found in the reactor's purification system, no detectable airborne releases or local or environmental contamination were identified in or around the facility. Notwithstanding, based on the results of NRC inspections, the facility apparently operated the reactor using fuel with cracks in the cladding for a number of years. Although the safety consequences of this situation are low, operating the facility with damaged fuel represents a loss of the primary fission product barrier and the potential for release of radioactive material.

Because your facility has not been the subject of an escalated enforcement action within the last 2 years, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section 2.3.4 of the NRC Enforcement Policy. As described in NRC Inspection Reports 50-228/2012-204, dated August 14, 2012 (ADAMS Accession No. ML12213A001) and 50-228/2012-206, dated January 7, 2013 (ADAMS Accession No. ML12361A147), corrective actions included the following: (1) placing all the undamaged fuel into proper storage locations inside the reactor tank, (2) fabricating specially designed canisters to contain the damaged fuel elements, (3) placing each fuel element with cracked cladding, with the exception of two recently identified damaged elements, into one of the specially designed canisters, and (4) placing each of the canisters in a specially designed and fabricated storage rack. The majority of the damaged fuel was safely placed into storage on December 13, 2012; you indicated that you intend to maintain the remaining two damaged elements in the reactor tank for monitoring. All of these corrective actions were completed in a timely manner and with an appropriate focus on occupational radiation safety, and the NRC has determined that credit is warranted for your corrective actions. Therefore, to encourage prompt identification, and prompt and comprehensive correction of violations, and in recognition of the absence of previous escalated enforcement action, a civil penalty may not be warranted in accordance with Section 2.3.4 of the Enforcement Policy.

Before the NRC makes its enforcement decision, we are providing you an opportunity to (1) respond to the apparent violation addressed in the subject inspection report within 30 days of the date of this letter or (2) request a predecisional enforcement conference (PEC). If a PEC is held, it will be open for public observation, and the NRC will issue a press release to announce the time and date of the conference. If you decide to participate in a PEC, please contact Gregory T. Bowman at (301) 415-2939 within 10 days of the date of this letter. A PEC should normally be held within 30 days of the date of this letter.

If you choose to provide a written response, it should be clearly marked as a "Response to Apparent Violation in NRC Inspection Report No. 50-228/2012-201; EA-13-108" and should include: (1) the reason for the apparent violation or, if contested, the basis for disputing the apparent violation; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate response is not received within the time specified or an extension of time has not been granted by the NRC, the NRC will proceed with its enforcement decision.

If you choose to request a PEC, the conference will afford you the opportunity to provide your perspective on these matters and any other information that you believe the NRC should take into consideration before making an enforcement decision. The decision to hold a predecisional enforcement conference does not mean that the NRC has determined that a violation has occurred or that enforcement action will be taken. This conference will be conducted to obtain information to assist the NRC in making an enforcement decision. The topics discussed during the conference may include information to determine whether a violation occurred, information to determine the significance of a violation, information related to the identification of a violation, and information related to any corrective actions taken or planned.

In addition, please be advised that the number and characterization of apparent violations described in the enclosed inspection report may change as a result of further NRC review. You will be advised by separate correspondence of the results of our deliberations on this matter.

An additional URI associated with fuel degradation was identified during an NRC inspection conducted in July 2012. Specifically, the inspector identified that the serial numbers on many of the older aluminum clad fuel elements could not be read, possibly due to wear caused by the fuel handling tool. At the time of the inspection, the licensee indicated that fuel elements were tracked by their position in the reactor core or fuel storage rack, rather than by serial number. URI 50-228/2012-204-02 was opened to evaluate whether this method of tracking met NRC requirements. The NRC has reviewed this issue and determined that it does not represent a violation of NRC requirements. Accordingly, this URI is closed.

In accordance with Title 10 of the *Code of Federal Regulations* Section 2.390, "Public inspections, exemptions, requests for withholding," a copy of this letter and its enclosures will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system, accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html. The NRC includes significant enforcement actions on its Web site at (http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/).

Sincerely,

/RA/

Lawrence E. Kokajko, Director
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-228
License No. R-98

cc: See next page

Aerotest Operations, Inc. Docket No. 50-228
cc:

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Sincerely,

/RA/

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