

October 20, 2005

EA-05-161

Daniel J. Larson, PE, Principal
American Engineering Testing, Inc.
550 Cleveland Avenue North
St. Paul, MN 55114

SUBJECT: NOTICE OF VIOLATION [NRC INSPECTION REPORT NO. 03034637/
05-001(DNMS) AMERICAN ENGINEERING TESTING, INC.]

Dear Mr. Larson:

This refers to the routine safety inspection conducted on July 20 and 21, 2005, of NRC-licensed activities at a field location in Inver Grove Heights, MN, and at your main facility in St. Paul, MN. Two apparent violations of NRC requirements were identified during the inspection at the field location. The violations concerned the apparent failure of radiographic personnel to: (1) maintain continuous direct visual surveillance of the high radiation area during a radiographic exposure to prevent unauthorized entry into that area; and (2) conduct a survey of the radiographic exposure device and guide tube following an exposure. Inspection Report No. 03034637/05-001(DNMS), describing the apparent violations, was sent to you on August 24, 2005.

In the letter transmitting the inspection report, we provided you the opportunity to address the apparent violations identified in the report by either attending a predecisional enforcement conference or by providing a written response before we made our final enforcement decision. You declined the opportunity for a predecisional enforcement conference and on September 13, 2005, you provided a written response to the apparent violations.

Based on the information developed during the inspection and the information that you provided in your September 13, 2005, letter, the NRC has determined that violations of NRC requirements occurred. The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in the subject inspection report and are further described in this letter. On July 20, 2005, a routine safety inspection of field radiographic operations was conducted at a refinery in Inver Grove Heights, MN, a temporary job site. After exposing the radiographic source, the NRC inspector observed the radiographer and the radiographer's assistant prepare equipment and film for the next radiographic exposure. During this time period, the radiographer and the radiographer's assistant did not maintain continuous direct visual surveillance during the radiographic exposure to protect against unauthorized entry into the high radiation area in violation of 10 CFR 34.51, "Surveillance."

The NRC inspector also observed the radiographer retract the radiographic source into the radiographic exposure device at the conclusion of the radiographic exposure. The radiographer then approached the exposure device without performing a radiation survey, as the radiographer left the radiation survey instrument near the hand crank for the exposure device. The failure to perform a radiation survey at the conclusion of a radiographic exposure before approaching the exposure device or guide tube is a violation of 10 CFR 34.49. "Radiation Survey." The radiation survey was conducted after the radiographer's assistant brought the radiation survey instrument to the radiographer.

These violations are a significant regulatory concern because of the potential for an unnecessary radiation exposure to an individual inadvertently entering the high radiation area and the potential for an unnecessary radiation exposure to the radiographic crew because a radiation survey was not performed at the completion of the radiographic exposure to ensure the radiographic source was fully retracted into the exposure device. Therefore, these violations are categorized collectively in accordance with the NRC Enforcement Policy as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$6,500 is considered for a Severity Level III problem. Because your facility has not been the subject of escalated enforcement actions within the last two years, the NRC considered whether credit was warranted for *Corrective Action* in accordance with the civil penalty assessment process in Section VI.C.2 of the Enforcement Policy. Credit was warranted for corrective actions consisting of: (1) counseling and retraining the radiography crew; (2) increasing the frequency of performance observations by the Radiation Safety Officer (RSO) or designee; (3) sending a memorandum to all radiographers emphasizing the need to adhere to the procedures described in your Radiation Safety Manual; (4) conducting safety meetings at branch offices and field stations to discuss the violations; and (5) having the corporate RSO make a presentation about the violations during the February 2006 annual safety meeting with all radiographers.

Therefore, to encourage prompt and comprehensive correction of violations and in recognition of the absence of previous escalated enforcement action, I have been authorized, after consultation with the Director, Office of Enforcement, not to propose a civil penalty in this case. However, significant violations in the future could result in a civil penalty. In addition, issuance of this Severity Level III problem constitutes escalated enforcement action, that may subject you to increased inspection effort.

The NRC has concluded that information regarding the reason for the violations, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance will be achieved is already adequately addressed on the docket in Inspection Report No. 03034637/05-001(DNMS) and your September 13, 2005, letter. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect

your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if you choose to respond, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction. The NRC also includes significant enforcement actions on its Web site at www.nrc.gov; select **What We Do, Enforcement**, then **Significant Enforcement Actions**.

Sincerely,

/RA by Geoffrey E. Grant Acting for/

James L. Caldwell
Regional Administrator

Docket No. 030-34637
License No. 22-20271-02

Enclosure: Notice of Violation

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DATE	10/18/05	10/19/05	10/18/05	10/17/05	10/19/05	10/20/05

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¹ Concurrence received from Audrey Hayes, OE, on 10/18/2005.

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NOTICE OF VIOLATION

American Engineering Testing, Inc.
St. Paul, MN

Docket No. 030-34637
License No. 22-20271-02
EA-05-161

During an NRC inspection conducted on July 20 and 21, 2005, violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. 10 CFR 34.51 requires that during each radiographic operation the radiographer, or other individual present, as required by 10 CFR 34.41, shall maintain continuous direct visual surveillance of the radiographic operation to protect against unauthorized entry into a high radiation area, as defined in 10 CFR Part 20, except at permanent radiographic installations where all entryways are locked and the requirements of 10 CFR 34.33 are met.

10 CFR 20.1003 defines a *High radiation area* as an area, accessible to individuals, in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 0.1 rem (1 mSv) in 1 hour at 30 centimeters (cm) from the radiation source or 30 cm from any surface that the radiation penetrates.

Contrary to the above, on July 20, 2005, during radiographic operations at the licensee's field station at Flint Hill Resources, Inver Grove Heights, MN, the licensee's crew did not maintain continuous direct visual surveillance to protect against unauthorized entry into a high radiation area, as defined in 10 CFR 20.1003, during a radiography exposure at that temporary job site. Specifically, the radiographer and the radiographer's assistant began preparing equipment and film for the next radiographic exposure and failed to maintain continuous direct visual surveillance to protect against unauthorized entry into a high radiation area during the radiographic exposure at a field location that was not a permanent radiographic installation meeting the requirements of 10 CFR 34.33.

- B. 10 CFR 34.49 requires that the licensee use a calibrated and operable radiation survey instrument to conduct a survey of the radiographic exposure device and the guide tube after each exposure when approaching the device or the guide tube. The survey must determine that the sealed source has returned to its shielded position before exchanging film, repositioning the exposure head, or dismantling equipment.

Contrary to the above, on July 20, 2005, at the licensee's field station located at Flint Hill Resources, Inver Grove Heights, MN, the licensee's radiographic crew did not conduct a survey of the radiographic exposure device and the guide tube after an exposure when approaching the device and guide tube to determine that the sealed source was returned to its shielded position before exchanging film, repositioning the exposure head, or dismantling equipment.

This is a Severity Level III problem (Supplement VI).

The NRC has concluded that information regarding the reason for the violations, the corrective actions taken and planned to correct the violations and prevent recurrence and the date when full compliance will be achieved is already adequately addressed on the docket in Inspection Report No. 03034637/2005-001(DNMS) and your September 13, 2005, letter. However, you

are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation, EA-05-161," send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555 with a copy to the Regional Administrator and the Enforcement Officer, Region III, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. Therefore, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 20th day of October 2005.