



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

May 20, 2016

Docket No. 03038879  
EA-16-046

License No. 10-35278-01

Jim J. Hills  
President  
Applied Technical Services, Inc.  
1049 Triad Court  
Marietta, Georgia 30062

**SUBJECT: NRC INSPECTION REPORT NOS. 15000010/2015001 AND 15000010/2015002  
AND OFFICE OF INVESTIGATIONS REPORT NO. 1-2016-002**

Dear Mr. Hills:

This letter refers to a U.S. Nuclear Regulatory Commission (NRC) unannounced safety inspection of Applied Technical Services, Inc.'s (ATS's) activities at the National Aeronautics and Space Administration (NASA) Langley Research Center in Hampton, Virginia, a temporary job-site in an area of exclusive Federal jurisdiction. The inspection, which was conducted on October 20, 2015, November 23-24, 2015, and with continued in-office review through April 22, 2016, was an examination of activities conducted under the general license pursuant to Title 10 of the Code of Federal Regulations (10 CFR) 150.20(a) as it relates to: (1) safety and security; (2) compliance with the Commission's rules and regulations; and (3) conditions of the ATS State of Georgia (GA) license. The inspection was limited to observations by the inspector, interviews with personnel, and a selective examination of representative records related to activities within NRC jurisdiction. The findings of the inspection were discussed with you at the conclusion of the inspection on April 22, 2016. Enclosure 1 provides the results of this inspection.

In addition to the inspection, an investigation, which was completed on February 2, 2016, was conducted by the NRC Office of Investigations (OI) to determine whether a radiographer employed by ATS deliberately failed to follow NRC regulations and ATS procedures while conducting industrial radiography at NASA Langley Research Center. Enclosure 2 provides a Factual Summary of NRC's Investigation Report No. 1-2016-002.

Based on the evidence developed during the inspection and the NRC OI investigation, three apparent violations were identified. Two are being considered for escalated enforcement action, including a civil penalty, in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The apparent violations being considered for escalated enforcement involve the: (1) failure to conduct a survey of the camera and guide tube after taking an image of a pipe weld in accordance with 10CFR 34.49; and (2) failure to post the area where industrial radiography was being performed with conspicuous radiation or high radiation signs to establish a radiological boundary as required by 10 CFR 34.53 and 10 CFR 20.1902.

The third apparent violation involves the failure to comply with a condition of the ATS GA license, as required by 10 CFR 150.20(b)(5), which states that ATS must adhere to a GA rule that requires, in part, that the radiographer ensure continuous direct visual surveillance of the operation to protect against unauthorized entry into a radiation area. Specifically, on October 20, 2015, while taking images of underground pipe welds, the radiographer failed to survey the camera and the guide tube. When the inspector approached the site, the radiographer was at the source stop beyond the camera changing the film while the survey meter was on the ground next to the crank. The area had not been properly posted with Caution Radiation or High Radiation Area signs and the inspector was able gain access to the area where radiography work was being conducted without being noticed by the radiographer.

Since the NRC has not made a final determination in this matter, a Notice of Violation is not being issued at this time. Please be advised that the number and characterization of the apparent violations described herein may change as a result of further NRC review.

We believe we have sufficient information to make an enforcement decision regarding the apparent violations. Therefore, you may accept the violations as characterized in this letter and notify us of that decision within 10 days. Alternatively, before the NRC makes its final enforcement decision, you may choose to provide your perspective on this matter, including the significance, cause, and corrective actions, as well as any other information that you believe the NRC should take into consideration by: (1) requesting a pre-decisional enforcement conference (PEC) to meet with the NRC and provide your views in person; (2) requesting Alternative Dispute Resolution (ADR); or (3) responding to the apparent violation in writing.

If you choose to request a PEC, the meeting should be held in our office in King of Prussia, PA, within 30 days of the date of this letter. The conference will include an opportunity for you to provide your perspective on these matters and any other information that you believe will assist the NRC in 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 would 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 presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions will be considered in assessing any civil penalty for the apparent violations. The guidance in the excerpt from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful. The guidance can be obtained at the NRC's Web site at <http://www.nrc.gov/reading-rm/basic-ref/enf-man/app-d.html>

In lieu of a PEC, you may also request ADR with the NRC in an attempt to resolve this issue. ADR is a general term encompassing various techniques for resolving conflicts using a neutral third party. The technique that the NRC has decided to employ is mediation; a voluntary, informal process in which a trained neutral mediator works with parties to help them reach resolution. If the parties agree to use ADR, they select a mutually agreeable neutral mediator who has no stake in the outcome and no power to make decisions. Mediation gives parties an opportunity to discuss issues, clear up misunderstandings, be creative, find areas of agreement, and reach a final resolution of the issues. Additional information concerning the NRC ADR program can be obtained at <http://www.nrc.gov/about-nrc/regulatory/enforcement/adr.html>. The Institute on Conflict Resolution (ICR) at Cornell University has agreed to facilitate the NRC program as a neutral third party. Please contact ICR at 877-733-9415 within 10 days of the

date of this letter if you are interested in pursuing resolution of this issue through ADR. The ADR mediation session should be held in our office in King of Prussia within 45 days of the date of this letter.

Either the PEC or the ADR would be closed to public observation because the NRC's preliminary findings are based on an NRC OI report that has not been publicly disclosed. However, the time and date of the PEC or ADR will be publicly announced.

If you choose to provide a written response, it should be sent to the NRC within 30 days of the date of this letter. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. You should clearly mark the response as a "Response to Apparent Violations in NRC Investigation No. 1-2016-002; EA-16-046," and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region I, 2100 Renaissance Boulevard, King of Prussia, PA 19406.

Please contact Monica Ford, Acting Chief, Commercial, Industrial, R&D, and Academic Branch, at 610-337-5214 within **10** days of the date of this letter to notify the NRC which of the above options you choose.

Current NRC regulations and guidance are included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select Nuclear Materials; Med, Ind, & Academic Uses; then Regulations, Guidance and Communications. The current Enforcement Policy is included on the NRC's website at [www.nrc.gov](http://www.nrc.gov); select **About NRC, Organizations & Functions; Office of Enforcement; Enforcement documents**; then **Enforcement Policy (Under 'Related Information')**. You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 8:00 a.m. to 5:30 p.m. EST, Monday through Friday (except Federal holidays). To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be placed in the PDR without redaction.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosures will be made available electronically for public inspection in the NRC Public Document Room and from the NRC Agency-wide Documents Access and Management System (ADAMS), accessible from the NRC web site at <http://www.nrc.gov/reading-material-rm/adams.html> .

J. Hills

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If you have any questions related to this matter, please contact Ms. Ford of my staff at 610-337-5214.

Sincerely,

***/RA J. L. Nick for/***

James M. Trapp, Director  
Division of Nuclear Materials Safety

Enclosures:

1. NRC Inspection Report Nos. 15000010/2015001 and 15000010/2015002
2. Factual Summary of OI Investigation Report No. 1-2016-002

cc w/enclosures: Gary Winkler, Radiation Safety Officer  
Technical Services Manager, American  
Society for Nondestructive Testing, Inc.  
State of Georgia  
Commonwealth of Virginia

If you have any questions related to this matter, please contact Ms. Ford of my staff at 610-337-5214.

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**/RA J. L. Nick for/**

James M. Trapp, Director  
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Technical Services Manager, American Society for Nondestructive Testing, Inc.  
State of Georgia  
Commonwealth of Virginia

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\*See previous concurrence



## EXECUTIVE SUMMARY

NRC Inspection Report Nos. 15000010/2015001 and 15000010/2015002

On October 20, 2015, the NRC conducted an unannounced reciprocity inspection to observe temporary job site radiography work by an Applied Technology Services Inc., (ATS) radiographer in Hampton, Virginia. ATS had properly filed for reciprocity using their Georgia Agreement State license and had received NRC approval for this work.

Based on the results of the inspection, three apparent safety violations and no security-related violations were identified during this inspection.

Contrary to 10 CFR 34.49(b), the radiographer failed to survey the camera and guide tube after completing a radiographic exposure of a pipe weld.

Contrary to 10 CFR 34.53, ATS employees failed to conspicuously post each radiation area and high radiation area with signs as required by 10 CFR 20.1902(a) and (b).

Contrary to 10 CFR 150.20(b)(5), ATS employees operating under reciprocity failed to comply with all terms and conditions of the specific license issued by their Agreement State license by failing to ensure continuous direct visual surveillance of the operation to protect against unauthorized entry into a radiation area or high radiation area.

On November 23-24, 2015, inspectors performed a site visit to the licensee headquarters' facility and found no additional apparent safety violations and no security-related violations.

Based on the inspector identified apparent violations, immediate corrective actions were taken by the corporate RSO to include shutting down radiography operations for the evening and suspending all further radiography operations at the site pending internal review and resolution of the apparent violations. The licensee performed several additional corrective actions to address potential extent of condition concerns and to prevent future recurrence.

## **REPORT DETAILS**

### **I. Organization and Scope of the Program**

#### **a. Inspection Scope**

On October 20, 2015, the NRC initiated an unannounced reciprocity inspection to observe temporary job site radiography work by an Applied Technology Services Inc., (ATS) radiographer at the National Aeronautics and Space Administration (NASA) Langley Research Center in Hampton, Virginia; an area of exclusive Federal jurisdiction.

The inspection continued with an onsite visit to the ATS Headquarter Facilities in Marietta, Georgia, on November 23-24, 2015, with further internal NRC review continuing through April 22, 2016.

The inspection included both a safety (2015001) and security (2015002) review.

#### **b. Observations and Findings**

ATS is a large consulting engineering firm that holds 9 agreement state licenses for possession and use of radiography materials with over 750 employees (about 40% involved with radiography). The licensee maintains a corporate Radiation Safety Officer who oversees operations in all states and is also listed as the Radiation Safety Officer on the Georgia Agreement State license. Other ATS employees are listed on other Agreement State licenses held by ATS and report to the Corporate RSO.

ATS had properly filed for reciprocity for the October 20, 2015, temporary jobsite work in Hampton, Virginia using their Georgia Agreement State license (GA 896-1; Expiration 10/31/2018) and had received prior NRC approval for this work.

Subsequent to the start and before the conclusion of this inspection, ATS applied for and received an NRC license (10-35278-01; dated December 14, 2015) for temporary job site radiography work anywhere in the United States where the NRC maintains jurisdiction for regulating the use of licensed material. In conjunction with the onsite inspection visit to the ATS Headquarter Facilities in Marietta, Georgia, a pre-licensing visit was concurrently conducted on November 23-24, 2015.

#### **c. Conclusions**

Three apparent safety violations and zero security violations were identified during the temporary jobsite inspection on October 20, 2015 and no additional findings were made during the onsite visit to the ATS Headquarter Facilities in Marietta, Georgia, on November 23-24, 2015.



## II. Temporary Jobsite Observations (Hampton, Virginia)

### a. Inspection Scope

The inspector used the Inspection Procedure (IP) 87121 (Industrial Radiography Programs) to perform the safety inspection and IP 87137 (10 CFR Part 37 Materials Security Programs) to perform the security inspection.

### b. Observations and Findings

1. 10 CFR 34.49(b) requires, in part, that the licensee shall conduct a survey of the radiographic exposure device and the guide tube after each exposure when approaching the device or guide tube.

Contrary to the above, on October 20, 2015, Applied Technical Services, Inc., failed to conduct a survey of the radiographic exposure device and guide tube after each exposure when approaching the device and guide tube. Specifically, at a temporary job in Hampton, Virginia, after completing the first exposure of a pipe weld, the radiographer approached the radiography exposure device and guide tube without a survey instrument.

2. 10 CFR 34.53 requires, in part, that all areas in which industrial radiography is being performed must be conspicuously posted as required by 10 CFR 20.1902(a) and (b) of this chapter.

10 CFR 20.1902(a) requires that the licensee shall post each radiation area with a conspicuous sign or signs bearing the radiation symbol and the "CAUTION, RADIATION AREA."

10 CFR 20.1902(b) requires that the licensee post each high radiation area with a conspicuous sign or signs bearing the radiation symbol and the words "CAUTION, HIGH RADIATION AREA" or "DANGER, HIGH RADIATION AREA."

Contrary to the above, on October 20, 2015, Applied Technical Services, Inc., did not conspicuously post each area in which industrial radiography was being performed as required by 10 CFR 20.1902(a) and (b). Specifically, at a temporary site jobsite in Hampton, Virginia, at the NASA Langley Research Center, a radiographer did not post accessible portions of the radiation area to maintain a restricted perimeter, and the high radiation area was posted with a single "CAUTION, HIGH RADIATION AREA" sign that was not visible from all directions to individuals entering the high radiation area.

3. 10 CFR 150.20(b)(5) requires, in part, that any person engaging in activities in an area of exclusive Federal jurisdiction within an Agreement State shall comply with all terms and conditions of the specific license issued by an Agreement State such terms or conditions as are contrary to the requirements of this section.

Condition 15 of the State of Georgia license No. GA 896-1, requires, in part, that licensee comply with the provisions of the Georgia Department of Natural Resources

Rule 391-3-17-.04, "Special Radiation Safety Requirements for Industrial Radiographic Operations, Amended."

Rule 391-3-17-.04(21) requires, in part, that during each radiologic observation, the Radiographer shall ensure continuous direct visual surveillance of the operation to protect against unauthorized entry into a radiation area or high radiation area.

Contrary to the above, on October 20, 2015, Applied Technical Services, Inc. did not comply with Condition 15 of its State of Georgia license (GA 896-1) when it engaged in radiography activities in an area of exclusive Federal jurisdiction within an Agreement State. Specifically, the radiographer did not comply with provisions of the Georgia Department of Natural Resources Rule 391-3-17-.04 to ensure continuous direct visual surveillance of the operation to protect against unauthorized entry into a radiation area or high radiation area. The radiographer did not observe an NRC inspector enter the restricted area where radiography was being performed, such that the inspector was allowed to walk unnoticed and unimpeded into the radiation area while radiographic operations were being performed.

No apparent violations were observed with respect to security of the licensed radioactive material.

c. Conclusions

On October 20, 2015, immediately upon observance of the apparent violations, the inspector notified the corporate RSO of what he observed. The RSO took immediate corrective actions to include shutting down radiography operations for the evening and suspending all further radiography operations at the site pending an internal safety evaluation and root cause analysis. Subsequently, the licensee performed the following additional corrective actions to address the apparent violations observed by the inspector, potential extent of condition concerns, and to prevent future recurrence.

1. Removal of the radiographer from acting as the alternate Radiation Safety Officer with respect to the Virginia Agreement State License and suspending him from radiologic operations until he successfully completed additional safety training, a practical exam, and an evaluation by another licensed radiographer.
2. The corporate Radiation Safety Office provided several written and verbal communications to field offices and to the Agreement State Radiation Safety Officers relaying the incident, root causes, and corrective actions and emphasizing the importance of following established radiation safety protocols.
3. Management increased the frequency of field audits and emphasized a more thorough evaluation to ensure compliance with radiation safety protocols and regulatory requirements. Management has been advised of the need to adhere to strict safety guidelines first and production efficiency second. Emphasis has been placed on including radiographer's assistants in the discussion of safety protocols at each job site without fear of retribution or rebuke.

4. Developed and provided to all radiographers and assistant radiographers a corporate refresher training to review radiographer responsibilities and to emphasize the need to maintain a culture of safety on every job.
5. Applied for an NRC license to alleviate reciprocity limitations of allowing no more than 180 days of reciprocity work as well as the need for filing for changes if radiography work needs to be extended beyond that initially requested.

### **III. ATS Headquarters Site Visit (Marietta, Georgia)**

#### **a. Inspection Scope**

The inspector used the Inspection Procedure (IP) 87121 (Industrial Radiography Programs) to perform the safety inspection and IP 87137 (10 CFR Part 37 Materials Security Programs) to perform the security inspection. The inspector was accompanied by the NRC Commercial, Industrial, Research and Development, and Academic Branch Chief.

#### **b. Observations and Findings**

1. The inspector reviewed the licensee's root causes analysis and corrective actions with the corporate RSO and were deemed to be appropriate to address both the specific incident and radiography operations throughout the organization.
2. The licensee's access authorization program for category 2 quantities of radioactive materials was reviewed with no apparent violations.
3. A pre-licensing visit in conjunction with the inspection was performed and a review of 10 CFR 37 requirements was provided.

#### **c. Conclusions**

No additional apparent safety violations and no security violations were identified during the onsite visit to the ATS Headquarter Facilities in Marietta, Georgia, on November 23-24, 2015.

### **IV. Exit Meeting**

#### **a. Inspection Scope**

The exit meeting was performed by telephone on April 22, 2016.

#### **b. Observations and Findings**

The following items were discussed during the exit meeting.

1. Results of the inspection and the three apparent violations.
2. Results of the NRC Office of Investigation and summary report (wrong doing of the individual radiographer was established).

3. Issuance of the "choice letter" within 30-days of the exit phone call.
4. Notice of a potential for a civil penalty associated with these types of violations and reference to the publicly available Enforcement Policy document.
5. Notice that there is some discretion involved such that the NRC has the ability to decrease or increase the base civil penalty amount by a factor of one or more depending on the exact circumstances of the case.
6. Acknowledgement of the corrective actions that have been performed by the licensee to date and any remaining items still open.

c. Conclusions

Licensee responded that they understood the apparent violations stated and choices for replying to the choice letter to be sent within 30-days of the exit meeting.

## **PARTIAL LIST OF PERSONS CONTACTED**

### **Licensee**

- #\* Gary Winkler, ATS Corporate Radiation Safety Officer
- \*^ Jim J. Hills, ATS President
- ^ Robert Luttrell, ATS Vice President
- ^ Chris Vorwald, ATS Regional Manager, Chesapeake, Virginia
- ^ Rhonda Przybylski, ATS Assistant Radiographer
- \* Eric Jameson, ATS Assistant to Corporate Radiation Safety Officer
- \* David Lubinski, ATS Radiation Safety Officer on Virginia Agreement State License

# = present at onsite meeting in Marietta, Georgia

^ = contacted for phone interview during onsite visit in Marietta, Georgia.

\* = participated in inspection exit phone call

### **INSPECTION PROCEDURES USED**

Inspection Procedure (IP) 87121 (Industrial Radiography Programs)

Inspection Procedure (IP) 87137 (10 CFR Part 37 Materials Security Programs)

### **LIST OF DOCUMENTS REVIEWED**

Radiography logs for all reciprocity activities for 2015.

Transportation records for all reciprocity activities for 2015.

Maintenance logs for exposure devices used for reciprocity activities for 2015.

Survey meter calibration records, for meters used during reciprocity activities for 2015.

A list of all radiographers who performed radiography during reciprocity activities for 2015 and their direct reading dosimeter, operating alarm rate meter, and personnel dosimeter records.

Records of annual refresher safety training and semi-annual job performance for each

radiographer and radiographer's assistant who were engaged in reciprocity activities for 2015.

A record of the last annual program review.

## FACTUAL SUMMARY NRC INVESTIGATION REPORT NO.: 1-2016-002

On October 30, 2015, the U.S. Nuclear Regulatory Commission's (NRC) OI, Region I (RI) Field Office initiated an investigation to determine whether a radiographer employed by Applied Technical Services, Inc. (ATS) deliberately failed to follow NRC regulations and licensee procedures while conducting industrial radiography work at the National Aeronautics and Space Administration (NASA) Langley Research Center in Hampton, Virginia. OI completed its investigation and issued its report on February 2, 2016.

During an unannounced NRC reciprocity inspection, an NRC inspector observed that a radiographer employed by ATS failed to survey a radiographic exposure device and guide tube after an exposure as required by 10 CFR 34.49; failed to conspicuously post the work area as required by 10 CFR 34.53 and 10 CFR 20.1902; and failed to adhere to a condition of ATS's Georgia Agreement State license, as required by 10 CFR 150.20(b)(5), by failing to maintain continuous direct visual surveillance of the operation to protect against unauthorized entry into radiation or high radiation areas. Specifically, the NRC inspector observed the radiographer performing industrial radiography on underground pipe welds, and saw that the radiographer did not survey the camera and the guide tube following an exposure of the pipe. The inspector also noted that there was not conspicuously posted signage declaring the area as a radiation or high radiation area, nor were there signs or ropes preventing access into the area while industrial radiography was being performed. In fact, the inspector was able to enter the area unimpeded and uninhibited, without being noticed by the radiography crew.

During his OI interview, the radiographer admitted that he did not set up a boundary (including signs) for the retakes of a few welds that they were shooting when the inspector arrived. The radiographer said he did not set up the boundary for several reasons: (1) he knew where the boundary was because they had worked in that area the previous week; (2) the area was surrounded by construction tape; and (3) the facility was fenced and located in the woods. The radiographer also testified that he was planning to set up a boundary for the main area they would be shooting that night, after taking care of the retakes. He said he was concerned about getting everything done and was trying to get "the most bang for the buck." The assistant radiographer testified that the radiographer said, referring to the retakes, "we'll just go ahead and get these done." The assistant had worked with the radiographer before and they had always set up a boundary; the assistant believed that on this occasion the radiographer knew he was not putting up the boundary.

With regard to the failure to perform a survey of the camera and guide tube after taking an image, the radiographer testified to OI that following the second exposure, the radiographer cranked the source back into the camera and heard it click, then picked up the survey meter and verified that it went back to zero. The radiographer then placed the survey meter on the ground to go retrieve film for the next shot, and while he was walking back to the camera with the film, he was talking to his assistant and walked past the meter. The radiographer said that when he got to the camera, he realized he did not have the meter. The radiographer's assistant corroborated the radiographer's statement that they were talking at the time. The assistant had never seen the radiographer forget to perform a survey before and believed "it had just slipped his mind" not to pick up the meter. The radiographer testified that the survey of the guide tube should have been conducted after the exposure.

Based on the evidence gathered during the NRC inspection and investigation, it appears that the radiographer engaged in deliberate misconduct, in violation of 10 CFR 30.10(a)(1), by deliberately failing to post the area where industrial radiography was being performed with conspicuous radiation or high radiation signs to establish a radiological boundary, which caused the licensee to be in violation of 10 CFR 34.53.