Transportation Security Laboratory
Wm. J. Hughes Technical Center
Building 315
Atlantic City IAP, NJ 08405

Homeland Security

7 February 2012

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Judith A. Joustra, Chief
Commercial and R&D Branch
Division of Nuclear Materials Safety
United States Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA 19406-1415

29-13141-06

Subject: NRC Inspection Report No. 030-30808/2011-011, Additional Information Requested (dated December 16, 2011)

Dear Ms. Joustra:

The Department of Homeland Security (DHS), Science and Technology Directorate (S&T), Transportation Security Laboratory (TSL) is providing this response to your December 16, 2011 correspondence regarding the Notice of Violation arising from the license inspection your agency conducted at the TSL on September 20 and October 18, 2011.

We would like to report the following corrective-actions:

1. Violations A and B: Procedures to implement the Leak Test and Inventory requirements at six-month intervals for material on the TSL NRC License were developed and are now in place.

2. Violation C: A review of the radiation protection program will be conducted by September 30, 2012 and annually thereafter. It will include a review of the source instrument inventory (past and present), inventory location tracking, wipe/leak test records, evaluation of shipping/receiving procedures, licensing status for source instruments, Radiation dosimeters and human exposure documentation, and need for revisions to the TSL Radiation Safety Manual. The TSL Safety Team and the Radiation Safety Officer (RSO), in conjunction with the TSL Chief Scientist, will perform the review. The results of the review will be presented during the TSL Safety, Health, and Environment Management System (SHEMS) Management Reviews for which I am the chairperson. In addition, the S&T Headquarters Radiation Safety Officer, in consultation with the DHS Headquarters Radiation Safety Officer, will conduct periodic external audits of the radiation protection program and review the annual internal evaluation.

3. Violation D: The TSL RSO is responsible for notifying the NRC anytime there is a transfer of a generally-licensed device to our specific license, as noted in the letter to NRC dated 22

November 2011 (enclosure 1.) This letter addressed concerns expressed in the NRC letter dated 2 November 2011 and the NRC letter dated 16 December 2011 (enclosure 2 and 3.)

4. Violation E: Radiation Safety Training, including Radioactive Material Transportation Training was provided to the TSL employees on January 12 and 13, 2012, and will be repeated as appropriate.

The license amendment request has been drafted by the TSL RSO and is being reviewed by the TSL management. The S&T Headquarters RSO, in consultation with the DHS Office of General Counsel and the DHS Headquarters RSO, will then review it. After the review is completed, the TSL anticipates forwarding the license amendment request to you by April 30, 2012.

If you have any questions or require additional information, please contact my office.

Respectfully,

Susan F. Hallowell, Ph.D.
Director

Enclosures (3)

COPY

Transportation Security Laboratory
Wm. J. Hughes Technical Center
Building 315
Atlantic City IAP, NJ 08405

Homeland Security

November 22, 2011

James P. Dwyer, Chief
Commercial and R&D Branch
Division of Nuclear Materials Safety
United States Nuclear Regulatory Commission, Region 1
575 Allendale Road
King of Prussia, PA 19406-1415

Dear Mr. Dwyer:

Re: NRC Inspection Report No. 03030808/2011001 and Notice of Violation (dated November 2, 2011)
Docket No. 03030808 License No. 29-13141-06

The Transportation Security Laboratory (TSL) would like to express our gratitude for the thorough and courteous radiation safety inspection performed by Ms. Betsy Ullrich of your office on September 20 and October 18, 2011. Her knowledge and experience was integral in identifying the areas of our program that needed the implementation of remedial measures.

In response to your Notice of Violation (NOV) dated November 2, 2011 (Docket No. 03030808), the TSL offers the following:

The TSL does not contest any of the five (5) violations cited in the November 2 NOV. It should be noted that the primary cause of all the infractions is the fact that our laboratory is comprised of numerous individual cells which are separately managed. This inherent fragmentation creates the potential for a lack of communication and/or coordination between the groups. In addition, each lab cell is typically performing a high volume of work with several operations occurring at one time. As a result, the natural entropic progression, coupled with the structural fragmentation, created a system that was not conducive to tracking the source instruments.

Furthermore, the safety team, recognizing this problem several months earlier, had requested computer software specifically for tracking radioactive sources. Unfortunately, the computer software had not been installed prior to the inspection, which precluded effective tracking of the radioactive sources.

However, since most or all of the violations stem from essentially the same cause (an incomplete inventory of source instruments), solving that problem will remediate the remainder of the issues at the same time. Our solution involves channeling all responsibility for shipping/receiving, tracking and leak testing through the Radiation Safety Specialist (RSS). If the RSS is unavailable, one of the other members of the TSL Safety Team will perform the

necessary function. The TSL will ensure that every member of the Safety Team, as well as one or two other key employees, will receive the required Department of Transportation (DOT) training for shipping and receiving radioactive source items. Once trained, those individuals will be the *only* individuals allowed to ship or receive these items. Until that time, no shipping or receiving of source-containing devices will be performed. Similarly, the RSS will ensure that a physical inventory of all source instruments, with concomitant leak testing, will be performed every six (6) months. Current inventory and leak test records will be maintained by the RSS and will be readily available for inspection. In addition, the Radiation Safety Officer (RSO) will be responsible for notifying the NRC anytime there is a transfer of a generally-licensed device to our specific license. Finally, the TSL is writing a management directive / SOP detailing the new radiation safety protocols which consolidate all responsibilities through the Safety Office. This document will be distributed to all staff involved in the process.

The TSL is committed to providing a safe working atmosphere for all of its employees and contractors. In addition, we understand the significance of the violations identified and we are working diligently to rectify them. In accordance with this commitment, the TSL will fully implement these operational changes by April 30, 2012.

Once again, we would like to thank the NRC for bringing the issues to our attention. If you have any questions or require additional information, please contact our office.

Respectfully,

Susan F. Hallowell, Ph.D.
Director

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

COPY

November 2, 2011

Docket No. 03030808 License No. 29-13141-06

Susan Hallowell, Ph.D., Director
Transportation Safety Laboratory
US Department of Homeland Security
Science and Technology Directorate
Transportation Security Laboratory
William J. Hughes Technical Center, Building 315
Atlantic City International Airport
Atlantic City, NJ 08405

SUBJECT: NRC INSPECTION REPORT NO. 03030808/2011001, US DEPARTMENT OF HOMELAND SECURITY, SCIENCE AND TECHNOLOGY DIRECTORATE, ATLANTIC CITY, NEW JERSEY AND NOTICE OF VIOLATION

Dear Dr. Hallowell:

On September 20 and October 18, 2011, Betsy Ullrich of this office conducted a safety inspection at the above address of activities authorized by the above listed NRC license. The inspection was an examination of your licensed activities as they relate to radiation safety and to compliance with the Commission's regulations and the license conditions. The inspection consisted of observations by the inspector, interviews with personnel, and a selective examination of representative records. The findings of the inspection were discussed with you, Curtis Bell and other members of your organization at the conclusion of the inspection.

Based on the results of this inspection and in accordance with the NRC Enforcement Policy, the NRC has determined that five Severity Level IV violations of NRC requirements occurred. The violations involved: 1) the failure to leak test sealed sources at the required frequency and to maintain records of leak tests; 2) the failure to perform the required physical inventory of all sealed sources at 6-month intervals; 3) the failure to review the implementation of the radiation protection program at least annually; 4) the failure to report transfers of generally-licensed devices, as required by 10 CFR 31.5(c)(8)(iii), to your specific license; and 5) the failure to provide training required by Department of Transportation regulations in 49 CFR 172 Subpart H to persons performing functions subject to the requirements of 49 CFR 171-177.

The violations are cited in the enclosed Notice of Violation (Notice) because the violations were identified by the NRC.

During our inspection exit meeting on October 18, 2011, you indicated that you have begun corrective actions where immediate correction can be taken, and are working on a plan to implement long-term corrective actions. In addition, you agreed that you would request an amendment of your license to: (1) name additional authorized users; and (2) list two trailers (the TECS Laboratory and the HME Laboratory) as permanent locations of use. During the inspection, it was learned that the only named authorized user on the license no longer works in the laboratories where licensed materials are used. Also, it was learned that the two trailers in

which licensed materials are used, originally expected to be temporary laboratories that would be under your license authorization for temporary job sites, have been in use many years and therefore are not temporary. Please submit the amendment request separately from your response to this Notice of Violation.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS), accessible from the NRC website 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.

Current NRC regulations and guidance are included on the NRC's website at 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; 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).

Please contact Betsy Ullrich at (610) 337-5040 if you have any questions regarding this matter.

Sincerely,

James P. Dwyer, Chief
Commercial and R&D Branch
Division of Nuclear Materials Safety

Enclosure:
Notice of Violation

cc:
Curtis Bell, Ph.D., Radiation Safety Officer
State of New Jersey

NOTICE OF VIOLATION

US Department of Homeland Security
Science and Technology Directorate
Transportation Security Laboratory
Atlantic City, New Jersey

Docket No. 03030808
License no. 29-13141-06

During an NRC inspection conducted on September 20 and October 18, 2011, five violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

A. Condition 13.A of License No. 29-13141-06 requires that sealed sources possessed under the license be tested for leakage or contamination at intervals not to exceed 6 months or at the intervals specified in the certificate of registration issued by the NRC under 10 CFR 32.210 or equivalent regulations of an Agreement State. Condition 13.G of License No. 29-13141-06 requires, in part, that records of leak test results be maintained for 5 years.

10 CFR 31.5(c)(3) requires, in part, that any person who acquires, receives, possesses, uses or transfers byproduct material in a device pursuant to a general license shall assure that tests for leakage of radioactive material are performed. 10 CFR 31.5(c)(4) requires, in part, that any person who acquires, receives, possesses, uses or transfers byproduct material in a device pursuant to a general license shall maintain records showing the results of tests for leakage for 3 years or until the sealed source is transferred or disposed of.

Contrary to the above, during the period of January 2010 and September 2011, sealed sources were not tested for leakage or contamination at required intervals and leak test records were not maintained as required. Specifically: During the inspection the licensee possessed more than 80 sealed sources under the specific license, of which approximately 40 are in active use and the remainder are in storage. Leak test records for 18 of the active sealed sources were reviewed for the period of March 23, 2010 through March 16, 2011. Only 7 of the selected sealed sources were leak-tested at 6 month intervals and the licensee was not aware if other intervals were approved for the remaining sources. The licensee also possessed sealed sources in 10 electron capture devices (in 7 gas chromatographs) under the general license of 10 CFR 31.5 and the sources were not leak tested in 2010 or 2011. In addition, the licensee did not have leak test records from previous years; the licensee obtained leak test records from 2005 through 2011 from the service provider at the inspector's request.

This is a Severity Level IV violation (Supplement 6.7).

B. Condition 15 of License No. 28-13141-06 requires, in part, that the licensee conduct a physical inventory every six months to account for all sources and/or devices received and possessed under the license, and that records of inventories be maintained for 5 years and include certain information.

Contrary to the above, as of September 20, 2011, the licensee did not conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license or maintain records as required. Specifically, physical

inventories were not performed since the last inspection in August 2009 and records of physical inventories were not maintained for prior years.

This is a Severity Level IV violation (Supplement 6.3).

C. 10 CFR 20.1101(c) requires that the licensee shall periodically (at least annually) review the radiation protection program content and implementation. 10 CFR 20.2102 requires, in part, that the licensee maintain records of the radiation protection program content including the provisions of the program until the license is terminated, and of audits and other reviews of program content and implementation for 3 years after the record is made.

Contrary to the above, as of September 20, 2011, the licensee did not review the radiation protection program implantation at least annually and did not maintain records of reviews of the program implementation for 3 years. Specifically, the licensee did not perform a review of the radiation program implementation for the year 2010 and there was not a record available of the review of the program implementation in 2009.

This is a Severity Level IV violation (Supplement 6.3).

D. 10 CFR 31.5(c)(8)(iii) states, in part, that any person who acquires, receives, possesses, uses or transfers byproduct material in a device pursuant to a general license may transfer a device for possession and use under its own specific license providing, in part, that the label is revised, and the transfer is reported to the NRC.

Contrary to the above, as of September 20, 2011, the licensee routinely transferred to their specific license byproduct materials in devices distributed to them under a general license, but did not revise the labels as required or report the transfers to the NRC. Examples include: Smiths Detection devices, Serial Nos. 34079, 34083, 34476, 34479, 34846, 34849, 41530, 43354, and 50164.

This is a Severity Level IV violation (Supplement 6.9).

E. 10 CFR 71.5(a) requires that a licensee who transports licensed material outside of the site of usage, as specified in the NRC license, or where transport is on public highways, or who delivers licensed material to a carrier for transport, comply with the applicable requirements of the regulations appropriate to the mode of transport of the Department of Transportation (DOT) in 49 CFR Parts 107, 171-180, and 390-397.

49 CFR 172.702 requires that each hazmat employer shall ensure that each hazmat employee is trained and tested, and that no hazmat employee performs any function subject to the requirements of 49 CFR Parts 171-177 unless trained, in accordance with Subpart H of 49 CFR Part 172. The terms Hazmat Employer and Hazmat Employee are defined in 49 CFR 171.8.

Contrary to the above, during the period between August 5, 2009 and September 20, 2011, the licensee did not provide training for its hazmat employees as required by Subpart H to 49 CFR Part 172, and the licensee otherwise meets the definition of hazmat

employer in 49 CFR 171.8. Specifically, licensee employees who were not trained as required by Subpart H packaged licensed materials and delivered licensed materials to a carrier for transport, on multiple occasions. Examples include: May 18, 2010 shipment of Serial No. 50164 to a university; December 22, 2010, return of Serial No. 43354 to a manufacturer for repair; January 14, 2011 shipment of Proto20 device to Tampa, Florida; April 27, 2011 shipment of Serial No. 43352 to manufacturer for repair.

This is a Severity Level violation IV (Supplement 6.8).

Pursuant to the provisions of 10 CFR 2.201, US Department of Homeland Security, Transportation Science and Technology Directorate, Transportation Security Laboratory is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555, with a copy to the Regional Administrator, Region I, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken to avoid further violations, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an Order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001. Under the authority of Section 182 of the Act, 42 U.S.C. 2232, any response which contests an enforcement action shall be submitted under oath or affirmation.

Your response will be placed in the NRC Public Document Room (PDR) and on the NRC Web site. To the extent possible, it should, therefore, not include any personal privacy, proprietary, or safeguards information so that it can be made publically available without redaction. However, if you find it necessary to include such information, you should clearly indicate the specific information that you desire not to be placed in the PDR, and provide the legal basis to support your request for withholding the information from the public.

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

Dated This 2nd day of November 2011

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

COPY

December 16, 2011

Docket No. 030-30808 License No. 29-13141-06

RECEIVED
REGION 1
2012 FEB 10 PM 12: 16

Susan F. Hallowell, Ph.D.
Director, Transportation Security Laboratory
Department of Homeland Security
Wm. J. Hughes Technical Center
Building 315
Atlantic City IAP, NJ 08405

SUBJECT: NRC INSPECTION REPORT NO. 030-30808/2011-001, DEPARTMENT OF HOMELAND SECURITY, ADDITIONAL INFORMATION REQUESTED

Dear Dr. Hallowell:

This letter refers to your November 22, 2011, correspondence, in response to our November 2, 2011, letter. We reviewed the corrective and preventive actions documented in your letter. Corrective actions for 4 of the 5 violations were acceptable. However, there was not a discussion of how you will comply with the requirement to perform an annual review of your radiation protection program. This is of particular concern to us, because such a review could have prevented the number and duration of the violations that were identified by the inspector. Please describe your method for complying with the requirement, 10 CFR 20.1101(c), to perform an annual review of your radiation protection program.

In addition, during our inspection exit meeting on October 18, 2011, you agreed that you would request an amendment of your license to: (1) name additional authorized users; and (2) list two trailers (the TECS Laboratory and the HME Laboratory) as permanent locations of use. In our letter dated November 2, we requested that you submit the amendment request separately from your response to this Notice of Violation. That amendment request has not been received. Please submit the amendment request as agreed upon.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC document system (ADAMS), accessible from the NRC website 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.

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(except Federal holidays).

Please contact Betsy Ullrich at (610) 337-5040 if you have any questions regarding this matter.

Your cooperation with us is appreciated.

Sincerely,

Judith A. Joustra, Chief
Commercial and R&D Branch
Division of Nuclear Materials Safety

cc:
Curtis Bell, Ph.D., Radiation Safety Officer
State of New Jersey