

October 5, 2009

EA-09-082

Mr. William F. Troxler, Jr.  
President  
Troxler Electronic Laboratories, Inc.  
3008 Cornwallis Road  
P.O. Box 12057  
Research Triangle Park, NC 27709

SUBJECT: TROXLER GENERAL LICENSE EXPORT ACTIVITY

Dear Mr. Troxler:

This letter refers to a Nuclear Regulatory Commission (NRC) in-office evaluation of your reported activities during Calendar Year 2008 relative to the export of nuclear gauges containing Americium-241 (Am-241) from Troxler Electronic Laboratories, Inc. (TEL), located in Research Triangle Park, NC, as provided in a January 5, 2009, letter to the NRC. Our evaluation also considered supplemental information provided in a January 29, 2009, letter, from Mr. Stephen A. Browne, TEL Corporate Radiation Safety Officer (RSO), to the NRC's Office of International Programs (OIP). The NRC evaluated your export activities conducted under the general license as they related to safety and compliance with the Commission's rules and regulations and with the conditions in your license.

Based on the results of this evaluation, an apparent violation was identified and is being considered for escalated enforcement action 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 violation involved your shipment of a TEL Moisture Density Gauge, containing Am-241, to an embargoed destination as described in 10 CFR 110.28. Specifically, on November 21, 2008, your company shipped a moisture density gauge containing Am-241 to Jordan, with subsequent forwarding through a local distributor to Iraq, an apparent violation of the limitations for General Licenses outlined in 10 CFR 110.23(a)(1) and 10 CFR 110.28. TEL failed to apply for a specific license as required under 10 CFR 110.20(a)(2), to request authorization to export the device to an embargoed destination. An application for specific export license is subject to Executive Branch review, as described in 10 CFR 110.41(a)(9).

On September 25, 2009, Mr. Robert Summers of the NRC's Office of Enforcement and Mr. Stephen Baker contacted Mr. Browne of your office to conduct an exit meeting describing the apparent violation and the preliminary results of our review of this matter, including the significance of the issue and the need for lasting and effective corrective action.

Based upon the supplemental information, the NRC believes that we have sufficient information to make our enforcement decision, and further, it may not be necessary to conduct a predecisional enforcement conference (PEC). Also, since your facility has not been the subject of escalated enforcement action within the last two years, and based on our understanding of your corrective actions, a civil penalty may not be warranted in accordance with Section VI.C.2 of the Enforcement Policy. The final enforcement decision will be based on confirmation that the corrective actions previously described in your letter dated January 29, 2009, have been completed or are being taken. Please be advised that the number and characterization of the apparent violation described herein may change as a result of further NRC review.

Before the NRC makes its enforcement decision, we are providing you an opportunity either to: (1) respond to the apparent violation addressed in this letter or (2) request a predecisional enforcement conference. Please contact Mr. Robert Summers at 301-415-1171 within seven days of the date of this letter to notify the NRC of your intended response.

Your response, if you choose to provide one, should be submitted within 30 days of the date of this letter and should be clearly marked as a "Response to an Apparent Violation (EA-09-082)" 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 to avoid further violations; and, (4) the date when full compliance will be achieved. In presenting your corrective actions, you should be aware that the promptness and comprehensiveness of your actions is considered when assessing any civil penalty for the apparent violation. The guidance in the enclosed NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful. Also, your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If you choose to request a PEC, the conference will be open for public observation and the NRC will issue a press release to announce the date and time of the conference. A conference is held to obtain information to enable the NRC to make an enforcement decision, such as a common understanding of the facts, root causes, missed opportunities to identify the apparent violation sooner, corrective actions, and significance of the issues.

If you choose to neither respond in writing nor request a PEC, the NRC will make its final enforcement decision based on the information TEL provided previously. You will be advised by separate correspondence of the results of our deliberations on this matter.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response, if you choose to provide one, 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's 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. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If

W. Troxler

3

you request that such material is withheld from public disclosure, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the basis of your claim (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

Sincerely,

/RA/

Cynthia A. Carpenter, Director  
Office of Enforcement

Enclosure: As stated

cc: (See page 4)

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Sincerely,

/RA/  
Cynthia A. Carpenter, Director  
Office of Enforcement

Enclosure: As stated

**Electronic DISTRIBUTION:**

- M. Doane, OIP
- S. Moore, OIP
- S. Dembek, OIP
- S. Baker, OIP
- C. Carpenter, OE
- B. Sosa, OE
- N. Hilton, OE
- D. McIntyre, OPA
- J. Luehman, FSME
- M. Burgess, FSME
- J. Marshall, NMSS
- R. Wharton, NMSS
- R1 – R4 ENFORCEMENT COORDINATORS
- R. Summers, OE
- A. Sapountzis, OE
- M. Barkman, OGC

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OFFICE	OIP/ECIOB:BC	OE:BC	OGC	OE:D
NAME	J. Owens	N. Hilton	G. Kim	C. Carpenter
DATE	09/10/09	09/29/09	09/22/09	10/05/09

OFFICIAL RECORD COPY

W. Troxler

4

cc:

Letter to Mr. William F. Troxler, Jr.

Mr. Stephen A. Browne, TEL, Inc., Corporate Radiation Safety Officer

National Nuclear Security Administration, Office of International Regimes and Agreements  
U.S. Department of Energy  
ATTN: Sean Oehlbert, Team Leader  
1000 Independence Avenue, SW  
Washington, D.C. 20585-1615

National Nuclear Security Administration, Office of International Regimes and Agreements  
U.S. Department of Energy  
ATTN: Mr. Richard S. Goorevich, Director  
1000 Independence Avenue, SW  
Washington, D.C. 20585-1615

National Nuclear Security Administration, Office of International Regimes and Agreements  
U.S. Department of Energy  
ATTN: Ms. Jessica Norles  
1000 Independence Avenue, SW  
Washington, D.C. 20585-1615

LSS Technical Data Assessment & Teleforensics Center, DHS/CBP  
Attn: Christopher Baugues, MSC Physical Scientist  
12825 Worldgate Plaza, Bldg 3  
Herndon, VA 20170

Office of Nuclear and Missile Technology, Bureau of Industry and Security  
U.S. Department of Commerce  
ATTN: Steve Clagett  
14th Street & Penn Avenue, NW, Room 2631  
Washington, D.C. 20230

NAC International/Nuclear Materials Management Safeguards System  
ATTN: Peter Dessaulles, Program Manager  
DOE/NMMSS  
1000 Independence Ave., SW  
Washington, D.C. 20585-1290

Office of Nuclear Energy, Safety and Security Affairs, Room 3320 HST  
Bureau of International Security and Nonproliferation  
U.S. Department of State  
ATTN: Robin DeLaBarre  
2201 C Street, NW  
Washington, D.C. 20520

Dept of Environment & Natural Resources  
Division of Environmental Health  
Radiation Protection Section  
Attn: Lee Cox, Acting Chief  
3825 Barrett Drive  
Raleigh, NC 27609-7221

NOTE: The following information is an updated excerpt from NRC Information Notice 96-28 issued during 1996.

## **NRC INFORMATION NOTICE 96-28**

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS  
WASHINGTON, D.C. 20555

May 1, 1996

NRC INFORMATION NOTICE 96-28: SUGGESTED GUIDANCE RELATING TO  
DEVELOPMENT AND IMPLEMENTATION OF  
CORRECTIVE ACTION

### Addressees

All material and fuel cycle licensees.

### Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to provide addressees with guidance relating to development and implementation of corrective actions that should be considered after identification of violation(s) of NRC requirements. It is expected that recipients will review this information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not new NRC requirements; therefore, no specific action or written response is required.

### Background

On June 30, 1995, NRC revised its Enforcement Policy, to clarify the enforcement program's focus by, in part, emphasizing the importance of identifying problems before events occur, and of taking prompt, comprehensive corrective action when problems are identified. Consistent with the revised Enforcement Policy, NRC encourages and expects identification and prompt, comprehensive correction of violations.

In many cases, licensees who identify and promptly correct non-recurring Severity Level IV violations, without NRC involvement, will not be subject to formal enforcement action. Such violations will be characterized as "non-cited" violations as provided in Section VI.A of the Enforcement Policy. Minor violations are not subject to formal enforcement action. Nevertheless, the root cause(s) of minor violations must be identified and appropriate corrective action must be taken to prevent recurrence.

If violations of more than a minor concern are identified by the NRC during an inspection, licensees will be subject to a Notice of Violation and may need to provide a written response, as required by 10 CFR 2.201, addressing the causes of the violations and corrective actions taken to prevent recurrence.

In some cases, such violations are documented on Form 591 (for materials licensees) which constitutes a notice of violation that requires corrective action but does not require a written response. If a significant violation is involved, a predecisional enforcement conference may be held to discuss those actions.

The quality of a licensee's root cause analysis and plans for corrective actions may affect the NRC's decision regarding both the need to hold a predecisional enforcement conference with the licensee and the level of sanction proposed or imposed.

### Discussion

Comprehensive corrective action is required for all violations. In most cases, NRC does not propose imposition of a civil penalty where the licensee promptly identifies and comprehensively corrects violations. However, a Severity Level III violation will almost always result in a civil penalty if a licensee does not take prompt and comprehensive corrective actions to address the violation.

It is important for licensees, upon identification of a violation, to take the necessary corrective action to address the noncompliant condition and to prevent recurrence of the violation and the occurrence of similar violations. Prompt comprehensive action to improve safety is not only in the public interest, but is also in the interest of licensees and their employees. In addition, it will lessen the likelihood of receiving a civil penalty. Comprehensive corrective action cannot be developed without a full understanding of the root causes of the violation.

Therefore, to assist licensees, the NRC staff has prepared the following guidance, that may be used for developing and implementing corrective action. Corrective action should be appropriately comprehensive to not only prevent recurrence of the violation at issue, but also to prevent occurrence of similar violations. The guidance should help in focusing corrective actions broadly to the general area of concern rather than narrowly to the specific violations. The actions that need to be taken are dependent on the facts and circumstances of the particular case.

The corrective action process should involve the following three steps:

1. Conduct a complete and thorough review of the circumstances that led to the violation.  
Typically, such reviews include:

Interviews with individuals who are either directly or indirectly involved in the violation, including management personnel and those responsible for training or procedure development/guidance. Particular attention should be paid to lines of communication between supervisors and workers.

Tours and observations of the area where the violation occurred, particularly when those reviewing the incident do not have day-to-day contact with the operation under review. During the tour, individuals should look for items that

may have contributed to the violation as well as those items that may result in future violations. Reenactments (without use of radiation sources, if they were involved in the original incident) may be warranted to better understand what actually occurred.

Review of programs, procedures, audits, and records that relate directly or indirectly to the violation. The program should be reviewed to ensure that its overall objectives and requirements are clearly stated and implemented. Procedures should be reviewed to determine whether they are complete, logical, understandable, and meet their objectives (i.e., they should ensure compliance with the **current** requirements). Records should be reviewed to determine whether there is sufficient documentation of necessary tasks to provide a record that can be audited and to determine whether similar violations have occurred previously. Particular attention should be paid to training and qualification records of individuals involved with the violation.

2. Identify the root cause of the violation.

Corrective action is not comprehensive unless it addresses the root cause(s) of the violation. It is essential, therefore, that the root cause(s) of a violation be identified so that appropriate action can be taken to prevent further noncompliance in this area, as well as other potentially affected areas. Violations typically have direct and indirect cause(s). As each cause is identified, ask what other factors could have contributed to the cause. When it is no longer possible to identify other contributing factors, the root causes probably have been identified. For example, the direct cause of a violation may be a failure to follow procedures; the indirect causes may be inadequate training, lack of attention to detail, and inadequate time to carry out an activity. These factors may have been caused by a lack of staff resources that, in turn, are indicative of lack of management support. Each of these factors must be addressed before corrective action is considered to be comprehensive.

3. Take prompt and comprehensive corrective action that will address the immediate concerns **and** prevent recurrence of the violation.

It is important to take immediate corrective action to address the specific findings of the violation. For example, if the violation was issued because radioactive material was found in an unrestricted area, **immediate** corrective action must be taken to place the material under licensee control in authorized locations. After the immediate safety concerns have been addressed, timely action must be taken to prevent future recurrence of the violation. Corrective action is sufficiently comprehensive when corrective action is broad enough to reasonably prevent recurrence of the specific violation as well as prevent similar violations.

In evaluating the root causes of a violation and developing effective corrective action, consider the following:

1. Has management been informed of the violation(s)?
2. Have the programmatic implications of the cited violation(s) and the potential presence of similar weaknesses in other program areas been considered in formulating corrective actions so that both areas are adequately addressed?
3. Have precursor events been considered and factored into the corrective actions?
4. In the event of loss of radioactive material, should security of radioactive material be enhanced?
5. Has your staff been adequately trained on the applicable requirements?
6. Should personnel be re-tested to determine whether re-training should be emphasized for a given area? Is testing adequate to ensure understanding of requirements and procedures?
7. Has your staff been notified of the violation and of the applicable corrective action?
8. Are audits sufficiently detailed and frequently performed? Should the frequency of periodic audits be increased?
9. Is there a need for retaining an independent technical consultant to audit the area of concern or revise your procedures?
10. Are the procedures consistent with current NRC requirements, should they be clarified, or should new procedures be developed?
11. Is a system in place for keeping abreast of new or modified NRC requirements?
12. Does your staff appreciate the need to consider safety in approaching daily assignments?
13. Are resources adequate to perform, and maintain control over, the licensed activities? Has the radiation safety officer been provided sufficient time and resources to perform his or her oversight duties?
14. Have work hours affected the employees' ability to safely perform the job?
15. Should organizational changes be made (e.g., changing the reporting relationship of the radiation safety officer to provide increased independence)?
16. Are management and the radiation safety officer adequately involved in oversight and implementation of the licensed activities? Do supervisors adequately observe new employees and difficult, unique, or new operations?

17. Has management established a work environment that encourages employees to raise safety and compliance concerns?
18. Has management placed a premium on production over compliance and safety? Does management demonstrate a commitment to compliance and safety?
19. Has management communicated its expectations for safety and compliance?
20. Is there a published discipline policy for safety violations, and are employees aware of it? Is it being followed?

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact one of the technical contacts listed below.

Robert C. Pierson, Director  
Division of Fuel Cycle Safety and  
Safeguards  
Office of Nuclear Material Safety and  
Safeguards

Donald A. Cool, Director  
Division of Industrial and Medical  
Nuclear  
Office of Nuclear Material Safety and  
Safeguards

Technical contacts: (Updated as of November 22, 2005)

Sally Merchant, Office of Enforcement  
(301) 415-2747  
[Internet:slm2@nrc.gov](mailto:slm2@nrc.gov)

Daniel J. Holody, RI  
(610) 337-5312  
[Internet:djh@nrc.gov](mailto:djh@nrc.gov)

Carolyn Evans, RII  
(404) 562-4414  
[Internet:cfe@nrc.gov](mailto:cfe@nrc.gov)

Kenneth O'Brien, RIII  
(630) 810-4373  
[Internet:hbc@nrc.gov](mailto:hbc@nrc.gov)

Karla Fuller, RIV  
(817) 860-8222  
[Internet:gfs@nrc.gov](mailto:gfs@nrc.gov)