March 29, 2010

NMED No.100052

Mr. George G. Jarvis, Safety Director
Department of the Army
US Army TACOM-LCMC
AMSTA-CS-C-Z
Mail Stop: 485
6501 E. 11 Mile Road
Warren, MI 48397-5000

SUBJECT: NRC REACTIVE INSPECTION REPORT NO. 030-11612/10-01(DNMS) AND NOTICE OF VIOLATION–DEPARTMENT OF THE ARMY

Dear Mr. Jarvis:

On February 17, 2010, the U.S. Nuclear Regulatory Commission (NRC) conducted a reactive inspection at the Department of the Army, Warren, MI facility. The purpose of the inspection was in reaction to Event No. 45667 on January 28, 2010, and the improper shipment of a Campbell Pacific Nuclear (CPN) gauge on February 1, 2010. The enclosed report presents the results of this inspection. A final telephonic exit meeting was conducted with you and members of your staff on March 4, 2010.

The inspection consisted of an examination of activities as they relate to safety and compliance with the Commission's rule and regulations. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of selective examination of procedures and representative records, and interviews with personnel.

Based on the results of this inspection, the NRC has determined that four Severity Level IV violations of NRC requirements occurred. These violations were evaluated 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 violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The violations are being cited in the Notice because they were identified by the inspector. The violations involve failures to: (1) provide the proper hazmat training for the individual shipping the licensed material; (2) utilize the proper shipping papers; (3) properly label the over-pack containing licensed material; and (4) properly mark the over-pack containing the licensed material.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The guidance in NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," may be helpful. You can find the information notice on the NRC website at: http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/ 1996/in96028.html. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management 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.

Sincerely,

/RA/

Tamara E. Bloomer, Chief
Materials Inspection Branch

Docket No. 030-11612
License No. 21-01222-05

Enclosures:
1. Notice of Violation
2. Inspection Report No. 030-11612/10-01

cc w/encls: Karen L. McGuire, RSO-PM

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management 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.

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cc w/encls: Karen L. McGuire, RSO-PM

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NOTICE OF VIOLATION

Department of the Army
Warren, MI

Docket No.: 030-11612
License No.: 21-01222-05

During an U.S. Nuclear Regulatory Commission (NRC) inspection conducted on February 17, 2010, four violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

1. 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 172.200(a) requires, with exceptions not addressed here, that each person who offers a hazardous material for transportation shall describe the hazardous material on the shipping paper in the manner required by Subpart C of 49 CFR Part 172. Pursuant to 49 CFR 172.101, radioactive material is classified as hazardous material.

   Contrary to the above, on February 1, 2010, the licensee offered a Campbell Pacific Nuclear (CPN) moisture/density device containing 50 millicuries (mCi) of americium-241 and 10 mCi of cesium-137 to a carrier for transport and did not include with the shipment a shipping paper describing the material.

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

2. 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 172. The terms Hazmat Employer and Hazmat Employee are defined in 49 CFR 171.8.

   Contrary to the above, on February 1, 2010, 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.

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

3. 49 CFR 172.403 requires, in part, with exceptions not applicable here, that each package of radioactive material is labeled, as appropriate, with two RADIOACTIVE YELLOW-II labels on opposite sides of the package. The contents, activity, and transport index must be entered in the blank spaces on the

label using a legible and durable, weather resistant means. The contents entered on the label must include the name or abbreviation (e.g. ^{99}MO) of the radionuclide's, as taken from the listings in 49 CFR 173.435, or for mixtures of radionuclides, those nuclides determined in accordance with the provisions of 49 CFR 173.433(f), with consideration of space available on the label. The activity must be expressed in terms of the appropriate SI units (e.g., Becquerel, Terabecquerel, etc…), or in terms of appropriate SI units followed by customary units (e.g., curies, millicuries, or microcuries).

Contrary to the above, on February 1, 2010, the licensee delivered to a carrier for transport a CPN Moisture density device containing 50 mCi of americium-241 and 10 mCi of cesium-137 without the required RADIOACTIVE YELLOW-II labels.

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

4. 49 CFR 173.25 requires, in part, for packages containing hazardous materials and offered for transportation, in an over pack, that: (1) the over pack be marked with the proper shipping name and identification number, and labeled as required by 49 CFR 171-177 for each hazardous material contained therein unless markings and labels representative of each hazardous material in the over pack are visible; and (2) the over pack be marked with a statement indicating that the inside (inner) packages comply with prescribed specifications when specification PACKAGING are required, unless specification markings on the inside packages are visible. Pursuant to 49 CFR 172,101, radioactive material is classified as hazardous material.

   Contrary to the above, as of February 1, 2010, the licensee offered for transportation in an over pack a CPN moisture/density device containing 50 mCi of americium-241 and 10 mCi of cesium-137 that was not marked with the proper shipping name and identification number, nor with any statement indicating the inner package complied with the prescribed specifications; and the markings on the inside package were not visible.

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

Pursuant to the provisions of 10 CFR 2.201, (licensee) 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 III 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 or severity level; (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, with the basis for your denial, to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's Agencywide Documents Access and Management 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. 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 you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.790(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.

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

Dated this 29TH day of March 2010

U. S. Nuclear Regulatory Commission

Region III

Docket No.:	030-11612
License No.:	21-01222-05
Report No.:	3011612/10-01(DNMS)
Licensee:	Department of the Army
Facility:	Department of the Army US Army TACOM ATTN: ASTM-CS-C-S
Location:	Warren, MI
Dates:	February 17, 2010 March 4, 2010 (telephonic exit)
Inspector:	Edward L. Kulzer, Health Physicist
Approved By:	Tamara E. Bloomer, Chief Materials Inspection Branch

EXECUTIVE SUMMARY

DEPARTMENT OF THE ARMY, WARREN, MI
NRC Inspection Report 030-11612/10-01(DNMS)

This was a reactive announced inspection of licensed activities involving the use of byproduct material (cesium-137 and americium-241) for measuring physical properties of materials with portable nuclear gauging devices. The findings for the reactive inspection are discussed in the report. However, during review of a subsequent log book entry regarding shipping licensed material using an expired Department of Transportation (DOT) Special Permit, the inspector identified four violations against transportation regulations (Title 49 Code of Federal Regulations [49 CFR]).

The violations of 49 CFR included failure to appropriately train the employee responsible for shipping radioactive material as a hazmat worker, failure to provide the required shipping papers, failure to appropriately label the package of radioactive material with two "RADIOACTIVE YELLOW-II" labels on opposite sides of the package, and failure to appropriately mark the over-pack.

As corrective action for the violations, the licensee submitted to its field units a radiation safety reminder describing the required training for all individuals responsible for shipping hazardous material and that all shipments of these gauges be stopped until a DOT Special Permit to transport these gauges was revised.

Report Details

1 Program Overview

1.1 Inspection Scope

1.2 Observations and Findings

The Department of the Army is authorized under Materials License 21-01222-05 to use licensed material for measuring physical properties of materials with nuclear gauge devices. The licensee is authorized to use licensed material anywhere in the United States in areas of NRC jurisdiction. The licensee uses the gauges on a daily basis for construction engineering projects throughout the United States. The licensee manages the Radiation Safety Program from the Warren, Michigan location. There are no gauges located at this site. The licensee uses a total of 125 Campbell Pacific Nuclear (CPN) gauges, each containing cesium-137 and americium-241. The licensee is in the process of disposing of these gauges due to age, wear, and the fact that the manufacturer of the sealed source has nullified the warrantee. The licensee sends the gauges from its unit field offices to its Army installation in Stockton, California where they are packaged and shipped to the vendor for disposal.

The licensee has thus far disposed of 67 of its gauges using a DOT Special Permit 14568 which expired on January 31, 2010. The licensee currently has 52 of its gauges at its installation in Stockton, California and a total of 6 gauges remaining in its unit field offices throughout the United States and Europe. It has requested and had been granted a revised DOT special permit to dispose of the remaining gauges.

2 Gauge Transportation

2.1 Inspection Scope

The inspector reviewed the gauge program including interviews with licensee personnel and the procedures, training, permits, and records associated with the packaging and transport of licensed material.

2.2 Observations and Findings

The inspector conducted a reactive inspection of the Department of the Army facility located in Warren, Michigan to review an Event Report dated January 28, 2010, and to evaluate the cause for the shipment of a CPN gauge serial number M18092411 without the appropriate shipping papers, labeling, and markings on February 17, 2010.

The inspector determined that the shipment was sent by accident resulting in the following violations:

Title 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 DOT in 49 CFR Parts 107, 171-180, and 390-397.

Title 49 CFR 172.200(a) requires, with exceptions not addressed here, that each person who offers a hazardous material for transportation shall describe the hazardous material on the shipping paper in the manner required by Subpart C of 49 CFR Part 172. Pursuant to 49 CFR 172.101, radioactive material is classified as hazardous material.

The failure to provide a shipping paper describing the material with the shipment of a CPN moisture/density device containing 50 millicuries (mCi) of americium-241 and 10 mCi of cesium-137 to a carrier for transport was identified as a violation of 49 CFR 172.200(a). (030-1161/10-01)

Title 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 172. The terms Hazmat Employer and Hazmat Employee are defined in 49 CFR 171.8.

The failure to 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 172 was identified as a violation of 49 CFR 172.702. (030-1161/10-02)

Title 49 CFR 172.403 requires, in part, with exceptions not applicable here, that each package of radioactive material is labeled, as appropriate, with two, RADIOACTIVE YELLOW-II labels on opposite sides of the package. The contents, activity, and transport index must be entered in the blank spaces on the label using a legible and durable, weather resistant means. The contents entered on the label must include the name or abbreviation (e.g. ^{99}MO) of the radionuclides, as taken from the listings in 49 CFR 173.435, or for mixtures of radionuclides, those nuclides determined in accordance with the provisions of 49 CFR 173.433(f), with consideration of space available on the label. The activity must be expressed in terms of the appropriate SI units (e.g., Becquerel, Terabecquerel etc.) or in terms of appropriate SI units followed by customary units (e.g., curies, millicuries, or microcuries).

The failure to provide each package containing radioactive material with two RADIOACTIVE YELLOW-II labels for transport was identified as a violation of 49 CFR 172.403. (030-1161/10-03)

Title 49 CFR 173.25 requires, in part, for packages containing hazardous materials and offered for transportation, in an over pack, that: (1) the over pack be marked with the

proper shipping name and identification number, and labeled as required by 49 CFR 171-177 for each hazardous material contained therein unless markings and labels representative of each hazardous material in the over pack are visible; and (2) the over pack be marked with a statement indicating that the inside (inner) packages comply with prescribed specifications when specification PACKAGING are required, unless specification markings on the inside packages are visible. Pursuant to 49 CFR 172,101, radioactive material is classified as hazardous material.

The failure to provide for packages containing hazardous materials and offered for transportation, in an over pack, that: (1) the over pack be marked with the proper shipping name and identification number, and labeled as required by 49 CFR 171-177 for each hazardous material contained therein unless markings and labels representative of each hazardous material in the over pack are visible; and (2) the over pack be marked with a statement indicating that the inside (inner) packages comply with prescribed specifications when specification PACKAGING are required, unless specification markings on the inside packages are visible was identified as a violation of 49 CFR 173.25. (030-1161/10-04)

The inspector interviewed the TACOM LCMC Radiation Safety Office Program Manager (RSO-PM) to determine what lead to the shipment of a moisture/density gauge from the licensee's field unit located at Fort Stewart, Georgia on February 2, 2010, to its unit facility in Stockton, California on February 3, 2010, without the required documentation.

The inspector reviewed the emails from the RSO-PM to the RSO at the Georgia installation informing him on January 29, 2010, not to ship the gauge because the DOT Special Permit 14568, which was issued to the U.S. Department of Defense and which allowed the gauge to be transported, and the IAEA CERTIFICATE OF COMPETENT AUTHORITY SPECIAL FORM RADIOACTIVE MATERIALS CERTIFICATE USA/0751/S-96, REVISION 1 expired on January 31, 2010. These special permits were required because the warrantee from the manufacturer of the sealed source (IAEA Technologies) on the gauges had expired.

The licensee has determined that the individual performing the shipping function at the time of shipment of this gauge had no hazmat training. The shipper that was hazmat trained was not present at the time. The licensee believes that there was some pressure to ship the gauge before the special permit would expire, so the gauge was shipped by mistake.

The inspector also reviewed the email on February 1, 2010, from the Georgia installation RSO responding to the RSO-PM that he would stop the shipment of the gauge. The inspector also reviewed the email from the RSO-PM on February 1, 2010, to the RSO at the Georgia installation stating that the gauge should not be shipped because the special permits had expired. The inspector then reviewed the email from the installation in Stockton, California stating that the gauge had been delivered without the required shipping papers, marking and labels.

The inspector also reviewed the email on January 31, 2010, "Urgent Action Required" to leak test the CPN gauge, check the locking mechanism, to ensure shutter in place, and to ensure the rod on the probe was in its protective housing.

The inspector reviewed the shipping licensee's instructions, and the DOT and IAEA permits.

2.3 Conclusions

The inspection identified four violations of NRC requirements involving failures to: (1) properly train shippers packaging hazmat materials; 2) provide shipping papers for shipment containing hazmat materials; (3) provide over packs containing hazmat materials with proper labels; and (4) provide over packs containing hazmat materials with proper markings.

3 Inspection Findings
Licensee Event Number 45667

3.1 Inspection Scope

The inspector reviewed the license Event Number 45667 dated January 28, 2010, of a CPN moisture density/gauge that was identified to have its locking mechanism separated from its guide tube, the required 30 day report dated February 17, 2010, leak tests, emails, and shipping instructions. Collectively, these documents describe the licensee's event and corrective actions taken.

3.2 Observations and Findings

A reactive inspection of the Department of the Army facility located in Warren, Michigan, was conducted by an NRC inspector on February 17, 2010. The inspector reviewed the event report involving the CPN Model MC-1, Serial Number M17112089 which was manufactured in 1977. The inspector reviewed the licensee's leak test records which were completed on January 19, 2010. On January 20, 2010, the licensee prepared the gauge for shipment from Fort Leonard Wood, Missouri to Stockton, California. The licensee's emails indicated that upon unit receipt of the gauge, on January 25, 2010, the licensee identified that the locking mechanism was separated from the guide tube. The licensee determined that the source was in the shielded position inside its transportation container. The inspector reviewed the licensee's shipping instructions and determined that these instructions were followed. The inspector also reviewed the licensee's DOT Special Permit 14329 to return the gauge for disposal.

The licensee's records indicated that no personnel exposures were known to have occurred.

3.3 Conclusions

The inspector identified no violations of NRC requirements.

4 Corrective Actions

The inspector reviewed Event Number 45667, involving the shipment of a CPN gauge Model MC-1, Serial Number M17112089 with its locking mechanism separated from the guide tube, and the licensee's 30 day required response on February 17, 2010. The inspector determined that no violations of NRC regulations were identified and considered this event closed.

The inspector then reviewed the corrective actions taken for the shipment of the CPN gauge, Serial Number M18092411, on February 1, 2010. The licensee instituted the following immediate corrective actions:

a. Notifying the field units to stop shipment of these gauges because the DOT Special Permit 14568 and the IAEA CERTIFICATE OF COMPETENT AUTHORITY SPECIAL FORM RADIOACTIVE MATERIALS CERTIFICATE USA/0751/S-96, REVISION 1, had expired on January 31, 2010,

b. Issuing a Radiation Safety Reminder to all of its field units that possess these gauges that anyone who ships Type A packages must have the required certification/recertification training and documentation,

c. Obtaining the special permits listed in Step 4.a above that had expired, (the Department of the Army, TACOM LCMC, RSO-PM has since obtained a special permit from DOT (DOT Special Permit No. 14568 Rev. 3, expiring 1/31/11) to ship the six gauges currently in its field units to its installation in Stockton, CA, where the remaining 57 gauges will be disposed of and the license terminated), and

d. Modifying the Department of the Army shipping instructions to include dual approval for the shipment of the remaining gauges. The licensee identified that it intends to terminate its NRC License 21-01222-05.

5 Exit Meeting Summary

A preliminary site exit briefing was conducted on February 17, 2010. A final telephonic exit meeting was conducted with the assistant area director and other members of the licensee's staff on March 4, 2010. The Department of the Army representatives acknowledged the inspector's findings. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Department of the Army

George G. Jarvis, Safety Director, US Army TACOM LCMC
Karen L. McGuire, TACOM LCMC Radiation Safety PM

INSPECTION PROCEDURES USED

87124	Fixed and Portable Gauges
86740	Transportation

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

030-11612/10001-01	VIO	A violation involving the licensee's failure to provide a shipping paper
030-11612/10001-02	VIO	A violation involving the licensee's failure to provide proper hazmat training.
030-11612/10001-03	VIO	A violation involving the licensee's failure provide proper labeling
030-11612/10001-04	VIO	A violation involving the licensee's failure to provide proper markings on the container.

Closed

Event Number 45667

LIST OF ACRONYMS USED

VIO	Violation
CFR	Code of Federal Regulations
CPN	Campbell Pacific Nuclear
NRC	Nuclear Regulatory Commission
TACOM	Tank Automotive and Armaments Command
LCMC	Life Cycle Management Command
IAEA	International Atomic Energy Administration
DOT	Department of Transportation
NMED	Nuclear Medicine
RSO-PM	Radiation Safety Officer Program Manager