

**TREAT AS**

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**INFORMATION**

# Environmental Services

Rich Dailey, Sr. Director

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May 23, 2008

Director Charles Miller  
Office of Federal and State Materials  
and Environmental Management Programs  
U.S. Nuclear Regulatory Commission  
One White Flint North  
11545 Rockville Pike  
Rockville, MD 20852

Subject: Report of Damaged Tritium Exit Signs

Dear Director Miller:

Pursuant to 10 CFR § 31.5(a), Wal-Mart Stores, Inc. ("Wal-Mart") is a general licensee of the Nuclear Regulatory Commission ("NRC") because it possesses and uses byproduct material in the form of tritium exit signs ("TES") regulated by the NRC. Consistent with 10 CFR § 31.5(c)(5), Wal-Mart is providing the subject report regarding two damaged TES that it discovered at its store #1424, located in Colonial Heights, Virginia.

Attachment A provides a brief description of the events associated with the damaged TES and corrective actions taken. Information on the damaged TES is provided below:

<u>Serial #</u>	<u>Curies</u>	<u>Damage Date</u>	<u>Store Location</u>
294072	20.0	unknown	671 Southpark Blvd., Colonial Heights, VA
294073	20.0	unknown	671 Southpark Blvd., Colonial Heights, VA

Please contact me at (479) 204-9914, if you have any questions regarding this letter or the attached report.

Sincerely,



Richard Dailey

Radiation Safety Officer  
Wal-Mart Stores, Inc.

cc: Karen Roberts, Wal-Mart Stores, Inc.  
Thomas Poindexter, Morgan Lewis & Bockius LLP

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## Attachment A

### A. Description of Events

On April 10, 2008, Wal-Mart representatives found two tritium exit sign ("TES") during an inventory of store #1424 in Colonial Heights, Virginia. The TES were installed in the lawn and garden area of the store. Wal-Mart has retained Shaw Group, Inc. ("Shaw"), an environmental services contractor with extensive experience with the management of radioactive material, for its company-wide program to inventory and manage TES.

Wal-Mart hired an electrician to replace exit signs in the Colonial Heights store, and instructed the electrician not to proceed with TES removal until representatives from Shaw were present to receive the two TES. Despite Wal-Mart's instruction, the electrician removed exit signs on April 24, 2008 and placed all the debris from the TES in a shopping cart in the back of the store by the compactor area. That same day, an employee put the contents of the cart into the store produce compactor. Shaw arrived at the Colonial Heights on April 25, 2008 to package the TES but could not locate either TES.

### B. Prompt Actions Taken

Realizing that the TES may have gone into the compactor, Wal-Mart personnel immediately had the compactor locked-out and took measures to prevent use of the compactor. Before the compactor was locked-out, the trash had been compacted twenty to thirty times since the contents of the shopping cart with TES debris were placed in it. The Wal-Mart Radiation Safety Officer ("RSO") conservatively called the NRC on April 25, 2008 to report the incident.

The RSO directed Certified Health Physicists ("CHPs") from Dade Moeller & Associates ("Dade Moeller") and Philotechnics, to visit the Colonial Heights store to off-load the waste from the compactor, package it for disposal, and disposition the compactor at a low level waste facility. Dade Moeller is a contractor retained by Wal-Mart with the responsibility to assess the radiological impacts of damaged TES.

When the CHPs arrived at the Colonial Heights store on May 19, 2008, they found both TES in the compactor with no broken tritium-containing tubes. TES, with serial #294072 ("TES 294072"), was completely intact and TES, with serial #294073 ("TES 294073"), had only a hairline crack on its faceplate. The CHPs packaged both TES for transfer according to protocols established by a specific licensee authorized to receive TES for disposal.

The CHPs conducted swipe surveys from the face of both TES found in the compactor as well as the frames for the TES. The swipes were then placed in vials and shipped to Dade Moeller's certified laboratory. Wal-Mart provides the results in Table 1.

**Table 1. Results of Removable Contamination Monitoring After a 24-hour hold period.**

<b>Sample #</b>	<b>Location of Smear</b>	<b>Gross cpm + SD<sup>1</sup></b>	<b>Net cpm</b>	<b>Net results<sup>2</sup> (dpm/100 cm<sup>2</sup>)</b>
1	Frames	106 ± 11	5	24
2	Face of intact TES (S/N 294072)	92 ± 13	-9	-43
3	Face of cracked TES (S/N 294073)	91 ± 10	-10	-48
Bkg	Background count rate <sup>3</sup>	101 ± 19	0	0

<sup>1</sup> Five 30-second counts were taken for each sample.

<sup>2</sup> Counting efficiency of 21% used to calculate the dpm. Swipe area was estimated to be 100 cm<sup>2</sup>.

<sup>3</sup> Background count rate obtained by counting a blank smear in same liquid scintillation fluid as used for the samples.

Because no residual contamination was found in the compactor or trash, it was found acceptable for Wal-Mart to disposition all of the trash in the compactor to its usual landfill.

C. Long-term Corrective Actions

Wal-Mart has implemented and communicated protocols to its stores for the proper handling of TES to ensure public health and safety and the protection of its employees. It is also inventorying all of the TES at its sites across the country to re-establish the accuracy of its records and to track the current locations of the TES. The intent of this program is to ensure that all TES are accounted for and are handled properly. As a part of this program, Wal-Mart has employed Shaw to inventory TES, and a team of CHPs from Dade Moeller to properly handle TES and prepare and arrange for their return to a specific licensee.

D. Shipping Details

Wal-Mart anticipates shipping the damaged TES to a specific licensee authorized to receive the damaged TES, within thirty days of this report.