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2443 Warrenville Road  
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October 22, 2015

Evonik Corporation  
Tippecanoe Laboratories  
1650 Lilly Road  
Lafayette, IN 47909-9201  
USA

Event Notification #51486, Report of loss of licensed material

To Whom it May Concern:

Pursuant to the requirements of 10 CFR 20.2201, Evonik Corporation Tippecanoe Laboratories made a telephone report regarding the loss of generally licensed (GL) material to the Nuclear Regulatory Commission (NRC) Operations Center at 1:08 PM EDT on October 21, 2015. The report was assigned Event Notification #51486. Daniel Mills of the NRC accepted the report.

The information contained herein includes information provided at the time of initial telephone report as well as additional information associated with the loss event. This letter satisfies the requirement for written notification within 30 days of the initial telephone report.

Sincerely,

A handwritten signature in black ink, appearing to read 'April M. Rademaker'.

April M. Rademaker  
Manager – Environment, Safety, Health and Security

**Description of licensed material involved.** One radioluminescent emergency exit sign was improperly disposed of in a general waste container. The sign contained tritium gas. The date of manufacture for the sign was February 2009 with an original tritium content of 0.426 TBq. The sign was manufactured by Isolite, Model SLX60, Serial Number Z5226.

**Circumstances of the loss.** The sign was inadvertently placed in general waste when it was being replaced due to a damaged holding bracket/frame. The damage did not compromise the integrity of the sealed, radioactive source. The employee replacing the sign was made aware that the sign contained tritium and required a specific disposal process prior to the work being performed; this information was provided in the written work instructions for the task. The employee reports that the sign remained intact and was not compromised at the time of disposal in the general waste disposal container in the vicinity of the work. The loss event occurred on October 11, 2015 based on the employee's self-report on October 13, 2015 at approximately 11:30 AM EDT. The loss was immediately reported to the site Environmental, Safety, Health, and Security department by maintenance management. An investigation began immediately.

**Probable disposition of the material involved.** Waste disposal for the facility is managed by Advanced Disposal (Advanced). The lost sign was placed directly into a large front-load collection container by the person performing the work. These containers are picked up from the site multiple times per week by Advanced. Advanced then transports the collected waste to a Lafayette, IN based transfer station operated by Waste Management (WM). Waste is transferred to the Liberty landfill in Monticello, IN within one day of arrival at the transfer station. All Advanced and WM handling of waste is done with large equipment; there is no direct handling of waste during routine operations. Audits of Advanced and WM practices confirms that direct handling of waste is atypical.

**Potential for exposures.** The sealed tubes within the units remained intact during the event; therefore, exposure to any individuals on site as a result of this event is highly improbable. Waste transfer and management by Advanced and WM does not involve any direct, manual handling of waste, also making personnel exposure during these operations highly improbable. It is the site's determination that the final disposition of these two sources is the Liberty landfill, and that there is no further opportunity for exposure.

**Actions to recover material.** During the investigation period from October 13, local waste containers in the area were inspected to verify that the lost signs were no longer on site. No additional actions have been taken at this time.

**Preventive actions to ensure against recurrence.** At this time, the site has a comprehensive inventory of all GL sources and verifies their status on a routine basis through preventive maintenance activities. Key personnel on site have received Radiation Safety Awareness training, including emergency response personnel, electricians and instrument technicians who are most likely to work directly with GL sources.

As a result of this event, a sitewide awareness communication will be made no later than November 30, 2015, informing all site personnel of the unique hazards and disposal requirements for GL materials. Additionally, the details of this event and the investigation results will be incorporated into a shared learning communication to be distributed within Evonik's North American region. A documented personnel conversation has also occurred with the employee who performed the work.