



The Dow Chemical Company
Midland, Michigan 48674

U.S. Nuclear Regulatory Commission
Region III
Materials Licensing Section
2443 Warrenville Road, Suite 210
Lisle, IL 60532-4352

May 4, 2009

This report is a follow-up report to Event Report #44974, which was initiated by telephone on 4/6/09. This event was reported due to the failure of the shutter in an open position on an Ohmart SHRM-B sealed source at Dow Chemical's Midland, Michigan site (NRC License # 21-00265-06). This source is a strip source that contains 12 mCi of Cs-137.

Problems with the shutter were initially identified on March 6th, 2009, as part of a monthly routine check of shutter operation. The shutter was not able to be closed at this time, presumably from either internal corrosion of the shutter mechanism or deposition of chemicals in the shutter shaft due to the products being manufactured in the area. From that time until April 5, 2009, lubrication was repeatedly applied and allowed to permeate the shutter mechanism, and attempts were made to get the shutter to close. On April 5, while attempting to close the shutter mechanism using channel locks on the shutter shaft, the shaft sheared off, making the shutter completely inoperable.

This incident was reported per 10 CFR 30.50(b)(2).

The current status of this event is as follows:

- The source is still in place on the pipe and remains in-service in a manner that accessible radiation fields do not exceed 5 mrem/hr at a foot from the source.
- A shield has been manufactured that can be installed on the source that will reduce dose levels to less than 5 mrem/hr at a foot from the source. This shield is being stored at the plant, in the vicinity of the source.
- Replacement nuclear gauges have been identified to replace this source. However, this source has been identified as a component critical to quality and it is anticipated that the calibration of the replacement sources will take an extended period of time. Therefore, the source is scheduled to be removed from the pipe during the next planned plant shutdown in September, 2009. A license amendment will be submitted by May 8, 2009, in accordance with License Condition 21 of our license, to obtain approval to operate the source with an inoperable shutter until the source will be removed from service.
- The source is installed on a pipe rather than a vessel. There would be no reason for personnel to have to open the pipe. If the pipe requires replacement or any maintenance that requires the source to be removed from the pipe, the shield will be installed, and the replacement sources will be installed.
- Emergency plans have been developed to ensure that the manufactured shield can be quickly installed on the source in case of an emergency that causes the source to fall off of its installed location.
- Once the source is removed from service, the replacement shielding will be bolted to the source, which will reduce exposure levels to less than 5 mrem/hr at a foot. The source will be transferred to Ohmart-Vega, the manufacturer, for disposal.

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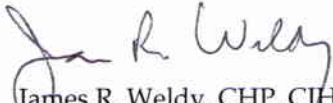
The following corrective actions have been taken or planned to prevent recurrence of this type of event:

- Other sources of this type are being reviewed for risks of shutter failure. We currently have one source of this type and similar age in an indoor location. This source is not located in an area that handles similar types of chemicals, and we have not experienced problems with shutter operation with this source.

There is no reason to believe that any worker or member of the public experienced an exposure due to this incident.

Please contact me if you have any questions.

Sincerely,



James R. Weldy, CHP, CIH
Radiation Safety Officer
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From: Origin ID: MB5A (989) 636-3429
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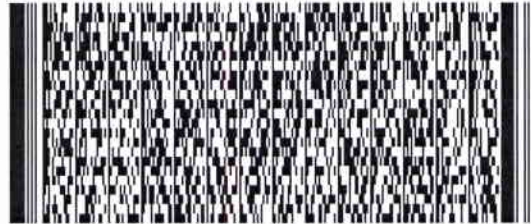


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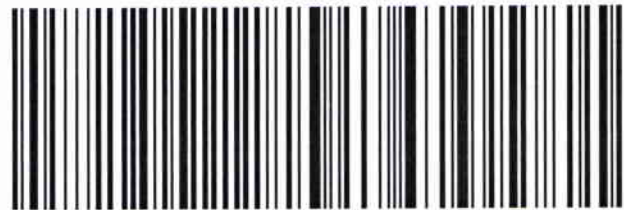
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