

# INSPECTION RECORD

Region: III

**Inspection Report No. 2017001**

**License No. 21-08362-08**

**Docket No.** 030-04858

**Licensee:** Dow Corning Corporation  
2200 W. Salzburg Road  
Auburn, MI 48611

**Locations Inspected:** Same as above

**Licensee Contact:** Kelly Wegener, RSO      **Telephone No.:** (989) 496-1386

**Program Code:** 03620      **Priority:** 5

**Type of Inspection:**

( ) Initial	(X) Routine	( ) Announced
( ) Special		(X) Unannounced

**Last Inspection Date:** 05/22/2013      **Date of This Inspection:** 11/15/2017, with continued in-office review through 1/11/18

**Next Inspection Date:** 11/15/2022      (X) Normal      ( ) Reduced

### Summary of Findings and Actions:

- (X) No violations cited, clear U.S. Nuclear Regulatory Commission (NRC) Form 591 or regional letter issued
- ( ) Non-cited violations (NCVs)
- ( ) Violation(s), Form 591 issued
- ( ) Violation(s), regional letter issued
- ( ) Follow-up on previous violations

Inspector: Edward Harvey, Health Physicist

**/RA Aaron McCraw Acting for/**

Signature

Date 2/07/2018

Approved: Aaron McCraw, Chief, MIB

**/RA/**

*Signature*

Date 2/07/2018

## **PART I – LICENSE, INSPECTION, INCIDENT/EVENT AND ENFORCEMENT HISTORY**

### **1. AMENDMENTS AND PROGRAM CHANGES SINCE LAST INSPECTION:**

<u>AMENDMENT #</u>	<u>DATE</u>	<u>SUBJECT</u>
32	04/05/2017	Change of ownership
31	05/20/2015	Change in Radiation Safety Officer (RSO)

The active NRC license expires on October 31, 2022.

### **2. INSPECTION AND ENFORCEMENT HISTORY:**

The last routine inspection of this licensee was conducted on May 22, 2013. No violations of NRC requirements were identified during the 2017 inspection. The previous NRC inspection was conducted on July 10, 2008. No violations of NRC requirements were identified during the 2008 inspection.

### **3. INCIDENT/EVENT HISTORY:**

See Part II, Section 2 below for discussion of a potential overexposure reported to the NRC.

## **PART II – INSPECTION DOCUMENTATION**

### **1. ORGANIZATION AND SCOPE OF PROGRAM:**

Dow Corning Corporation (licensee) is authorized under NRC Materials License No. 21-08362-08 to use byproduct material for research and development purposes. At the time of the inspection, the licensee authorized approximately 16 individuals to conduct licensed activities within approximately 17 laboratories collocated in one building on the licensee's complex in Auburn, Michigan. Research included environmental studies using carbon-14 (C-14) and tritium (H-3). The licensee did not use or possess any other isotopes authorized on their license since the last inspection.

### **2. SCOPE OF INSPECTION:**

Inspection Procedure(s) Used: 87124

Focus Areas Evaluated: All

The inspector toured the facility to evaluate the licensee's measures in place for material security, hazard communication, and exposure control. All stock solutions of byproduct material were secured from unauthorized access. The inspector observed a research protocol using C-14 with no issues noted. Interviews with radiation safety staff and researchers indicated adequate knowledge of radiation safety principals and procedures. A review of bioassay records indicated no exposures of regulatory concern.

The inspector reviewed a selection of licensee records, including program audits, survey meter calibrations, inventories, package receipt logs, training records, waste disposal logs, and radiation safety committee meeting minutes with no issues noted.

The inspector also followed up on a potential overexposure to a contractor that the licensee reported to the NRC on October 31, 2017. Interviews with licensee personnel indicated that the individual was contracted by the licensee to perform maintenance on laboratory equipment in a restricted area in 2016. On October 31, 2017, the licensee performed a survey of this equipment in preparation for decommissioning the device. The survey indicated an isolated radiation field of 295 millirem (mrem) per hour at 0.5 centimeters (cm) due to residual C-14 contamination in a spot where the contractor would have been working. The licensee conservatively reported this potential exposure to the NRC as a potential overexposure to a member of the public, because the individual was an unmonitored, non-licensee individual.

In assessing the dose to the individual, the licensee calculated the total effective dose equivalent (TEDE) that resulted from this exposure as 0 mrem, due to the inability of the beta radiation emitted from C-14 to deliver a deep dose. However, the licensee estimated the shallow dose equivalent (SDE) to the contractor's hands to be 49 mrem. The NRC reviewed the licensee's dose assessment and performed independent calculations that aligned with the licensee's assessment results.

In evaluating the applicable dose criteria, the inspector reviewed the regulations in Title 10 of the *Code of Federal Regulations* (CFR) 20.1003, which defines occupational dose as the dose received by an individual in the course of employment in which the individual's assigned duties involve exposure to radiation or to radioactive material from licensed and unlicensed sources of radiation, whether in the possession of the licensee or other person. The NRC concluded that this dose was occupational in nature because the individual's assigned duties involved entering a restricted area to perform maintenance on a potentially contaminated device, and therefore, did not exceed the regulatory limits for occupational dose, as established in 10 CFR 20.1201.

Interviews with licensee staff indicate that the contractor wore the required personal protective equipment (PPE) and received radiation safety training commensurate with his assigned duties, including instruction to discard all PPE as potentially contaminated waste. The licensee notified the contractor of the exposure on October 31, 2017.

As a corrective action to prevent future exposures to contractors, the licensee implemented a policy in which all equipment scheduled for maintenance will be surveyed, wiped tested, and decontaminated or disposed of, if necessary, prior to being serviced by a contractor. The contaminated portion of the device involved in the exposure reported on October 31, 2017, was added to the licensee's inventory of contaminated waste incident to disposal.

The NRC's review of this incident is closed.

3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:

The inspector conducted independent surveys at various locations within both restricted and unrestricted areas. The inspector found no readings that would indicate residual contamination or exposures to members of the public in excess of regulatory limits.

4. VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES:

No violations were identified during this inspection.

5. PERSONNEL CONTACTED:

- # Tim Glesner, Associate Science & Technology Technician
- # Gary Kozerski, Senior EHS Specialist
- # Debra McNett, RSC Chairperson
- # Shawn Seidel, EHS Specialist
- #\* Kelly Wegener, RSO

# Attended preliminary exit meeting on November 15, 2017.

\* Participated in final exit meeting on January 11, 2018.

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