

INSPECTION RECORD

Region: III

Inspection Report No. 2016001

License No. 24-03830-01

Docket No. 030-05089

Licensee: Bayer CropScience LP  
P.O. Box 4913  
8400 Hawthorn Road  
Kansas City, MO 64120-0013

Locations Inspected: Same as above

Licensee Contact: Steven Scherich, RSO

Telephone No. 816-242-2038

Program Code: 03120 Priority: 5

Type of Inspection: ( ) Initial (X) Routine ( ) Announced  
( ) Special (X) Unannounced

Last Inspection Date: 10/23/2012 Date of This Inspection: 11/16/2016 with continued in-office review thru 1/31/2017

Next Inspection Date: 11/16/2021 (X) Normal ( ) Reduced

Justification for reducing the routine inspection interval: N/A

Summary of Findings and Actions:

- ( ) 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
- (X) Violation(s), regional letter issued
- ( ) Follow-up on previous violations

Inspector: Deborah A. Piskura, Senior Health Physicist

/RA/  
Signature

Date 2/9/2017

Approved: Aaron T. McCraw, Chief, MIB

/RA/  
Signature

Date 2/9/2017

## 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>
39	08/26/2016	new AUs & new RSO

### 2. INSPECTION AND ENFORCEMENT HISTORY:

The last inspection of this licensee on October 23, 2012, reviewed the licensee's corrective actions in response to a Severity Level III security-related violation. No violations were identified during the followup inspection. One violation of NRC security requirements was identified the previous routine inspection on February 27, 2012. The inspection also identified a violation involving the failure to document annual reviews of the radiation protection program, as required by Title 10 of the *Code of Federal Regulations* (CFR) 20.2102.

### 3. INCIDENT/EVENT HISTORY:

Since the previous inspection, the licensee reported one incident involving a failed shutter mechanism.

**NMED 160426** – On October 14, 2016, the licensee reported that the shutter mechanism on a Berthold model LB-7442 gauge had failed on October 13, 2016, and remained stuck in the “open” position. The licensee identified the failed shutter while performing routine maintenance and shutter checks. The licensee informed the staff of the precautions to take while working in the vicinity of the gauge, posted signage, and notified the device manufacturer. The device manufacturer arrived at the plant on November 3, 2016, and replaced the source housing (including the shutter mechanism). The radiation safety officer (RSO) believed the shutter mechanism had failed due to age and exposure to the elements over time. The licensee submitted its written report (received on November 22, 2016), with an additional information via e-mail on December 8, 2016. The licensee's report and additional information contained all the required information in Section 30.50(c)(2).

## PART II - INSPECTION DOCUMENTATION

### 1. ORGANIZATION AND SCOPE OF PROGRAM:

This was a routine inspection of a large pesticide chemical company. The licensee used numerous cesium-137 sources in gauging devices to measure density/flow of chemicals in its process lines. The licensee also used nickel-63 in gas chromatographs and americium-241 in x-ray fluorescence analyzers for analyzing product samples. Although the licensee was also authorized for cobalt-60 in gauging units, as well as other isotopes in glass vials, these materials were not possessed at the plant at the time of this inspection. The gauges were relocated and installed by authorized gauge users based on production needs. The licensee maintained a secure storage area for the gauges that were not in use or pending relocation. One individual served as the RSO with another individual designated to assist at the plant. The licensee's RSO audited the radiation safety program on a semi-annual basis (last 5/2/2016, with no findings).

The inspector determined that the licensee performed inventories of sealed sources in accordance with License Condition 15. The licensee possessed several survey meters, which were calibrated on an annual frequency. The licensee performed its own leak test analysis of its sealed sources. The licensee analyzed the leak test samples using a Ludlum Model 2200 coupled to a Ludlum Model Number 243 gamma activity well detector and a Model Number 43-73-1 beta activity well detector; the leak testing equipment was calibrated annually.

Personnel responsible for gauge installation, radiation surveys, relocation and removal from service received radiation safety training specific to perform these tasks.

The licensee implemented a program for monitoring external occupational dose pursuant to 10 CFR 20.1502 and License Condition 27.A. The licensee provided whole body optically stimulated luminescence dosimeters exchanged for vendor analysis on a quarterly basis. The RSO stated that two individuals designated were assigned to "Spare" badges and consistently showed exposure data for each monitoring period to satisfy personnel monitoring requirements. The licensee contacted the dosimetry vendor and requested an account for these authorized gauge users. All personnel exposures were reported as "minimal."

2. SCOPE OF INSPECTION:

Inspection Procedure(s) Used:

87103, "Inspection of Materials Licensees Involved in an Incident or Bankruptcy Filing"  
87124, "Fixed and Portable Gauge Programs"

Focus Areas Evaluated: All

This routine inspection consisted of interviews with licensee personnel, a review of select records, including lock-out/tag-out procedures, a tour of the plant, and independent measurements. The inspector observed postings and environmental conditions, inventory of sealed sources, security of byproduct material, and use of personnel monitoring. The inspection included an in-office review through January 31, 2017, to review and discuss the licensee's leak tests, shutter checks, material transfer, service reports, program audits, dosimetry records, and training.

3. INDEPENDENT AND CONFIRMATORY MEASUREMENTS:

The inspector performed direct radiation measurements around select gauging units throughout the licensee's plant; the inspector's results were comparable to those noted in the licensee's survey records. Maximum levels were measured at the surface of the storage cabinet containing numerous gauges. Radiation levels in the unrestricted areas within the plant and the storage room were indistinguishable from background. All survey measurements in the restricted areas were comparable to the licensee's survey results. The inspector concluded that these radiation levels within the plant complied with Part 20 limits.

4. VIOLATIONS, NCVs, AND OTHER SAFETY ISSUES:

The inspector identified one violation of NRC requirements involving the licensee's failure to perform leak tests of sealed sources in storage for a period greater than 10 years as required by License Condition 13.E. During a tour of the plant, the inspector noted numerous gauging devices were maintained in a secured cabinet. A review of the licensee's inventory and leak tests spread sheet revealed that approximately 20 gauging devices containing cesium-137 sealed sources had not been leak tested since approximately January 2004. Licensee personnel confirmed that these devices had been in storage since 2004. Therefore, these devices were in storage for a period of time in excess of 10 years without being tested for leakage/contamination as required by License Condition 13.E.

As corrective action, the licensee completed leak tests on these gauges in January 2017. The licensee is researching disposal options for the majority of its gauges in storage.

5. PERSONNEL CONTACTED:

# Dr. Karl Bloss, Plant Technical Manager,  
Travis Dieckmann, authorized gauge user  
Jack Laptad, Safety & Security Specialist  
Mike Romanoski, authorized gauge user  
# Steven Scherich, Senior PCS Engineer, RSO  
Erskine Turner, authorized gauge user

# Attended exit meeting