



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, ILLINOIS 60532-4352

May 9, 2019

Mr. Richard C. Proehl
Vice President, Operations, North America
Curium US LLC
2703 Wagner Place
Maryland Heights, MO 63043

SUBJECT: NRC ROUTINE INSPECTION REPORTS NO. 03000001/2019001(DNMS)
03038173/2019001(DNMS) AND 03010801/2019001(DNMS) AND NOTICE OF
VIOLATION – CURIUM US LLC

Dear Mr. Proehl:

On March 18-22, 2019, two inspectors from the U.S. Nuclear Regulatory Commission (NRC) conducted a routine inspection at your Maryland Heights, Missouri facility, with continued in-office review through April 11, 2019. The purpose of the inspection was to review activities performed under your NRC license to ensure that activities were being performed in accordance with NRC requirements. The in-office review included a review of and discussions with your staff on your radioactive package receipt and survey procedures. Ms. Deborah Piskura, of my staff, conducted a final exit meeting by telephone with Mr. Manuel Diaz, of your staff, on April 11, 2019, to discuss the inspection findings. This letter presents the results of the inspection.

During this inspection, the NRC staff examined activities conducted under your license related to public health and safety. Additionally, the staff examined your compliance with the Commission's rules and regulations as well as the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. The inspectors reviewed five incidents that occurred since the last routine inspection which your staff investigated and entered into your corrective action program.

Based on the results of this inspection, the NRC has determined that one Severity Level IV violation of NRC requirements occurred. The violation was evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's website at <http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>. The violation involved the licensee's failure to monitor the external surfaces of three "Radioactive Yellow II" packages containing thorium-227, received on November 10, 2018, for radioactive contamination and radiation levels, no later than three hours after the packages were received as required by Title 10 of the *Code of Federal Regulations* (CFR) 20.1906(c). The violation was identified by the inspectors and is being cited in the enclosed Notice of Violation (Enclosure 1).

The inspectors identified multiple causes of the violation. Based on the inspectors' assessment of this incident, your staff appear to have overlooked or treated these packages as non-

radioactive, despite being labeled as “Radioactive Yellow II” and remaining in your receiving area in plain view of staff who intermittently entered the area until the morning of November 12, 2018. The inspectors also noted that unlike other packages/shipments that you regularly received, there was no real-time tracking information on the thorium-227 packages. Your staff was aware when the packages were shipped and the expected arrival date at Maryland Heights. However, there was no mechanism for tracking changes to alert your staff that these thorium-227 packages would be delivered ahead of the scheduled date.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The guidance in NRC Information Notice 96-28, “Suggested Guidance Relating to Development and Implementation of Corrective Action,” may be useful in preparing your response. You can find the Information Notice on the NRC’s website at: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1996/in96028.html>. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.390 of the NRC’s “Rules of Practice,” a copy of this letter, its enclosure, and your response, will be made available electronically for public inspection in the NRC’s Public Document Room or from the NRC’s Agencywide Documents Access and Management System (ADAMS), accessible from the NRC’s website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response, should not include any personal privacy, proprietary, or safeguards information so that it can be made publicly available without redaction.

Please feel free to contact Ms. Piskura if you have any questions regarding this inspection. Ms. Piskura can be reached at 630-829-9867.

Sincerely,

/RA/

Aaron T. McCraw, Chief
Materials Inspection Branch
Division of Nuclear Materials Safety

Docket Nos. 030-00001
License Nos. 24-04206-01

Enclosure:
Notice of Violation

cc w/encl: Mr. Manuel Diaz,
Radiation Safety Officer
State of Missouri

Letter to Richard Proehl from Aaron McCraw, dated May 9, 2019

SUBJECT: NRC ROUTINE INSPECTION REPORTS NO. 03000001/2019001(DNMS)
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VIOLATION – CURIUM US LLC

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OFFICE	RIII-DNMS	C	RIII-DNMS	C	RIII-DNMS	C		
NAME	DAPiskura		BAParker		AMcCraw			
DATE	5/7/2019		5/3/2019		5/9/2019			

OFFICIAL RECORD COPY

NOTICE OF VIOLATION

Curium US LLC
Maryland Heights, Missouri

License No. 24-04206-01
Docket No. 030-00001

During a U.S. Nuclear Regulatory Commission (NRC) inspection conducted on March 18-22, 2019, with continued in-office review through April 11, 2019, one violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Title 10 of the *Code of Federal Regulations* (CFR) 20.1906(b) requires each licensee to monitor the external surfaces packages labeled with a Radioactive White 1, Yellow II, or Yellow III label for: (1) radioactive contamination, unless the package contains only radioactive material in the form of a gas or in special form as defined in 10 CFR 71.4; and (2) radiation levels, unless the package contains quantities of radioactive material that are less than or equal to the Type A quantity, as defined in 10 CFR 71.4 and Appendix A to Part 71.

Title 10 CFR 20.1906(c) requires licensees to perform the monitoring required by paragraph (b) above, as soon as practicable, but not later than 3 hours after receipt of the package if it is received during the licensee's normal working hours, or not later than 3 hours from the beginning of the next working day if it is received after working hours.

Contrary to the above, on November 10, 2018, the licensee received three packages each labeled with Radioactive Yellow II labels and each containing approximately 1.1 millicuries of thorium-227 in normal form during working hours, the packages were not exempt from the monitoring requirements for radioactive contamination and radiation levels, and the licensee did not perform the required monitoring within 3 hours after receipt.

This is a Severity Level IV violation (Enforcement Policy Example Section 6.7)

Pursuant to the provisions of 10 CFR 2.201, Curium US LLC is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region III, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include: (1) the reason for the violation, or, if contested, the basis for disputing the violation or its severity level, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance was or will be achieved. Your response may reference or include previously docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Enclosure

Your response will be made available electronically for public inspection in the NRC's Public Document Room or from the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC's website at <http://www.nrc.gov/reading-rm/adams.html>. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made publicly available without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 9TH day of May 2019.