

SAFETY INSPECTION REPORT AND COMPLIANCE INSPECTION

1. LICENSEE/LOCATION INSPECTED:

Curium US LLC
2703 Wagner Place
Maryland Heights, MO 63043

REPORT NUMBER(S) 2021001

2. NRC/REGIONAL OFFICE

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

3. DOCKET NUMBER(S)

030-38173

4. LICENSE NUMBER(S)

24-04206-02

5. DATE(S) OF INSPECTION

8/16/21

10/11/21

LICENSEE:

The inspection was an examination of the activities conducted under your license as they relate to radiation safety and to compliance with the Nuclear Regulatory Commission (NRC) rules and regulations and the conditions of your license. The inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector. The inspection findings are as follows:

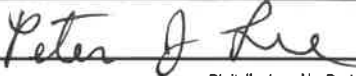
- 1. Based on the inspection findings, no violations were identified.
- 2. Previous violation(s) closed.
- 3. The violation(s), specifically described to you by the inspector as non-cited violations, are not being cited because they were self-identified, non-repetitive, and corrective action was or is being taken, and the remaining criteria in the NRC Enforcement Policy, to exercise discretion, were satisfied.

Non-cited violation(s) were discussed involving the following requirement(s):

- 4. During this inspection, certain of your activities, as described below and/or attached, were in violation of NRC requirements and are being cited in accordance with NRC Enforcement Policy. This form is a NOTICE OF VIOLATION, which may be subject to posting in accordance with 10 CFR 19.11.
(Violations and Corrective Actions)

Statement of Corrective Actions

I hereby state that, within 30 days, the actions described by me to the Inspector will be taken to correct the violations identified. This statement of corrective actions is made in accordance with the requirements of 10 CFR 2.201 (corrective steps already taken, corrective steps which will be taken, date when full compliance will be achieved). I understand that no further written response to NRC will be required, unless specifically requested.

TITLE	PRINTED NAME	SIGNATURE	DATE
LICENSEE'S REPRESENTATIVE			
NRC INSPECTOR	Peter J Lee		11-01-21
BRANCH CHIEF	David E. Hills	David E. Hills <small>Digitally signed by David E. Hills Date: 2021.10.29 10:18:45 -05'00'</small>	



Materials Inspection Record

1. Licensee Name: Curium US LLC		2. Docket Number(s): 030-38173		3. License Number(s) 24-04206-02	
4. Report Number(s): 2021001			5. Date(s) of Inspection: 8/15/21-10/10/21		
6. Inspector(s): Peter J Lee		7. Program Code(s):	8. Priority:	9. Inspection Guidance Used: TI 2800/043 Rev 2	
10. Licensee Contact Name(s): Manuel Díaz		11. Licensee E-mail Address: manuel.diaz@curiumpharma.com		12. Licensee Telephone Number(s): 1 (314) 225-8628	
13. Inspection Type:		14. Locations Inspected:		15. Next Inspection Date (MM/DD/YYYY):	
<input type="checkbox"/> Initial <input type="checkbox"/> Routine <input type="checkbox"/> Announced <input type="checkbox"/> Non-Routine <input type="checkbox"/> Unannounced		<input type="checkbox"/> Main Office <input type="checkbox"/> Field Office <input type="checkbox"/> Temporary Job Site <input checked="" type="checkbox"/> Remote		NA <input type="checkbox"/> Normal <input type="checkbox"/> Extended <input type="checkbox"/> Reduced <input type="checkbox"/> No change	

16. Scope and Observations:

Curium US LLC (Curium) renovated a former cyclotron suite at its site in Maryland Heights, Missouri, to ready the space for a new cyclotron. The former cyclotron and support equipment had been removed, and Curium had contracted Ameriphysics, LLC (Ameriphysics) to remove and dispose of certain elements of the suite's concrete structure.

The work involved the removal and dispositioning of approximately 400 tons of concrete. Based on the characterization survey involving gamma scan and core sampling, approximately 230 tons was low levels of residual radioactivity as a result of activation from cyclotron neutron activation. The remaining material, approximately 170 tons, was not residually radioactive because it either had not been exposed to a neutron/proton flux or it had been substantially shielded by other concrete. That remaining material was disposed or recycled as regular construction debris. Water that was used to cool and lubricate concrete cutting tools was collected. The resulting "slurry" was mechanically filtered, and any solids were collected and disposed of with other solid radioactive waste. The remaining liquid waste was emptied into the site's existing waste tank system via a drain in the cyclotron vault and managed by Curium according to its handling practices for contaminated and potentially contaminated liquids.

The inspection consisted of interviews of personnel conducting the concrete removal activities and reviews of concrete and liquid waste sample analyses and waste shipments of the activated concrete. All the concrete disposed of or recycled as regular construction debris was well within background radiation levels. The activated concrete removed met non-DOT regulated materials requirements and was disposed off at the Waste Control Specialists facility in Webster, Texas.

Based on the inspection, the inspector determined that the concrete removal activities were conducted in accordance with the approved Radiological Work Plan prepared by Ameriphysics and no violations of NRC requirements were identified.