



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

May 25, 2021

Ron A. Muhich  
4203 Spinnaker Cove  
Austin, TX 78731

SUBJECT: REMEDIATION AND FORGOING OF LICENSING FOR THE FORMER  
BROKEN ARROW LANDFILL SITE

Dear Mr. Muhich:

The U.S. Nuclear Regulatory Commission (NRC) understands that you are the record owner of a parcel of land, approximately 7 acres in area, located in the City of Broken Arrow, Oklahoma. The parcel is bounded on its northern perimeter by East Kenosha Street, and is described as "Reserve 'A' of Timber Ridge Business Park, an addition to the City of Broken Arrow, Wagoner County, State of Oklahoma, according to recorded Plat No. PLC 5 – 449B, as filed in the Office of the Wagoner County Clerk as Document No. 2019-5980 in Book 2500, Page 494, containing 305,699 square feet, or 7.02 acres." You acquired this property in April 2021, from John Muhich, d/b/a JMA Land LLC, at no-cost.

The NRC has jurisdiction over the site owner's possession and disposition of the thorium, a radioactive chemical element that is contained in the above-described parcel. The affected area contaminated by the thorium covers approximately one to one and a half acres. The thorium is present on or just below the land surface. Additionally, the data available to the NRC indicates that the thorium exceeds the regulatory 0.05 percent concentration limit and is therefore subject to NRC licensing (see Title 10 of the *Code Federal Regulations* (10 CFR) Sections 40.3 and 40.13(a)).

The NRC has determined that the thorium could potentially result in radiation doses in excess of 25 millirem per year above background radiation<sup>1</sup> levels, and thus could potentially present a hazard to public health and safety. In this regard, we note that the perimeter of the site is minimally fenced and that members of the public may have access to the affected area via East Kenosha Street.

Because the thorium was placed on your property by another party prior to your acquisition, the NRC proposes to coordinate with you on its remediation (by removal and transfer of the thorium to an authorized disposal site). As the property owner, you are responsible for both securing the site and for the remediation of the thorium. Typically, the NRC provides oversight of the possession of radioactive material and its remediation through an NRC license issued to the

---

<sup>1</sup> The term "background radiation" is defined by the NRC to mean sources of radiation that are not under the control of the licensee and hence, the licensee is not responsible for background radiation. Background radiation includes "radiation from cosmic sources; naturally occurring radioactive material, ... ; and global fallout as it exists in the environment from the testing of nuclear explosive devices or from past nuclear accidents such as Chernobyl." 10 CFR 20.1003 (definition of "Background radiation"). The average background radiation level in the U.S. is 620 millirem per year.

person possessing the radioactive material. The term of an NRC “possession only” license is 5 years. NRC licenses have both initial and annual fees associated with them and must be renewed if the licensee continues to possess the subject radioactive material.

The NRC proposes an alternative to you obtaining an NRC license that should allow for the effective and efficient remediation of the thorium on your property. Specifically, the NRC will not require you to obtain an NRC license, provided that you meet the following terms and conditions:

1. Provide a remediation schedule and funding plan to the NRC within 3 months of the date of this letter.
2. Permit the NRC to periodically visit the site at the NRC’s discretion to ensure maintenance of controls and containment of radiological material.
3. Inform the NRC if the site undergoes demolition, construction, or renovation 30 days in advance of scheduled work or, if impracticable, as soon as possible.
4. Complete the remediation within 5 years of the date of this letter and in accordance with the requirements of 10 CFR Part 20, Subpart E, “Radiological Criteria for License Termination.”<sup>2</sup>
5. Because remediation activities will require the handling of radiological material, an NRC or Agreement-State-licensed service provider must perform these activities.
6. Provide quarterly updates to the NRC on the remediation efforts.
7. Prior to the completion of remediation, provide written notification to any future site owner (in the event of a sale or transfer) or tenant (in the event of a lease), prior to a sale, transfer, or lease of any portion of the site, of the radiological contamination, the need for remediation, the necessary controls, and the NRC’s regulatory authority.
8. Prior to the completion of remediation, inform the NRC at least 30 days prior to the sale, transfer, or lease of the site or of a change of occupancy or use at the site.

Regardless of whether you decide to obtain an NRC license or to proceed with the alternative approach outlined above, you will be required to:

- Restrict access to the affected area to minimize any potential exposure to members of the public by installing a chain-linked fence at least 6 feet high with a locked gate.
- Maintain the affected area to prevent further dispersion of radioactive material.

The NRC will waive the above two conditions if you agree to the alternative approach and further agree to start remediation work before the end of calendar year 2021.

---

<sup>2</sup> Further guidance regarding remediation can be found in NUREG-1757, “Consolidated Decommissioning Guidance,” available on the NRC’s website at <https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1757/index.html>.

Please contact us no later than 30 days of your receipt of this letter to discuss the resolution of this matter. The NRC's points of contact for this matter are Mr. Brian Anderson, Chief, State Agreement and Liaison Programs Branch, Division of Materials Safety, Security, State, and Tribal Programs, Office of Nuclear Material Safety and Safeguards, at [Brian.Anderson@nrc.gov](mailto:Brian.Anderson@nrc.gov); or Mr. Stephen Poy, Project Manager, at [Stephen.Poy@nrc.gov](mailto:Stephen.Poy@nrc.gov).

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,



Signed by Williams, Kevin  
on 05/25/21

Kevin Williams, Director  
Division of Materials Safety, Security, State,  
and Tribal Programs  
Office of Nuclear Material Safety  
and Safeguards

cc: John Muhich, d/b/a JMA Land LLC,  
4203 Spinnaker Cove  
Austin, TX 78731

REGISTERED LETTER – RETURN RECEIPT REQUESTED

SUBJECT: REMEDIATION AND FORGOING OF LICENSING FOR THE FORMER  
BROKEN ARROW LANDFILL SITE DATED MAY 25, 2021

**DISTRIBUTION:**

- Public
- TClark, NMSS
- MBurgess, NMSS
- ASchwartzman, NMSS
- JCook, R-IV
- RErickson, R-IV
- [Mike.Broderick@deq.ok.gov](mailto:Mike.Broderick@deq.ok.gov)
- [Rachel.Francks@deq.ok.gov](mailto:Rachel.Francks@deq.ok.gov)
- [Brandt.Sterling@deq.ok.gov](mailto:Brandt.Sterling@deq.ok.gov)
- [Pam.Dizikes@deq.ok.gov](mailto:Pam.Dizikes@deq.ok.gov)

**ADAMS Accession Number: ML21043A293**

**\*via email**

OFFICE	NMSS/MSST	NMSS/MSST	NMSS/DUWP	NMSS/DUWP	R-IV/SNMS
NAME	SPoy	BAnderson	CMcKenney	BVon Till	HGepford*
DATE	2/17/21	2/17/21	2/18/21	2/18/21	2/24/21
OFFICE	R-IV/DNMS	R-IV/DNMS	NMSS/DUWP	OGC/NLO*	NMSS/MSST
NAME	DBradley	MMuessle	PHolahan	APessin	KWilliams
DATE	3/1/21	3/12/21	3/11/21	5/21/21	5/25/21

**OFFICIAL RECORD COPY**