



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

May 28, 2019

Ashley Forbes, Director  
Radioactive Materials Division  
TX Commission on  
Environmental Quality  
P.O. Box 13087  
Austin, TX 78711-3087

Dear Ms. Forbes:

The U.S. Nuclear Regulatory Commission (NRC) has completed the review of your November 1, 2018, Draft Completion Review Report (CRR) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18305B470) regarding the proposed termination of the Signal Equities, LLC Brevard Project and Brown Project sites (Texas Radioactive Material License No. R06065) located in Bee and Live Oak Counties in Texas and supplemental information provided on February 12, 2019 (ADAMS Accession No. ML19044A671). In your letter, you requested that the NRC make a determination that the project has met the criteria for release to unrestricted use and may be released to unrestricted use.

The process used by the NRC to make the determination of site closure with unrestricted release is set out in the Office of Nuclear Material Safety and Safeguards (NMSS) Procedure SA-900 "Termination of Uranium Mill Licenses in Agreement States." As indicated in NMSS Procedure SA-900, closure of an in-situ leach uranium recovery site with unrestricted release requires demonstration that the groundwater has been adequately restored, all the wells have been closed and plugged according the appropriate Texas statute, disposal or transfer of radioactive material is documented, and radiation surveys and confirmatory soil samples indicate that the site meets unrestricted release requirements. Our determination is based on two supporting bases: review of the CRR documenting the Texas Commission on Environmental Quality (TCEQ) staff's basis for its conclusion that all applicable standards and requirements have been met and review of the Texas Agreement State uranium recovery program, conducted under the Integrated Materials Performance Evaluation Program (IMPEP).

1. The information in the draft CRR indicates that due to extended years of low uranium prices, production of uranium was never started at the Brevard and Brown project sites. Thus, surface reclamation and decommissioning was not required, and no ground water restoration was necessary. Information in the draft CRR also indicates that all of the wells have been plugged and abandoned or transferred to the landowner by the licensee as authorized by TCEQ. There has been no on-site disposal of radioactive materials; therefore, there is no need to transfer ownership of land to the State or the Federal Government.

TCEQ further states in the CRR that a confirmatory survey was not necessary since uranium production activities did not occur at the site. Nevertheless, during an inspection of the Brown Project site to verify all wells had been plugged, TCEQ performed a limited survey using a radiological scanning and measurement instrument. The survey results indicated measurements above background near one well. On October 4, 2018, TCEQ performed a follow-up survey on the Brown Project site with regard to the well. This survey showed measurements at background except in the immediate vicinity of the well, where 9.7  $\mu\text{R/hr}$  (three times above background) was detected. Based on these results, it was initially suspected that a well casing was the cause of the elevated measurements, but as a precaution two composite soil samples around the base of the well were collected. The two five-spot composite samples were collected at 0-6 inches and 6-12 inches within a 100 m<sup>2</sup> area, with the well as the center point. The samples were analyzed using an Alpha spectrometry method and the results indicated 23.7 and 9.71 pCi/g radium-226 for 0-6 inch and 6-12 inch depths, respectively. In supplementary information provided in the February 12, 2019 letter, TCEQ determined that the source of the elevated survey measurements and associated soil sample results is due to the accumulation of radium from groundwater deposition. TCEQ's determination was based on a review of historic information about the site and the fact that production of uranium never occurred at the site. As a result, TCEQ concluded that the survey measurements and associated soil sample results were due to naturally occurring radioactive material (NORM). Title 25, Texas Administrative Code Section 289.259(d)(1)(B) has a NORM exemption limit for radium of 30 pCi/g averaged over 100 m<sup>2</sup> in the first 15 cm of soil. Baseline monitoring that was conducted for the underground injection control area permit indicated radium concentrations in the groundwater as high as 15 pCi/L. The well itself has groundwater concentration values of 1.5 pCi/L of radium. These values are below the NORM exemption limit. Since the site was never fully developed and no uranium production activities occurred, the NRC agrees with TCEQ's determination that radiologically contaminated waste was not generated at the site.

2. The most recent IMPEP review of the Texas Agreement State Program, conducted in January 2018, concluded that the Texas program is adequate to protect public health and safety, and compatible with NRC's regulatory program. This finding is consistent with previous State program evaluations.

Based on our review of the above information and in accordance with *Title 10 Code of the Federal Regulations* Section 150.15a(a) and Section 274c of the Atomic Energy Act of 1954, as amended, the NRC has determined that all applicable standards and requirements for the protection of the public health, safety and the environment have been met for the Signal Equities, LLC Brevard Project and Brown Project sites (Texas Radioactive Material License No. R06065) located in Bee and Live Oak Counties Texas, and the site may be released for unrestricted use. The State of Texas may amend Radioactive Material License No. R06065 to remove the Brevard Project and Brown Project sites.

Based on our review, the NRC has no comments on the draft CRR that need to be addressed in the final CRR.

If you have any questions or comments, please contact Paul Michalak at 301-415-5804 or [paul.michalak@nrc.gov](mailto:paul.michalak@nrc.gov).

Sincerely,

***/RA Kevin Williams for/***

Andrea L. Kock, Director  
Division Materials Safety, Security,  
State, and Tribal Programs  
Office of Nuclear Material  
Safety and Safeguards

SUBJECT: LETTER TO A. FORBES REGARDING THE REVIEW OF DRAFT COMPLETION REVIEW REPORT ON THE SIGNAL EQUITIES SITE

DATED: MAY 28, 2019

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**ADAMS Package Accession No. ML 19108A386**

**ML19108A391 (Letter)**

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