

Plain Language Summary for Radioactive Materials License Renewal Application

URI, Inc. has submitted an application for renewal and minor amendment of radioactive material license number R03653. The Texas Uranium Project produces a uranium product (also known as yellowcake) that is used for nuclear power generation. The uranium is produced from underground sandstone formations using in-situ mining methods. The Texas Uranium Project includes three facilities: one in Kleberg County and two in Duval County.

Application Information

The radioactive material license renewal application was submitted to TCEQ on April 13, 2022.

Applicant Name

URI, Inc., a subsidiary of enCore Energy US Corporation

Type of Application

Renewal of radioactive material license

License Number

Radioactive Material License number R03653

Type and Amount of Radioactive Material to Be Authorized

The Texas Uranium Project facilities are capable of a yearly production rate of approximately 2 million pounds of yellowcake.

Facility Name

Texas Uranium Project, which includes the Kingsville Dome Project in Kleberg County, the Rosita Project in Duval County, and the Vasquez Project in Duval County

Facility Location

Kingsville Dome Project: 641 E. FM1118, Kingsville, TX 78363

Rosita Project: 3021 County Road 333, San Diego, TX 78384

Vasquez Project: 9822 Private Road 3001, Hebbronville, TX 78361

Facility Information

What is the function of the proposed facility?

The three projects that make up the Texas Uranium Project (Kingsville Dome, Rosita, and Vasquez) are uranium mines that use in-situ mining methods. In this type of mining, groundwater with added oxygen and a source of carbonate is recirculated through a sandstone formation to recover naturally occurring uranium. Two of the projects (Kingsville Dome and Rosita) include processing facilities where the recovered uranium is processed into the final product called yellowcake.

What does the facility produce?

The Texas Uranium Project produces yellowcake, which is a dried uranium product. It is shipped in 55-gallon steel drums to a facility out of state that converts the yellowcake into a product that can be further concentrated and used as fuel for nuclear power generation.

Control of Radioactive Effluents and Radioactive Contamination

URI maintains a robust health physics and environmental monitoring program to ensure that the Texas Uranium Project does not have an adverse impact on human health, the public or the environment. The monitoring program is described in detail in the application and includes an environmental monitoring program, external radiation monitoring program, airborne radiation monitoring program, bioassay program, and contamination control program. Records for each of these programs are maintained by URI and reported to TCEQ as necessary.

What types of radioactive effluents are managed?

The main type of effluent is excess groundwater produced during mining. As required by TCEQ

regulations, about 1 percent of the groundwater used for mining is disposed to keep it from migrating outside of the mining area. After the uranium mining is completed, water treatment is used to restore the groundwater quality within the sandstone formation which generates additional liquid effluent. Other types of liquid and solid effluents include liquid wastes produced by the processing plants and solid waste such as used filters and equipment used for uranium recovery and decommissioning activities.

The only airborne effluent is radon gas, which is recovered with uranium from the sandstone formation. Although most of the radon gas is recirculated and reinjected, a small amount may be released during operations.

How are the radioactive effluents managed?

During uranium recovery operations, the groundwater containing uranium and radon gas is kept in a pressurized system, such that radon gas is not released. During certain uranium processing steps, small amounts of radon gas may be released to the atmosphere. URI monitors radon concentrations during operations to demonstrate low levels of radon in air a short distance from the facilities.

Liquid effluents associated with uranium mining and processing are disposed of in double lined evaporation ponds and waste disposal wells. The double lined ponds temporarily store the liquid effluent before injection into waste disposal wells permitted separately through TCEQ.

How will the facility prevent spills, leaks, and releases?

Mining solutions are contained within wellfields by withdrawing more water than is injected. This is verified by measuring water quality in monitor wells installed around each wellfield two times per month. Pipeline pressures are monitored, and pumps will automatically shut down if the pressure suddenly increases or decreases. Processing facilities are curbed to contain any potential spills or leaks. Personnel performing uranium recovery activities are rigorously trained in the safe operation of the facility to minimize the potential for upset conditions to occur.

How will the facility clean up spills, leaks, and releases?

Liquids captured within concrete containment curbs are collected and disposed of with other liquid waste in the TCEQ permitted disposal wells. Any soils potentially affected by spills are surveyed for radiological contamination and soils exceeding regulatory standards are removed and disposed of at a licensed disposal facility.

Description of Updates

The application also includes a proposed minor amendment to license condition 28(A) to include two additional remote ion exchange units (Cadena [RIX #2] and Tanguma [RIX #3]) at the Rosita Project.