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Docket: NRC-2023-0067

Innovative Approaches for Data Collection and Analysis of Surface and Subsurface Residual Radioactivity to Support License Termination

Comment On: NRC-2023-0067-0001

Modern Approaches for Radiological Measurement, Data Collection, and Data Analysis of Surface and Subsurface Residual Radioactivity To Support NRC License Termination

Document: NRC-2023-0067-DRAFT-0007

Comment on FR Doc # 2023-09513

Submitter Information

Email: pluthiger@encoreuranium.com

Organization: enCore Energy Corp.

General Comment

See attached file(s).

Attachments

enCore Response to NRC Request for Comments - 6-5-23



June 5, 2023

U.S. Nuclear Regulatory Commission

Request for Comments

Docket ID NRC-2023-0067

Federal Register / Vol. 88, No. 86 / Thursday, May 4, 2023 / Notices

RE: enCore Energy Corp. Response to NRC Request for Comments Concerning “*Modern Approaches for Radiological Measurement, Data Collection, and Data Analysis of Surface and Subsurface Residual Radioactivity To Support NRC License Termination*”

Dear NRC Staff,

enCore Energy Corp. is committed to providing clean, reliable, and affordable domestic nuclear energy utilizing In-Situ Recovery (ISR) for uranium extraction, a well-known and proven technology co-developed by the leaders at enCore Energy. In-Situ Recovery extracts uranium in a noninvasive process using natural groundwater and oxygen, coupled with a proven ion exchange process, to recover the uranium. Most of our workforce live in several South Texas counties where our operations, contracts and employment all have a direct and immediate positive impact on the economies of these local communities.

enCore has developed the following comments concerning questions posed by the U.S. Nuclear Regulatory Commission (NRC) in a request for comments published in the Federal Register under the Docket ID number cited above and requests NRC to consider them when any changes are made to the existing regulatory framework associated with site characterization and/or decommissioning.

1. enCore supports the comments submitted by the Wyoming Mining Association and requests NRC to include those comments as part of enCore’s comments.
2. The comments provided below are specific to determination of baseline/background conditions of which the NRC questions are applicable to in that appropriate determination of pre-existing conditions establishes the criteria for decommissioning goals and license termination. The comments are directed at how background/baseline is determined rather than the instrumentation used to collect the data and/or statistical methodologies employed on the data collected.

10 CFR 20.1003 defines background as:

Background radiation means radiation from cosmic sources; naturally occurring radioactive material, including radon (except as a decay product of source or special nuclear 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 that contribute to background radiation and are not under the control of the licensee. "Background radiation" does not include radiation from source, byproduct, or special nuclear materials regulated by the Commission.

This definition clearly establishes that naturally occurring radioactive material not regulated by the Commission is considered background radiation, and the licensee is not responsible for the contribution specific to background radiation, regardless of the source.

Uranium recovery operations, which have occurred throughout the United States for almost a century, have been instrumental in providing the first step in the uranium fuel cycle providing the energy source that continues to safely produce carbon free, clean, reliable electricity to 20% of Americans. As with most commodities, uranium mining has undergone the boom-bust cycle resulting in mineral rich mining areas becoming dormant until the next boom starts.

Today, many mining companies utilize the environmentally friendly in situ recovery method to produce the feedstock for carbon free electricity generation. As the old adage goes, “*the best place to find a uranium mine is in a uranium mining area..*” and mining companies are pursuing exploration and/or development of in situ operations in areas where historic conventional mining has occurred. The Gas Hills area in Wyoming is one example where this is occurring. Contrary to conventional mining operations, in situ recovery operations are regulated by NRC.

Based on the NRC regulatory definition provided above, these historic mining districts, some of which contain naturally occurring radioactive materials on and under the ground surface, are considered background as the conventional uranium mines (underground and open pit) were and are not regulated by the NRC. Any radiological component that may be present

in these areas from the historic mining activities can and should be incorporated into any determination of background conditions.

When in situ mining licensees are determining pre-mining (i.e., background) radiological conditions for a prospective site or when the licensee is developing a soil decommissioning plan (SDP) for operations that are located in a historic uranium mining district, the NRC must not prohibit the licensee from including data collected from areas associated with non-licensed activities (i.e., conventional uranium mining) from being included in the determination of background conditions or in the establishment of soil concentrations.

Clearly, it cannot be NRCs intent to prevent a licensee from taking into account the existing (i.e., background) radiological conditions at a prospective site; nor can it be NRCs intent to require the licensee to remove any/all naturally occurring radioactive materials prior to pursuing a licensing action; and it surely cannot be NRCs intent that in situ mines can only be located in undisturbed areas. In short, NRC must accept historic conventional mining impacts as background.

3. enCore Energy supports the use of unmanned aerial vehicles (“UAV” or drones) to perform tasks associated with site characterization and/or decommissioning activities. MARSSIM states that consideration should be given to potential consequences of clearing vegetation to permit access for radiological surveys, including:
 - a) the time and expense of making land areas accessible;
 - b) Prevention of unnecessary damage to or removal of mature trees or shrubs; and
 - c) Potential ecological damage that might result from extensive clearing/grubbing.

Another factor that needs to be considered is that surface owners may require that activities minimize loss of mature trees and wildlife habitat. Aerial gamma radiation surveys can be used to avoid such consequences.

Technology has advanced where these survey techniques provide accurate and defensible data for use in soil characterization and decommissioning activities.

In this regard, enCore supports those comments submitted by Environmental Restoration Group (ERG, Inc).



enCore Energy Corp. appreciates the opportunity to provide meaningful input to NRCs proposed rulemaking process. Please contact me at pluthiger@encoreuranium.com should you have any questions or need additional information regarding these comments. Should NRC pursue changes to the regulatory process, enCore intends to continue to be engaged in that effort.

Regards,

A handwritten signature in blue ink, appearing to read 'Peter Luthiger'.

Peter Luthiger
Chief Operating Officer