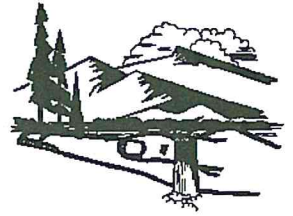




Department of Environmental Quality

To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.



Matthew H. Mead, Governor

Todd Parfitt, Director

Michelle R. Beardsley
State Regulation Review Coordinator
Radioactive Materials Safety Branch
Division of Materials Safety and State Agreements
Office of Federal and State Materials and Environmental Management Programs
April 5, 2016

Dear Ms. Beardsley

The State of Wyoming and its Department of Environmental Quality (WYDEQ) greatly appreciate the March 15, 2016 NRC letter which provided preliminary comments on compatibility for the State's regulations compared to 10 CFR Part 20. As part of the review NRC had 37 comments that the State would like to respond for clarification and further discussion.

NRC Comment 1: The use of the terms source material, milling, and byproduct material will need to be coordinated with the terms as provided in Wyoming's enabling legislation. For example, the NRC comments require revising the legislation to state WY is obtaining authority over source material involved in milling and the resulting byproduct material as specified in the act. We also recommend deleting reference to uranium "recovery" through the statute and regulations to be consistent with the AEA, UMTRCA and the NRC regulatory provisions that only use the term "milling."

State Response: The State is seeking to assume regulatory authority over only source material from recovery or milling operations. The use of the terms source material, milling, and byproduct material are consistent with the State's enabling legislation, the AEA, UMTRCA, NRC regulations, and the NRC's use of those terms in guidance. These terms are carefully defined in the State's enabling legislation, which directly incorporates NRC definitions of source material, milling, and byproduct material.

The State understands the importance of characterizing this limited scope of regulatory authority. However, it appears that the suggested revision does not make a substantive change necessary for compatibility, and may continue to be revised due to stylistic preference. Therefore, it is prudent for the State to wait until the Commission issues a Commission Paper approving the limited scope of regulation that the State seeks to assume. At this time, the State can re-evaluate whether the suggested revisions are necessary for compatibility.

With regard to the NRC's request to remove the use of the term "recovery," the State is attempting to clarify its scope of regulation to incorporate recent terminology used by the NRC and the uranium industry. The use of the term "recovery" does not contradict AEA, UMTRCA, or NRC regulations. As the

NRC is well aware, conventional milling was the predominate technology when UMTRCA and applicable NRC regulatory provisions were first established. With the emergence of In-Situ Recovery (ISR) those rules and regulations were applied to ISR operations, without the adoption of new regulations. In order to capture both conventional and ISR operations, both NRC and the uranium industry began referring to all activities as “uranium recovery operations.” For example, in Regulatory Issue Summaries (RIS) 2009-05, 2009-12, and 2012-06, the verbiage “uranium recovery facilities” is used throughout. Additionally in 10 CFR Part 40, Appendix A, Criterion 2, ISR operations are referenced as In-Situ extraction. As apparent from NRC’s regulations, the term “milling” does not adequately describe the in-situ operations. Both the NRC and uranium industry alike have used “recovery” as a way of capturing both conventional and ISR facilities in a regulatory setting.

NRC Comment 3: Wyoming omits equivalent requirements of parts 1, 3, and 4 of the definition of byproduct material as defined in 10 CFR 20.1003. Wyoming will need to provide a definition that is consistent with the term byproduct material as defined in the enabling legislation. Wyoming needs to submit requirements that meet the essential objectives in order to meet the Compatibility Category H&S designation assigned to 10 CFR 20.1003.

States Response: “Byproduct material” is defined by the AEA as follows:

The term byproduct material means-

- (1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material;
- (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content;
- (3) (A) any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; or
(B) any material that-
 - (i) has been made radioactive by use of a particle accelerator; and
 - (ii) is produced, extracted, or converted after extraction, before, on, or after the date of enactment of this paragraph for use for commercial, medical, or research activity; and
- (4) any discrete source of naturally occurring radioactive material, other than source material that-
 - (A) the Commission, in consultation with the Administration of the Environmental Protection Agency, the Secretary of Energy, the Department of Homeland Security, and the head of any other appropriate Federal agency, determines would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety or the common defense and security; and
 - (B) before, on, or after August 8, 2005 is extracted or converted after extraction for use in commercial, medical, or research activity.

In reviewing the definitions from the AEA presented above, it is unclear how definitions for subparagraph 1, 3, 4 (11(e)(1); 11(e)(3); and 11(e)(4) material) relate to authority the State is trying to assume. The State does not seek to assume regulatory authority over these types of byproduct material, and regulation over these types of byproduct material is outside the scope of enabling legislation (W.S. 35-11-2001 through -2004). Incorporating those definitions may cause confusion as to the scope of

material the State is regulating. Moreover, since the State is not regulating those types of byproduct material, there is not a Health & Safety concern by omitting those definitions.

NRC Comment 10: Wyoming omits the definition of Gray. Wyoming needs to submit a definition of "Gray" in order to meet the Compatibility A designation to this definition.

State's Response: Please refer to Section 7(b)(i) where Gray is defined.

NRC Comment 11-13: Wyoming has provided unique reciprocity requirements in their enabling legislation Wyoming needs to provide a definition of license, licensee, and licensed material that addresses its unique reciprocity regulations.

State's Response: The State seeks clarification on this comment. The limited scope of regulatory authority that the State is seeking results in unique reciprocity requirements. Although the State must recognize current NRC licenses, there is no need to recognize licenses issued by other Agreement States. Reciprocity requirements for NRC licenses are satisfied by W.S. 35-11-2003(a). As such, it is unclear what changes need to be made to license, licensee, or licensed material to address NRC concerns.

NRC Comment 15: Wyoming omits the definition of nationally tracked source. Wyoming needs to submit requirements that meet the definition of "nationally tracked source" in order to meet Compatibility Category B designation assigned to this definition.

State's Response: 10 CFR Part 20, Appendix E lists thresholds for nationally tracked sources. The radionuclides listed are not part of the scope of authority the State would assume. Natural uranium, natural thorium, source material, or the byproduct material are not listed in the table and therefore it is unclear why the State would incorporate a definition that is outside the scope of authority sought.

NRC Comment 27: Wyoming omits the definition for Special Nuclear Material. Wyoming needs to submit the definition of Special Nuclear Material in order to meet the Compatibility Category A designation assigned to the definition.

State's Response: In the definition for special nuclear material it states "does not include source material." Because source material is not included in the definition, it is unclear why it needs to be incorporated. The incorporation of this definition may lead to confusion.

NRC Comment 31: This definition will need to refer to a definition of byproduct material that is compatible with NRC regulations.

State's Response: There is a compatibility category of "B" for the term "Waste" in 10 CFR Part 20. The definition of "Waste" is from 10 CFR 20, but instead of stating as defined in (2) (3) and (4) of the definition of byproduct material in this section we stated only "byproduct material as defined in this Chapter." As stated in the response to Comment 3, above, the State seeks regulation only over 11(e)(2) material. Therefore, 11(e)(1), 11(e)(3), and 11(e)(4) materials are outside the scope of materials the

State is seeking to assume and there are no concerns to Health & Safety by omitting definitions of those materials.

NRC Comment 34: Wyoming omits Table 1004.(b)2 as referenced in 20.1004 and omits the equivalent requirement for 10 CFR 20.1004(c). Wyoming needs to submit the above in order to meet the Compatibility Category A designation assigned in 10 CFR 20.1004.

States Response: It is unclear how neutron fluence would be used within the limited scope of authority the State is seeking. In other words, it is unclear where the source of neutrons within uranium recovery operations occur, excluding cosmic radiation interactions. Since there is not neutron fluence measured in uranium recovery operations, the table is not applicable to the State's scope of regulation and cannot be used by licensees. Including the table in the State's rules may cause confusion. The State is willing to discuss how the table is applicable to the State's limited scope of regulation with the NRC.

NRC Comment 35: Wyoming omits equivalent requirements for 10CFR 20.1005(b) Wyoming needs to submit equivalent requirements as stated above in order to meet the Compatibility Category A designation assigned to 10 CFR 20.1005.

States Response: Please refer to the definition found in Section 4(af). The State will slightly alter the definition of "Curie" to mirror the exact definition found in 10 CFR 20.1005(b).

NRC Comment 36: Wyoming omits equivalent requirements for 10 CFR 20.1301(c). Wyoming needs to submit equivalent requirements as stated above in order to meet Compatibility Category A designation assigned to 10 CFR 20.1301(c).

States Response: The State was given authority to create rules and regulations pertaining to source material from recovery and the resulting byproduct material. This would fall outside of that scope granted to our program and outside of the limited agreement we are seeking with the NRC. It is unclear why the State would need to incorporate this item into its regulations.

NRC Comment 37: Wyoming omits equivalent requirements for 10 CFR 20.1601(f). Wyoming needs to submit equivalent requirements as stated above in order to meet the Compatibility Category H&S designation assigned to 10 CFR 20.1601(f).

States Response: The State was given authority to create rules and regulations pertaining to source material from recovery and the resulting byproduct material. This would fall outside of that scope granted to our program and outside of the limited agreement we are seeking with the NRC. It is unclear how omitting this item outside the scope of our limited agreement would affect H&S.

The State hopes the above discussion is helpful and looks forward to working with the NRC to resolve these minor items as it seeks to obtain a limited agreement from the NRC. If you have any questions regarding the comments provided by the State feel free to contact Ryan Schierman the Uranium Recovery Program Manager at 307-777-7757 (ryan.schierman@wyo.gov).

Sincerely,



Kyle Wendtland
Administrator
Land Quality Division

Cc: Todd Parfitt
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Eva La
Brandi O'Brien