

## **STAFF ASSESSMENT OF THE PROPOSED WYOMING PROGRAM FOR THE REGULATION OF AGREEMENT MATERIALS AS DESCRIBED IN THE REQUEST FOR AN AGREEMENT**

This Assessment examines the proposed State of Wyoming Program to regulate the possession, use, and disposal of radioactive materials subject to the Atomic Energy Act of 1954 (AEA), as amended.<sup>1</sup> This Assessment was performed using the criteria in the Commission's policy statement "Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement" (referred to below as the "criterion or criteria")<sup>2</sup> using the Office of Nuclear Material Safety and Safeguards (NMSS) Procedure SA-700, "Processing an Agreement." Each criterion, and the staff assessment related thereto, is addressed separately below.

### OBJECTIVES

**1. Protection. A State regulatory program shall be designed to protect the health and safety of the people against radiation hazards.**

The State of Wyoming's proposed Agreement State Program for the regulation of radioactive materials is the Uranium Recovery Program. The Uranium Recovery Program is located in the Land Quality Division within the Wyoming Department of Environmental Quality (WYDEQ). The WYDEQ is a cabinet level Department with the Director reporting directly to the Governor of Wyoming.

The WYDEQ has the statutory authority to establish the Wyoming Agreement State Program in the Wyoming Environmental Quality Act, Wyoming Statutes §§ 35-11-2001 through 2004, §§ 35-11-101 et seq., and §§ 16-3-101 et seq. The authorities to issue, amend, suspend or revoke licenses; place conditions and to issue orders; or assess administrative penalties is vested by the Wyoming Statutes §§ 35-11-2003 through 2004(a), and § 35-11-901. The authorities for the adoption of regulations is provided in the Wyoming Statute § 35-11-2002(b).

The U.S. Nuclear Regulatory Commission (NRC) staff verified that the design of the State of Wyoming's Agreement State Program with respect to the distribution of regulatory responsibilities among the program staff is similar to designs used successfully in other Agreement States, and that all necessary program elements have been addressed.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State

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<sup>1</sup> According to paragraph (a) of Section 274, the radioactive materials subject to the AEA are byproduct, source and special nuclear material.

<sup>2</sup> NRC Statement of Policy was published in the *Federal Register*, on January 23, 1981 (46 FR 7540-7546), a correction was published on July 16, 1981 (46 FR 36969) and a revision of Criterion 9 published in the *Federal Register*, on July 21, 1983 (48 FR 33376).

(Agencywide Documents Access and Management System (ADAMS) Accessions Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 through 35-11-2005. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

## RADIATION PROTECTION STANDARDS

- 2. Standards. The State regulatory program shall adopt a set of standards for protection against radiation which shall apply to byproduct, source and special nuclear materials in quantities not sufficient to form a critical mass.**

In conjunction with the rulemaking authority vested in WYDEQ on radiation protection by Wyoming Statute § 35-11-2002(b), the WYDEQ has the requisite authority to promulgate rules for protection against radiation.

The NRC staff verified that the State of Wyoming adopted the relevant NRC regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 19, 20, 40, 71, and 150 into State Regulations, Wyoming Uranium Recovery Program Rules, Chapters 1 through 9. The State of Wyoming has adopted an adequate and compatible set of radiation protection regulations that apply to byproduct material as defined in Section 11e.(2) of the AEA, and source material involved in the extraction or concentration of uranium or thorium in source material or ores at milling facilities (source material associated with milling activities).

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 through 35-11-2005. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

- 3. Uniformity of Radiation Standards. It is important to strive for uniformity in technical definitions and terminology, particularly as related to such things as units of measurement and radiation dose. There shall be uniformity on maximum permissible doses and levels of radiation and concentrations of radioactivity, as fixed by 10 CFR Part 20 of the NRC regulations based on officially approved radiation protection guides.**

The State of Wyoming, by statute, must promulgate and enforce rules for the regulation of byproduct material as defined in Section 11e.(2) of the AEA, and source material associated with milling activities that are in accordance with Section 274 of the AEA, as amended. The NRC staff verified that the State of Wyoming adopted regulations in the Wyoming Uranium Recovery Program Rules, Chapter 1, Section 5 and Chapter 3, Section 4 that are compatible with 10 CFR Part 20.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 through 35-11-2005. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

**4. Total Occupational Radiation Exposure. The regulatory authority shall consider the total occupational radiation exposure of individuals, including that from sources which are not regulated by it.**

The NRC staff review verified that the State has adopted regulations compatible with the NRC regulations in 10 CFR Part 20, including Subpart C, the occupational dose limits and Subpart D, the dose limits to individual members of the public, which can be found in Wyoming Uranium Recovery Program Rules, Chapter 3, Section 4(a). The State of Wyoming licensees are required to consider the radiation doses to individuals from all sources of radiation, except background radiation and radiation from medical procedures. Like the NRC licensees, the State of Wyoming licensees are required to consider the radiation dose whether the sources are licensed or unlicensed.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

**5. Surveys, Monitoring. Appropriate surveys and personnel monitoring under the close supervision of technically competent people are essential in achieving radiological protection and shall be made in determining compliance with safety regulations.**

The NRC requires surveys and monitoring pursuant to 10 CFR Part 20 Subpart F. The NRC staff review verified that the State of Wyoming has adopted regulations compatible with 10 CFR Part 20 Subpart F, which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 3, Section 4(a). Therefore, the State of Wyoming licensees are required to conduct surveys and personnel monitoring to the same standards required of the NRC licensees.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and

ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

6. **Labels, Signs, Symbols. It is desirable to achieve uniformity in labels, signs and symbols, and the posting thereof. However, it is essential that there be uniformity in labels, signs, and symbols affixed to radioactive products which are transferred from person to person.**

The NRC staff review verified that the State of Wyoming has adopted regulations compatible with the NRC regulations in 10 CFR Part 20 Subpart J, Precautionary Procedures, which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 3, Section 4(a). Therefore, the radiation labels, signs, symbols, and the posting and labeling requirements in the State of Wyoming regulations are compatible with those contained in the NRC regulations.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

7. **Instruction. Persons working in or frequenting restricted areas shall be instructed with respect to the health risks associated with exposure to radioactive materials and in precautions to minimize exposure. Workers shall have the right to request regulatory authority inspections as per 10 CFR 19, Section 19.16 and to be represented during inspections as specified in Section 19.14 of 10 CFR 19.**

The NRC staff review verified that the State of Wyoming has adopted regulations compatible with the NRC regulations in 10 CFR Part 19 which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 5, Section 3(a).

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

8. **Storage. Licensed radioactive material in storage shall be secured against unauthorized removal.**

The NRC staff review verified that the State of Wyoming has adopted regulations compatible with the NRC regulations in 10 CFR Part 20 Subpart I, Storage and Control of Licensed Material, which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 3, Section 4(a).

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

- 9. Radioactive Waste Disposal. (a) Waste disposal by material users. The standards for the disposal of radioactive materials into the air, water and sewer, and burial in the soil shall be in accordance with 10 CFR Part 20. Holders of radioactive material desiring to release or dispose of quantities or concentrations of radioactive materials in excess of prescribed limits shall be required to obtain special permission from the appropriate regulatory authority. Requirements for transfer of waste for the purpose of ultimate disposal at a land disposal facility (waste transfer and manifest system) shall be in accordance with 10 CFR Part 20. The waste disposal standards shall include a waste classification scheme and provisions for waste form, applicable to waste generators, that is equivalent to that contained in 10 CFR Part 61.**

The NRC staff verified that the State of Wyoming adopted the relevant NRC regulations involving radioactive waste disposal in 10 CFR Parts 20 and 40 into the State Regulations, Wyoming Uranium Recovery Program Rules Chapters 3 and 4. The State of Wyoming has adopted an adequate and compatible set of radiation protection regulations which apply to byproduct material as defined in Section 11e.(2) of the AEA, and source material associated with milling activities. These regulations address the general requirements for waste disposal and are applicable to all licensees covered under the proposed Agreement.

As a result of the class of byproduct material they will be regulating, the State of Wyoming did not adopt regulations in 10 CFR Part 61. The NRC staff verified that Wyoming's Uranium Recovery Program Rules, Chapter 4, Section 3(a) contain the waste disposal standards relevant to 11e.(2) byproduct material. These standards include a waste classification scheme and provisions for waste form, applicable to waste generators, that is equivalent to 10 CFR Part 40, which is also equivalent to 10 CFR Part 61.

The staff concludes that criterion 9(a) is satisfied.

**(b) Land Disposal of waste received from other persons. The State shall promulgate regulations containing licensing requirements for land disposal of radioactive waste received from other persons, which are compatible with the applicable technical definitions, performance objectives, technical requirements and applicable supporting sections set forth in 10 CFR Part 61. Adequate financial arrangements (under terms established by regulation) shall be required of each waste disposal site licensee to ensure sufficient funds for decontamination, closure and stabilization of a disposal site. In addition,**

**Agreement State financial arrangements for long-term monitoring and maintenance of a specific site must be reviewed and approved by the Commission prior to relieving the site operator of licensed responsibility (Section 151(a)(2), Pub. L. 97-425).**

The NRC staff verified that the State of Wyoming adopted the relevant NRC regulations in 10 CFR Parts 20 and 40 into the State Regulations, Wyoming Uranium Recovery Program Rules Chapters 1 through 9. The State of Wyoming has adopted an adequate and compatible set of radiation protection regulations which apply to byproduct material as defined in Section 11e.(2) of the AEA, and source material associated with milling activities

As a result of the class of byproduct material they will be regulating, the State of Wyoming did not adopt regulations in 10 CFR Part 61. The NRC staff verified that Wyoming's Uranium Recovery Program Rules, Chapter 4, Section 3(a) and 3(b) contain licensing requirements for land disposal of radioactive waste received from other persons. These requirements include applicable technical definitions, performance objectives, technical requirements and applicable supporting sections that are equivalent to 10 CFR Part 40, which is also equivalent to 10 CFR Part 61.

The staff concludes that criterion 9(b) is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

**10. Regulations Governing Shipment of Radioactive Materials. The State shall, to the extent of its jurisdiction, promulgate regulations applicable to the shipment of radioactive materials, such regulations to be compatible with those established by the U. S. Department of Transportation and other agencies of the United States whose jurisdiction over interstate shipment of such materials necessarily continues. State regulations regarding transportation of radioactive materials must be compatible with 10 CFR Part 71.**

The NRC staff verified that the State of Wyoming has adopted regulations compatible with the NRC regulations in 10 CFR Part 71. The State of Wyoming's regulations specifically exempt those areas of exclusive NRC jurisdiction.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

- 11. Records and Reports. The State regulatory program shall require that holders and users of radioactive materials (a) maintain records covering personnel radiation exposures, radiation surveys, and disposals of materials; (b) keep records of the receipt and transfer of the materials; (c) report significant incidents involving the materials, as prescribed by the regulatory authority; (d) make available upon request of a former employee a report of the employee's exposure to radiation; (e) at request of an employee advise the employee of his or her annual radiation exposure; and (f) inform each employee in writing when the employee has received radiation exposure in excess of the prescribed limits.**

The NRC staff review verified that the State of Wyoming has adopted the necessary record and reporting requirements. These include regulations compatible with the NRC regulations in 10 CFR Parts 19 (which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 5, Section 3), 20 (which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 3, Section 4), 40 (which can be found in Wyoming Uranium Recovery Program Rules, Chapter 4, Sections 3 and 10), 71 (which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 9, Section 3), and 150 (which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 4, Section 3). The records and reports referenced in 10 CFR Part 40, Appendix A, Criterion 11, which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 4, Section 3(b), are regulatory requirements in these parts.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

- 12. Additional Requirements and Exemptions. Consistent with the overall criteria here enumerated and to accommodate special cases and circumstances, the State regulatory authority shall be authorized in individual cases to impose additional requirements to protect health and safety, or to grant necessary exemptions which will not jeopardize health and safety.**

The NRC staff has verified that the State of Wyoming has adopted a regulation which is compatible with 10 CFR 40.14, "Specific exemptions", in the Wyoming Uranium Recovery Program Rules, Chapter 4, Section 6(d). The NRC staff has verified that the State of Wyoming has adopted by reference 10 CFR 20.2302, "Additional Requirements", in the Wyoming Uranium Recovery Program Rules, Chapter 3, Section 4(a). The State of Wyoming regulations provide the Uranium Recovery Program authority to grant such exemptions from the requirements of this Chapter as authorized by law and, as determined by the Uranium Recovery Program, when these exemptions will not endanger life, property, and are otherwise in the public interest. The State of Wyoming regulations provide the Uranium Recovery Program authority to impose additional requirements to protect health and safety.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). Wyoming Statutes: § 35-11-2003(c). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

#### PRIOR EVALUATION OF USES OF RADIOACTIVE MATERIALS

- 13. Prior Evaluation of Hazards and Uses, Exceptions.** In the present state of knowledge, it is necessary in regulating the possession and use of byproduct and source nuclear materials that the State regulatory authority require the submission of information on, and evaluation of, the potential hazards, and the capability of the user or possessor prior to his receipt of materials. This criterion is subject to certain exceptions and to continuing reappraisal as knowledge and experience in the atomic energy field increase. Frequently there are, and increasingly in the future there may be, categories of materials and uses as to which there is sufficient knowledge to permit possession and use without prior evaluation of the hazards and the capability of the processor and user. These categories fall into two groups: those materials and uses which may be completely exempt from regulatory controls, and those materials and uses in which sanctions for misuse are maintained without pre-evaluation of the individual possession or use. In authorizing research and development or other activities involving multiple uses of radioactive materials, where an institution has people with extensive training and experience, the State regulatory authority may wish to provide a means for authorizing broad use of materials without evaluating specific use.

The State of Wyoming has adopted regulations, which can be found in Wyoming Uranium Recovery Program Rules, Chapter 4, Sections 5, 8, and 9, containing regulatory requirements for applying for and issuing licenses, which are compatible with NRC's regulations.

The State of Wyoming's proposed Agreement does not include the authority for the distribution of Agreement materials. Excluded from the proposed Agreement are both materials exempt from the requirements for a license and materials used under a general license provision. The NRC staff confirmed that the State of Wyoming Uranium Recovery Program Rules provide that only the NRC may issue a license authorizing the distribution of Agreement materials that will subsequently be exempt from regulatory control or generally licensed.

Since criterion 13 was adopted, the Commission has determined that the regulatory authority to conduct safety evaluations of sealed sources and devices may be retained by the NRC, unless the State of Wyoming requests assumption of the authority and has in place an adequate and compatible program to implement the authority. The State of Wyoming has decided not to seek authority for evaluation of sealed sources and devices.

The staff concludes that this criterion is satisfied.



References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

- 14. Evaluation Criteria. In evaluating a proposal to use radioactive materials, the regulatory authority shall determine the adequacy of the applicant's facilities and safety equipment, his training and experience in the use of the materials for the purpose requested, and his proposed administrative controls. States should develop guidance documents for use by license applicants. This guidance should be consistent with NRC licensing regulatory guides for various categories of licensed activities.**

The NRC staff review determined that the State of Wyoming has established a series of procedures, checklists, and forms to be used in evaluating proposals for radioactive materials use. These will be used in addition to the licensing guidance applicable to uranium milling in NRC's NUREG-1569, "Standard Review Plan for In Situ Uranium Extraction License Applications." In addition, the State of Wyoming developed administrative licensing procedures that define the review process for a new license application, amendment, renewal, and license termination. The State of Wyoming licensing procedures are similar to NRC procedures.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209).

- 15. Human Use. The use of radioactive materials and radiation on or in humans shall not be permitted except by properly qualified persons (normally licensed physicians) possessing prescribed minimum experience in the use of radioisotopes or radiation.**

The State of Wyoming will not be regulating the use of radioactive materials and radiation on or in humans with regard to 10 CFR Part 35. The NRC staff verified that the State of Wyoming has not adopted compatible regulations to the NRC regulations in 10 CFR Part 35.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 through 35-11-2005.

## INSPECTION

- 16. Purpose, Frequency. The possession and use of radioactive materials shall be subject to inspection by the regulatory authority and shall be subject to the performance of tests, as required by the regulatory authority. Inspection and testing is conducted to determine and to assist in obtaining compliance with regulatory requirements. Frequency of inspection shall be related directly to the amount and kind of material and type of operation licensed, and it shall be adequate to insure compliance.**

The NRC staff confirmed that the State of Wyoming has statutory authority to conduct inspections of licensees. The authority to enter premises and inspect licensees is provided in the Wyoming Statute § 35-11-2003(d). The State of Wyoming has adopted regulations compatible with equivalent parts of the NRC regulations, which can be found in Wyoming Uranium Recovery Program Rules, Chapters 3 and 4, containing provisions relating to inspections and tests.

The State of Wyoming has adopted a schedule for inspection of licensees at least as frequent as the schedule used by NRC. The State of Wyoming staff has developed internal procedures and accompanying forms for the inspection areas which cover scheduling, preparation, performance basis, tracking and documentation of inspection results. The inspection procedures are similar to NRC procedures.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 through 35-11-2005. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

- 17. Inspections Compulsory. Licensees shall be under obligation by law to provide access to inspectors.**

The NRC staff review confirmed that the State of Wyoming law in the Wyoming Statute § 35-11-2003 provides authority for radiation control program inspectors to enter public or private property at all reasonable times for the purpose of investigating conditions related to radiation use.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 through 35-11-2005. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

**18. Notification of Results of Inspection. Licensees are entitled to be advised of the results of inspections and to notice as to whether or not they are in compliance.**

The NRC staff review determined that the State of Wyoming has adopted procedures to convey a copy of the formal inspection report to the licensees, both when violations are found, and when no violations are found. The procedures identify the staff responsible and specify the time limit for preparing the inspection report, the process for management review and approval, and provide instructions for distribution of the report to the licensee and to the State of Wyoming's official files.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209).

#### ENFORCEMENT

**19. Enforcement. Possession and use of radioactive materials should be amenable to enforcement through legal sanctions, and the regulatory authority shall be equipped or assisted by law with the necessary powers for prompt enforcement. This may include, as appropriate, administrative remedies looking toward issuance of orders requiring affirmative action or suspension or revocation of the right to possess and use materials, and the impounding of materials; the obtaining of injunctive relief; and the imposing of civil or criminal penalties.**

The NRC staff review confirmed that the WYDEQ is authorized in the Wyoming Statute § 35-11-2003 to enforce the State of Wyoming's regulations using a variety of sanctions, including the imposition of administrative penalties, the issuance of orders to suspend, modify or revoke licenses, and any other action deemed appropriate by the Uranium Recovery Program. The Uranium Recovery Program may seek civil penalties in accordance with State of Wyoming law and regulations.

The Uranium Recovery Program has adopted policies and procedures to implement the enforcement authority. The State of Wyoming enforcement procedures are similar to the NRC procedures with regard to the use of escalated enforcement for violations.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: § 35-11-701, § 35-11-901, and §§ 35-11-2001 through 35-11-2005. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

## PERSONNEL

20. **Qualifications of Regulatory and Inspection Personnel.** The regulatory agency shall be staffed with sufficient trained personnel. Prior evaluation of applications for licenses or authorizations and inspections of licensees must be conducted by persons possessing the training and experience relevant to the type and level of radioactivity in the proposed use to be evaluated and inspected. This requires competency to evaluate various potential radiological hazards associated with the many uses of radioactive material and includes concentrations of radioactive materials in air and water, conditions of shielding, the making of radiation measurements, knowledge of radiation instruments (their selection, use and calibration), laboratory design, contamination control, other general principles and practices of radiation protection, and use of management controls in assuring adherence to safety procedures. In order to evaluate some complex cases, the State regulatory staff may need to be supplemented by consultants of other State agencies with expertise in geology, hydrology, water quality, radiobiology and engineering disciplines.

To perform the functions involved in evaluation and inspection, it is desirable that there be personnel educated and trained in the physical and/or life science, including biology, chemistry, physics and engineering, and that the personnel have had training and experience in radiation protection. For example, the person who will be responsible for the actual performance of evaluation and inspection of all of the various uses of byproduct and source nuclear material which might come to the regulatory body should have substantial training and extensive experience in the field of radiation protection. It is desirable that such a person have a bachelor's degree or equivalent in the physical or life sciences, and specific training - radiation protection.

It is recognized that there will also be persons in the program performing a more limited function in evaluation and inspection. These persons will perform the day-to-day work of the regulatory program and deal with both routine situations as well as some which are out of the ordinary. These people should have a bachelor's degree or equivalent in the physical or life sciences, training in health physics, and approximately two years of actual work experience in the field of radiation protection.

The foregoing are considered desirable qualifications for the staff who will be responsible for the actual performance of evaluation and inspection. In addition, there will probably be trainees associated with the regulatory program who will have an academic background in the physical or life sciences as well as varying amounts of specific training in radiation protection but little or no actual work experience in the field. The background and specific training of these persons will indicate to some extent their potential role in the regulatory program. These trainees, of course, could be used initially to evaluate and inspect those applications of radioactive materials which are considered routine or more standardized from the radiation safety standpoint, for example, inspection of industrial gauges, small research programs, and diagnostic medical programs. As they gain experience and competence in the field, the trainees could be used progressively to deal with the more complex or difficult types of radioactive

**material applications. It is desirable that such trainees have a bachelor's degree or equivalent in the physical or life sciences and specific training in radiation protection. In determining the requirement for academic training of individuals in all of the foregoing categories, proper consideration should be given to equivalent competency which has been gained by appropriate technical and radiation protection experience.**

**It is recognized that radioactive materials and their uses are so varied that the evaluation and inspection functions will require skills and experience in the different disciplines which will not always reside in one person. The regulatory authority should have the composite of such skills either in its employ or at its command, not only for routine functions, but also for emergency cases.**

Based on the review of the organizational charts and position descriptions for the Uranium Recovery Program, the Uranium Recovery Program training and qualification plan, and the curricula vitae for the current staff members, the NRC staff concludes that the Uranium Recovery Program has a staffing plan that provides a sufficient number of adequately trained and qualified technical staff.

**a. Assessment of the Agreement Materials Staffing**

There are 15 NRC specific uranium recovery licensees in the State: five operating in situ recovery licensees (i.e., Energy Fuels Nichols Ranch, Uranium One Willow Creek, Cameco Smith Ranch, UR Energy Lost Creek, and Strata Ross), one licensee on standby (i.e., Kennecott Sweetwater), two licensed, but not constructed facilities (Uranium One Moore Ranch and AUC Reno Creek), one licensee no longer operating but accepting 11e.(2) waste from others for disposal (UR Energy Pathfinder Shirley Basin) and six licensees undergoing decommissioning (i.e., Anadarko Bear Creek, Exxon Mobile Highlands, Pathfinder Lucky Mc, UMETCO Gas Hills, Western Nuclear Split Rock, and American Nuclear Corporation). Fourteen licenses will be transferred to the State of Wyoming. In accordance with Commission direction in Staff Requirements Memorandum-SECY-17-0081, the American Nuclear Corporation license (License No. SUA-667; Docket No. 040-04492) will not be transferred to the State of Wyoming.

The Uranium Recovery Program is responsible for the implementation of the materials program. The Uranium Recovery Program falls within the WYDEQ Land Quality Division. Accordingly, work required by the Uranium Recovery Program may be divided between the Land Quality Division and the Uranium Recovery Program staff, depending on the expertise of the staff. The Uranium Recovery Program staff will be responsible for licensing, inspection, decommissioning, and enforcement in their areas of expertise. Additionally, the Uranium Recovery Program will use three full-time equivalents (FTE) from the existing Land Quality Division workforce that were already regulating the uranium mining permit process.

The State of Wyoming conducted an analysis of the expected workload to establish an appropriate staffing plan. The WYDEQ has determined that 7.2 FTE is adequate for operating the Uranium Recovery Program. This projection is based on data from the NRC, Agreement States, and the Uranium Recovery Program's own internal information.

There are currently 7.2 FTE (technical staff) devoted to support the Uranium Recovery Program, which includes the Program Manager. The Program Manager for the Uranium Recovery Program will provide the day-to-day supervision of the Uranium Recovery Program. The Program Manager plans on devoting 100 percent of his time to the Uranium Recovery Program, including management review of licensing and inspection actions, personnel responsibilities, rule development, and accompaniment of inspectors for annual management review. The Land Quality Division Administrator will spend 25 percent of his time on the Uranium Recovery Program, including management review of certain actions and personnel responsibilities. The staff will work in all aspects of the Uranium Recovery Program, including licensing, inspection, enforcement, emergency response, and rule development.

The NRC staff concludes that the Uranium Recovery Program has an adequate number of staff to transition to and meet the anticipated needs of the materials program.

The staff concludes that criterion 20(a) is satisfied.

**b. Assessment of Staff Qualifications**

The NRC staff review considered the qualifications of the individuals currently on the Uranium Recovery Program staff that would be involved in the materials program and the procedures for training and qualifying new staff members.

Under the proposed Agreement, the Uranium Recovery Program will implement the materials program. The Program Manager of the Uranium Recovery Program will be responsible for the Uranium Recovery Program's administration and will provide the immediate day-to-day supervision of the materials program. The Program Manager of the Uranium Recovery Program has a Bachelor of Science in Environmental Science and a Master of Science in Health Physics. In the fall of 2018, he will have 2 years of experience in all aspects of the Agreement State materials program – establishment and management of the Uranium Recovery Program and development of the inspection program that ensures compliance to State and Federal regulations. Additionally, he has experience as a radiation safety officer, responsible for the implementation of radiation safety programs, which includes the bioassay programs, dosimetry programs, and respiratory programs.

All other staff members have a Bachelor of Science degree or Master Degree in one of the following subject areas: environmental science, health physics, nuclear engineering, geology, and ecology.

The Uranium Recovery Program technical staff have extensive health physics and radiation science experience within WYDEQ as well as work in the private sector. The Wyoming staff have work experience in nuclear engineering, as a radiation safety officer in uranium recovery facilities, environmental protection and remediation, and with data collection for various reclamation/remediation projects. The Uranium Recovery Program technical staff has completed or is scheduled to complete the NRC recommended core courses (i.e., Inspection Procedures Course (G-108), Root Cause/Incident Investigation Workshop Course (G-205), General Health Physics (F-104), and Fundamental Health Physics (H-122) or Fundamental Health Physics Self Study Course (H-122S)), or has received waivers from the Uranium Recovery Program based on prior training and

experience.

The NRC staff concludes that the Wyoming Uranium Recovery Program technical staff identified by the State of Wyoming to work in the Uranium Recovery Program is trained in accordance with the Uranium Recovery Program Formal Qualification Plan, as outlined in Subsection 4.6.2 of the Wyoming Agreement States Application, and has sufficient knowledge and experience in radiation protection, the use of radioactive materials, the standards for the evaluation of applications for licensing, and techniques of inspecting licensed users of radioactive materials.

The NRC staff concludes that the proposed Uranium Recovery Program has a sufficient number of adequately trained staff to meet program needs.

The staff concludes that criterion 20(b) is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209).

**21. Conditions Applicable to Special Nuclear Material, Source Material and Tritium. Nothing in the State's regulatory program shall interfere with the duties imposed on the holder of the materials by the NRC, for example, the duty to report to the NRC, on NRC prescribed forms, (1) transfers of special nuclear material, source material and tritium, and (2) periodic inventory data.**

The State of Wyoming has adopted an adequate and compatible set of radiation protection regulations, which can be found in the Wyoming Uranium Recovery Program Rules, Chapters 3 and 4, which apply to byproduct material as defined in Section 11e.(2) of the AEA, and source material associated with milling activities. The State of Wyoming will not be regulating Special Nuclear Material and Tritium under the proposed Agreement. In addition the State of Wyoming will not be regulating byproduct material as defined in Sections 11e.(1), 11e.(3), and 11e.(4) of the AEA.

The NRC staff review did not note any aspects of the State of Wyoming's Agreement State Program that could potentially interfere with duties imposed on a holder of materials by the NRC. In addition, the State of Wyoming's regulations specifically exempt areas of exclusive NRC or other Federal jurisdiction from State of Wyoming regulation. The staff is therefore satisfied that the State of Wyoming will not interfere with duties imposed on the holder of materials by the NRC.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

- 22. Special Nuclear Material Defined. Special nuclear material, in quantities not sufficient to form a critical mass, for present purposes means uranium enriched in the isotope U-235 in quantities not exceeding 350 grams of contained U-235; uranium 233 in quantities not exceeding 200 grams; plutonium in quantities not exceeding 200 grams; or any combination of them in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified above for the same kind of special nuclear material. The sum of such ratios for all kinds of special nuclear material in combination should not exceed "1" (i.e., unity). For example, the following quantities in combination would not exceed the limitation and are within the formula, as follows:**

$$175 \text{ (grams contained U-235)}/350 + 50 \text{ (grams U-233)}/200 + 50 \text{ (grams PU)}/200 = 1$$

The State of Wyoming will not be regulating the use of special nuclear material with regard to 10 CFR Part 70 nor has it defined critical mass in 10 CFR Part 150.11. The NRC staff verified that the State of Wyoming has not adopted compatible regulations to the NRC regulations in 10 CFR Part 70 or 10 CFR Part 150.11.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 through 2005.

#### ADMINISTRATION

- 23. Fair and Impartial Administration. State practices for assuring the fair and impartial administration of regulatory law, including provision for public participation where appropriate, should be incorporated in procedures for:**
- a. Formulation of rules of general applicability;**
  - b. Approving or denying applications for licenses or authorization to process and use radioactive materials; and**
  - c. Taking disciplinary actions against licensees.**

The NRC staff review confirmed that the Uranium Recovery Program is bound by general statutory and regulatory provisions which can be found in Wyoming's Environmental Quality Act, the Administrative Procedure Act, and the Wyoming Uranium Recovery Program Rules, Chapter 4, Section 15 with respect to providing the opportunity for public participation in rulemaking, licensing actions, and disciplinary actions. These general statutory and regulatory provisions also apply to the protection of personnel radiation exposure records from public disclosure, maintaining the confidentiality of allegers, and administrative and judicial requirements for requesting and holding hearings on enforcement matters. Procedures to implement these provisions are contained in the documents referenced below.



The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: § 35-11-112, § 35-11-406(j), § 35-11-406(k), § 35-11-701, § 35-11-901, § 35-11-904, §§ 35-11-2001 through 2005, and §§ 16-3-101 through 115. State Regulations: Wyoming Uranium Recovery Program Rules, Chapter 4, Section 15.

- 24. State Agency Designation. The State of Wyoming should indicate which agency or agencies will have authority for carrying on the program and should provide the NRC with a summary of that legal authority. There should be assurances against duplicate, regulation and licensing by State and local authorities, and it may be desirable that there be a single or central regulatory authority.**

The NRC staff determined that the Land Quality Division in the WYDEQ is designated by Wyoming Statutes §§ 35-11-2001(a) through (c) to be the lead agency for carrying out the terms of the proposed Agreement, which will provide assurance against duplicate regulations or licensing by State and local authorities. The staff determined that the State of Wyoming regulations specifically exclude any areas in which the jurisdiction of the NRC or another Federal agency is exclusive, gives sufficient assurance against duplicate regulation between the State of Wyoming and the NRC in the regulation of byproduct material as defined in Section 11e.(2) of the AEA, and source material associated with milling activities.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001, §§ 35-11-2002, §§ 35-11-2003, §§ 35-11-2004, and §§ 35-11-2005.

- 25. Existing NRC Licenses and Pending Applications. In effecting the discontinuance of jurisdiction, appropriate arrangements will be made by NRC and the State of Wyoming to ensure that there will be no interference with or interruption of licensed activities or the processing of license applications by reason of the transfer. For example, one approach might be that the State of Wyoming, in assuming jurisdiction, could recognize and continue in effect, for an appropriate period of time under Wyoming State Law, existing NRC licenses, including licenses for which timely applications for renewal have been filed, except where good cause warrants the earlier reexamination or termination of the license.**

The NRC staff review confirmed that the Wyoming Statute § 35-11-2003(a) provides for the recognition of existing NRC and Agreement State licenses. The Wyoming Statute § 35-11-2003(a) authorizes the WYDEQ Uranium Recovery Program to recognize licenses issued by the NRC. The State of Wyoming procedure, "Licensing Procedure Manual,"

addresses the transfer of NRC licenses to the State of Wyoming. Section 7.0, "Transfer of NRC Licenses to the State of Wyoming URP" provides a process for recognition of other Agreement State licenses.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001, §§ 35-11-2002, §§ 35-11-2003, §§ 35-11-2004, and §§ 35-11-2005. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

**26. Relations with Federal Government and Other States. There should be an interchange of Federal and State information and assistance in connection with the issuance of regulations and licenses or authorizations, inspection of licensees, reporting of incidents and violations, and training and education problems.**

The NRC staff review verified the proposed Agreement commits the State of Wyoming to cooperate with the NRC and the other Agreement States in the formulation of standards and regulatory programs to ensure health and safety of the public against hazards of radiation and to assure that the State of Wyoming will continue to be compatible with the NRC's program for the regulation of Agreement materials.

The Commission has determined that providing reports to the NRC of Agreement State licensee incidents, accidents and other significant events is a matter of compatibility. The State of Wyoming has adopted procedures to provide such reports to the NRC.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

**27. Coverage, Amendments, Reciprocity. An amendment providing for discontinuance of NRC regulatory authority and the assumption of regulatory authority by the State may relate to any one or more of the following categories of materials within the State, as contemplated by State of Wyoming Statute § 35-11-2001:**

- a. **Byproduct material as defined in Section 11e.(2) of the Act, and**
- b. **Source material involved in the extraction or concentration of uranium or thorium in source material or ores at uranium or thorium milling facilities**

**but must relate to the whole of such category or categories and not to a part of**

**any category. If less than the two categories are included in any discontinuance of jurisdiction, discontinuance of NRC regulatory authority and the assumption of regulatory authority by the State of the others may be accomplished subsequently by an amendment or by a later Agreement. Arrangements should be made for the reciprocal recognition of State licenses and NRC licenses in connection with out-of-jurisdiction operations by a State or NRC licensee.**

The NRC staff verified the proposed Agreement provides for the Commission to relinquish, and the State of Wyoming to assume, regulatory authority over the types of material defined in categories a and b above. For the purpose of this proposed Agreement, the Commission has approved the creation of a subcategory of source material involved in the extraction or concentration of uranium or thorium in source material or ores at uranium or thorium milling facilities. Notwithstanding the discontinuance of the regulatory authority over the categories of materials under the proposed Agreement, the NRC will retain regulatory authority over the American Nuclear Corporation license (License No. SUA-667; Docket No. 040-04492).

Since this criterion was adopted, the Commission has determined that the Agreement States may assume the authority to evaluate the safety of sealed sources and devices to be distributed in interstate commerce as a separate portion of the Agreement, or to allow NRC to retain that authority. The State of Wyoming has chosen not to assume that authority.

The proposed Agreement would allow the State of Wyoming to assume and the NRC to discontinue regulatory authority over the possession and use of source material involved in the extraction or concentration of uranium or thorium in source material or ores, and the management and disposal of the resulting byproduct material as defined in 11e.(2) of the AEA.

The proposed Agreement will not include regulatory authority over the mining or removal of source material in its natural state. Under the proposed Agreement, the NRC would retain regulatory authority over laboratory facilities that are not located at facilities licensed under the State of Wyoming's regulatory authority. The State of Wyoming would only regulate laboratory facilities located at uranium or thorium mills.

The proposed Agreement stipulates the desirability or reciprocal recognition of the NRC and other Agreement State licenses, and commits the Commission and the State of Wyoming to cooperate and accord such reciprocity. The authority to recognize the licenses of other jurisdictions is provided in the Wyoming Statute § 35-11-2003(a). The State of Wyoming would be able to recognize the licenses of other jurisdictions by order or specific license.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 through 2005. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

28. **NRC and Department of Energy Contractors. The State should provide exemptions for NRC and Department of Energy contractors which are substantially equivalent to the following exemptions:**
- a. **Prime contractors performing work for the Department of Energy at U.S. Government-owned or controlled site;**
  - b. **Prime contractors performing research in, or development, manufacture, storage, testing, or transportation of, atomic weapons or components thereof;**
  - c. **Prime contractors using or operating nuclear reactors or other nuclear devices in a U.S. Government-owned vehicle or vessel; and**
  - d. **Any other prime contractor or subcontractor of Department of Energy or NRC when the State and the NRC jointly determine (i) that, under the terms of the contract or subcontract, there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety; and (ii) that the exemption of such contractor or subcontractor is authorized by law.**

The NRC staff review verified the State of Wyoming has adopted compatible regulations to the NRC regulations in 10 CFR Part 40.11, which can be found in the Wyoming Uranium Recovery Program Rules, Chapter 4, Section 6(f), wherein the specified exemptions are contained. The NRC staff concludes that the State of Wyoming regulations do provide for exemptions from the State of Wyoming's requirements for licensing of sources of radiation for the NRC and Department of Energy contractors or subcontractors in accordance with the criterion.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 through 2005. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 1 through 9.

29. **Authority. State statutes or duly promulgated regulations should be enacted, if not already in place, to make clear State authority to carry out the requirements or Public Law 95-604, Uranium Mill Tailings Radiation Control Act (UMTRCA) as follows:**
- a. **Authority to regulate the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.**

The NRC staff review verified that State of Wyoming law authorizes the assumption of regulatory authority over "11e.(2) byproduct material" which is defined in Wyoming Statute § 35-11-103 as "byproduct material" as defined in 42 U.S.C. Sec. 2014(e)(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.”

The Governor is authorized in the Wyoming Statutes §§ 35-11-2001(a) through (c) to enter into agreements with the Federal government providing for the discontinuance of the Federal government’s responsibilities with respect to Agreement materials and the assumption thereof by the State of Wyoming. The proposed Agreement would allow the State of Wyoming to assume and the NRC to discontinue regulatory authority over the possession and use of source material involved in the extraction or concentration of uranium or thorium in source material or ores, and the management and disposal of the resulting byproduct material as defined in 11e.(2) of the AEA. The WYDEQ, Uranium Recovery Program, has been designated as the agency to carry out these responsibilities.

The WYDEQ has the statutory authority to establish the Wyoming Agreement State Program in the Wyoming Environmental Quality Act, Wyoming Statutes §§ 35-11-2001 through 2004, §§ 35-11-101 et seq., and §§ 16-3-101 et seq.

The authorities to issue, amend, suspend or revoke licenses; place conditions and to issue orders; or assess administrative penalties is vested by the Wyoming Statutes § 35-11-2003 through 2004(a), and § 35-11-901.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: § 35-11-103 and §§ 35-11-2001(a) through (c).

**b. That an adequate surety (under terms established by regulation) will be provided by the licensee to assure the completion of all requirements established by the State of Wyoming for the decontamination, decommissioning, and reclamation of sites, structures, and equipment used in conjunction with the generation or disposal of such byproduct material.**

The NRC staff review verified that the Wyoming statute § 35-11-2003(e) authorizes the program to adopt rules requiring financial assurance by adopting by reference the requirements in 10 CFR Part 40, Appendix A. The WYDEQ has adopted the NRC financial assurance requirements in 10 CFR Part 40, Appendix A, Criteria 9 and 10, by reference in the Wyoming Uranium Recovery Program Rules, Chapter 4, Section 3(a). The current financial assurances held by the NRC will be transferred to the State of Wyoming as part of the license transfer process.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State

(ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 and 35-11-2003(e). State Regulations: Wyoming Uranium Recovery Program Rules, Chapter 4, Section 3(a).

- c. **If in the States' licensing and regulation of byproduct material or of any activity which produces byproduct material, the State collects funds from the licensee or its surety for long-term surveillance and maintenance of such material, the total amount of the funds collected by the State shall be transferred to the U.S. if custody of the byproduct material and its disposal site is transferred to the Federal Government upon termination of the State license. (See 10 CFR 150.32.) If no default has occurred and the reclamation or other bonded activity has been performed, funds for the purpose are not to be transferred to the Federal Government. The funds collected by the State shall be sufficient to ensure compliance with the regulations the Commission establishes pursuant to Section 161X of the Atomic Energy Act.**

The NRC staff review verified that State of Wyoming law, as stated in Wyoming Statute § 35-11-2003, authorizes the promulgation of financial assurance requirements for 11e.(2) byproduct material and uranium or thorium mills. The State of Wyoming adopted the NRC financial assurance requirements in Appendix A by reference which require the collection of funds for long-term surveillance. The Wyoming Statute § 35-11-2004(d) and the Wyoming Uranium Recovery Rules require that such funds must be transferred to the long-term custodian of the site prior to the State of Wyoming terminating the license.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001 and 2003(e). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 4 and 6.

- d. **In the issuances of licenses, an opportunity for written comments, public hearing (with transcript) and cross examination is required.**

See discussion under e. below.

- e. **In the issuances of licenses, a written determination of the action to be taken based upon evidence presented during the public comment period and which is subject to judicial review is required.**

The NRC staff review determined that the State of Wyoming requires a notice of the licensing action and opportunity for hearing in accordance with its regulations in the Wyoming Uranium Recovery Program Rules, Chapter 4, Section 15. The Wyoming Uranium Recovery Program Rules, Chapter 4, Section 15 provides an opportunity for written comment, as well as public hearing prior to the issuance or amendment of a license. New licenses and major amendments will be available for public comment for at

least 45 days following publication of a notice. All licensing actions taken by the Uranium Recovery Program are subject to review by the Environmental Quality Council and judicial review in accordance with State of Wyoming law.

The staff concludes that Criteria 29d. and 29e. are satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2002 and §§16-3-101 through 115. State Regulations: Wyoming Uranium Recovery Rules, Chapter 4.

**f. A ban on major construction prior to completion of the written environmental analysis stipulated in criterion 31.**

The NRC staff review verified that the State of Wyoming has addressed banning commencement of construction prior to any major site construction in its regulations at the Wyoming Uranium Recovery Program Rules, Chapter 4, Sections 7 and 15.

The staff concludes that this criterion is satisfied.

Reference: Wyoming Uranium Recovery Program Rules, Chapter 4, Section 15. Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2002 and §§ 35-11-2003. State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 4, Sections 7 and 15.

**g. An opportunity shall be provided for public participation through written comments, public hearings, and judicial review of rules.**

See the discussion under e. above.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-112 and §§ 16-3-101 through 115.

**30. Supporting Legislation. In the enactment of any supporting legislation, the State should take into account the reservations of authority to the U.S. in UMTRCA as stated in 10 CFR 150.15a and summarized by the following:**

**a. The establishment of minimum standards governing reclamation, long-term surveillance or maintenance, and ownership of the byproduct material.**

- b. The determination that prior to the termination of a license, the licensee has complied with decontamination, decommissioning and reclamation standards, and ownership requirements for sites at which byproduct material is present.**
- c. The requirement that prior to termination of any license for byproduct material, as defined in Section 11e.(2), of the Atomic Energy Act or for any activity that results in the production of such material, title to such byproduct material and the disposal site be transferred to the Federal Government or State at the option of the State, provided such option is exercised prior to termination of the license.**
- d. The authority to require such monitoring, maintenance, and emergency measures after the license is terminated as necessary to protect the public health and safety for those materials and property for which the State has assumed custody pursuant to Pub. L. 95-604.**
- e. The authority to permit use of the surface or subsurface estate, or both of the land transferred to the United States or State pursuant under provision of the Uranium Mill Radiation Tailings Control Act.**
- f. The authority to exempt land ownership transfer requirements of Section 83(b)(1)(A).**

The NRC staff review verified that Wyoming Statutes do not include the provisions reserved to the NRC in 10 CFR 150.15a. The NRC staff also verified that the regulatory requirements implementing requirements reserved to the NRC in 10 CFR Part 40, Appendix A, were not adopted.

The authorities mentioned above are also specifically reserved to the NRC in Article II.B. of the proposed Agreement.

Staff concludes that the State of Wyoming has not adopted any requirements reserved to the NRC and, therefore, the State of Wyoming meets this portion of the requirements for Criteria 30a., 30b., and 30d. through 30f.

With regard to Criterion 30c., UMTRCA as codified in the AEA, provides the framework for the transfer of remediated uranium milling disposal sites for long-term surveillance and maintenance<sup>3</sup>. Specifically, Section 83b.(1)(A) of the AEA ensures that ownership of the byproduct material itself is inseparable from the site on which it is disposed. Consequently, the State of Wyoming has the option of taking title to the disposal site and material, but UMTRCA does not permit a State to bifurcate ownership of the disposed

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<sup>3</sup> AEA § 83b.(1)(A) states, “[P]rior to the termination of any license which is issued after the effective date of this section [November 8, 1978], title to the land, including any interests therein (other than land owned by the United States or by a State) which is used for the disposal of any byproduct material, as defined by section 11e.(2), pursuant to such license shall be transferred to–

(i) the United States, or

(ii) the State in which such land is located, at the option of such State

unless the Commission determines prior to such termination that transfer of title to such land and such byproduct material is not necessary or desirable to protect the public health, safety, or welfare or to minimize or eliminate danger to life or property.



byproduct material and the property rights necessary to ensure its safe disposal. However, the Wyoming Statute § 35-11-2004(c),<sup>4</sup> enacted in anticipation of the State of Wyoming's assumption of NRC regulatory authority for uranium or thorium milling, could permit the bifurcation of the land and the disposed byproduct material by the State. This bifurcation of the land and the disposed byproduct material by the State of Wyoming could conflict with UMTRCA, the AEA and Article II.B.2.b. in the proposed Agreement. This is not compatible with the NRC requirements.

The NRC staff concludes that Criterion 30c. is satisfied in the following manner. The proposed Agreement includes a provision that the State of Wyoming has until the end of the 2019 legislative session to amend Wyoming Statute § 35-11-2004(c) to be compatible with AEA § 83b.(1)(A), or the Agreement will terminate without further NRC action. The proposed Agreement also states that the NRC will reject any State of Wyoming request to terminate a license that proposes to bifurcate the ownership of byproduct material and its disposal site between the State and the federal government. Pursuant to Commission direction, the NRC staff finding of satisfaction of Criterion 30c. requirements is contingent on the State of Wyoming revising Wyoming Statute § 35-11-2004(c) during the next legislative session to be compatible with AEA § 83b.(1)(A). The NRC staff determined that there is little practical risk that State of Wyoming's current statutory provisions would result in the bifurcation of the 11e.(2) byproduct material from the land since AEA §274c.(4)<sup>5</sup> requires the NRC to review and approve any State proposed termination of a uranium mill license.

The staff concludes, subject to the stipulation noted above, that this criterion is met.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statutes: §§ 35-11-2001, §§ 35-11-2002, and §§ 35-11-2004. State Regulations: Wyoming Uranium Recovery Program Rules, Chapter 4.

31. **Environmental Assessment. It is preferable that State statutes contain the provisions of Section 6 of the Model Act.<sup>6</sup> But the following may be accomplished by adoption of either procedures by regulation or technical criteria. In any case, authority for their implementation should be adequately supported by statute, regulation or case law as determined by the State Attorney General.**

**In the licensing and regulation of ores processed primarily for their source material content and for the disposal of byproduct material, procedures shall be**

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<sup>4</sup> Wyoming State Statute §35-11-2004(c) states, “[P]rior to terminating a byproduct material license the department shall ensure the ownership of a disposal site and the byproduct material resulting from licensed activity are transferred to:

- (i) The state of Wyoming; or
- (ii) The federal government if the state declines to acquire the site, the byproduct material, or both the site and the byproduct material.

<sup>5</sup> AEA Section 274c.(4) states, “[T]he Commission shall also retain authority under any such agreement to make a determination that all applicable standards and requirements have been met prior to termination of a license for byproduct material, as defined in section 11e.(2).”

<sup>6</sup> Radiation Control Suggested State Legislation.

**established which provide a written analysis of the impact on the environment of the licensing activity. This analysis shall be available to the public before commencement of hearings and shall include:<sup>7</sup>**

- a. An assessment of the radiological and nonradiological public health impacts;**
- b. An assessment of any impact on any body of water or ground water;**
- c. Consideration of alternatives to the licensed activities; and**
- d. Consideration of long-term impacts of licensed activities (see Item 36b. (1)).**

The NRC staff review verified that the State of Wyoming has adopted regulations (Wyoming Uranium Recovery Program Rules, Chapter 4, Section 9 and Wyoming Uranium Recovery Program Rules, Chapter 4, Section 15) that specify an environmental analysis be part of a license application for a license, renewal, or major amendment. The environmental report must address areas addressed in criterion 31. The analysis of these aspects will be included in the final technical analysis for new or renewed licenses and in a statement of basis for major amendments.<sup>8</sup> Procedures to implement these provisions are contained in the documents referenced below.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Statute: §§ 35-11-2002. State Regulations: Wyoming Uranium Recovery Program Rules, Chapter 4.

- 32. Regulations. State regulations should be reviewed for regulatory requirements, and where necessary incorporate regulatory language which is equivalent to the extent practicable or more stringent than regulations and standards adopted and enforced by the Commission, as required by Section 274o (see 10 CFR 40 and 10 CFR 150.31(b)).**

The NRC staff review verified that the State of Wyoming has adopted applicable portions of 10 CFR Part 40 by incorporation by reference into the Wyoming Uranium Recovery Program Rules, Chapters 3, 4, and 9. The State of Wyoming has included 11e.(2) byproduct material disposal and uranium milling facility licensing and inspection actions under its basic licensing and inspection procedures as well as the specific requirements in the Wyoming Uranium Recovery Program Rules, Chapters 3, 4, and 9. The NRC staff has reviewed all the Wyoming regulation changes to incorporate the requirements for 11e.(2) byproduct material and uranium milling in accordance with the NMSS Procedures SA-200, "Compatibility Categories and Health and Safety Identification for

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<sup>7</sup> It is strongly recommended that a 30-day period be provided for public review.

<sup>8</sup> Wyoming Uranium Recovery Program Rules, Chapter 4, Section 15(i), states "The initial draft decision shall include, but is not limited to, the following: (A) A decision analysis, that includes discussions on environmental impacts; and (B) The final technical analysis conducted by the Department."

NRC Regulations and Other Program Elements,” and SA-201, “Review of State Regulatory Requirements.”

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapters 3, 4, and 9.

33. **Organizational Relationships Within the States. Organizational relationships should be established which will provide for an effective regulatory program for uranium mills and mill tailings.**

- a. **Charts should be developed which show the management organization and lines of authority. This chart should define the specific lines of supervision from program management within the radiation control group and any other department within the State responsible for contributing to the regulation of uranium processing and disposal of tailings. When other State agencies or regional offices are utilized, the lines of communication and administrative control between the agencies and/or regions and the Program Director should be clearly drawn.**

The WYDEQ, Land Quality Division, has been designated as the agency to carry out these responsibilities. The Uranium Recovery Program within the Land Quality Division will be responsible for implementing the 11e.(2) byproduct material disposal and uranium milling program.

The Uranium Recovery Program staff conduct the technical reviews and develop the proposed licenses or amendments for signature by the Administrator, Land Quality Division. At his time, the Land Quality Division does not intend to use other State organizations in their formal technical review process.

The staff concludes that this criterion is satisfied.

- b. **Those States that will utilize personnel from other State Departments or Federal agencies in preparing the environmental assessment should designate a lead agency for supervising and coordinating preparation of this environmental assessment. It is normally expected that the radiation control agency in Agreement States will be the lead agency. The basic premise is that the lead agency is required to prepare the environmental assessment. Utilization of an applicant's environmental report in lieu of a lead agency assessment of the proposed project is not adequate or appropriate. However, the lead agency may prepare an environmental assessment based upon an applicant's environmental report. Other credible information may be utilized by the State as long as such information is verified and documented by the State.**

The Wyoming Land Quality Division will be the lead agency for the preparation of environmental assessments for uranium milling and 11e.(2) byproduct material. Legal assistance from the State of Wyoming Attorney General's office is also available as needed.

The Wyoming Uranium Recovery Rules Chapter 4, Section 9(i)(i) indicates that "If an Environmental Impact Statement (EIS) or Environmental Assessment (EA) is required by a federal agency pursuant to the National Environmental Policy Act of 1969 (NEPA) and is provided by such federal agency, it may be used in the Department's decision-making review process." If no federal EIA or EA is provided, Wyoming Land Quality Division will prepare an environmental analysis that meets the requirements of Criterion 31.

The staff concludes that this criterion is satisfied.

- c. **When a lead agency is designated, that agency should coordinate preparation of the statement. The other agencies involved should provide assistance with respect to their areas of jurisdiction and expertise. Factors relevant in obtaining assistance from other agencies include the applicable statutory authority, the time sequence in which the agencies become involved, the magnitude of their involvement, and relative expertise with respect to the project's environmental effects.**

**In order to bring an environmental assessment to a satisfactory conclusion, it is highly recommended that an initial scoping document be developed which clearly delineates the area and scope of work to be performed by each agency within a given time constraint.**

The Wyoming Land Quality Division environmental review process does not involve other State of Wyoming organizations at this time. The State of Wyoming process does not follow the Federal process. The State of Wyoming review process addresses the technical review areas and results in the preparation of a written environmental assessment. The State of Wyoming will prepare its environmental assessment as part of the licensing review process and will make the assessment documentation publicly available when it notices its proposed licensing action. The comments on the assessment will be addressed prior to issuing the final licensing action.

The State of Wyoming has indicated that they will coordinate with other federal agencies as appropriate in the licensing of agreement materials. One of these agencies would be the Bureau of Land Management (BLM). Some of the licenses that will be transferred to the State of Wyoming from the NRC already include BLM land leased by the licensees where licensed activities are performed.

The staff concludes that this criterion is satisfied.

- d. **For those areas in the environmental assessment where the State cannot identify a State agency having sufficient expertise to adequately evaluate the proposal or prepare an assessment, the State should have provisions for obtaining outside consulting services. In those instances where non-governmental consultants are utilized, procedures should be established to avoid conflict of interest consistent with State law and administrative procedures.**

**Medical consultants recognized for their expertise in emergency medical matters, such as the Oak Ridge and Hanford National Laboratories, relating to the intake of uranium and its diagnosis thereof associated with uranium mining and milling should be identified and available to the State for advice and direct assistance.**

**During the budget preparation, the State should allow for funding costs incurred by the use of consultants. In addition, consultants should be available for any emergencies which may occur and for which their expertise would be needed immediately.**

The Wyoming Land Quality Division may use an outside consultant or contractor for technical review (science and engineering support) after the Land Quality Division has the consent of the licensee to pay reasonable expenses in accordance with State of Wyoming fee regulations. In addition, the State of Wyoming identified a possible medical consultant that could be used by the State of Wyoming for the Uranium Recovery Program. The funding for science and engineering support and other consultants will be recovered through fees from licensees.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209).

34. **Personnel. Personnel needed in the processing of the license application can be identified or grouped according to the following skills: Technical; Administrative; and Support.**
- a. **Administrative personnel are those persons who will provide internal guides, policy memoranda, reviews and managerial services necessary to assure completion of the licensing action. Support personnel are those persons who provide secretarial, clerical support, legal, and laboratory services. Technical personnel are those individuals who have the training and experience in radiation protection necessary to evaluate the engineering and radiological safety aspects of a uranium concentrator. Current indications are that 2 to 2.75 total professional person years' effort is needed to process a new conventional mill license, in situ license, or major renewal, to meet the requirements of UMTRCA. This number includes the effort for the environmental assessment and the in-plant safety review. It also includes the use of consultants. Heap leach applications may take less time and are expected to take 1.0 to 1.5 professional staff years' effort, depending on the circumstances encountered. Current indications are that the person years effort for support and legal services should be one secretary for approximately 2 conventional mills and ½ staff years for legal services for each non-contested mill case. The impact on environmental monitoring laboratory**

**support services is difficult to estimate but should be added into the personnel requirements.**

**In addition, consideration should be given to various miscellaneous post- licensing ongoing activities including the issuance of minor amendments, inspections, and environmental surveillance. It is estimated that these activities may require about 0.5 to 1 person years effort per licensed facility per year, the latter being the case for a major facility. These figures do not include manpower for Title I activities of UMTRCA.**

- b. In evaluating license applications the State shall have access to necessary specialties, e.g., radiological safety, hydrology, geology and dam construction and operation.**

**In addition to the personnel qualifications listed in the "Guide for Evaluation of State Radiation Control Programs," Revision 3, February 1, 1980, the regulatory staff involved in the regulatory process (Radiation) should have additional training in Uranium Mill Health Physics and Environmental Assessments.**

- c. Personnel in agencies other than the lead agency are included in these total person year numbers. If other agencies are counted in these numbers then it shall be demonstrated that these personnel will be available on a routine and continuing basis to a degree claimed as necessary to successfully comply with the requirements of UMTRCA and these criteria. The arrangements for making such resources available shall be documented, such as an interagency memorandum of understanding and confirmed by budgetary cost centers.**

The NRC will be transferring 14 licenses to the State of Wyoming: seven operating in situ recovery licensees, one licensee on standby, and six licensees undergoing decommissioning. The State of Wyoming has seven technical and support staff to conduct the licensing, including environmental assessment, and inspection activities for these 14 facilities. Based on the above criteria, the NRC determined that this is adequate.

The State of Wyoming performed a staffing analysis which identified the need for 7.2 FTE to operate the Uranium Recovery Program. The staffing analysis included licensing casework (new, renewals, and amendments including environmental assessments), inspections, regulation and guidance updates, and contingency resources for unplanned actions. The State of Wyoming intends to use the existing technical staff for initial implementation of the Uranium Recovery Program. The technical staff in the Uranium Recovery Program will include two positions with expertise in health physics and two positions with expertise in geology/hydrogeology and three FTE from the Land Quality Division with expertise in a range of sciences.

To estimate the workload for license review and project management workload the WYDEQ consulted with the NRC's Uranium Recovery Program. The Uranium Recovery Program will budget for one new application or major amendment each year.

Additional FTE necessary for "minor licensing actions," such as flow increases, were considered as part of project management. The Uranium Recovery Program, after consultation with the NRC, determined that 0.5 FTE per active licensee are required for project management. Additionally, for inactive licensees or licensees undergoing decommissioning, the Uranium Recovery Program dedicated 0.2 FTE for project management. Using the above estimates, the WYDEQ determined that 5.4 FTE are required by the program.

The NRC staff review of the State of Wyoming staff qualifications determined that there currently is a sufficient number of trained staff to administer the Uranium Recovery Program. The State of Wyoming has indicated that current technical staff will be used to initially implement the 11e.(2) byproduct material activities. The State of Wyoming fee schedule for uranium milling facilities goes into effect upon entering into the Agreement.

The NRC staff review of the State of Wyoming's needs analysis, current staff qualifications, and current staff assignments for 11e.(2) byproduct material activities determined that the provisions of criterion 34 for the number staff and qualifications of those staff were addressed by the Uranium Recovery Program. The NRC staff determined that the Uranium Recovery Program has an adequate number of staff and sufficient technical expertise to implement the proposed Agreement for 11e.(2) byproduct material and source material associated with milling activities.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209).

35. **Functions To Be Covered. The States should develop procedures for licensing, preparation of environmental assessments and inspections<sup>9</sup>.**
- a. Licensing**
- (1) Licensing evaluations or assessments should include in-plant radiological safety aspects in occupational or restricted areas and environmental impacts to populations in unrestricted areas from the plant.**
- (2) It is expected that the State will review, evaluate and provide documentation of these evaluations. Items which should be evaluated are:**
- (a) Proposed activities;**
  - (b) Scope of proposed action;**
  - (c) Specific activities to be conducted;**
  - (d) Administrative procedures;**
  - (e) Facility organization and radiological safety responsibilities, authorities, and personnel qualifications;**

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<sup>9</sup> Order of the procedures in the criterion title was changed as presented in the Policy Statement to match how they are presented as subsections.

- (f) Licensee audits and inspections;
- (g) Radiation safety training programs for workers;
- (h) Radiation safety program, control and monitoring;
- (i) Restricted area markings and access control;
- (j) At existing mills, review of monitoring data, exposure records, licensee audit and inspection records, and other records applicable to existing mills;
- (k) Environmental monitoring;
- (l) Emergency procedures, radiological;
- (m) Product transportation; and
- (n) Site and physical decommissioning procedures, other than tailings.
- (o) Employee exposure data and bioassay programs.

The State of Wyoming will use its Technical Licensing Procedures for License Review as well as NRC guidance in the form of Standard Review Plans and Regulatory Guides in the conduct of the Wyoming Uranium Recovery Program licensing process. These procedures and guidance documents include the evaluation of the areas listed above in 35.a.(1) and (2).

**b. Environmental Assessment**

- (1) The environmental evaluation should consist of a detailed and documented evaluation of the following items:
  - (a) Topography;
  - (b) Geology;
  - (c) Hydrology and water quality;
  - (d) Meteorology;
  - (e) Background radiation;
  - (f) Tailings retention system;
  - (g) Interim stabilization, reclamation, and Site Decommissioning Program;
  - (h) Radiological Dose Assessment;
    - (1) Source terms
    - (2) Exposure pathway
    - (3) Dose commitment to individuals
    - (4) Dose commitment to populations
    - (5) Evaluation of radiological impacts to the public to include a determination of compliance with State and Federal regulations and comparisons with background values
    - (6) Occupational dose
    - (7) Radiological impact to biota other than man
    - (8) Radiological monitoring programs, pre-occupational and operational
  - (i) Impacts to surface and ground water, both quality and quantity;
  - (j) Environmental effects of accidents; and
  - (k) Evaluation of tailings management alternatives in terms of regulations.



- (2) **The States are encouraged to examine the need to expand the scope of the assessment into other areas such as:**
  - (a) **Ecology;**
  - (b) **Environmental effects of site preparation and facility construction on environment and biota;**
  - (c) **Environmental effects of use and discharge of chemicals and fuels; and**
  - (d) **Economic and social effects.**

The NRC staff verified that the Wyoming Uranium Recovery Program Rules, Chapter 4, Section 9 requires the licensee to submit an environmental report that will be reviewed and evaluated by the licensing staff as part of the licensing process. The Wyoming Uranium Recovery Program staff's evaluation will be documented in the environmental assessments. The Wyoming Uranium Recovery Program Rules, Chapter 4, Sections 9 and 15, and Chapter 8, Section 4, provide discussions on the State of Wyoming's environmental assessments. The areas of review cover all the areas listed above in 35.b.(1) and (2). Procedures to implement these provisions are contained in the documents referenced below.

The staff concludes that this criterion is satisfied.

**c. Inspections**

- (1) **As a minimum, items which should be inspected or included during the inspection of a uranium mill should adhere to the items evaluated in the in-plant safety review. The principal items recommended for inspection are:**
  - (a) **Administration;**
  - (b) **Mill circuit, including any additions, deletions, or circuit changes;**
  - (c) **Accidents/Incidents;**
  - (d) **Part 19 or equivalent requirements of the State;**
  - (e) **Action taken on previous findings;**
  - (f) **A mill tour to determine compliance with regulations, and license conditions;**
  - (g) **Tailings waste management in accordance with regulations and license conditions (see NRC Reg. Guide 3.11.1);**
  - (h) **Records;**
  - (i) **Respiratory protection in accordance with license conditions or 10 CFR Part 20.**
  - (j) **Effluent and environmental monitoring;**
  - (k) **Training programs;**
  - (l) **Transportation and shipping;**
  - (m) **Internal review and audit by management;**
  - (n) **Exit interview; and**
  - (o) **Final written report documenting the results of the inspection and findings on each item.**
- (2) **In addition, the inspector should perform the following:**
  - (a) **Independent surveys and sampling.**

- (3) Additional guidance is contained in appropriate NRC regulatory and inspection guides. A complete inspection should be performed at least once per year.**

The Wyoming Uranium Recovery Program, as of the effective date of the Agreement, will consist of 14 facilities. The Uranium Recovery Program will inspect each operating facility on the average twice a year and will inspect each decommissioning facility on average once a year. This schedule will be adjusted based on the facility status and compliance history.

The Wyoming Uranium Recovery Program Inspection Program for uranium milling facilities will include the above areas in criterion 35.c.(1), (2), and (3). A complete inspection will be performed at least annually and will include independent surveys and sampling. The State of Wyoming inspectors will use NRC Inspection Manual Chapter (IMC) 2801, "Uranium Mill and 11e.(2) Byproduct Material Disposal Site and Facility Inspection Program," and IMC 2641, "In-Situ Leach Facilities Inspection Program" as guidance documents. Enforcement actions will be in accordance with the Wyoming Uranium Recovery Program Rules and exiting enforcement guidance. All enforcement actions may be appealed through to the appropriate court.

The staff concludes that this criterion is satisfied.

**d. Operational Data Review**

- (1) In addition to the reporting requirements required by the regulations or license conditions, the licensee will submit in writing to the regulatory agency within 60 days after January 1 and July 1 of each year, reports specifying the quantity of each of the principal radionuclides released to unrestricted areas in liquid and in gaseous effluents during the previous six months of operation. This data shall be reported in a manner that will permit the regulatory agency to confirm the potential annual radiation doses to the public.**
- (2) All data from the radiological and non-radiological environmental monitoring program will also be submitted for the same time periods and frequency. The data will be reported in a manner that will allow the regulatory agency to conform the dose to receptors.**

The Uranium Recovery Program staff will perform operational data reviews of the semi-annual radioactive material effluent reports as well as the semi-annual environmental monitoring reports. In the Wyoming Uranium Recovery Program Rules, Chapter 4, Section 10(b) (equivalent to 10 CFR 40.65), the licensee is required to specify the quantity of each of the principle radionuclides released to unrestricted areas in both liquid and gaseous effluents during the previous 6 months of operation. The areas of review cover all the areas listed above in criterion 35.d.(1) and (2).

The data for the effluent releases will be required in a manner that will permit the State of Wyoming staff to confirm the potential annual radiation doses to the public and confirm the dose to receptors.

The NRC staff review determined that the provisions of criterion 35 are addressed by the Wyoming Uranium Recovery Program. In general, the State of Wyoming has adopted

NRC regulations by reference or adopted equivalent requirements, and committed to using the NRC guidance in conducting its materials program.

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209). State Regulations: Wyoming Uranium Recovery Program Rules, Chapter 4.

36. **Instrumentation. The State should have available both field and laboratory instrumentation sufficient to ensure the licensee's control of materials and to validate the licensee's measurements.**
- a. **The State will submit its list of instrumentation to the NRC for review. Arrangements should be made for calibrating such equipment.**
  - b. **Laboratory-type instrumentation should be available in a State agency or through a commercial service which has the capability for quantitative and qualitative analysis of radionuclides associated with natural uranium and its decay chain, primarily; U-238, Ra-226, Th-232, Pb-210, and Rn-222, in a variety of sample media such as will be encountered from an environmental sampling program.**  
  
**Analysis and data reduction from laboratory analytical facilities should be available to the licensing and inspection authorities in a timely manner. Normally, the data should be available within 30 days of submittal. State acceptability of quality assurance (QA) programs should also be established for the analytical laboratories.**
  - c. **Arrangements should also be completed so that a large number of samples in a variety of sample media resulting from a major accident can be analyzed in a time frame that will allow timely decisions to be made regarding public health and safety.**
  - d. **Arrangements should be made to participate in the Environmental Protection Agency quality assurance program for laboratory performance.**

The Wyoming Uranium Recovery Program submitted a list of instruments that are sufficient in number and for the types of field and laboratory instruments needed to implement a uranium recovery program (Appendix A of Subsection 4.4, Inspection Program Procedures of the Wyoming Agreement States Application). The instruments are calibrated prior to use in the materials program (calibration procedures in Appendix A of Subsection 4.4, Inspection Program Procedures of the Wyoming Agreement States Application). The Uranium Recovery Program has laboratory instruments for sample analysis. In addition, the Uranium Recovery Program has the capability to contract commercially for analyses of samples when necessary. When the State of Wyoming needs to use third party laboratories for verification of the licensee's release surveys, the Uranium Recovery Program will verify the laboratories' Quality Assurance/Quality

Control procedures and verify that the correct methods for each constituent is being utilized. At a minimum, the Uranium Recovery Program will require participation in U.S. Environmental Protection Agency programs to demonstrate satisfactory Quality Assurance/Quality Control.<sup>10</sup>

The staff concludes that this criterion is satisfied.

References: Letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, request for an Agreement, Section on Statutory Authority and Program Organization, and additional related correspondence between the NRC and the State (ADAMS Accession Nos.: ML17319A923, ML17319A924, ML18032A380, ML18064A208, and ML18064A209).

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<sup>10</sup> Formal Agreement Application Section 4.1.2.6, "Third Party Consultants," states, "The URP reserves the right to consult with third part consultants when expertise on certain licensing actions may be required. The contractor will have to follow State policies on procurement, and the URP program will ensure contractual services will not cause conflicts of interest. Additionally, at times the Department may need to send samples to third party laboratories for analysis of constituents to verify licensees' release or decontamination surveys. When contractual services are required, the Department will verify that laboratory QA/QC practices meet the Department standards, and that the laboratory has the appropriate test methods for each constituent sent in for analysis. In regards to QA/QC, at a minimum they will have U.S. Environmental Protection Agency (EPA) certification demonstrating that their QA/QC program meets EPA standards."

## STAFF CONCLUSION

The NRC staff has reviewed the proposed Agreement, the certification by the State of Wyoming in the application for an Agreement in letter dated November 14, 2017, from Governor Mead to Chairman Svinicki, and the supporting information provided by the staff of the Uranium Recovery Program and the Wyoming's Office of the Attorney General.

Section 274d. of the Atomic Energy Act of 1954, as amended, provides that the Commission shall enter into an Agreement under Section 274b. with any State if:

- (a) The Governor of the State certifies that the State has a program for the control of radiation hazards adequate to protect public health and safety with respect to the agreement materials within the State, and that the State desires to assume regulatory responsibility for the agreement materials; and
- (b) The Commission finds that the State program is in accordance with the requirements of Section 274o. and in all other respects compatible with the NRC's program for the regulation of materials, and that the State program is adequate to protect public health and safety with respect to the materials covered by the proposed Agreement.

The staff concludes that:

The NRC staff has reviewed the proposed Agreement, the certification of Wyoming Governor Mead, and the supporting information provided by the staff of the Uranium Recovery Program of the Wyoming Department of Environmental Quality and Wyoming's Office of the Attorney General. Based upon this review, the NRC staff concludes that the State of Wyoming satisfies the Section 274d. criteria as well as the criteria in the Commission's Policy Statement "Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement." As noted above, the proposed Agreement includes a provision that the State of Wyoming has until the end of the 2019 legislative session to amend Wyoming Statute § 35-11-2004(c) to be compatible with AEA § 83b.(1)(A), or the Agreement will terminate without further NRC action. The proposed Agreement also states that the NRC will reject any State of Wyoming request to terminate a license that proposes to bifurcate the ownership of byproduct material and its disposal site between the State and the federal government. Pursuant to Commission direction, the NRC staff finding of compatibility is contingent on the State of Wyoming revising Wyoming Statute § 35-11-2004(c) during the next legislative session to be compatible with AEA § 83b.(1)(A). The NRC staff determined that there is little risk that the State of Wyoming's current statutory provisions would result in the bifurcation of the ownership of the 11e.(2) byproduct material from its disposal site between the State of Wyoming and the Federal government because the NRC is required to review and approve any State proposed termination of a uranium mill license.

Therefore, subject to the conditions as noted in the previous paragraph, the proposed State of Wyoming program to regulate Agreement materials, as comprised of statutes, regulations, procedures, and staffing is compatible with the Commission's program and adequate to protect public health and safety with respect to the materials covered by the proposed Agreement. Therefore, the proposed Agreement meets the requirements of Section 274 of the AEA.