Program Elements Comments

Subsection 4.2 - Regulatory Requirements Program Elements

NRC Comment 63

On page 459 of 1080, Guideline No. 4, In Situ Mining, Noncoal. The NRC review team provides the following general comments on Guideline No. 4 as submitted in the Wyoming Agreement State application. While Guideline No. 4 provides comprehensive guidance on review for a Permit to Mine application, the guidance does not reference any uranium recovery program guidance for reviewing a license application for radioactive materials.

In general, there is no discussion of ground water restoration standards in the production zone that reference 10 CFR Part 40, Appendix A. Guideline No. 4 also has multiple references to class of use standards as a consideration for groundwater restoration if background concentrations cannot be met with best practicable technology, which is not compatible with 10 CFR Part 40, Appendix A, Criterion 5. A licensee can only apply for an ACL as a restoration standard if background or MCLs cannot be met.

There does not appear to be any incorporation of radiation protection standards into the guidance in Guideline No. 4. For example, checklists do not appear to have any reference or guidance pertaining to radiation protection and there is no discussion of semi-annual reporting. It appears that the language in Guideline No. 4 was taken from guidance for the Underground Injection Control Program, and a comprehensive incorporation of uranium recovery program guidance will be needed. In order to be able to effectively implement Guideline No. 4 with regard to the regulation of uranium and thorium milling, additional work will be required to incorporate the provisions on 10 CFR Part 40.

WDEQ Response

The Purpose for Guideline 4 is to provide a licensing guideline for applications that come into the department for a source material license and permit to mine. Items necessary for a source material license that were missing from the Wyoming permit to mine process were added to the guidance. Guideline 4 will be a comparable document to NUREG 1569 and information from 1569 has been incorporated into the guidance. It's important to note NUREG 1569 contains no references to 10 CFR 40 App A criterion 5b(5), MCL or ACL. As discussed in Comment 7 the distinction between a permit to nine and a source material license is important and will be a separate permissions. The requirements found in 10 CFR 40 App A, Criterion 5 are required for a source material license as they were incorporated verbatim in Uranium Recovery Regulations Chapter 4. In evaluating compliance to the standard Wyoming will use applicable NRC guidance such as (NUREG/CR-6870)

NRC Comment 64

On page 527 of 1080, Guideline No. 4, In Situ Mining Noncoal, the checklist does not provide sufficiently detailed information to be useful. In particular, the sections of the

checklist under Part IV, Restoration/Reclamation Plan need more detail.

Please revise the document to provide additional details in the checklist. To aid the program, Wyoming may find the checklist in NUREG-1727 useful in responding to this question. The checklist in NUREG-1727 is more complete and is useful to regulators with regard decommissioning activities.

WDEQ Response

The WDEQ has developed a more comprehensive checklist covering information needed within an application (equivalent to NUREG 1569). Additionally the WDEQ has developed additional checklists for decommissioning (equivalent portions of NUREG 1727)

NRC Comment 65

On page 665 of 1080, Appendix B to Subsection 4.2, Wyoming indicates that it is including as a part of their regulations 10 CFR 20.1401- 20.1406 (10 CFR Subpart E). Please clarify whether this section is referencing 10 CFR Part 20 Subpart E to be used for non-11e.(2) byproduct material contamination of a building or process equipment on a site.

WDEQ Response

References to 10 CFR 20.1401-1406 have been removed from the application.

Subsection 4.3 - Licensing Program Elements

NRC Comment 66

On page 751 of 1080, General Comment: Licensing Procedural Manual Uranium Recovery Program (Licensing Manual), the introduction section references NUREG-1757. All aspects of this document do not apply to uranium recovery facilities. In NUREG-1757, Volume 3, Revision 1, under Section 1.1 Purpose and Applicability, it states, "[T]his volume applies to the timeliness and recordkeeping requirements for licensees under Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 30, 40, 70, and 72. It also applies to financial assurance requirements for licensees under 10 CFR Parts 30, 40, 70, and 72, with the exception of licensees (uranium recovery facilities) subject to Criteria 9 and 10 of Appendix A, 'Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material From Ores Processed Primarily for Their Source Material Content,' to 10 CFR Part 40, 'Domestic Licensing of Source Materials.'"

The reference to NUREG-1757 with regard to financial assurance requirements for licensees under 10 CFR Parts 30, 40, 70, and 72 should be removed from this section.

WDEQ Response

In NUREG 1757 Volume 2 Page 1-1 it state "[U]ranium recovery facilities may find this

information useful, but they are not subject to Subpart E." Some of the information contained in NUREG 1757 Volume 1-3 may be helpful and therefore the language has been modified to accept only applicable section of NUREG 1757. Additionally language was added to point out the financial assurance portions explicitly exclude uranium recovery operations.

NRC Comment 67

On page 752 of 1080, Licensing Manual, Section 2.1, it states "[T]he license review is designed to assure that the uses of, and authorizations for, licensed material will not present a hazard to the general public or the workers." The appropriate standard with regard to regulatory language is "adequate to protect public health and safety of the general public and workers" instead of "not present a hazard."

The NRC review team recommends revising the sentence to read, "[T]he license review is designed to assure that the uses of, and authorizations for, licensed material will be adequate to protect the public health and safety of the general public and workers."

WDEQ Response

The suggested change has been made.

NRC Comment 68

On page 752 of 1080, Licensing Manual, Section 2.4, it states, "[T]he license review is done by at least two persons: a main technical staff reviewer and a secondary peer staff reviewer."

The NRC review team agrees that the above arrangement is typical in many technical reviews. However, more complex reviews may require two or three main technical reviewers (e.g., a hydrologist, health physicist (HP), and geotechnical engineer). A lead technical reviewer may be responsible for coordinating requests for information or writing a draft version of the licensing action, but the lead technical reviewer will need assistance in areas outside their expertise.

To aid the program, the NRC review team recommends the Wyoming's procedures be revised to include language that clarifies the need to have sufficient technical expertise for each licensing action particularly for more complex actions.

WDEQ Response

The language was changed to state that the license reviewers will rely on other division staff for their expertise and aid.

NRC Comment 69

On page 755 of 1080, Licensing Manual, Section 3.0 needs additional review and revision. For example, Section 3.8 (a) (2) states, "[A]pplication meets the technical requirements contained in Chapter 4 and Guideline 4."

The NRC review team notes that Guideline No. 4 has not been updated for the review of radioactive materials and has not been updated to incorporate radiation protection standards. Additionally, the regulations in Chapter 4 do not provide clear guidance for a comprehensive technical review for Agreement materials. While there are references listed in the "Licensing Procedure Manual," Section 1.0, Introduction, there is little specific guidance or criteria as to which documents to use for review of radioactive materials or radiation protection. The templates and checklists provided on page 770 of 1080 (Licensing Manual Appendix A) and on page 771 of 1080 (Licensing Manual Appendix B) do not appear adequate for a complex review.

Please provide additional information to address these concerns. You may find the checklists in NUREG-1727 useful in responding to this question.

WDEQ Response

Checklist have been developed to cover both the application and decommissioning requirements. These checklists will be provided with the Final application.

NRC Comment 70

On page 754 of 1080, Licensing Manual, Section 3.1, there is no mention of the option to request additional information from the applicant, if any is required.

To aid the program, the NRC review team recommends revising this document to specifically mention of the staff's ability to request additional information from the applicant between 3.1(d) and (e) in the Licensing Manual. This is good regulatory practice.

WDEQ Response

The language recommended by NRC has been added to Section 3.1(d) of the Licensing Manual.

NRC Comment 71

On page 754 of 1080, Licensing Manual, Section 3.2, it states "[T]he reviewers should also assess if a pre-licensing inspection is necessary for the license application."

Technically, the program does not carry out "inspections" until after a license is issued and does pre-licensing on-site visits.

For consistency with terms used by the NRC, the NRC review team recommends that this sentence be revised to state, "[T]he reviewers should also assess if a pre- licensing on-site visit is necessary for the license application." Corresponding changes should be made throughout the document (e.g., the Licensing Review Checklist in Appendix B). Guidance on pre-licensing on-site visits can be found in NUREG-1556, Volume 20, "Guidance on Administrative Licensing Procedures." This comment is related to comment 14.

WDEQ Response

WDEQ understands the comment presented by the NRC on pre-licensing visits but the State is and has allowed inspections to occur prior to licenses/permits are issued. Wyoming will continue to refer to pre-licensing visits as inspections and NRC has affirmed that as long as the State has the authority to inspect before issuance of license/permit that the comment will be resolved. The URP appreciates the recommendation.

NRC Comment 72

On page 757 of 1080, Licensing Manual, Section 3.11 does not discuss coordination with the DOE or the NRC. The procedure also does not mention the development of a Completion Review Report which is inconsistent with the process as described in SA-900.

Wyoming needs to revise the procedure for termination of licenses to capture the license termination process as it is described in SA-900.

WDEQ Response

NRC document SA-900 was added to the references in Section 1.0 of the Licensing Procedures Manual. Additionally, Section 3.11 was modified such that the termination process and the Completion Review Report will be in accordance with SA-900. Lastly, language describing interactions between NRC and DOE was added in Section 3.11 (f).

NRC Comment 73

On page 760 of 1080 Licensing Manual, Section 4.0 in its entirety needs to be reviewed for consistency with 10 CFR Part 40 and rewritten because it incorrectly mixes Part 40 and Part 20 cleanup requirements and omits many of the requirements of Part 40. It should be noted that uranium recovery sites are not subject to 10 CFR Part 20 Subpart E cleanup requirements.

It is necessary that Wyoming indicates in the regulations with regard to when Wyoming will require licensees to meet 10 CFR Part 20 equivalent clean up requirements and when Wyoming will require licensees to meet 10 CFR Part 40 equivalent clean up requirements, particularly with regard to when determination is being made for the release of equipment and structures with detectable contamination. Please specify the guidance documents you will be using to implement these requirements.

WDEQ Response

The 10 CFR 20 cleanup requirements in Subpart E have been removed from the application.

NRC Comment 74

On page 761 of 1080, Licensing Manual, Section 4.2 where the Components of a Decommissioning Plan are addressed, the discussion included is more appropriate for a non-

milling site and inconsistent with NUREG-1757. The information is incomplete. A more complete set of guidance would be more helpful in aiding Wyoming with regard to the review of decommissioning plans and other information to support the decommissioning of licensed facilities.

In order to aid the program, please revise this section so it is consistent with NUREG-1757.

WDEQ Response

Applicable elements of 1757 have been included into the application for review of decommissioning plans.

NRC Comment 75

On page 762 of 1080, Licensing Manual, Section 4.5, the information provided in this section is not applicable to milling sites because the requirements in 10 CFR Part 20.1403 and 20.1404 do not apply to uranium recovery sites.

Please provide clarification with regard to when Wyoming will require licensees to meet 10 CFR Part 20 equivalent clean up requirements and when Wyoming will require licensees to meet 10 CFR Part 40 equivalent clean up requirements, particularly with regard to when determination is being made for the release of equipment and structures with detectable contamination. Please specify the guidance documents you will be using to implement these requirements.

WDEQ Response

References to 10 CFR 20.1403-1404 have been removed, and the reference to 10 CFR 40, Appendix A has been added to this section.

NRC Comment 76

On page 762 of 1080, Licensing Manual, Section 4.6, the NRC review for license termination is not identified. This review is required and needs to be referenced in Wyoming procedures. Additionally, there is no mention of the NRC review for partial site decommissioning or partial site release.

Wyoming needs to revise the licensing manual to include NRC review of partial license terminations in site decommissioning. NRC provides guidance on license termination (including partial license terminations) in SA-900.

WDEQ Response

Section 4.6 of the Licensing Manual was updated to reference NRC involvement for partial site decommissioning and partial releases. Section 4.6 was also updated with a cross-reference to Section 3.11(f) of the Licensing Manual to point the reader to the procedures for the Completion Review Report (CRR) and NRC determinations.

NRC Comment 77

On page 764 of 1080, Licensing Manual, Section 4.7(d), it states, "[T]hree- to four- foot thick soil covers over contaminated soil, slag, or tailing piles are also generally acceptable."

The NRC review team recommends that Wyoming revise the licensing manual to be consistent with 10 CFR Part 40, Appendix A, Criterion 6 which is Compatibility Category C. 10 CFR Part 40, Appendix A, Criterion 6 requires that a designed engineered barrier should be used when disposing of waste by-product material.

Please revise the Wyoming procedures accordingly.

WDEQ Response

The language has been modified in Sections 3.3 and 4.7(d) to include engineered barriers.

NRC Comment 78

On page 765 of 1080, Licensing Manual, Section 4.7(h)(2), the NRC review team notes the reference to "complex materials site" in this chapter is the only instance where this term is used in the draft application.

NRC staff has provided guidance in Regulatory Issue Summary 2014-08, Revision 1 (ML15181A223) with regard to how the NRC defines the term "complex materials facility." Please clarify or define the term "complex materials site" and ensure that your definition is consistent with RIS 2014-08, Revision 1.

WDEQ Response

The phrase "complex materials site" has been replaced with "uranium recovery facility".

NRC Comment 79

On page 767 of 1080, Licensing Manual, Section 7.0 appears to be inconsistent with the procedures listed in Section 3.0, "Procedures for Handling License Actions." For example, there is no discussion of Phase I or Phase II reviews.

In order make the Licensing Manual a more effective tool for the program, the NRC review team recommends resolving the discrepancies between Section 3.0 and Section 7.0.

WDEQ Response

Section 7.1 was removed as it was redundant and sometimes conflicting with section 3. Section 3 was updated to include any information from the former section 7.1 that it did not already contain. Section 7 was changed to only consist of "Transfer of NRC licenses to the State of Wyoming URP."

NRC Comment 80

On page 770 and 771 of 1080, Licensing Manual, Appendix A and Appendix B are not as complete when compared to other guidance documents, such as Guideline No. 4 and NUREG-1569 "Standard Review Plan for New ISR Applications." The documents in Appendix A and B provides minimal review guidance for a new complex uranium recovery facility application.

Please revise Appendix A and B to include additional information for a license reviewer. You may find NUREG-1569 "Standard Review Plan for New ISR Applications" useful in revising these appendices.

WDEQ Response

Guideline 4 has been modified to include requirements for source material license applications. Also included in Guideline 4 is a statement that the Division will utilize applicable review procedures and acceptance criteria found in NUREG 1569 for information uniquely required for uranium or thorium recovery facilities (meaning not information being reviewed by LQD for a permit to mine).

Subsection 4.4 – Inspection Program Elements

NRC Comment 81

On page 781 of 1080, Appendix A to Subsection 4.4, should include the following references: Inspection Procedure 88045, Effluent Control and Environmental Monitoring; Inspection Procedure 88035, Radioactive Waste Processing, Handling, Storage, and Transportation; Inspection Procedure 88030, Radiation Protection; and Inspection Procedure 88005, Management Organization Controls.

WDEQ Response

The references are contained in URP-001 Table 1. Additionally the references have been added to URP-003, Section 4.

NRC Comment 82

On page 829 of 1080, Inspection Procedure (URP-003) Section 4.0 includes reference to NUREG/BR-0241. This document has been superseded by NUREG- 1727, NUREG-1757, and MARSSIM.

Please delete reference to NUREG/BR-0241, and replace it with a reference to NUREG-1727, NUREG-1757, and MARSSIM.

WDEQ Response

The references have been updated and deleted as requested in URP-003, Section 4.

NRC Comment 83

On page 850 of 1010, Uranium Recovery Inspection Procedure (URP-05) Section 6, "Other Inspection Sampling Processes," please include procedures to specify how field samples of soil or water will be taken, handled, packaged and shipped for analysis.

WDEQ Response

The URP has added to URP-05, Section 6 to address NRC concerns. These procedures may need to be altered to meet the objectives of each sampling mission. Additionally, the URP will rely on ORAU inspection procedures in the development of sampling plans.

Subsection 4.5 - Enforcement Program Elements

NRC Comment 84

On page 859 of 1080, Appendix A to Subsection 4.5, Section 2.1.2, it states "[A]n inspection letter is issued at the conclusion of an inspection to document the occurrence of the inspection." However, "inspection letters" are not specifically mentioned in the Inspection Procedures provided in Subsection 4.4 "Inspection Program Elements."

For consistency, in order to help the Wyoming inspection program, the NRC review team recommends that Wyoming revise the Inspection Procedures to specifically mention issuance of inspection letters to document the occurrence of an inspection.

WDEQ Response

A sentence has been added to Paragraph 1 of Section 11 "Post Inspection Activities" of Section 4.4 "Inspection Program Elements" to the effect that "An inspection letter/report will be issued to document the occurrence of the inspection". Please note that the requirements for the body of the report may be found in Section 3.0 of Attachment A, "Narrative Report Format" within Section 4.4 "Inspection Program Elements".

NRC Comment 85

On page 859 of 1080, Appendix A to Subsection 4.5, Wyoming has provided information on their proposed enforcement program.

These enforcement elements should include the following:

Wyoming should have enforcement procedures for ensuring the fair and impartial administration of regulatory law.

a. Wyoming should scale the actions to the seriousness of the violation.

   WDEQ Response: The URP added appropriate language under Sections 2.0, "Enforcement Action" and 3.0, "Escalated Enforcement" to address the concern.

b. The procedures should establish standard methods of communicating sanctions to the licensee. Wyoming should give written notice using standardized wording and format. Legal counsel should review the wording and format.

WDEQ Response: The standard methods of communicating sanctions to a licensee are described in Section 2.1 through 2.4, The Wyoming Attorney General's Office will be involved in enforcements for tracking the completion of enforcement actions.

c. The procedures should include a means for tracking the completion of enforcement actions.

WDEQ Response: The URP added Section 2.1.6 "Enforcement Tracking" describing how enforcement actions will be tracked.

For serious or repeated violations of regulatory requirements, the program should use escalated enforcement. Escalated enforcement actions may include:

a. Administrative or civil monetary penalties;
b. The modification, suspension, or revocation of the license;
c. Referral for criminal prosecution.

WDEQ Response: Escalated enforcement will be governed by Wyoming Statutes, the URP's rules and regulations, and Section 3.0 through 3.3.

Wyoming needs to submit procedures for escalating enforcement actions.

a. Wyoming should scale the sanctions in escalated enforcement cases to the seriousness of the violation. The sanctions should be more serious than routine enforcement.

WDEQ Response: Wyoming will scale sanctions in enforcement actions dependent on the seriousness of the violations. Please see Wyoming Statutes, the URP's rules and regulations, and Section 3.0 through 3.3.

b. The procedures should address notifying the licensee of proposed escalated enforcement actions. The notice should be written, using standard wording and format when practical.

WDEQ Response: The URP will notify licensees of escalated enforcement. Please see Section 3.0

c. The enforcement program element manager, or higher, should sign the notices of escalated enforcement.

WDEQ Response: Please see Section 3.0

d. Escalated enforcement actions should be coordinated with legal counsel.

WDEQ Response: Escalated enforcement actions will be coordinated with legal counsel pursuant to Sections 3.0 through 3.3.

Wyoming needs to address the above comment in their enforcement procedures by providing additional detail. The following references can assist the State:

a. Criteria Policy Statement, criteria 1, 18, and 23
b. NUREG-1600, NRC Enforcement Policy
c. NRC Inspection Manual Chapter 2800 and 2801

WDEQ Response: References were reviewed and added to Section 1.4, "References".

Subsection 4.6 - Technical Staffing and Training Program Elements

NRC Comment 86

On page 868 of 1080, Subsection 4.6.1, the paragraph before Table 1 states that Wyoming determined staffing needs based upon an available 1704 hours per employee per year. In comparison, the NRC uses approximately 1430 productive hours per full time employee (FTE) for NRC headquarters staff (See 80 FR 37432 and 81 FR 41171).

The NRC review team recommends that Wyoming confirm that 1704 hours per FTE is the appropriate figure used for the NRC review teams budgetary and resource analyses of the Wyoming program.

WDEQ Response

The 1704 hours per FTE is the appropriate number for budgetary projections for the State of Wyoming. To aide NRC in the comparison of budget resources Wyoming will provide the FTE and the equivalent hours depending on the whether it's the NRC or the WDEQ.

NRC Comment 87

On page 868 of 1080, Subsection 4.6.1, the second paragraph after Table 1 states that the WDEQ predicts 0.5 FTE/yr. for "major licensing actions" (e.g., new licensing actions.) The NRC analysis for the Jane Dough application estimates approximately 0.77 FTE/yr. for new licensing (safety licensing only, not environmental). Since licensing actions undertaken by Wyoming need to include environmental written analysis and potential hearings required under Section 274o. of the Act, please confirm or revise Wyoming's estimation of time needed for new licensing actions.

WDEQ Response

The WDEQ increased the projected FTE calculation from 0.5 FTE (852 hours) to 1 FTE(1704 hrs) to appease the comment above. This is 550 hours above what NRC projected in the comment for the Jane Dough amendment 0.77 FTE (1,155 hrs.) to accommodate for the State's environmental review and possible hearings. The URP will project one major licensing action per year. See table below

Staff Hours/Year = 52 weeks x 5 days/week x 8 hours/day = 2080 hours	
Description of Leave	Hours
10 holidays	80
15 vacation days	120
10 days of training	80
12 sick days	96
Hours a Year per FTE	**1704**

Table 3: License Review/Project Management Workload/Year	
Site	FTE for Project Management or Licensing Activity (hrs.)
Energy Fuels Nichols Ranch/Jane Dough-2	0.5
Uranium One Willow Creek/Moore Ranch-2	0.5
Cameco Smith Highland/North Butte-2	0.5
UR Energy Lost Creek-2	0.5
Strata Ross-2	0.5
AUC Reno Creek-2	0.5
Kennecott Sweetwater Mill-1	0.2
UR Energy Pathfinder Shirley Basin (Active Tittle II)	0.2
Anadarko, Bear Creek 1	0.2
Exxon Mobile Highlands 1	**0.2**
Pathfinder, Lucky MC 1	**0.2**
UMETCO, Gas Hills East 1	**0.2**
Western Nuclear, Split Rock	**0.2**
New applications / major licensing actions	1.0
Total Hours	**5.4 FTE**

NRC Comment 88

On page 869 of 1080, Subsection 4.6.1, it states that Wyoming will set aside 0.4 FTE for staff to work on decommissioning sites and sites on standby. The review team concludes this amount of effort does not appear adequate to regulate all decommissioning sites.

Wyoming will need to provide additional information that demonstrates adequate FTE to support the decommissioning of the following sites.

1. Anadarko Bear Creek, Powder River Basin;
2. Pathfinder, Lucky Mc, Gas Hills;
3. Umetco Minerals Corporation, Gas Hills;

4. Western Nuclear Inc., Split Rock, Jeffrey City;
5. Exxon Mobile, Highlands, Converse County; and
6. American Nuclear Corporation.

Please revise your estimate to include the decommissioning sites. The NRC has provided Wyoming with an estimate of the amount of work needed for each of the decommissioning sites.

WDEQ Response

The FTE calculation was revised to accommodate the licensees undergoing decommissioning. Roughly 0.16 FTE (269 hrs.) were dedicated to inspections and 1.4 FTE (2,387 hrs.) was dedicated for project management and license review.).This equates to 0.2 FTE to each site for project management and review. NRC per April 23 2013 letter dedicated on average for four sites 2011(0.41 FTE or 563 hours), 2012 (0.5 FTE or 689 hrs), and 2013 (1.03 FTE or 1,395 hours).

Table 3: License Review/Project Management Workload/Year	
Site	FTE for Project Management or Licensing Activity (hrs.)
Energy Fuels Nichols Ranch/Jane Dough-2	0.5
Uranium One Willow Creek/Moore Ranch-2	0.5
Cameco Smith Highland/North Butte-2	0.5
UR Energy Lost Creek-2	0.5
Strata Ross-2	0.5
AUC Reno Creek-2	0.5
Kennecott Sweetwater Mill-1	0.2
UR Energy Pathfinder Shirley Basin (Active Tittle II)	0.2
Anadarko, Bear Creek 1	0.2
Exxon Mobile Highlands 1	0.2
Pathfinder, Lucky MC 1	0.2
UMETCO, Gas Hills East 1	0.2
Western Nuclear, Split Rock	0.2
New applications / major licensing actions	1.0
Total Hours	**5.4 FTE**

Table 2 Inspection Workload/Year							
Average Inspections per year	# of staff involved	Hours of Prep before Inspection	Travel Hours for Inspection	Staff Hours at Mine Site	Inspection Write up	Total Hours Per Inspection	Inspection activity hours per year
Energy Fuels Nichols Ranch/Jane Dough-2	2	30	10	24	30	188	376
Uranium One Willow Creek/Moore Ranch-2	2	30	10	24	30	188	376
Cameco Smith Highland/North Butte-2	2	30	6	24	30	180	360
UR Energy Lost Creek-2	2	30	10	24	30	188	376
Strata Ross-2	2	30	12	24	30	192	384
AUC Reno Creek-2	2	30	12	24	30	192	384
Kennecott Sweetwater Mill-1	1	15	7	4	20	56	56
UR Energy Pathfinder Shirley Basin (Active Title II) -1	1	10	8	4	20	42	42
Anadarko, Bear Creek 1	1	10	6	3	15	34	34
Exxon Mobile Highlands 1	1	10	6	3	15	34	34
Pathfinder, Lucky MC 1	1	10	6	3	15	34	34
UMETCO, Gas Hills East 1	1	10	6	3	15	34	34
Western Nuclear, Split Rock	1	10	7	3	15	34	35
Additional Inspection (enforcement/allegation response/ Preoperational Inspections)-2	2	30	12	30	30	184	448
Total Hours							**2973~ 1.74 FTE**
~~Additional Inspection (enforcement/allegation response) 2~~	~~2~~	~~30~~	~~12~~	~~20~~	~~30~~	~~184~~	~~368~~
~~Total Hours~~							~~2640 ~ 1.6 FTE~~

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NRC Comment 89

On page 870 of 1080, 4.6.1, Table 2, Inspection Workload/Year analysis, does not appear to take into account initial start-up inspections or re-start inspections. The NRC review team has found that these type of inspections are generally more labor intensive than regular inspections and typically take approximately 40 hours per inspection at a site.

Table 2 also lists the Staff Hours at uranium recovery sites at 20 hours. The NRC review team has found generally that three full days (8 hour days) are needed for on- site inspections, which would equal 24 hours.

Please provide additional information to clarify Wyoming's estimates for the inspection workload.

WDEQ Response

Please see the tables provided to the other responses. The time spent on site was changed to 24 hours. Startup inspections are more than covered in the projected inspection workload. For example the next start up inspection is the AUC project, we plan on two separate inspection to this facility annually. The dedicated resources to AUC will not be used completely until the startup has occurred. Therefore part of the resources budgeted for AUC cover the preoperational inspections. Additionally the URP plans on 2 enforcement/allegation/ preoperational inspections per year. These dedicated resources should cover any pre-operational inspection.

NRC Comment 90

On page 868 of 1080, Subsection 4.6.1, the NRC review team notes the uranium recovery program appears to have only one Health Physicist (HP) on staff, not counting the Program Manager.

The NRC has nine active licenses, seven of which are in Wyoming and provides approximately 8 FTE for Wyoming uranium recovery projects. The NRC uranium recovery program is currently reviewing one new application and four major expansions in Wyoming. Generally, approximately 75% of the NRC uranium recovery program new licensing, major expansion, and licensing actions have been in Wyoming. The NRC uranium recovery program HP staff is at capacity with four full-time FTE, not including the HP staff in NRC Region IV that perform onsite inspections, with approximately 2 FTE of support for Wyoming uranium recovery projects.

The Texas uranium recovery program has 5 technical staff and one full time manager with 11 active radioactive material licenses. The Texas program provides 10 FTE to the uranium recovery program with 2.15 FTE of support going to the HP staff. The Utah uranium recovery program has 5.9 FTE with one active radioactive material license, one license in

standby, and one license in decommissioning. The Utah program HP staff provides support of 1.9 FTE.

Please provide a clarification on the level of HP support the uranium recovery program estimates it will need to support the program.

WDEQ Response

The WDEQ recently reclassified on the existing positions to a health physicist. The person in the position meet the qualifications based on their experience and educational background. With the reclassification the program will dedicate 2.0 FTE (3408 hrs) to the program plus an additional 0.4 FTE from the Program Manager as shown in the below tables. The total dedicated HP resources would be roughly 2.4 FTE which compares with Texas, Utah and the NRC.

Additionally the evaluation of the Texas program is unclear to the URP. It is unclear where the 10 FTE comes from. The URP has evaluated the latest IMPEP and questionnaire and it appears that the Texas staff has 5 technical positions and a program manager.

Name	Position	Area of Effort (%)		
		Admin/ Oversite	Program Representation	Uranium Program (inspections/ review)
Kyle Wendtland*	LQD Administrator	25%		
Ryan Schierman	Program Manager	40%	20%	40%
David Adams	Health Physicist			100%
Reid Brown	Hydrologist/Geochemist			100%
Alan Thompson	Geologist			**100%**
Brandi O'Brien	Health Physicist			**100%**
3 LQD (5,112 hrs.)	Multiple Disciplines			**100%**
Totals		**0.4 FTE (682 hrs)**	**0.2 FTE (341 hrs)**	**7.4 FTE (12,610 hrs)**

NRC Comment 91

On page 871 of 1080, Subsection 4.6.1, Wyoming estimates 5.6 FTE is needed for the uranium recovery program technical review and inspection workload. This workload referenced in the analysis was for licensing review/project management or inspections. The draft application states the uranium recovery program will employ five technical FTE to meet the estimated workload described.

The NRC review team notes the Uranium Recovery Program Manager is counted as one of the technical FTE. It does not appear the uranium recovery program should count the Program Manager as of the technical FTE needed to fulfil the staffing estimate provided. The Program Manager is shown in the application as primarily a supervisory and administrative position. On page 874 of 1080 on the Program Manager Job Content Questionnaire, the position description for the Program Manager shows the position as specifically general management (40%), understanding of law and regulation (25%), human resource management (15%) and program representation (20%). There is no time allotted in the Program Manager's position description to uranium recovery program technical review or inspection, although the Program Manager would be expected to review final work products or accompany inspectors as part of staff qualifications.

Please clarify the Wyoming workload estimates taking into account the above comments and the discussion provided in comment 90.

WDEQ Response

The job questionnaire will be updated to reflect the table presented above. The current projection is with NRC input is 7.14 FTE of which 1.74 for inspections and 5.4 FTE dedicated to license review and project management.

NRC Comment 92

On page 871 of 1080, Subsection 4.6.1, it states, "[T]he URP budget includes an additional 3.0 FTE, which are existing Wyoming personnel, to assist the URP workload. Most of the URP workload assigned to these 3.0 FTE will be similar to their existing job duties, which is duplicative of portions of current NRC efforts." The Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption thereof by States through Agreement, Criteria 33, indicates that when other state offices are utilized for contributing to the regulation of uranium processing and disposal of tailings, the lines of communication and administrative control between the state offices and the radiation control program should be clearly drawn.

It is unclear in the draft application if the existing Wyoming personnel will be qualified under the uranium recovery program. It is also unclear how the management of these personnel will be utilized for uranium recovery program reviews.

The Wyoming uranium recovery program currently has one geologist FTE identified. Other geologists and/or hydrogeologists FTEs have not been specifically identified in the application. The Texas program geologist and hydrogeologist staff currently provides support of 1.8 FTE. The Utah program geologist and hydrogeologist staff currently provides support of 1.6 FTE.

Please confirm that Land Quality Division personnel will be qualified under the uranium recovery program. Please describe how these individuals will be managed to perform

uranium recovery program activities when needed. Specific Land Quality Division staff utilized for the budgeted staff should be identified and their qualifications included in the final application. Please explain how Wyoming's proposed staffing level will provide adequate resources for the uranium recovery program.

WDEQ Response

To accommodate the workload Wyoming projected the need of 8 FTE (13,632 hrs.). It was estimated that an additional 5 FTE (8,520 hrs) would be required to staff the newly created Uranium Recovery Program (URP). Additionally the URP would use 3 FTE (5,112 hrs) from the existing LQD workforce that were already regulating the permit to mine process for uranium. The 3 FTE (5,112 hrs.) are not specific individuals but represent billable hours to the equivalent to 5,112 hours, providing the URP expertise in Geology, Hydrogeology, Ecology, Biology, Soil Sciences, and Engineering. The expertise within the URP will primarily be centralized around Health Physics and Geology/Hydrogeology.

In response to above the URP will dedicate 2 FTE for Geology/Hydrogeology and additionally it will use 3.0 FTE billable hours for an array of expertise from LQD. How the NRC wants this projected is unclear to the URP. The URP asks for guidance on showing individuals in the LQD. Would following Texas IMPEP be sufficient in which they list possible names and backgrounds.

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Subsection 4.7 - Event and Allegation Response Program Elements

NRC Comment 93

On page 986 of 1080, Appendix A to Subsection 4.7, Wyoming has provided information on their proposed event and allegation response procedures. In Appendix A, some of the relevant sections regarding the handling of security related information, procedures for referring allegation to the State Attorney General or State Office of Inspector General equivalent for investigation, information on how the allegations will be tracked in the office and records maintained, and the State response to handling an alleger's fears of retaliation and granting or revoking confidential source status are absent.

Please review the Allegation Response Procedural Manual to ensure it captures the relevant provisions of Management Directive 8.8 to ensure that the State will have an adequate and compatible program for handling allegations. Criteria Policy Statement, Criteria 1 and 11, NMSS Agreement State Procedure Approval, SA-105, "Reviewing Common Performance Indicator, Technical Quality of Incident and Allegation Activities" and NMSS Agreement State Procedure Approval, SA-400, "Management of Allegations" can provide additional guidance.

Please revise your procedures for event and allegation response to include all elements in the three documents listed in the previous paragraph.

WDEQ Response

Sections 3.7, 3.8, 3.10, 3.11, 3.13, 3.15, and Definitions in the Glossary have been updated as requested.

Additional Comments

NRC Comment 94

On page 881 of 1080, Appendix A to Subsection 4.6.2, on the Job Content Questionnaire, for the position titled, Vacant – Administrative Assistant II, the Administrative Assistant II Position Description is missing page 2 of 5 and page 4 of 5.

Please provide the missing pages for the Questionnaire.

WDEQ Response

The URP will provide the missing pages when it submits the final application. .

NRC Comment 95

On page 890 of 1080, Appendix A to Subsection 4.6.2, on the Job Content Questionnaire for the position titled, Vacant (New position authorized by Legislature), and the Position Description is missing page 2 of 6, 3 of 6, and page 5 of 6.

Please provide the missing pages for the Questionnaire.

WDEQ Response

The WDEQ will update the Job Questionnaire and provide the NRC with the new version in the Final Application for an Agreement. .

NRC Comment 96

On page 905 of 1080, Appendix B to Subsection 4.6.2, in Section 4.6.2.1, Qualification Plan Uranium Recovery Inspector,

a. On Qualification Card 9, consider adding the specific uranium recovery events to review
b. On Qualification Card 10, the training list may be out of date.
c. On Qualification Guide 4,

Some of the guidance listed in this document are out-of-date. For example, NUREG- 1569 is no longer in draft.

Please revise the document to list the current guidance documents.

WDEQ Response

This Qualification Guide was changed to reflect the current guidance.

NRC Comment 97

On page 905 of 1080, Appendix B to Subsection 4.6.2, in Section 4.6.2.2 on Qualification Guide 4, some of the guidance listed is out-of-date. For example, NUREG-1569 is no longer in draft. Several recent RISs are not referenced such as the following:

1. Regulatory Issue Summary 2009-05, "Uranium Recovery Policy Regarding: (1) The Process for Scheduling Licensing Reviews of Applications for New Uranium Recovery Facilities and (2) The Restoration of Groundwater at Licensed Uranium In Situ Recovery Facilities"
2. Regulatory Issue Summary 2009-12, "Uranium Recovery Policy Regarding Site Preparation Activities at Proposed, Unlicensed Uranium Recovery Facilities"
3. Regulatory Issue Summary 2009-14, "Licensing Approach for Uranium In Situ Recovery Facility Applications"
4. Regulatory Issue Summary 2011-11, "Regarding Long-Term Surveillance Charge for Conventional or Heap Leach Uranium Recovery Facilities Licensed Under 10 CFR Part 40"
5. Regulatory Issue Summary 2012-06, "NRC Policy Regarding Submittal of Amendments for Processing of Equivalent Feed at Licensed Uranium Recovery Facilities"
6. Regulatory Issue Summary 2014-08, Rev. 1, "Regulatory Requirements for Transfer of Control (Change of Ownership) of Specific Materials Licenses"
7. Regulatory Issue Summary 2015-09, "Decommissioning Timeliness Rule Implementation and Associated Regulatory Relief"
8. Information Notice 1999-03, Rev. 1: "Exothermic Reaction Involving Dried Uranium Oxide Powder (Yellowcake)"

Please revise the document to list the current guidance documents.

WDEQ Response

These document references were added to the Qualification Guide.

NRC Comment 98

On page 927 of 1080, Appendix B to Subsection 4.6.2, under section Qualification Guide 4, Regulatory Guidance under subsection 3, NUREGs, there is a reference to NUREG/CR-5849 which has been superseded.

The following is an up-to-date list of NUREG and Regulatory guide references:

1. NUREG 1748, "Environmental Review Guidance for Licensing Actions Associated with NMSS Programs"

2. NUREG 1569, “Standard Review Plan for In Situ Leach Uranium Extraction License Applications”
3. NUREG/CR-6733, “A Baseline Risk-Informed, Performance-Based Approach for In Situ Leach Uranium Extraction Licensees”
4. NUREG-2126, “Standard Review Plan for Conventional Uranium Mill and Heap Leach Facilities, Draft Report for Comment”
5. NUREG-1910, “Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities”
6. NUREG-0706, “Final Generic Environmental Impact Statement on Uranium Milling”
7. NUREG-2173, “Tribal Protocol Manual”
8. NUREG- 1556, Vol. 15, Consolidated Guidance About Materials Licenses, Guidance About Changes of Control and About Bankruptcy Involving Byproduct, Source, or Special Nuclear Materials Licenses”
9. Regulatory Guide 3.11, Rev. 3, “Design, Construction and Inspection of Embankment Retention Systems at Uranium Recovery Facilities”
10. Regulatory Guide 3.46, “Standard Format and Content of License Applications, Including Environmental Reports, for In Situ Uranium Solution Mining”
11. Regulatory Guide 3.63, “Onsite Meteorological Measurement Program for Uranium Recovery Facilities – Data Acquisition and Reporting”
12. Regulatory Guide 4.14, Rev. 1, “Radiological Effluent and Environmental Monitoring at Uranium Mills”
13. Regulatory Guide 4.15, “Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) – Effluent Streams and the Environment”
14. Regulatory Guide 4.22, “Decommissioning Planning During Operations”
15. Regulatory Guide 8.22, Rev. 2, “Bioassay at Uranium Mills”
16. Regulatory Guide 8.30, Rev. 1, “Health Physics Surveys in Uranium Recovery Facilities”
17. Regulatory Guide 8.30, Rev. 1, “Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Recovery Facilities will be as low as is Reasonably Achievable”

Please revise the document to list the current guidance documents.

WDEQ Response

These document references were added to the Qualification Guide.

NRC Comment 99

On page 991 of 1080, Appendix A to Subsection 4.7, Section 1.0, all of the references to FSME (Office of Federal, State, Material and Environmental Management Programs) need to be replaced with references to NMSS (Office of Nuclear Material Safety and Safeguards).

Please revise the document to reference NMSS (Office of Nuclear Material Safety and Safeguards).

WDEQ Response

References to FSME have been changed to NMSS. The definition of "NMSS" has been added to the Glossary in Appendix C of Subsection 4.7.