NRC FORM 374

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and the applicable parts of Title 10, Code of Federal Regulations, Chapter I, Parts 19, 20, 30, 31, 32, 33, 34, 35, 36, 39, 40, 51, 70, and 71, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Power Resources Inc. dba Cameco Resources	3. License Number SUA-1548
2. P.O. Box 1210 Glenrock, WY 82673	4. Expiration Date: September 26, 2028 5. Docket No. 40-8964

6. Byproduct Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum amount that Licensee May Possess at Any One Time Under This License
a. Natural Uranium	a. Any	a. Unlimited
b. Byproduct material as defined in 10 CFR 40.4	b. Unspecified	b. Quantity generated under operations authorized by this license

9. ADMINISTRATIVE CONDITIONS

9.1 The authorized place of use shall be the licensee's Smith Ranch-Highland Uranium Project (SR-HUP), as shown in the approved license application, Figure 1.2 (Smith Ranch-Highland-Reynolds areas) (ML12163A065), Figure 1.10 (North Butte Remote Satellite) (ML12163A073), Figures 1.11 and 1.12 (Gas Hills Remote Satellite) (ML12163A075 and ML12163A076), and Figure 1.13 (Ruth Remote Satellite) (ML12163A077).

9.2 All written notices and reports to NRC required under this license shall be addressed to: ATTN: Document Control Desk, Director, Office of Nuclear Material Safety and Safeguards, U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001. An additional copy shall be submitted to: Deputy Director, Division of Decommissioning, Uranium Recovery, and Waste Programs, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Mailstop T5A10, 11545 Rockville Pike, Two White Flint North, Rockville, MD 20852-2738.

Required telephone notification shall be made to the NRC Operations Center at (301) 816-5100 (collect calls accepted), unless otherwise specified in license conditions.

9.3 The licensee shall conduct operations in accordance with the commitments, representations, and statements contained in the license renewal application and/or amendments, which are hereby incorporated by reference. These submittals include the following: Cameco Resources License Renewal Application dated February 1, 2012 (ML12234A537 and ML12234A539), as amended by submittals dated February 16, 2012 (ML121590502), November 18, 2014 (ML14353A323), December 9, 2014 (ML15040A602), April 10, 2015 (ML15133A397), April 21, 2015 (ML16063A418), March 7, 2018 (ML18130A032), July 30, 2018 (ML18239A084), and August 16, 2018 (ML18229A227 and

ML18229A235).

9.4 Change, Test, and Experiment License Condition

a. The licensee may, without obtaining a license amendment pursuant to §40.44, and subject to conditions specified in (b) of this condition:

   i) make changes in the facility as described in the license application (as updated),

   ii) make changes in the procedures as described in the license application (as updated), and

   iii) conduct test or experiments not described in the license application (as updated).

b. The licensee shall obtain a license amendment pursuant to '40.44 prior to implementing a proposed change, test or experiment if the change, test, or experiment would:

   i) result in any appreciable increase in the frequency of occurrence of an accident previously evaluated in the license application (as updated);

   ii) result in any appreciable increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety previously evaluated in the license application (as updated);

   iii) result in any appreciable increase in the consequences of an accident previously evaluated in the license application (as updated);

   iv) result in any appreciable increase in the consequences of a malfunction of an SSC previously evaluated in the license application (as updated);

   v) create a possibility for an accident of a different type than any previously evaluated in the license application (as updated);

   vi) create a possibility for a malfunction of an SSC with a different result than previously evaluated in the license application (as updated);

   vii) result in a departure from the method of evaluation described in the license application (as updated) used in establishing the final safety evaluation report (FSER) or the environmental assessment (EA) or technical evaluation reports (TERs) or other analyses and evaluations for license amendments.

   viii) For purposes of this paragraph as applied to this license, SSC means any SSC which has been referenced in a staff SER, TER, EA, or environmental impact statement (EIS) and supplements and amendments thereof.

c. Additionally the licensee must obtain a license amendment unless the change, test, or experiment is consistent with the NRC conclusions, or the basis of, or analysis leading to, the conclusions of actions, designs, or design configurations analyzed and selected in the site or facility Safety Evaluation Report, TER, and EIS or EA. This would include all supplements and amendments, and

TERs, EAs, EISs issued with amendments to this license.

d. The licensee's determinations concerning (b) and (c) of this condition shall be made by a Safety and Environmental Review Panel (SERP). The SERP shall consist of a minimum of three individuals. One member of the SERP shall have expertise in management (e.g., Plant Manager) and shall be responsible for financial approval for changes; one member shall have expertise in operations and/or construction and shall have responsibility for implementing any operational changes; and one member shall be the radiation safety officer (RSO) or equivalent, with the responsibility of assuring changes conform to radiation safety and environmental requirements. Additional members may be included in the SERP, as appropriate, to address technical aspects such as groundwater hydrology, surface-water hydrology, specific earth sciences, and other technical disciplines. Temporary members or permanent members, other than the three above-specified individuals, may be consultants.

e. The licensee shall maintain records of any changes made pursuant to this condition until license termination. These records shall include written safety and environmental evaluations made by the SERP that provide the basis for determining changes are in compliance with (b) of this condition. The licensee shall furnish, in an annual report to the NRC, a description of such changes, tests, or experiments, including a summary of the safety and environmental evaluation of each. In addition, the licensee shall annually submit to the NRC, changed pages, which shall include both a change indicator for the area changed, e.g., a bold line vertically drawn in the margin adjacent to the portion actually changed, and a page change identification (date of change or change number or both), to the operations plan and reclamation plan of the approved license application (as updated) to reflect changes made under this condition.

9.5 The licensee shall maintain an NRC-approved financial surety arrangement, consistent with 10 CFR Part 40, Appendix A, Criterion 9, adequate to cover the estimated reclamation and closure costs, if accomplished by a third party, for all existing operations and any planned expansions or operational changes for the upcoming year. Reclamation includes all cited activities and groundwater restoration, as well as off-site disposal of all 11e.(2) byproduct material.

Within three months of NRC approval of a decommissioning plan and its cost estimate, the licensee shall submit, for NRC review and approval, a proposed revision to the financial surety arrangement if estimated costs exceed the amount covered in the existing financial surety. The revised surety instrument shall then be in effect within 30 days of written NRC approval of the surety documents.

Proposed annual updates to the surety amount, consistent with 10 CFR Part 40, Appendix A, Criterion 9, shall be provided to NRC 90 days prior to the anniversary date (e.g., renewal date of the surety instrument/vehicle) of September 30 of each year for Smith Ranch-Highland Uranium Project, March 26 for Ruth, April 30 for North Butte, November 7 for the Gas Hills Project. If NRC has not approved a proposed revision 30 days prior to the expiration date of the existing surety arrangement, the licensee shall extend the existing arrangement, prior to expiration, for one year. Along with each proposed revision or annual update of the surety, the licensee shall submit supporting documentation showing a breakdown of the costs and the basis for the cost estimates with adjustments for inflation, maintenance of a minimum 15 percent contingency, changes in engineering plans, activities performed, and any other conditions affecting estimated costs for site closure.

At least 90 days prior to beginning construction associated with any planned expansion or operational

change which was not included in the annual surety update, the licensee shall provide, for NRC approval, an updated surety to cover the expansion or change. The licensee shall also provide NRC with copies of surety-related correspondence submitted to the State of Wyoming, a copy of the State's surety review, and the final approved surety arrangement. The licensee also must ensure that the surety, where authorized to be held by the State, identifies the NRC-related portion of the surety and covers the above-ground decommissioning and decontamination, the cost of offsite disposal of 11e.(2) byproduct material, soil and water sample analyses, and groundwater restoration associated with the site. The basis for the cost estimate is the NRC-approved site closure plan or the NRC-approved revisions to the plan. Reclamation or decommissioning plan cost estimates, and annual updates, should follow the outline in Appendix E to NUREG-1569 (June 2003), entitled "Recommended Outline for Site-Specific *In Situ* Leach Facility Reclamation and Stabilization Cost Estimates.

Power Resources, Inc. shall maintain approved surety instrument(s) for all facilities under this license, in favor of the State of Wyoming, in the total amount of no less than $245,095,600 for the purpose of complying with 10 CFR Part 40, Appendix A, Criterion 9, until a replacement is authorized by both the State of Wyoming and the NRC. The minimum amount for each area of the license is identified below.

Minimum Surety Amounts

Facility	Amount
Smith Ranch (including Highland and Reynolds)	$219,685,500
Ruth	$418,900
North Butte	$22,526,000
Gas Hills	$2,465,799
Total	$245,095,600

At least six months prior to the expected commencement of construction of a commercial facility at the Ruth, and Gas Hills Project sites, the licensee shall submit for NRC and State approval, an itemized cost estimate for implementation of the NRC-approved decommissioning/restoration plan for the commercial facility. Site construction activities shall not commence until the NRC and State approve the surety amount and accept the surety arrangement. This surety shall be written in favor of the State of Wyoming or the NRC and shall be continuously maintained until a replacement is authorized by both the State of Wyoming and the NRC.

9.6 The licensee shall dispose of 11e.(2) byproduct material from the Smith Ranch-Highland Uranium Project at a site licensed by NRC or an NRC Agreement State to receive 11e.(2) byproduct material. The licensee's approved waste disposal agreement must be maintained on-site. In the event the agreement expires or is terminated, the licensee shall notify NRC in writing, in accordance with License Condition 9.2, within 7 days after the date of expiration or termination. A new agreement shall be submitted for NRC approval within 90 days after expiration or termination unless further delay is justified and approved, or the licensee shall be prohibited from further lixiviant injection.

9.7 In the conduct of its Radiation Protection Program, the licensee shall follow the guidance set forth in U.S. Nuclear Regulatory Commission, Regulatory Guides 8.22, "Bioassay at Uranium Mills," 8.30, "Health Physics Surveys in Uranium Recovery Facilities," and 8.31, "Information Relevant to Ensuring that Occupational Radiation Exposure at Uranium Recovery Facilities will be As Low as is Reasonably Achievable (ALARA)," or NRC-approved equivalent.

License Number SUA-1548

MATERIALS LICENSE
SUPPLEMENTARY SHEET

Docket or Reference Number
40-8964

9.8 The licensee is hereby exempted from the requirements of 10 CFR §20.1902(e) for areas within the facility, provided that all entrances to the facility are conspicuously posted in accordance with §20.1902(e) and with the words, "ANY AREA WITHIN THIS FACILITY MAY CONTAIN RADIOACTIVE MATERIAL."

9.9 Before engaging in any developmental activity not previously assessed by the NRC, the licensee shall administer a cultural resource inventory. All disturbances associated with the proposed development shall be completed in compliance with the National Historic Preservation Act (as amended) and its implementing regulations (36 CFR 800), and the Archaeological Resources Protection Act (as amended) and its implementing regulations (43 CFR 7).

In order to ensure that no unapproved disturbance of cultural resources occurs, any work resulting in the discovery of previously unknown cultural artifacts shall cease. The artifacts shall be inventoried and evaluated in accordance with 36 CFR Part 800, and no disturbance of the area shall occur until the licensee has received authorization from the NRC to proceed.

Before engaging in any development activity in T35N, R74W that would physically disrupt or disturb an inventoried cultural site that has been designated eligible for the National Register of Historic Places (NRHP), the licensee shall propose mitigation measures, for NRC review and approval, which shall preserve the integrity of the site, as defined by the Advisory Council on Historic Preservation (ACHP). These include the inventoried site 48CO1288.

Before engaging in developmental activity in T44N, R75W and T44N, R76W that would physically disrupt or disturb an inventoried cultural site that has been designated eligible for the NRHP, the licensee shall propose mitigation measures, for NRC review and approval, which shall preserve the integrity of the site, as defined by the ACHP. These include the inventoried sites 48CA268, 48CA383, 48CA408, 48CA409, 48CA425, 48CA6418, 48CA6419, and 48CA6420.

For the Gas Hills Project, the licensee shall comply with the stipulations for cultural resource protection in the Programmatic Agreement provided in the NRC letter to the Advisory Council on Historic Preservation, dated December 16, 2003 and amended on May 25, 2012.

9.10 The licensee shall provide buffer zones and construct its facilities in accordance with the recommendations made in its historical consultant's report submitted May 7, 1991, in order to prevent diverse effects upon historic and prehistoric resources found in the State permit area. Land disturbance plans and well-field facility design shall be coordinated with NRC and the Bureau of Land Management in Mills, Wyoming.

9.11 A decommissioning plan for any portion of land areas, equipment, and structures shall be submitted to the NRC for review and approval at least 12 months before the planned commencement of decommissioning.

9.12 Before engaging in any uranium recovery operations in an undeveloped area, the licensee shall submit a complete evaluation of the area's baseline radiological characteristics for NRC's review and approval.

9.13 Release of contaminated equipment, materials, or packages for unrestricted use shall be in accordance with the NRC guidance in "Guidelines for Decontamination of Facilities and Equipment Prior to Release

for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Materials," dated April 1993 (ML003745526). Radiation surveys for release of items for unrestricted use shall be performed by a qualified radiation safety officer or qualified health physics technician.

10. OPERATIONAL LIMITS, CONTROLS, AND RESTRICTIONS

10.1 Smith Ranch, Highland, and Reynolds Ranch Licensed Areas

10.1.1 The combined average monthly flow rate at the Smith Ranch and Highland processing plants and Satellite #1, Satellite #2, Satellite #3, SR1 Satellite, and SR2 Satellite, shall not exceed 20,000 gallons per minute, exclusive of restoration flow. The average monthly flow rate at the Reynolds Ranch Satellite shall not exceed 6,000 gallons per minute, exclusive of restoration flow. Annual yellowcake production at the Smith Ranch and Highland processing plants shall not exceed 5.5 million pounds as U_3O_8.

10.1.2 The licensee shall maintain effluent control systems as specified in Section 4.1.3 of the license application dated May 6, 2003 (ML031390126). The NRC shall be notified prior to restart of the Highland dryer.

10.1.3 The licensee shall perform well integrity tests on each injection and production well before the wells are utilized and on wells that have been serviced using a downhole drill bit or under-reaming. The integrity test shall be performed, using techniques approved in the Underground Injection Control program administered by the State of Wyoming and the operations plan of the approved license application. The integrity test shall be performed by pressurizing the well to 125 percent of the maximum operating wellhead casing pressure and shall maintain 90 percent of this pressure for 10 minutes to pass the test.

If any well casing failing the integrity test cannot be repaired, the well shall be plugged and abandoned. During wellfield operations, injection pressures shall not exceed the integrity test pressure at the injection well heads.

10.1.4 The licensee may utilize native groundwater, carbon dioxide, and sodium carbonate/bicarbonate as the lixiviant with an oxygen or hydrogen peroxide oxidant. Any variation from this combination shall require a license amendment.

10.1.5 The licensee is prohibited from constructing new satellites or ponds (either storage or evaporation) prior to NRC review and approval of designs (including site characterization) and specifications. Pond design and operation shall allow for sufficient reserve capacity in the evaporation pond system to enable the transfer of the contents of any one pond to the other ponds. All retention ponds shall be designed to conform to regulatory positions of NRC Regulatory Guide 3.11.

10.1.6 The licensee shall maintain an area within the restricted area boundary for storage of contaminated materials prior to their disposal. All contaminated wastes and evaporation pond residues shall be disposed at a licensed radioactive waste disposal site.

10.1.7 At Smith Ranch Highland, all liquid effluents stemming from commercial uranium recovery units, process buildings and process waste streams, with the exception of sanitary wastes, shall be returned to the process circuit, discharged to the storage ponds, pumped to the purge storage

reservoirs for disposal via land application or deep well injected.

10.1.8 Prior to uranium recovery operations, baseline groundwater quality data and restoration criteria shall be established for each uranium recovery unit as described in Chapter 5 in the approved license application. The number and location of Perimeter Monitor Wells, Production Zone Monitor Wells, and Upper and Lower Aquifer Monitor Wells shall be installed as described in section 3.5.1.2 (Monitor Well Spacing and Placement) of the License Application. Baseline water quality samples shall be obtained at these wells in accordance with Section 3.4.4.1 (Data Collection) of the License Application for each uranium recovery unit.

a. Groundwater restoration goals shall be established on a parameter-by-parameter basis. Hazardous constituents in the groundwater shall be restored to the numerical groundwater protection standards required by 10 CFR Part 40, Appendix A, Criterion 5B(5). In submitting any license amendment application requesting review and approval of proposed alternate concentration limits (ACLs) pursuant to Criterion 5B(6), the licensee must show that it has first made practicable efforts to restore the specified groundwater constituents to the background or maximum contaminant levels (whichever is greater).

b. Prior to commencing ground-water restoration in each wellfield, the licensee shall, through the SERP process, add wellfields to the wellfield restoration plan in Chapter 6 of the application. The licensee shall be required to demonstrate baseline conditions are not achievable in order to apply any alternate standard of performance. Upon restoration completion of each wellfield, the licensee shall submit a wellfield completion report for NRC review and approval.

10.1.9 The licensee is prohibited from using hydrogen sulfide during aquifer restoration prior to implementation of an occupational safety plan using the SERP evaluation process.

10.1.10 The licensee shall monitor soil concentrations of natural uranium and radium-226 at the Satellite 1 and 2 land application facilities. In its semiannual effluent and environmental report due within 60 days after January 1 of each year, the licensee shall compare annual average soil concentrations of soil depths zero to 30.4 cm (zero to 12 in) to the concentration limits of 24 pCi/g natural uranium and 0.38 pCi/g radium-226. If these limits are exceeded, the licensee shall submit to NRC for approval, within 1 year of the last sample collected, a remediation plan that addresses the licensee's proposed plan to ensure the limits in 10 CFR 20.1301 and 10 CFR 40, Appendix A, Criterion 6(6) shall be met.

10.1.11 The licensee shall collect air samples in five occupied spaces inside the Selenium Treatment Plant during operation of the barium-radium sulfate sludge filter press, analyze the samples for natural U, Th-230, Ra-226, and Pb-210, and determine whether routine air sampling is warranted in accordance with Regulatory Guide 8.25. If routine air sampling is warranted, the licensee shall determine the appropriate derived air concentration (DAC) for the mixture in accordance with 10 CFR 20.1204. The minimum detectable concentration for air samples shall be less than 10% of the DAC for Th-230.

10.1.12 The licensee shall allow each drum filled with dried yellowcake to vent and cool at least 12 hours before the drum is sealed and shall inspect each drum for pressurization prior to shipment.

10.1.13 The licensee shall properly plug and abandon any private well determined to be completed in the

ore zone aquifer within 500 feet of the perimeter well ring of an existing or new mine unit.

10.1.14 The licensee shall use a bleed of at least 0.5-1.5% within all mine units to maintain an inward gradient at the monitoring well ring until the mine unit is restored and in restoration stability monitoring.

10.1.15 The licensee shall identify the location of any new private groundwater wells or new use of existing private wells, where the information is publicly available and/or known to the licensee, that are located within the Smith Ranch Highland, Ruth, North Butte, and Gas Hills license areas and within 2 km of any mine unit perimeter monitoring ring wells.

10.1.16 The licensee shall conduct four rounds of sampling of all WDEQ-LQD Guideline 8, Assay Suite A constituents during stabilization monitoring, with each well sample being at least three months apart. The licensee shall continue the stability monitoring until the data show the most recent four consecutive samples indicate no statistically significant increasing trend for individual constituents which would lead to an exceedance above the approved restoration target values.

10.1.17 The licensee shall continue to characterize and monitor the seepage from PSR 2 and any resulting contamination of sediments or aquifers. The licensee shall take corrective action as necessary to eliminate this seepage and remediate any resulting contamination. The licensee shall provide a written summary of its characterization of this seepage and its corrective actions in the semi-annual effluent monitoring reports to NRC.

10.1.18 Where air samples are taken to comply with 10 CFR 20.1204(a), the licensee shall perform isotopic analysis of air samples for natural U, Th-230, Ra-226, Po-210, and Pb-210 at a frequency of once every 6 months for the first two years, and annually thereafter to ensure compliance with 10 CFR 20.1204(g).

10.1.19 At the end of the first full calendar quarter that occurs one year after issuance of the renewed license, and at the end of every calendar quarter thereafter, the licensee shall determine air effluent quantities of radon-222 and its short-lived progeny (i.e., curies per quarter) at facilities at which groundwater was processed during the previous quarter. Quarterly air effluent quantities shall be reported in semi-annual effluent monitoring reports. The licensee shall estimate air effluent quantities from sources for which monitoring is not practicable (i.e., unmonitored effluents). Unmonitored sources of air effluent quantities shall not exceed 30 percent of total air effluent quantities in any year. The licensee shall document its bases for which air effluent sources are monitored and unmonitored, and this document shall be available for inspection. In its semi-annual effluent reports, the licensee shall assume air effluent quantities of radon-222 short-lived progeny are equal to air effluent quantities of radon-222, unless the licensee has separately measured radon-222 short-lived progeny or documented an alternative approach acceptable to NRC for determining effluent quantities of radon-222 short-lived progeny. The licensee shall compare semiannual effluent quantities of radon-222 from each central processing plant and satellite building to an air effluent quantity limit of 100 curies per year (Ci/yr), and from each wellfield (including header houses) to an air effluent quantity limit of 1,000 Ci/yr. If any effluent quantity of radon-222 exceeds its applicable air effluent quantity limit, the licensee shall include that exceedance specifically in the semi-annual effluent report.

10.2 Ruth Remote Satellite

10.2.1 Before engaging in any commercial *in situ* leach activity not previously assessed by the NRC, the licensee shall prepare a new operating plan in accordance with the guidance in NUREG-1569 (June 2003), for NRC review and approval, and shall prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity may result in a significant adverse environmental impact that was not previously assessed or that is greater than that previously assessed, the licensee shall provide a written evaluation of such activities and obtain prior approval of the NRC in the form of a license amendment.

10.2.2 The licensee shall perform and document, at the Ruth site, visual inspections of the evaporation pond embankments, fences, and liners, as well as measurements of pond freeboard. The frequency of those inspections shall be quarterly. If a significant event occurs that adversely affects the integrity of the evaporation ponds and could result in a release of byproduct material to the environment, the NRC Project Manager shall be notified by telephone or e-mail within 24 hours of verification of such condition.

A written report shall be filed with the NRC within 30 days of first notifying the NRC that a leak exists. This report shall include analytical data and describe the mitigative action and the results of that action.

10.2.3 At the Ruth remote satellite, all liquid effluents stemming from commercial uranium recovery units, process buildings and process waste streams, with the exception of sanitary wastes, shall be returned to the process circuit, or discharged to the storage ponds.

10.2.4 The licensee shall quarterly sample all private wells within 2 km of an operating mine unit at the Ruth license area as described in Section 5.10.3.5 of the Technical Report.

10.3 Gas Hills Remote Satellite

10.3.1 The licensee shall conduct additional surveys for prairie dog towns and mountain plover prior to the onset of construction activities. If the surveys indicate that prairie dog towns may be impacted by construction activities, the licensee shall consult with the U.S. Fish and Wildlife Service for guidance on conducting surveys for the black-footed ferret. The surveys for mountain plover shall be conducted between May 1 and June 15 (3 surveys at 14 day intervals), prior to construction to determine the absence/presence of plovers. If plover nests are detected, construction activity within one-quarter mile of the nest shall cease for at least 7 days after nestling hatching.

10.3.2 The licensee shall submit the hydrologic testing documents for mine units 1 through 5 to the NRC for review and verification.

10.3.3 The average monthly flow rate at the Gas Hills Satellite shall not exceed 12,000 gallons per minute, exclusive of restoration flow. The average monthly flow rate at the Gas Hills Satellite can be increased to 13,500 gpm once the NRC staff has verified that the Class I DDW injection permits to operate have been obtained

10.3.4 The licensee shall install four groundwater monitoring wells surrounding the evaporation ponds at the Gas Hills remote satellite. The monitoring wells shall be completed at a depth sufficient ability

to monitor for potential seepage from the evaporation ponds. If no groundwater is detected after installation of the wells, they shall be checked for the presence of groundwater on a quarterly basis. If groundwater is found in a well, it shall be sampled and analyzed for the excursion indicator parameters of conductivity, chloride and alkalinity. If any of these indicators demonstrate levels which reflect similar water quality to the evaporation pond liquid waste, the licensee shall inform NRC in 30 days and conduct an investigation to determine if the source of elevated excursion indicator parameters is from the evaporation pond.

10.3.5 At the Gas Hills remote satellite, all liquid effluents stemming from commercial uranium recovery units, process buildings and process waste streams, with the exception of sanitary wastes, shall be returned to the process circuit, discharged to the evaporation ponds, or deep well injected.

10.3.6 The licensee shall quarterly sample all private wells within 2 km of an operating mine unit at the Gas Hills license area as described in Section 5.10.3.4 of the Technical Report.

10.3.7 Prior to operation of evaporation sprayers or forced evaporation and crystallization systems at the Gas Hills Satellite, the licensee shall assess whether additional air effluent monitoring and/or environmental monitoring is required in accordance with Regulatory Guide 8.37, "ALARA Levels for Effluents from Materials Facilities." The licensee's documented assessment shall be available for inspection.

10.4 North Butte Remote Satellite

10.4.1 The average monthly flow rate at the North Butte Satellite shall not exceed 6,000 gallons per minute, exclusive of restoration flow.

10.4.2 At the North Butte remote satellite, all liquid effluents stemming from commercial uranium recovery units, process buildings and process waste streams, with the exception of sanitary wastes, shall be returned to the process circuit, discharged to the storage ponds, or deep well injected.

10.4.3 The licensee shall quarterly sample all private wells within 2 km of an operating mine unit at the North Butte license area as described in Section 5.10.3.3 of the Technical Report.

11. MONITORING, RECORDING, AND BOOKKEEPING REQUIREMENTS

11.1 The effluent and environmental monitoring report shall include injection rates, recovery rates, and injection trunk-line pressures for each satellite facility. This data shall be provided as monthly averages for the reporting period.

11.2 The Satellite 1 and Satellite 2 purge storage reservoirs shall have at least 4 feet of freeboard.

The licensee shall perform and document daily visual inspections of the Smith Ranch, North Butte, and Gas Hills (once constructed) storage or evaporation pond embankments, fences and liners, as well as measurements of pond freeboard and checks of the leak detection system. Any time 6 inches or more of fluid is in the leak detection system standpipes, it shall be analyzed for specific conductance and chloride. If, with a second sample, those parameters confirm pond leak, then appropriate actions shall be taken as described in the approved license application. The pond level

shall be lowered by transferring its contents into an alternate cell or to the plant for disposal through deep well injection, and repairs shall be undertaken.

11.3 Each monitor well shall be sampled and tested for chloride, conductivity, and bicarbonate or alkalinity on a twice per month basis. If two UCLs are exceeded in a well, the licensee shall take a confirmation water sample within 24 hours and analyze it for the excursion indicators. If the confirmation sample indicates that UCLs have been exceeded, the well in question shall be placed on excursion status. During excursion status, sampling and testing frequency shall be increased to weekly for the affected monitor wells until the excursion is controlled.

12. REPORTING REQUIREMENTS

12.1 Spills, Pond Leaks, Leaks, Excursions, and Incident/Events Reporting

Until license termination, the licensee shall maintain documentation on spills of source or 11e.(2) by product materials (including mining solutions) and process chemicals. Documented information shall include, but not be limited to: date, spill volume, total activity of each radionuclide released, radiological survey results, soil sample results (if taken), corrective actions, results of post remediation surveys (if taken), and a map showing the spill location and the impacted area.

The licensee shall have procedures which will evaluate the consequences of the spill or incident/event against 10 CFR 20, Subpart "M," and 10 CFR 40.60 reporting criteria. If the criteria are met, then report to the NRC Operations Center as required.

If the licensee is required to report any wellfield excursions and spills or pond leaks of source, 11e.(2) byproduct material, and process chemicals that may have an impact on the environment, or any other incidents/events, to State or Federal Agencies, a report shall be made to the NRC Headquarters Project Manager (PM) by telephone or electronic mail (e-mail) within 24 hours. This notification shall be followed, within thirty (30) days of the notification, by submittal of a written report to NRC Headquarters as per License Condition 9.2, detailing the conditions leading to the spill or incident/event, corrective actions taken, and results achieved.

12.2 The annual SERP information required under LC 9.4(d) shall be submitted in the semiannual effluent and environmental report due within 60 days after January 1 of each year, in accordance with 10 CFR 40.65(a)(1). This report shall also include the As Low As Is Reasonably Achievable (ALARA) annual audit report and annual demonstration of compliance with the public dose limits in 10 CFR 20.1301.

FOR THE NUCLEAR REGULATORY COMMISSION

Date: 9/26/18

/RA/

Andrea Kock, Deputy Director
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards