



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

1595 Wynkoop Street  
DENVER, CO 80202-1129  
Phone 800-227-8917  
<http://www.epa.gov/region08>

DEC 20 2011

**Certified Mail Return Receipt Requested**

Ref: 8P-AR

Mr. John W. Cash  
Ur-Energy USA Inc.  
Vice President of Regulatory Affairs, Exploration and Geology  
5880 Enterprise Dr., STE. 200  
Casper, Wyoming 82609

Re: Approval to Construct Lost Creek In-Situ Recovery Uranium  
Project Holding Ponds for Uranium Byproduct Material  
Sweetwater County, Wyoming


Dear Mr. Cash:

The U.S. Environmental Protection Agency (EPA) is granting approval to Ur-Energy USA Inc. (Ur-Energy), in accordance with provisions of the Clean Air Act, as amended (42 U.S.C. *et seq.*), to construct two holding ponds for the Lost Creek In-Situ Recovery Uranium Project (ISR) in Sweetwater County, Wyoming.

This approval is based on the Application that Ur-Energy submitted on November 3, 2010, to the EPA pursuant to 40 CFR § 61.07, entitled "Application by Lost Creek ISR, LLC to Construct Holding Ponds at the Lost Creek In-Situ Uranium Project" and the supplemental information you submitted to the U.S. Environmental Protection Agency on July 11, 2011, in response to the e-mail from Mr. Robert Duraski on April 26, 2011, requesting additional information (Collectively "Application"). The EPA has determined that the holding ponds will be in compliance with 40 CFR § 192.32(a). Based on the information you provided to us, the EPA approves the construction of two holding ponds of 0.93 acres each, as described in the Application. This Approval, which is enclosed, contains conditions to ensure that the ISR is in compliance with the National Emission Standards for Hazardous Air Pollutants, 40 CFR Part 61 Subparts A and W (National Emission Standards for Radon Emissions from Operating Mill Tailings). Failure to comply with any condition or term set forth in this approval or in the regulations, or failure to meet this standard, will be considered grounds for enforcement action pursuant to Section 113 of the Clean Air Act.

This Approval shall become effective immediately upon Ur-Energy's receipt of the original signed hard copy Approval to Construct. If you have any questions, or for further discussion, please contact Dr. Angelique Diaz of my staff at (303) 312-6344 or [diaz.angelique@epa.gov](mailto:diaz.angelique@epa.gov).

Sincerely,

10/8 10/8 10/8  


Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

Enclosure: Lost Creek In-Situ Recovery Uranium Project Approval to Construct, with Conditions

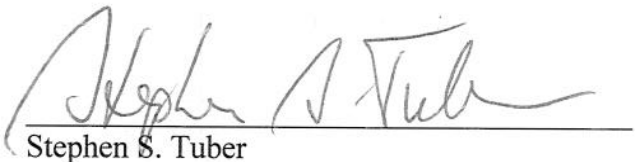
cc: John Corra, Director, Wyoming Department of Environmental Quality  
Mark Moxley, Wyoming Department of Environmental Quality  
Tanya Oxenberg, Lost Creek ISR Project Manager, Nuclear Regulatory Commission  
Dean Goggles, Environmental Director, Eastern Shoshone & Northern Arapaho Tribes

Lost Creek In-Situ Recovery (ISR) Uranium Project  
Approval to Construct  
Two Holding Ponds under  
40 CFR Part 61 Subpart W  
National Emission Standards for Radon Emissions from Operating Mill Tailings

In compliance with the provisions of the Clean Air Act, as amended (42 U.S.C. §7401 et seq.), Ur-Energy USA Inc., 5880 Enterprise Dr., STE. 200 Casper, WY 82609, is granted approval to construct two holding ponds not to exceed 40 acres each, located at the proposed Lost Creek In-Situ Recovery Uranium Project E1/2, Section 18, T25N, R92W in Sweetwater County, Wyoming, in accordance with the plans submitted with the Application and with the Federal regulations governing the National Emissions Standards for Hazardous Air Pollutants (40 CFR Part 61) and any conditions attached to this document and made part of this approval. The Application indicates the size of the proposed Holding Ponds are 155 feet by 260 feet each, or 0.93 acres (*Application by Lost Creek ISR, LLC to Construct Holding Ponds at the Lost Creek In-Situ Uranium Project, Design Report Page 1*). This approval is to construct two holding ponds, as described in the Application.

This approval does not prevent the Administrator from implementing or enforcing applicable provisions in 40 CFR Part 61 Subparts A and W. This Approval to Construct grants no relief to the owner or operator from the legal responsibility for compliance with any applicable provisions of 40 CFR Part 61 Subparts A and W, or any other applicable Federal, State or local requirement. This approval shall be effective immediately upon receipt of the original signed Approval to Construct by the applicant.

Date DEC 20 2011



Stephen S. Tuber  
Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

## CONDITIONS

### I. General Approval

- a. The facility is approved to construct two holding ponds of 0.93 acres each, as described in the Application.
- b. The owner or operator shall have no more than two impoundments of no more than 40 acres in area each in operation at any one time. (40 CFR § 61.252(b)(1)).
- c. The owner or operator shall comply with the provisions in 40 CFR § 192.32(a) and shall submit a statement certifying that they are in compliance with 40 CFR § 192.32(a) within 30 days of completion of construction. (40 CFR § 61.252(c)).
- d. The owner or operator of the In-Situ Recovery (ISR) facility must maintain a record of certifications (I.c. and III.c.) documenting compliance with 40 CFR § 61.252(b)(1) and 40 CFR § 192.32(a). Such records shall be kept at the ISR for at least five years and upon request be made available for inspection by the Administrator, or his/her authorized representative. (40 CFR § 61.255).

### II. Approval Limitations

- a. This Approval will remain in effect as long as the Lost Creek In-Situ Recovery Uranium Project holding ponds approved herein are being used for the continued placement of new tailings/uranium byproduct or are in standby status for such placement. An impoundment is in operation from the day that tailings/uranium byproduct are first placed in the impoundment until the day that final closure begins. In the event that ownership of the ISR is transferred from Ur-Energy to a new company, this Approval to Construct will be transferred to the new owner only if operation continues as approved by EPA. Any change made at the ISR by the new owner that constitutes a modification or construction requires the submittal of a Modification/Construction Approval request to EPA and prior approval by the EPA as required by 40 CFR § 61.07.
- b. The owner or operator may submit to the Administrator a written application for determination of whether an action intended to be taken by the owner or operator constitutes a modification or construction of a source subject to 40 CFR Part 61 Subpart W, pursuant to 40 CFR § 61.06. The Administrator will notify the owner or operator of his/her determination of whether the intended action constitutes modification or construction, requiring a supplemental Application for Construction or Modification, within 30 days after receiving sufficient information to evaluate the application. (40 CFR § 61.06).
- c. If an intended action to be taken by the owner or operator is determined by the Administrator to constitute construction or modification which affects an existing source, the new approval and conditions shall supersede and/or amend the existing Approval.
- d. Updates in notification and phone contacts will not affect the conditions of this Approval.

### III. Notification of Commencement of Construction and Startup

- a. The owner or operator shall furnish the Administrator with written notification as follows:
  1. A notification of the anticipated date of initial startup of the source not more than 60 days nor less than 30 days before that date (40 CFR § 61.09(a)(1)).

2. A notification of the actual date of initial startup of the source within 15 days after that date (40 CFR § 61.09(a)(2)).
- b. If any State or local agency requires a notice which contains all the information required in the notifications in paragraph II (a), sending the Administrator a copy of that notification will satisfy paragraph II (a).
- c. A certification by the owner or operator of the surface area (acreage) of the holding ponds must be sent to the EPA Administrator no less than 30 days prior to startup.

#### **IV. Severability**

The provisions of this Approval to Construct are severable, and, if any provision of this approval to construct is held invalid, the remainder of this Approval to Construct shall not be affected thereby.

#### **V. Other Applicable Regulations**

This approval does not prevent the Administrator from implementing or enforcing all applicable provisions in 40 CFR Part 61, Subparts A and W, and any other applicable regulation.

#### **VI. Agency Correspondence**

All correspondence and notifications as required by this Approval to Construct shall be sent to:

Director, Air and Toxics Technical Enforcement Program  
Office of Enforcement, Compliance and Environmental Justice  
Mail Code 8ENF-AT  
U.S. Environmental Protection Agency, Region 8  
1595 Wynkoop Street  
Denver, CO 80202-1129

A courtesy copy shall be sent to:

Director, Air Program  
Office of Partnerships and Regulatory Assistance  
Mail Code 8P-AR  
U.S. Environmental Protection Agency, Region 8  
1595 Wynkoop St.  
Denver, CO 80202-1129

#### **VII. Effective Date of Approval**

EPA's Approval of Construction in accordance with 40 CFR § 61.08 for the Lost Creek In-Situ Recovery Uranium Project located at E1/2, Section 18, T25N, R92W in Sweetwater County, Wyoming shall be effective immediately upon receipt of the original signed Approval to Construct by the Applicant.

### **VIII. Paperwork Reduction Act**

Any requirements established by this Approval for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act because this Approval is not an "information collection request" within the meaning of 44 U.S.C. §§ 3502(4), 3502(11), 3507, 3512 and 3518. Furthermore, this Approval and any information-gathering and reporting requirements established by this Approval are exempt from OMB review under the Paperwork Reduction Act because it is directed to fewer than ten persons, 44 U.S.C. §§ 3502(4) and 3502(11); 5 CFR §1320.5(a).

**Ur-Energy Lost Creek In-Situ Recovery Project Holding Ponds  
Construction Approval  
40 C.F.R. Part 61, Subpart W  
Background Information for Construction Approval**

EPA Region 8 reviewed the Application for Construction Approval submitted by Ur-Energy USA Inc. (“Ur-Energy”) to EPA pursuant to 40 C.F.R. § 61.07 “for approval of construction or modification,” entitled “Application by Lost Creek ISR, LLC to Construct Holding Ponds at that Lost Creek In-Situ Uranium Project (“Lost Creek”). The original Application, was submitted on November 3, 2010, and a revised Application July 7, 2011 (collectively “Application”). The Application is for the construction of two holding ponds of 0.93 acres each at the Lost Creek In-Situ Recovery Project. Ur-Energy is anticipated to produce two million pounds of uranium per year at the Lost Creek facility.

**Facility Location**

The proposed Lost Creek facility is located at E1/2, Section 18, T25N, R92W in Sweetwater County, Wyoming. The town of Bairoil is 15 miles northeast of the site. The City of Rawlins is located 38 miles southeast of the site

**Company Contact**

Mr. John W. Cash  
Vice President of Regulatory Affairs, Exploration and Geology  
Ur-Energy USA Inc.,  
5880 Enterprise Dr., STE. 200  
Casper, WY 82609  
[John.Cash@ur-energyusa.com](mailto:John.Cash@ur-energyusa.com)

**Regulatory Authority**

EPA Region 8’s authority over Lost Creek is derived from the Clean Air Act (“CAA”), as amended at 42 U.S.C. section 7401 *et seq.* The holding ponds at Lost Creek are regulated pursuant to 40 C.F.R. Part 61, National Emission Standards for Hazardous Air Pollutants (“NESHAP”), Subpart A – General Provisions (“Subpart A”); and Subpart W – National Emissions Standards for Radon Emissions from Operating Mill Tailings (“Subpart W”).

Subpart W applies to “owners or operators of facilities licensed to manage uranium byproduct material during and following the processing of uranium ores, commonly referred to as uranium mills and their associated tailings.” (40 C.F.R. § 61.250). Subpart W defines “uranium byproduct material or tailings” as “the waste produced by the extraction or concentration of uranium from any ore processed primarily for its source material content.” (40 C.F.R. § 61.251(g)). Thus, any type of uranium recovery facility that is managing uranium byproduct material or tailings is subject to Subpart W. The requirements of Subpart W specifically apply to the structures at the uranium recovery facility that are used to “manage” or contain the uranium byproduct or tailings. At Lost Creek, these facilities are the holding ponds.

In addition to the requirements of Subpart W, the requirements in 40 CFR Part 61 Subpart A apply to Subpart W regulated structures. Subpart A requires owners or operators to submit to EPA an application for approval for either construction or modification of Subpart W regulated structures (i.e., holding ponds) before the construction or modification is planned to commence. (40 C.F.R. §61.07). Ur-Energy submitted the Mill Application for Construction Approval in accordance with Subpart A, 40 C.F.R. § 61.07. Subpart W requires that owners and operators meet either the numeric standard in 40 C.F.R. § 61.252(a) for those facilities in existence prior to 1989, or choose one of two work practice standards in 40 C.F.R. § 61.252(b) for facilities constructed after 1989. Subpart W also requires compliance with 40 C.F.R. § 192.32(a). (40 C.F.R. 61.252(c)).

Ur-Energy has opted for the work practice standard found in 40 C.F.R. section 61.252(b)(1), which allows for “phased disposal in lined tailings impoundments that are no more than 40 acres in area and meet the requirements of 40 C.F.R. 192.32(a) as determined by the Nuclear Regulatory Commission. The owner or operator shall have no more than two impoundments, including existing impoundments, in operation at any one time.” The two Lost Creek holding ponds are each less than one acre in surface area. In addition to reviewing the Ur-Energy Application materials for compliance with Subparts A and W, EPA must also consider compliance with 40 C.F.R. § 192.32(a). The provisions in 40 C.F.R. § 192.32(a) are implemented and enforced by the Nuclear Regulatory Commission (NRC) at the Lost Creek Facility. The NRC has regulations comparable to 40 C.F.R. § 192.32(a) and Lost Creek was reviewed for compliance with those regulations prior to the issuance of a radioactive materials license by NRC. NRC issued a radioactive materials license to Lost Creek on August 17, 2011 and provided EPA with a review of the Lost Creek Facility in their Safety Evaluation Report<sup>1</sup>. Based on our review, EPA has determined that the Lost Creek holding ponds will be in compliance with 40 CFR § 192.32(a).<sup>2,3</sup>

### **In Situ Recovery Operations and Proposed Facilities for Approval**

Uranium milling is the process of extracting uranium from uranium ore and processing it into uranium oxide (i.e., yellowcake) to be further processed into fuel rods for nuclear power. Ur-Energy proposes to construct and operate Lost Creek to process uranium into uranium oxide through an in situ recovery process (aka solution mining) with the resulting processing wastes (i.e., uranium byproduct) being both temporarily stored in holding ponds and injected permanently underground into permitted wells. EPA is approving construction of the two holding ponds with this action. EPA’s determination is that both holding ponds will be in compliance with 40 C.F.R. § 192.32(a), as required by 40 C.F.R. § 61.252(c). EPA’s determination is based on information found in the Application as well as the license application submitted to the NRC.

During the in situ recovery process, mineral uranium present in a saturated aquifer is dissolved using a solution (“lixiviant”) of native groundwater with an added oxidant, such as oxygen or hydrogen peroxide, as well as either carbon dioxide or sodium bicarbonate/carbonate. The uranium containing solution is pumped to the surface where it is recovered and processed into yellowcake. The waste stream from the process will be injected into the subsurface, with the holding ponds upstream to provide operational flexibility.

---

<sup>1</sup> <http://pbadupws.nrc.gov/docs/ML1122/ML112231724.pdf>

<sup>2</sup> Memorandum, From Randall W. Breeden to Angelique Diaz, Ph.D., Re: Proposed Ground Water Monitoring System at the Lost Creek Uranium Mine, 12/7/2011

<sup>3</sup> RCRA Checklist for the Lost Creek Uranium Project ISR, 12/8/2011



## **Effective Date of Approval**

EPA's approval of the construction of two 0.93 acre holding ponds shall be effective immediately upon receipt of the original signed Approval to Construct by the applicant.

## **Paperwork Reduction Act**

Any requirements established by this Approval for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act, because this Approval is not an "information collection request" within the meaning of 44 U.S.C. § 3502(4), 3502(11), 3507, 3512 and 3518. Furthermore, this Approval and any information-gathering and reporting requirements established by this Approval are exempt from OMB review under the Paperwork Reduction Act because it is directed to fewer than ten persons, 44 U.S.C. § 3502(4) and 3502(11); 5 CFR § 1320.5(a).

## **Environmental Justice Considerations**

On February 11, 1994, the President issued Executive Order 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The Executive Order calls on each federal agency to make environmental justice (EJ) a part of its mission by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations."

According to our EJ analysis, the area surrounding Lost Creek does not exceed the state average for either the percentage of minority population or the percentage of people below the poverty level and is not considered a potential EJ area.

## **Tribal Interests**

The two tribes potentially impacted by the Lost Creek facility are the Eastern Shoshone and Northern Arapaho. During NRC's NEPA process<sup>1</sup>, NRC initiated discussions with both tribes. According to the Lost Creek Supplemental Environmental Impact Statement (SEIS)<sup>2</sup>, "the Eastern Shoshone and Northern Arapaho Tribal Historic Preservation Officers (THPOs) were informed of an eligible prehistoric site discovered in the project area and are aware of the progress of the proposed Lost Creek ISR Project. The THPO from the Eastern Shoshone Tribe visited the prehistoric site and determined that while it held no interest to the tribe, they requested to be a signatory on an MOA for the protection of eligible prehistoric sites. The Northern Arapaho THPO also requested to be invited as signatory to the MOA." Additional information can be found in the SEIS, included a copy of the signed MOA.

EPA will notify the environmental director of the Eastern Shoshone and Northern Arapaho tribes of our Construction Approval by phone.

## **Administrative Record**

EPA has prepared an index to the Administrative Record.

---

<sup>1</sup> <http://www.epa.gov/compliance/basics/nepa.html>

<sup>2</sup> <http://pbadupws.nrc.gov/docs/ML1112/ML11125A006.pdf>