

UNITED STATES NUCLEAR REGULATORY COMMISSION REGION IV 1600 E LAMAR BLVD ARLINGTON, TX 76011-4511

May 13, 2014

Mr. Wayne Heili Lost Creek ISR, LLC 5880 Enterprise Drive, Suite 200 Casper, WY 82609

SUBJECT: NRC TEAM INSPECTION REPORT 040-09068/13-001

Dear Mr. Heili:

This letter refers to the U.S. Nuclear Regulatory Commission (NRC) team inspection conducted on June 24-27, July 29-30, and August 27, 2013, at your Lost Creek in-situ recovery (ISR) facility in Sweetwater County, Wyoming. This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

A preliminary exit briefing was presented to Lost Creek staff at the conclusion of each onsite inspection, and the final inspection results were discussed with Lost Creek staff by telephone on October 3, 2013. The enclosed report presents the results of this inspection.

The purpose of the inspection was to determine whether your facility was prepared for in-situ uranium recovery operations. Overall, the team determined that your facility was ready to commence with in-situ uranium recovery operations. By letter dated August 2, 2013 (ADAMS accession number ML13218B466), the NRC granted you authorization to commence with uranium recovery operations, with the exception of the yellowcake dryer. The NRC subsequently granted you authorization to commence with yellowcake dryer operations by letter dated October 3, 2013 (ADAMS accession number ML13276A588).

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice and Procedure," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC's Web site at http://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions concerning this letter, please contact Ms. Linda Gersey, Health Physicist, at 817-200-1299, or Dr. Robert Evans, Senior Health Physicist, at 817-200-1234.

Sincerely,

/**RA**/

Linda L. Howell, Acting Director Division of Nuclear Materials Safety

Docket No.: 040-09068 License No.: SUA-1598

Enclosure:

NRC Inspection Report 040-09068/13-001

cc w/enclosure: S. Ramsay, Wyoming Office of Homeland Security

- C. Anderson, Wyoming Department of Environmental Quality
- M. Rogaczewski, Wyoming Department of Environmental Quality

Should you have any questions concerning this letter, please contact Ms. Linda Gersey, Health Physicist, at 817-200-1299, or Dr. Robert Evans, Senior Health Physicist, at 817-200-1234.

Sincerely,

/RA/

Linda L. Howell, Acting Director Division of Nuclear Materials Safety

Docket No.: 040-09068 License No.: SUA-1598

Enclosure:

NRC Inspection Report 040-09068/13-001

cc w/enclosure: S. Ramsay, Wyoming Office of Homeland Security

C. Anderson, Wyoming Department of Environmental Quality

M. Rogaczewski, Wyoming Department of Environmental Quality

Distribution: Linda Howell, Acting D:DNMS Ray Kellar, C:RSFS Linda Gersey, RSFS Robert Evans, RSFS Doug Mandeville, FSME/DWMEP/DURLD John Saxton, FSME/DWMEP/DURLD William VonTill, FSME/DWMEP/DURLD Drew Persinko, FSME/DWMEP/DURLD

ADAMS	□ No	■ Yes		■ SUNSI	Review Complete	Reviewer Initials: LMG
Publicly Available		□ Non-publicly Available		□Sensitive		Non-sensitive
RIV:DNMS	/RSFS	DNMS/RSFS	FSME:D	URLD	FSME:DURLD	DD:DNMS
LMGersey		RJEvans	DTManc	leville	JLSaxton	LLHowell
IRA/for RJ	lEvans	/RA/	/RA/ E-I	Mail	/RA/ E-Mail	/RA/
04/30/14		05/05/14	04/29/14	1	04/29/14	05/13/14
OFFICIAL RECORD COPY			T=Telep	phone E=E-m	ail F=Fax	

S:\DNMS\!RSFS\LMG\2013 UR\Lost Creek Team IR 13-001.docx

Service List:

Mr. Carl Anderson, Administrator Wyoming Department of Environmental Quality Solid and Hazardous Waste Division 122 West 25th Street Cheyenne, Wyoming 82002

Mark Rogaczewski, Program Supervisor Wyoming Department of Environmental Quality Land Quality Division 1866 South Sheridan Ave. Sheridan, Wyoming 82801

Scott W. Ramsay, Radiological Services Supervisor Wyoming Radiation Control Program Director Wyoming Office of Homeland Security 5500 Bishop Blvd., Door #1 Cheyenne, Wyoming 82009

U.S. NUCLEAR REGULATORY COMMISSION REGION IV

Docket:	040-09068
License:	SUA-1598
Report:	040-09068/13-001
Licensee:	Lost Creek ISR LLC
Facility:	Lost Creek Project
Location:	Sweetwater County, Wyoming
Dates:	June 24-27, July 29-30, and August 27, 2013
Inspectors:	Linda M. Gersey, Health Physicist, Team Leader Repository and Spent Fuel Safety Branch
	Robert J. Evans, Ph.D., P.E., C.H.P., Senior Health Physicist Repository and Spent Fuel Safety Branch
Accompanied By:	Douglas T. Mandeville, Geotechnical Engineer Decommissioning and Uranium Recovery Licensing Directorate Division of Waste Management and Environmental Protection Office of Federal and State Materials and Environmental Management Programs
	John L. Saxton, Project Manager Decommissioning and Uranium Recovery Licensing Directorate Division of Waste Management and Environmental Protection Office of Federal and State Materials and Environmental Management Programs
Approved By:	Linda L. Howell, Acting Director Division of Nuclear Materials Safety
Attachments:	Supplemental Inspection Information Lost Creek Project Preoperational Inspection Field Notes

EXECUTIVE SUMMARY

Lost Creek ISR, LLC U.S. Nuclear Regulatory Commission (NRC) Inspection Report 040-09068/13-001

This announced, team inspection was conducted at the Lost Creek ISR, LLC (Lost Creek or licensee), Lost Creek Project, in Sweetwater County, Wyoming. This inspection was conducted to determine if the licensee was prepared to commence with operations involving radioactive material as authorized by the NRC Materials License SUA-1598, issued on August 17, 2011. This inspection was conducted, in part, to fulfill the requirements of License Condition (LC) 12.3.

Regulation 10 CFR 40.32(c) states, in part, that an application for a specific license will be approved if the applicant's proposed equipment, facilities and procedures are adequate to protect health and minimize danger to life or property. One purpose of this inspection was to determine if the licensee had constructed the plant and established support programs as described in the application. In summary, the licensee appears ready to commence with in-situ uranium recovery operations as described below. The licensee had established programs and procedures, constructed and tested plant equipment, and trained personnel as necessary to operate the plant in a manner that should be protective of occupational workers, the public, and the environment.

Site Status

The licensee had constructed the Lost Creek Project central processing plant (CPP), including two yellowcake dryers. The plant appeared to be capable of producing yellowcake in accordance with license commitments and regulatory requirements. The licensee had received permits for one deep disposal well (DDW) and the approval for the second DDW from the State of Wyoming was forthcoming; therefore, the licensee was capable of disposing liquid waste effluents created during plant operations. The licensee had not completed construction of its wellfield restoration process circuit, but the licensee plans to install and test this portion of the plant prior to actually conducting wellfield restoration.

The licensee plans to commence in-situ operations in Mine Unit 1 (MU-1) first by conducting operations in Header Houses (HH) 1 through 3. The license allows the licensee to conduct operations at a maximum flow rate of 6,000 gallons per minute. The licensee estimated that the initial capacity of MU-1 during the first year of operations would be approximately 2,000 gallons per minute.

Management Organization and Controls

The licensee had staffed all management level positions with qualified and experienced individuals. The licensee had sufficient support staff to commence with plant startup and site operations. The licensee established a schedule to ensure that health physics staff were on site daily. The licensee established procedures for health physics, transportation, emergency response, spill response, environmental safety, industrial safety, worker training, wellfield operations, plant operations, and quality assurance/quality control. The licensee established a program for the performance-based license, including implementation of the Safety and Environmental Review Panel (SERP). The licensee established a written safety policy that described each employee's authority and responsibility for operational safety, radiation protection, fire protection, and chemical safety. The written program for evaluating, detecting, and correcting incidents was contained in the Administration Procedures. Injury and incident

damage reporting and analysis were outlined in the Occupational Health and Safety Program. The licensee established programs for routine audits, including the daily and weekly radiation protection, pond operability, and safety inspections. At the end of the inspection period, procedure upgrades and staff training were still in progress.

In-Situ Leach Facilities

The team reviewed the licensee's technical justification for approval of the mine unit wellfield and baseline water quality standards. The methodologies documented in the wellfield package were consistent with methodologies presented in the approved license application. The licensee established a program for monitoring and recording critical plant parameters, and the effectiveness of this program area will be reviewed during future inspections. The licensee developed programs for receipt and transfer, in-plant possession, and security and control of source material. Responses to security threats are included in the Emergency Action Plan. Annual dried vellowcake production limits are controlled by site procedures. The licensee established a training program for employees, contractors, and visitors. The training program includes radiation safety, industrial safety, transportation function specific training, and environmental protection training. The licensee established area radiation and contamination controls in accordance with license and regulatory requirements. Fences, gates, and perimeter signs help define the site restricted area boundaries. The licensee established procedures for wellfield design and operation, pond operation, and waste water disposal. The licensee established the various programs necessary to monitor for releases to the environment. The licensee also implemented programs for establishing groundwater upper control limits and for responding to excursions. The licensee updated the financial surety prior to the inspection to include costs for a third party decontamination and reclamation of all equipment, operations, and facilities installed during the first year of operations. The licensee established a program for non-routine notifications and reports.

Radiation Protection

The licensee established a radiation protection program that met the intent of 10 CFR Part 20, the license, and the license application. The established program areas include implementing procedures, instrumentation and equipment, personnel monitoring, bioassays, training, and exposure calculations. The training of site staff was incomplete at the time of the onsite inspection, but training would continue in the following weeks. In accordance with the license, procedures have been established for non-operational activities, including in-plant monitoring, bioassay analyses, and instrument calibrations. Procedures were also established for internal and external occupational exposures, radiation work permits, respiratory protection, contamination control, transportation activities, notices to workers, and area postings. During future inspections, updates and revisions to the health physics procedures will be reviewed. The licensee established log sheets and forms for recording survey results. During future inspections, the inspectors will review the licensee's implementation of personnel contamination surveys, in part, to ensure that site workers understand contamination survey techniques and are capable of demonstrating their proficiency in conducting contamination surveys. Emergency notification instructions involving radioactive materials are provided in the Emergency Action Plan. Finally, the licensee established an As Low As Reasonably Achievable (ALARA) program that includes a management commitment to ALARA as well as routine ALARA audits.

Effluent Control and Environmental Protection

The licensee implemented environmental protection and effluent monitoring programs to monitor the effects of radioactive releases to the environs of the site and to the public. The inspection team reviewed environmental procedures, performance-based license documents, and the organization chart to ensure that the licensee had established management controls for the effluent and environmental monitoring programs. Audit programs have been established to verify program implementation. The licensee implemented quality assurance/quality controls to verify the quality of the effluent monitoring information. The licensee had adequate procedures, equipment, and personnel with appropriate training to implement the programs. At the time of the inspection, the licensee was implementing the environmental monitoring program as described in the license application. The licensee established procedures for monitoring and controlling the liquid effluent disposal pathways, daily or weekly inspections of plant equipment, spill detection equipment, and cleanup of environmental spills. The licensee established programs for disposal of waste water, including discharge into deep disposal wells or cleanup by reverse osmosis. The licensee established air sampling programs to monitor for effluent releases, including particulates, and radon sampling. The licensee also established procedures for sampler calibrations. The licensee established a program to demonstrate compliance with dose limits for individual members of the public.

Maintaining Effluents from Materials Facilities As Low As Reasonably Achievable

The licensee established programs for maintaining effluents ALARA. The licensee issued a written policy on ALARA. Management will be made aware of the effectiveness of the ALARA program through monthly summaries. These summaries will specifically address trends or deviations from the ALARA program. The licensee will conduct annual ALARA program reviews to monitor program effectiveness. The results of the audit will be submitted to corporate management. The licensee committed to conduct routine quality assurance/quality control audits and reviews to ensure quality implementation of the radiation protection and environmental programs. The inspectors reviewed site procedures and confirmed that the procedures have incorporated ALARA techniques, as well as engineering and process controls, to minimize effluents. For example, the licensee installed instrumentation and equipment to specifically detect for process leaks in ponds, piping, and well heads. Instrumentation will be supplemented by routine visual inspections. The inspectors reviewed training procedures and training records and determined that employees are instructed in ALARA principles.

Inspection of Transportation Activities

The licensee established programs to ensure that packages are prepared for shipment as required by NRC and U.S. Department of Transportation (DOT) regulations. The licensee developed procedures for preparation of shipping papers and marking and labeling of packages. The licensee established procedures and equipment to measure and record external radiation and removable contamination levels on packages prior to shipment. Recordkeeping requirements have been established. The licensee established procedures for designating hazardous materials employees and a training program has been established. The Emergency Action Plan provides instructions for actions to be taken in response to a transportation event. The licensee established procedures for reporting of radioactive shipment incidents.

Radioactive Waste Management

The licensee established programs for management of solid and liquid byproduct material. Solid byproduct material will be stored onsite in containers until transferred to a disposal site. A site procedure provides instructions for classification of wastes and shipment of wastes for disposal. The licensee has a signed agreement with a disposal facility that will accept the licensee's solid byproduct material. Security and control of liquid and solid wastes are provided by restricted area access controls, postings, fencing, gates, and/or locked doors. Liquid wastes will be disposed via DDW. The wastewater treatment system consists of a retention pond (for holding emergency or excess surge capacity) and reverse osmosis system to reduce the waste stream to a DDW. The licensee established procedures for monitoring pond freeboards, leak detection systems, and impoundment integrities. Periodic audits will be conducted under the licensee's quality assurance/quality control program. Also, the licensee will provide oversight of solid and liquid wastes during routine plant tours and inspections. The licensee had personnel with appropriate training and procedures that were adequate to implement the solid and liquid waste handling programs.

Emergency Preparedness

The licensee established an emergency preparedness program as described in the Emergency Action Plan and associated implementing procedures. The licensee has sufficient equipment and trained personnel to respond to emergency incidents, including personnel injuries as well as releases or spills of radioactive materials. Audits of the program may be conducted as part of the ALARA program review. The licensee plans to perform mock emergency drills and to maintain communications with offsite emergency response entities.

Fire Protection

The licensee established an Occupational Health and Safety Program that provides the fire protection and prevention program requirements. The program includes fire response instructions. The licensee has equipment for fighting fires and conducts routine inspections of this equipment. Fire protection training was included in the industrial safety training program.

SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee Personnel

Wayne Heili, President and CEO, UR Energy John Cash, Vice President, Regulatory Affairs Exploration and Geology Steve Hatten, Vice President, Operations Mike Lueders, Mine Manager Charles Kelsey, Radiation Safety Officer Mike Gaither, Manager of Environmental Health and Safety and Regulatory Affairs Catherine Bull, Project Engineer

INSPECTION PROCEDURES USED

- IP 88005 Management Organization and Controls
- IP 89001 In-Situ Leach Facilities
- IP 83822 Radiation Protection
- IP 88045 Effluent Control and Environmental Protection
- IP 87102 Maintaining Effluents from Materials Facilities ALARA
- IP 86740 Inspection of Transportation Activities
- IP 88035 Radioactive Waste Management
- IP 88050 Emergency Preparedness
- IP 88055 Fire Protection

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

<u>Closed</u>

None

Discussed

None

LIST OF ACRONYMS

ALARA CER	As Low As Reasonably Achievable
CPP	Central Processing Plant
CPR	CardioPulmonary Resuscitation
DDW	Deep Disposal Well
DOT	U.S. Department of Transportation
EHS	Environmental Health and Safety
HAZMAT	DOT hazardous materials
HH	Header House
HPT	Health Physics Technician
IP	NRC Inspection Procedures
ISR	In-Situ Recovery
LC	License Condition
MU	Mine Unit
NRC	U.S. Nuclear Regulatory Commission
QA	Quality Assurance
QC	Quality Control
QAPP	Quality Assurance Project Plan
RG	Regulatory Guide
RSO	Radiation Safety Officer
SERP	Safety and Environmental Review Panel
SOP	Standard Operating Procedure
VP	Vice President

Procedures Reviewed

AD-001	SOP Development and Management

- AD-002 Management of Change
- AD-003 Safety and Environmental Panel (SERP)
- AD-004 Risk Assessment
- AD-005 Near Miss Reporting
- AD-006 Incident Investigation
- AD-007 Internal Audit Program
- AD-008 Data Management
- AD-009 Document Management
- AD-010 Training Program
- HP-001 Radiation Work Permit (RWP)
- HP-002 Personnel Radiation Dosimetry
- HP-003 Health Physics Inspections
- HP-004 Radiation Detection Instrumentation
- HP-005 Plant Radon Monitoring and Mitigation
- HP-006 Gamma Surveys
- HP-007 Personnel Surveys
- HP-008 Indoor Airborne Radionuclide Sampling
- HP-009 Bioassay Monitoring
- HP-010 Surface Contamination Surveys
- HP-013 11e.(2) Byproduct Waste Management
- HP-014 Screening and Decontamination of Materials for Unrestricted Use

Procedures Reviewed, Cont.

- HP-015 Licensed Material Security
- HP-016 Radiation Dose Determinations
- HP-017 Breathing Zone Monitoring
- HP-018 Alpha/Beta Sample Counter
- HP-019 Determining Dose to Unmonitored Employees
- OHS-004 Flammable Liquids
- OHS-007 Respiratory Protection Program
- OHS-010 Portable Fire Extinguishers
- OHS-015 Hot Work
- OHS-022 Site Safety Inspection
- ER-001 Emergency Action Plan
- ER-002 First Aid and CPR
- ER-003 Fire Protection Plan
- ER-004 Crisis Management

ENV-004 Environmental Radiological Monitoring- Air Particulates

- ENV-005 Air Sampler Filter Change
- ENV-006 Air Sampler Maintenance and Calibration
- ENV-007 Groundwater and Surface Water Monitoring
- ENV-008 Environmental Radiological Monitoring-Soil
- ENV-010 Storage Pond Monitoring
- ENV-011 Deep Disposal Well Monitoring
- ENV-013 Environmental Radiological Monitoring-Passive Radiation
- ENV-014 Environmental Radiological Monitoring-Radon
- ENV-015 Water Quality Meter
- TR-007 Radioactive Materials Shipping and Transport
- TR-008 Vehicle Incident
- TR-009 DOT Compliance Internal Audit
- OPS-002 General Site Safety and Security
- OPS-004 Work Orders
- OPS-009 Alarms and Upset Conditions
- OPS-012 Laboratory Operations Manual
- OPS-019 Plant Operations Inspections
- OPS-020 Wellfield Operational Inspections
- OPS-021 Spill Management
- OPS-023 Storage Pond Operation and Maintenance
- OPS-024 Deep Disposal Well Operation and Maintenance
- OPS-026 Yellowcake Packaging
- OPS-028 Welding and Cutting
- OPS-054 Yellowcake Drum Handling

Category:	Management Organization and Controls
Topic:	Organizational Structure
Reference:	IP 88005, Section 02.01
Requirement:	License Conditions 9.4, 9.7, 10.17, 12.5; Application Section 5.0; Application Section 5.0, Figure 5.1.1 dated June 2013
	The licensee had staffed all management level positions. Management-level staff members were highly qualified and experienced for the work to be performed. The licensee also had sufficient support staff to commence with plant startup and site operations. The support staff included plant and wellfield operators, laboratory technicians, and well drillers.
Findings:	revised the organizational structure in Figure 5.1.1 of the License Application. The SERP approved eliminating the General Manager position and adding a Vice President (VP) of Regulatory Affairs, Exploration, and Geology. The Radiation Safety Officer (RSO)/Environmental Health and Safety Supervisor formally reported to the Mine Manager, but currently reports directly to the VP. The inspectors reviewed the SERP and concluded that the SERP determination was performed in accordance with license conditions.
	The inspectors reviewed the qualifications of the RSO and the Health Physics Technician (HPT). Letters submitted to the NRC dated November 11, 2011, and May 20, 2013, provided the qualifications of the RSO and HPT. The inspectors reviewed the letters and the training records of the RSO and HPT and found that each had the appropriate education, training, and experience, as outlined in NRC Regulatory Guide (RG) 8.31. Either the RSO or the HPT are on site daily, including weekends and holidays, to perform radiation safety duties.
Documents Reviewed:	Procedure AD-003; RG 8.31; training records, and personnel interviews

Category:	Management Organization and Controls
Topic:	Management and Administrative Practices for Operational Safety, Radiation Protection, Fire Protection, Chemical Safety, and Nuclear Criticality Safety
Reference:	IP 88005, Section 02.02
Requirement:	License Conditions 9.4, 10.4, 10.17, 12.14; Application Section 5.0; RG 8.31 Section 2.2
Findings:	The inspectors reviewed the licensee's policy for general site safety and security. Standard Operating Procedure (SOP) OPS-002, specifies the responsibilities and authority of managers and employees regarding safety culture and stop work authority. Review, discussion and acknowledgement of the SOP and policies are included in all new employee training. The inspectors questioned the licensee's mangers and staff to determine if safety polices were understood and practiced. The inspectors noted that all employees who were interviewed acknowledged their safety responsibilities and understood to whom they could discuss safety issues.

Documents	Procedures OPS 002 AD 001 AD 002 AD 003; personnal interviews
Reviewed:	Procedures OF 3-002, AD-001, AD-002, AD-003, personner interviews

Category:	Management Organization & Controls
Topic:	Procedure Controls
Reference:	IP 88005, Section 02.03
Requirement:	License Conditions 9.2, 9.3, 9.4, 9.7, 9.10, 10.4, 10.17, 11.1, 11.2, 11.6, 12.14; Application Sections 5.2, 5.3, 5.7
Findings:	The licensee has procedures in place for management to review changes to the facility and procedures. Changes to the facility are evaluated under SERP methods as outlined in the license. Changes to procedures involve processes for management review and concurrence and staff training on these changes. The inspectors reviewed the SOPs related to evaluating and implementing changes and discussed them with licensee staff. The inspectors found the SOPs to be adequate and the staff knowledgeable about changes to processes and procedures to ensure compliance with the license and regulations. The licensee also has a procedure to ensure that all safety related procedures are reviewed annually, at a minimum, by the RSO. The licensee has a document control program to ensure the most updated copy of the procedures is available to staff and old versions are replaced. The inspectors reviewed the SOPs on developing and managing procedures and found them to be in compliance with the license commitments and regulations. The inspectors also interviewed management and staff to determine if they understood the document control system. The inspectors concluded that the licensee had in place a procedure control system that met license requirements.
Documents Reviewed:	Procedures: AD-001, AD-002, AD-003, AD-004, OPS-004, HP-001; Application Section 5.2; personnel interviews

Category:	Management Organization & Controls
Topic:	Problem Identification, Resolution and Incident Investigations
Reference:	IP 88005, Section 02.04
Requirement:	License Conditions 9.7, 9.10, 10.8, 11.1, 11.2, 11.5, 11.6, 12.14; Application Sections 5.2, 5.3, 5.7.9
Findings:	The licensee has several mechanisms in place for identifying and resolving problems and follow-up of incidents and near-miss incidents. Procedure AD-006, Incident Investigation, outlines the response, tracking and follow-up to accidents, injuries, property damage, and environmental impacts. Procedure AD-005, Internal Audit Program, includes methods for tracking audit findings. The licensee also determines if there are any reporting requirements associated with an incident. As part of the incident investigation, the licensee has a method for reporting and tracking near miss incidents to prevent a true incident. The inspectors reviewed the procedures and found them to address identification, reporting, follow-up, and close out of problems and incidents. Interviews with personnel confirmed that the staff knew how to report incidents.

Lost Creek Project Preoperational Inspection Field Notes			
	tracked. The inspectors found that the problem identification and incident resolution program met the commitments of the license and reporting requirements.		
Documents Reviewed:	Procedures OHS-022, AD-005, AD-007; interviews with staff		

Category:	Management Organization & Controls
Topic:	Plant Safety Committees
Reference:	IP 88005, Section 02.05
Requirement:	License Conditions 9.2, 9.4; Application Sections 5.1, 5.2.2
Findings:	The licensee uses the SERP process to make changes to programs and facilities. Procedure AD-003 contains a table that walks through the evaluation process. Section 5.2.2 of the license application describes the SERP organization which consists of a minimum of three individuals to include the RSO, an expert in operations, and a manager responsible for financial approvals. A technical review and safety review will be performed for any proposed changes to the program. A compliance review will also be conducted for program changes to comply with LC 9.4. The inspectors found the SERP program to be adequate to comply with license conditions and the license application.
Documents Reviewed:	Procedure AD-003; interviews with staff

Management Organization and Controls
Quality Assurance Programs
IP 88005, Section 02.06
License Condition 12.14; Application Sections 5.3, 5.7.9
Section 5.7.9 of the approved license application provides the licensee's commitments to a quality assurance (QA) program. The program includes delineation of responsibilities and approval authorities, minimum qualifications and training requirements, written procedures, laboratory quality control (QC), and periodic management audits. The RSO has responsibility for implementing the QA/QC program at the facility and for retaining records. Section 5.3 of the license application also specifies that the QA/QC program will be audited annually. Details about the radiological QA/QC program are provided in the Quality Assurance Project Plan (QAPP) submitted to the NRC for review and verification pursuant to License Condition 12.14 (ML13170A488). The QA/QC program is specified in various SOPs including those for using health physics instrumentation, the radiation protection program, and environmental and
effluent monitoring.

	implementing its QA/QC program through a review of the applicable SOP's and discussions with staff and management. The QAPP has been submitted and will be reviewed and verified by headquarters' staff through issuance of a verification letter forwarded to the licensee. Proper implementation of and compliance with the QA/QC program will be reviewed during future inspections.
Documents Reviewed:	Procedures HP-001 through HP-010, ENV-004 through ENV-008, ENV-013, ENV-014

Category:	In-Situ Leach Facilities
Topic:	Facilities
Reference:	IP 89001, Section 02.05
Requirement:	License Conditions 9.2, 10.4, 10.18, 11.1; Application Sections 1.0, 3.0
Findings:	The inspectors conducted site tours to observe the status of plant equipment. The areas visited include the CPP and ancillary structures including the storage ponds, MU-1, header house 1-1 (HH1-1) and the deep disposal well DW-1. The inspectors conducted walk-downs of site procedures and equipment operability. Overall, the facilities were prepared for operations including drying, drumming, and shipping of yellowcake. The inspectors provided the licensee with suggestions about the various operating procedures to improve the quality of the procedures. The inspectors also reviewed the plant integrated startup procedure and provided suggestions to the licensee for enhancing the clarity of the procedure guidance. The inspectors were aware that plant drawings and procedures may be revised during future startup and plant operations based on as-built plant conditions and changes in operational flow paths. To provide liquid disposal capacity, the licensee installed two DDWs. Additional disposal capacity at the site is provided by two storage ponds. The storage ponds provide surge capacity between the plant and the DDWs. The inspectors toured the ponds, reviewed the construction inspection records, and discussed the pond installation with the facility staff. The inspectors also reviewed the licensee's procedures related to pond inspections and reporting. At the time of the inspection, staff observed that the ponds were capable of holding liquids. The licensee has installed an automated monitoring for the leak detection system. The inspectors also found that the license application and license. The inspectors observed wellheads at selected injection and production wells in MU-1. The licensee incorporated many innovative techniques to detect and monitoring for leaks consistent with the ALARA philosophy. The inspectors observed wellheads at selected injection and production wells in MU-1. The licensee incorporated improvements to the HH design (e.g., fiberglass basement) that adheres to the ALARA philosophy. The inspectors

	constructed in accordance with the license application.
Documents Reviewed:	Figure 1.5-2a (ion exchange process flow path), Figure 1.5-2b (plant process flow path), Figure 3.2-6 (project water balance), and Figure 5.7-1 (main plant layout drawing)

Category:	In-Situ Leach Facilities
Topic:	Equipment and Instrumentation
Reference:	IP 89001, Section 02.06
Requirement:	License Conditions 9.2, 10.4; Application Sections 3.2, 3.3
Findings:	The licensee established procedures for controlling radiation protection equipment, including radiological survey and sampling equipment. The procedures included instructions for instrument calibrations. The licensee also established procedures for monitoring and recording critical plant parameters. Monitoring of critical plant parameters will be accomplished primarily by computer, and operators will have hand held tablets to aid in monitoring. The monitoring hardware and software for the computer system continued to be installed and tested during the inspection; although, the work was nearly complete by the end of the onsite inspection. The inspectors reviewed the installed equipment and instrumentation and compared the components to license and procedure requirements. Overall, the components were found to be in general agreement with requirements with a few exceptions. For example, the licensee redesigned and reinstalled the plant emergency stop pushbuttons based on its reconsideration of the purpose of these pushbuttons. The inspectors reviewed licensee procedures for monitoring plant equipment and instrumentation. For example, the inspectors reviewed the licensee's procedure for responding to alarms and upset conditions. In addition, the inspectors reviewed the licensee's routine plant and well field operational inspection checklists.
Documents Reviewed:	Procedures AD-006, ER-001, OPS-009, OPS-019, OPS-020

Category:	In-Situ Leach Facilities
Topic:	Materials
Reference:	IP 89001, Section 02.07
Requirement:	10 CFR 20.1801 and 1802; License Conditions 9.1, 9.2, 10.2, 10.4; Application Sections 5.6, 5.8
Findings:	The licensee developed a program for receipt and transfer, in-plant possession, and security and control of source material. The licensee has procedures in place for shipping radioactive materials including yellowcake and byproduct waste materials. Procedure HP-015 establishes the security and control of source material. Access to restricted areas is limited by the licensee by

	surveillance and locked entrances. The general site safety and security
	procedures are outlined in OPS-002. The licensee's planned responses to
	security threats are included in ER-004, Crisis Management. Annual dried
	yellowcake production limits are controlled by LC 10.2, Facility Throughput.
Documents Reviewed:	Procedures HP-015, ER-004, OPS-002

Category:	In-Situ Leach Facilities
Topic:	Training
Reference:	IP 89001, Section 02.08
Requirement:	10 CFR 19.12, 49 CFR 172.704; License Conditions 9.2, 9.10, 10.17; Application Sections 5.5, 5.7.9.3
Findings:	The licensee's training program is outlined in Section 5.5 of the license application. The training includes initial, annual refresher, and training on updated policies and procedures. All employees, contractors, and visitors receive commensurate training for the work they conduct. The training program includes industrial safety training as required by Occupational Safety and Health Administration, radiation safety training as required by NRC, function specific training for transportation of radioactive material as required by DOT, and environmental protection training as required by the U.S. Environmental Protection Agency and the Wyoming Department of Environmental Quality. Each type of training program includes classroom, task observation, and annual refresher training. The inspectors determined that the radiation safety training meets the requirements of 10 CFR Part 19, RG 8.31, RG 8.13, RG 8.29, and RG 8.25. Each employee is given initial training, job specific training, and annual refresher training. Section 5.4 of the License Application provides the minimum qualifications for RSO and the health physics technician. Any employee who is designated as a HAZMAT employee, as defined by DOT, is provided initial training, job specific training every 3 years. All employees had completed initial training including radiation safety, industrial safety, and emergency response training. At the time of the inspection, the licensee had adequately trained personnel for operations, radiation safety, and environmental monitoring programs. The senior level personnel had significant experience in operations.
Documents Reviewed:	Procedure AD-010; interviews with personnel

Category:	In-Situ Leach Facilities
Topic:	Area Radiation and Contamination Control
Reference:	IP 89001, Section 02.09
Requirement:	10 CFR Part 20; License Conditions 9.2, 9.6, 9.7, 9.10, 9.11, 10.9, 10.14, 10.15, 10.18, 11.6, 12.10, 12.11; Application Sections 4.0, 5.7
Findings:	The licensee established area radiation and contamination controls in accordance with license and regulatory requirements. The controls include area postings and boundaries. Fences, gates, and perimeter signs are used to help define the site restricted area boundaries. Due to the remote location, most

	deliveries are announced in advance. Breaches of security or loss of control of radioactive material will require activation of the Crisis Management Plan. The licensee had adequate instrumentation to identify surface and removable alpha and beta contamination and to detect radiation areas.
	License Condition 12.11 requires that the licensee submit the survey program for beta-gamma surveys. Inspectors reviewed the program as outlined in the licensee's submittal dated July 12, 2013, and found the program to be adequate, pending final review and written verification of the license condition by headquarters' staff.
	Procedures were in place to perform routine and reactive contamination surveys. Protective clothing was available for work with radioactive material.
Documents Reviewed:	Procedures HP-004, HP-006, HP-007, HP-010, HP-014, HP-015, ER-004, OPS-002, OPS-021

Category:	In-Situ Leach Facilities
Topic:	Radiation Protection
Reference:	IP 89001, Section 02.10
Requirement:	10 CFR Part 20; License Conditions 9.2, 9.6, 9.7, 9.9, 9.10, 10.4, 10.14, 10.15, 10.16, 10.17, 11.2, 11.6, 12.5, 12.10, 12.11, 12.12; Application Section 5.0
Findings:	The licensee established a radiation protection program that met the intent of 10 CFR Part 20, the license, and the license application. Program areas include procedures, use and calibration of instrumentation and equipment, personnel radiation monitoring, bioassays, radioactive air monitoring, and internal and external exposure calculations. Bioassays and dosimetry are sent off site for processing. The radiation training of site staff was complete at the time of the onsite inspections.
Documents Reviewed:	Procedures AD-010, HP-001 through HP-010, HP-13 through HP-19, TR-007, OPS-026, OPS-054

Category:	In-Situ Leach Facilities
Topic:	Environmental Protection
Reference:	IP 89001, Section 02.11
Requirement:	License Condition 12.10; Application Section 5.7.8
Findings:	The licensee has established effluent monitoring and environmental protection programs that include the measurement of radioactive gaseous and liquid effluents as well as monitoring surface water and groundwater. The licensee also established procedures for wellfield design and operation, pond operation, waste water disposal, and groundwater restoration.
	The inspectors reviewed the wellfield procedures and determined that the wellfields can be operated in a manner to prevent excursions, identify potential excursions, and correct excursions that do occur. The licensee established a program for establishing upper control limits and baseline for its wellfields. The

	Lost Creek Project Preoperational Inspection Field Notes
	inspectors found that the licensee has appropriately applied this program in developing the wellfield data package for its first mine unit. The inspectors noted that the licensee would need to document the MU-1 Wellfield Data package through its SERP process for purposes of obtaining "approved" levels.
	The inspectors verified that the licensee's SOPs for sampling of the nearby surface water and groundwater users was in accordance with the license.
	The inspectors verified that the operating procedures for effluent monitoring program were in accordance with the licensee's program design in its response to LC 12.10. Inspectors reviewed the program as outlined in the licensee's submittal dated July 12, 2013, and found they were ready to proceed pending final review and written verification of the license condition by headquarters' staff.
	The inspectors determined that the licensee had constructed the storage ponds in general accordance with the license application and that changes in the pond design from the application (e.g., thickness of the liner) were documented through the SERP process. The constructed ponds include a leak detection system, and the staff reviewed the licensee's procedure for monitoring the storage pond.
Documents Reviewed:	Procedure ENV-007

. .

. .

Category:	In-Situ Leach Facilities
Topic:	Effluent Monitoring Program
Reference:	IP 89001, Section 02.12
Requirement:	License Conditions 10.9, 11.1D; Application Sections 5.7.7, 5.78
Findings:	The licensee established and implemented a program for effluent monitoring. License Condition 10.9 provides the requirements for the effluent and environmental sampling program. The program is described in Application Sections 5.7.7 and 5.7.8. The program consists of air particulate, soil, radon gas, groundwater, and gamma radiation sampling. Surface water samples will be collected as necessary following spills. Various site procedures provide details for collecting and analyzing these samples. Public dose assessments are described in HP-016. Semi-annual effluent reports are required by LC 11.1. The semi-annual reporting requirement is reiterated in Application Section 5.7.7. The inspectors confirmed that the licensee had established procedures for effluent monitoring, and the licensee had the equipment necessary to physically monitor effluents.
Documents Reviewed:	Procedures HP-016, ENV-004, ENV-007, ENV-008, ENV-013, ENV-014, ENV-016

Category:	In-Situ Leach Facilities
Topic:	Air Sampling
Reference:	IP 89001, Section 02.13
Requirement:	License Conditions 9.2, 9.7, 10.15; Application Sections 5.7.3, 5.7.7
Findings:	The licensee established and implemented programs for both occupational and environmental air sampling. The licensee sampled for air particulates and radon gas. The air sampling programs are described in Application Sections 5.7.3 (in-plant sampling) and 5.7.7 (environmental sampling). Detailed instructions for occupational air sampling are provided in Health Physics Procedures HP-005 (radon gas sampling), HP-008 (airborne particulate sampling), and HP-017 (breathing zone air particulate sampling). Detailed instructions for environmental air sampling are provided in Environmental Procedures ENV-004 (air particulate sampling) and ENV-014 (radon gas sampling). Occupational and public dose assessments are described in Health Physics Procedure HP-016. This procedure also establishes action limits with an emphasis on the concepts of ALARA. In addition, the QA Project Plan provides quality assurance/quality control requirements for collected samples.
Documents	Procedures HP-005, HP-008, HP-016, HP-017, ENV-004, ENV-014; Quality
Reviewed:	Assurance Project Plan

Category:	In-Situ Leach Facilities
Topic:	Financial Assurance
Reference:	IP 89001, Section 02.14
Requirement:	License Condition 9.5; Application Section 6.8
Findings:	The annual surety update was submitted to NRC on January 15, 2013. The proposed surety amount was revised to \$8,599,000; an increase of \$6,851,000 from the previously approved surety. The financial assurance estimate includes costs for ground water restoration in MU-1, well plugging and abandonment, building demolition, surface reclamation, and topsoil placement. Staff approved the most recent financial assurance estimate on December 16, 2013. Staff observes that the next financial assurance estimate is due 90 days before the anniversary date of February 10.
Documents Reviewed:	January 2013 surety submittal and May 2013 response to NRC request for information

Category:	In-Situ Leach Facilities
Topic:	Waste Management
Reference:	IP 89001, Section 02.15
Requirement:	License Conditions 9.2, 9.7, 9.9, 10.8; Application Sections 4.2.5, 4.3.2
Findings:	The licensee established programs for management of solid and liquid wastes. Solid wastes will be stored onsite in containers until transfer to the disposal site.

	Liquid wastes will be disposed via DDW. The licensee had a valid contract for disposal of 11e.(2) solid waste at a licensed facility, as required by LC 9.9. The licensee had procedures in place to perform surveys and manifest shipments of solid waste. Two waste water ponds hold liquid waste until released to the DDWs. Trash bins containing radioactive waste will be transferred to an intermodal or dumpster for temporary storage until offsite disposal. The temporary storage bin for the solid waste is located in a restricted area. Paperwork for waste disposal off site included the required manifest forms.
Documents Reviewed:	Procedures HP-013, ENV-010, ENV-011, TR-007, OPS-023, OPS-024

Category:	In-Situ Leach Facilities
Topic:	Transportation
Reference:	IP 89001, Section 02.16
Requirement:	10 CFR 71.5; License Conditions 9.2 9.9; Application Sections 9.2, 9.9, 10.4
Findings:	The licensee established a procedure for transportation of radioactive material, including drummed yellowcake, 11e.(2) byproduct material, and laboratory samples. The training procedure provides instructions for DOT HAZMAT training. The Transportation Emergency Procedure provides instructions for actions to be taken in response to a transportation event.
Documents Reviewed:	Procedures AD-010, HP-013, ER-001, TR-007, TR-009, OPS-054

Category:	In-Situ Leach Facilities
Topic:	Posting and Labeling
Reference:	IP 89001, Section 02.17
Requirement:	10 CFR Part 20; License Conditions 9.2, 9.7, 9.11,10.16; Application Sections 4.3.2, 5.7.3.1, 5.7.6.3, 5.8.2, 5.7.2
Findings:	The licensee established a program for posting and labeling that met the intent of the license and regulations. License Condition 9.11 exempts the licensee from 10 CFR 20.1902(e) area and room posting requirements, as long as entrances to the facility are posted with "Caution: Any Area Within This Facility May Contain Radioactive Material." Postings were observed at the entrance to the wellfield and restricted areas, including the CPP. Caution signs, including Radiation Area and Airborne Radiation Area signs, are available for future use as necessary. The transportation procedure includes the necessary labeling, placarding, and marking requirements for radioactive shipments.
Documents Reviewed:	Procedures TR-007, HP-003, HP-006, HP-008; Radiological Postings

Category:	In-Situ Leach Facilities
Topic:	Generic Communications of Information
Reference:	IP 89001, Section 02.18
Requirement:	None
Findings:	The inspectors discussed with the licensee how NRC Generic Communications or other types of correspondence would be processed. The licensee stated that correspondence is received at the main office in Casper and then distributed to the appropriate manager for action. Communications that should be posted, such as inspection reports, are brought to the facility as appropriate.
Documents Reviewed:	Discussions with licensee management

Category:	In-Situ Leach Facilities
Topic:	Notifications and Reports (as required by the license and 10 CFR Part 40)
Reference:	IP 89001, Section 02.19
Requirement:	10 CFR 20 Subpart M, 10 CFR 40.60; License Conditions 9.2, 9.4, 10.4, 10.8, 10.10, 10.18, 11.1, 11.5, 11.6
Findings:	The licensee established a program for routine and non-routine notifications and reports. The program includes routine reports and reporting of excursions and spills to the NRC. Routine, non-emergency reports include pond repairs, pond inspections, excursions, and operational parameters. License Condition 11.6 specifies that the licensee shall evaluate spills, incidents, and events against the reporting criteria in Parts 20 and 40. If the criteria are met, then the licensee is required to report the events to the NRC Operations Center. These reporting requirements are reiterated in the Emergency Action Plan ER-001. License Condition 10.4C requires that the licensee develop emergency procedures for potential accidents and unusual occurrences, significant equipment or facility damage, spills, loss or theft of yellowcake, and other natural disasters. The licensee had developed procedures in accordance with LC 10.4C. These include ER-001, Emergency Action Plan; ER-002, First Aid and CPR; ER-003, Fire Protection Plan; ER-004, Crisis Management; TR-008, Vehicle Incident; OPS-009, Alarms and Upset Conditions; OPS-021, Spill Management; and HP-015, Licensed Material Security.
Documents Reviewed:	Procedures HP-015, OPS-009, OPS-021, ER-001, ER-002, ER-003, ER-004, TR-008

Category:	In-Situ Leach Facilities
Topic:	Special License Conditions
Reference:	IP 89001, Section 02.20
Requirement:	License Conditions 9.4, 9.8; Application Sections 5.2.2, 7.1
Findings:	The licensee is required to monitor for disturbance of previously unidentified cultural resources and abide by its October 4, 2010, Memorandum of

	Agreement with the Advisory Council on Historic Preservation. The inspectors found that the licensee is abiding by the Memorandum of Agreement and LC 9.8.
	The inspector reviewed the licensee's procedure, AD-003, for establishing SERP evaluations. The inspectors found AD-003 consistent with requirements of LC 9.4. The licensee had performed several reviews through the SERP process prior to the pre-operational inspection. These SERP reviews were conducted in accordance with the licensee's SOPs; however, the inspectors noted that NRC staff reviewing the annual report required by LC 9.4(e) would expect more substantive supporting documentation and page changes to the application for each SERP, as appropriate.
Documents Reviewed:	Procedures AD-002 and AD-003

Category:	In-Situ Leach Facilities
Topic:	Independent and Confirmatory Measurements
Reference:	IP 89001, Section 02.21
Requirement:	NRC Manual Chapter 2641, Section 7
Findings:	The NRC inspectors routinely measure ambient gamma radiation exposures, and on occasion, surface contamination levels. Since the licensee has not commenced with operations, the inspectors did not conduct independent and confirmatory measurements during the pre-operational inspection. However, the inspectors plan to conduct confirmatory measurements during future inspections, after the licensee has started handling radioactive source and byproduct materials.
Documents Reviewed:	NRC Inspection Procedures

Category:	Radiation Protection
Topic:	Radiation Protection Program
Reference:	IP 83822, Section 02.01
Requirement:	10 CFR Part 20; License Conditions 9.2, 9.6, 9.7, 9.10, 10.4, 10.14, 10.15, 10.16, 10.17, 11.2. 12.5, 12.10, 12.11, 12.12; Application Section 5.0
Findings :	The licensee established a radiation protection program that met the intent of 10 CFR Part 20, the license, and the license application. Program areas established include procedures, use and calibration of instrumentation and equipment, personnel radiation monitoring, bioassays, radioactive air monitoring, and internal and external exposure calculations. The licensee has a procedure for performing an annual review of the radiation safety program in accordance with RG 8.31. License Condition 11.2 requires this report to be submitted to the NRC.
Documents Reviewed:	Procedures AD-010, HP-001 through HP-010, HP- 011 through HP-19, OHS- 007, TR-007, OPS-026, OPS-054

Category:	Radiation Protection
Topic:	Radiation Protection Procedures
Reference:	IP 83822, Section 02.02
Requirement:	License Conditions 9.2, 9.6, 9.7, 9.10, 10.4, 12.3, 12.10, 12.11, 12.12; Application Section 5.7.9.3
Findings:	Radiation protection procedures have been established for instrumentation use and control, radiation surveys and release of equipment, internal and external dose monitoring and reporting, air monitoring, radiological controls, and transportation activities. Administrative procedures are in place to ensure SOPs are reviewed annually by the RSO and other responsible managers. Changes in procedures require management approval. Training is provided to licensee's staff when procedures are changed. License Condition 12.11 requires that the licensee submit the survey program for beta-gamma surveys. The inspectors reviewed the program as outlined in the licensee's submittal dated July 12, 2013, and found the licensee ready to proceed, pending final review and written verification of the license condition by headquarters' staff. License Condition 12.12 requires the licensee to submit procedures to ensure unmonitored employees will not exceed 10 percent of the dose limits specified in 10 CFR 20.1201. The inspectors reviewed the program as outlined in the licensee's submittal dated July 12, 2013, and found the license condition by headquarters' staff.
	headquarters' staff.
Documents Reviewed:	Procedures AD-001, AD-009, HP-001 through HP-010, HP- 011 through HP-19; Discussions with radiation safety staff

Category:	Radiation Protection
Topic:	Instruments and Equipment
Reference:	IP 83822, Section 02.03
Requirement:	License Conditions 9.2, 10.14, 12.11; Application Section 5.7
Findings:	The licensee established procedures for controlling radiation protection equipment, including instrument calibrations. The licensee also established procedures, log sheets, and forms for routine monitoring and recording of survey results. The inspectors observed staff appropriately using the exit survey instruments. The types of equipment available are appropriate for the work to be performed.
Documents Reviewed:	Procedure HP-004; Observation of available instrumentation

Category:	Radiation Protection
Topic:	Exposure Controls (external exposure, internal exposure & respiratory protection)
Reference:	IP 83822, Section 02.04
Requirement:	License Conditions 9.2, 9.7, 10.4, 10.18, 11.6, 12.10, 12,11, 12.12; Application Sections 5.7, 5.8
Findings:	The licensee established procedures for measuring and recording internal and external exposures. The licensee also established a radiation work permit process to help control exposures during non-routine activities. The respiratory protection program was implemented to control the inhalation of radioactive material during non-routine maintenance work. The licensee established a bioassay program to monitor for potential uptakes of radioactive material. The licensee also established a program for controlling contamination, including requirements for personnel surveys. The inspectors observed that site employees conducted mock alpha and beta contamination surveys prior to exiting the restricted areas at the CPP in accordance with license requirements. License Condition 12.11 requires the licensee to submit the survey program for beta-gamma surveys. The inspectors reviewed the program as outlined in the licensee's submittal dated July 12, 2013, and found the licensee ready to proceed, pending final review and written verification of the dose limits in 10 CFR 20.1201. The inspectors reviewed the program as outlined in the licensee's submittal dated July 12, 2013, and found the licensee's submittal dated July 12, 2013, and found the licensee's not proceed, pending final review and written verification of the dose limits in 10 CFR 20.1201. The inspectors reviewed the program as outlined in the licensee's submittal dated July 12, 2013, and found the licensee ready to proceed, pending final review and written verification of the licensee's submittal dated July 12, 2013, and found the licensee ready to proceed, pending final review and written verification of the licensee's implementation of personnel contamination surveys. The inspectors will ensure that site workers understand contamination surveys. The inspectors will ensure that site workers understand contamination surveys.
Documents Reviewed:	Procedures HP-001 through HP-010, HP- 011 through HP-19, OHS-007

Category:	Radiation Protection
Topic:	Posting, Labeling and Control
Reference:	IP 83822, Section 02.05
Requirement:	10 CFR Parts 19 and 20; License Conditions 9.2, 9.11; Application Section 5.6
Findings:	License Condition 9.11 provides the posting requirements for the mill. The inspectors confirmed that all entrances were properly posted. In addition, Health Physics Procedure HP-003 includes instructions for daily inspections, including inspection of radiation protection signage. Application Section 5.6 provides the plant security requirements, including requirements for control of the controlled areas. These requirements include security cameras, signage,

	and staff oversight of these areas. General site safety and security
	requirements are provided in Operations Procedure OPS-002, while licensed material security requirements are provided in Health Physics Procedure HP-015.
Documents Reviewed:	Procedures HP-003, OPS-002, HP-015

Category:	Radiation Protection
Topic:	Surveys
Reference:	IP 83822, Section 02.06
Requirement:	10 CFR 20.1501 and 20.2103; License Conditions 9.2, 9.6, 9.7, 9.10, 10.4, 10.15, 12.11; Application Sections 5.7, 5.8
Findings:	The licensee established contamination controls including surveys for surface contamination, personnel, equipment prior to release, and transportation of radioactive material. The licensee had the equipment, procedures, and forms for conducting and documenting these surveys.
	for beta-gamma surveys. The inspectors reviewed the program as outlined in the licensee's submittal dated July 12, 2013, and found the licensee ready to proceed, pending final review and written verification of the license condition by headquarters' staff.
Documents Reviewed:	Procedures HP-006, HP-007, HP-010, HP-014,

Category:	Radiation Protection
Topic:	Notifications and Reports (as required by license and 10 CFR Parts 19, 20, 40)
Reference:	IP 83822, Section 02.07
Requirement:	10 CFR 19.13, 10 CFR Part 20, Subpart M, Reports; License Conditions 9.2, 11.2, 11.6
Findings:	The inspectors reviewed the licensee's program for NRC notifications and reports for the radiation protection program. The requirements include both routine reports and incident reports. Routine reports include the annual radiation protection program review. License Condition 11.2 specifies that the licensee shall provide a copy of the annual program review to the NRC. This requirement is further described in Section 6 of Administrative Procedure AD-007. Further, the requirements for maintaining occupational dose records are described in Health Physics Procedure HP-016. This procedure includes requirements for maintaining dose information on NRC Forms 4 and 5. License Condition 11.6 specifies that the licensee shall evaluate spills, incidents, and events against the reporting criteria in Parts 20 and 40. If the criteria are met, then the licensee is requirements are reiterated in the Emergency Action Plan ER-001.

Documents Reviewed:	Procedures AD-007, ER-001	
------------------------	---------------------------	--

Category:	Radiation Protection
Topic:	As Low As Reasonably Achievable (ALARA)
Reference:	IP 83822, Section 02.08
Requirement:	10 CFR 20.1101(b); License Condition 9.2; Application Sections 5.3.1, 5.3.3
Findings:	The ALARA requirements are specified in Section 5.3.3 of the License Application. This section describes the licensee's ALARA operating philosophy, management and worker responsibilities, and audit requirements. Application Section 5.3.1 provides the instructions for daily, weekly, and quarterly site inspections. These inspections include observation of ALARA principles. Details about the implementation of the ALARA requirements are provided in the QAPP. Individual procedures provide additional instructions for implementing ALARA. For example, Administrative Procedure AD-007 provides instructions for the annual review of the radiation protection program and ALARA audit. This audit includes both radiation protection program and effluent and environmental monitoring programs. Standard Operating Procedure HP- 003 provides instructions for the routine health physics inspections which include ensuring that ALARA principles are being followed. In summary, the licensee has established and implemented an ALARA program.
Documents Reviewed:	Procedures AD-007, HP-003

Category:	Effluent Control and Environmental Protection
Topic:	Management Controls
Reference:	IP 88045, Section 02.01
Requirement:	License Conditions 9.2, 9.10; Application Sections 5.1.4, 5.2.2.2, 5.3.3, 5.7.9.3, Attachment 5-2.1
Findings:	The licensee has established management oversight and controls for the effluent monitoring and environmental protection programs. The Manager of Environment Health and Safety (EHS) and Regulatory Affairs has responsibility and authority for environmental compliance. The SERP is responsible for reviewing proposed changes to the environmental program. The licensee is required to conduct annual audits of the ALARA program, and this audit includes a review of public exposures to radionuclides. The QAPP requires routine audits of the environmental and effluent monitoring programs. Procedure AD-007 provides additional instructions for internal audits including routine audits of the environmental health and safety program, ALARA program, procedures, and recordkeeping. Finally, the license requires that corrective actions be documented.
Documents Reviewed:	Procedure AD-007

Category:	Effluent Control and Environmental Protection
Topic:	Quality Control of Analytical Measurements
Reference:	IP 88045, Section 02.02
Requirement:	License Condition 10.9; Application Section 5.7.9, Attachment 5.2-1; RG 4.14 (referenced in Application Section 5.7.7.1)
Findings:	The QAPP requires that quality control procedures be established for laboratory operations, instrument calibrations, and environmental sampling. Additional quality control requirements are provided in the individual procedures as appropriate. These procedures include the following effluent and environmental sample collection procedures: environmental air particulate (ENV-004); groundwater (ENV-007); soil sampling (ENV-008); ambient gamma (ENV-013); ambient radon (ENV-014); and surface water (ENV-016). Section 6 of the QAPP provides the quality control requirements for the laboratory. Operations Procedure OPS-012, "Laboratory Management and Operations," provides instructions for laboratory quality assurance and quality control. The inspectors will review the laboratory procedure during a future inspection.
Documents Reviewed:	Procedures ENV-004, ENV-007, ENV-008, ENV-013, ENV-014, ENV-016, OPS-012; QAPP

Category:	Effluent Control and Environmental Protection
Topic:	Program Implementation
Reference:	IP 88045, Section 02.03
Requirement:	10 CFR Part 20 Subparts L & M; 10 CFR 40.65; License Conditions 10.9, 11.1D; Application Sections 5.7.7.1, 5.7.8.2, 5.7.8.3
Findings:	The licensee implemented its effluent control and environmental protection program as described in the Application. The licensee established and installed sampling points and monitoring stations for airborne effluents, ambient gamma radiation, soil, and groundwater. The licensee also established a DDW monitoring program, in part, to comply with State of Wyoming requirements. As allowed by the license, the licensee does not plan to sample site vegetation. Because there are no onsite streams or water impoundments, the licensee does not plan to routinely sample for sediments. The licensee plans to sample surface water and sediments only in response to spill events. The licensee established a leak detection and water sampling program for the onsite lined storage ponds. The inspectors toured several sampling stations and confirmed that the stations had been constructed and placed into service. The inspectors also confirmed that the licensee had established procedures for each of the attributes (air, water, etc.) to be sampled. Site procedures provide instructions for routine sample collection, sample station inspection, and instrumentation calibration. The licensee used much of the same equipment and procedures to collect the pre-operational environmental samples. The licensee established action levels for the various environmental samples. At the time of pre-operational inspection, the licensee was operating the effluent and environmental monitoring sampling equipment in accordance with site procedures.
Documents Reviewed:	Procedures ENV-004, ENV-005, ENV-006, ENV-007, ENV-008, ENV-010, ENV-011, ENV-013, ENV-014, ENV-015, ENV-016

Category:	Effluent Control and Environmental Protection
Topic:	Radioactive Liquid Effluents
Reference:	IP 88045, Section 02.04
Requirement:	10 CFR Part 20 Subpart D; 10 CFR 20.2003; License Conditions 9.2, 10.8, 10.9; Application Sections 4.2.5, 5.7.8
Findings:	All liquid effluents from the process waste streams, with the exception of sanitary wastes, shall be returned to the process circuit, discharged to the storage ponds, or disposed of as allowed by NRC regulations. The licensee plans to store waste water in the storage ponds and dispose of waste water via DDW. Currently, the licensee does not plan to use the land application or surface water discharge disposal pathways. At the time of the inspection, the storage ponds and first two disposal wells (LCDW-1 and LCDW-4) were installed and ready for operation. The licensee has received authorization to install up to five DDWs at the site. The licensee has established operational and monitoring procedures for both the storage ponds (OPS-023, ENV-010) and the DDWs (OPS-024, ENV-011). The monitoring procedures include routine inspection requirements and sampling instructions to ensure compliance with NRC license and State/local permit requirements. Instructions for public dose assessments from liquid effluents are addressed in Health Physics Procedure HP-016, "Radiation Dose Determinations." The licensee plans to compare the results of effluent and environmental monitoring to the effluent concentration limits and annual public dose limits provided in 10 CFR 20.1301.
Documents Reviewed:	Procedures ENV-010, ENV-011, OPS-023, OPS-024, HP-016

Category:	Effluent Control and Environmental Protection
Topic:	Radioactive Airborne Effluents
Reference:	IP 88045, Section 02.05
Requirement:	10 CFR 20.1101(d); 10 CFR Part 20 Subpart D; License Conditions 9.2, 10.9; Application Section 5.7.7
Findings:	The licensee established and implemented procedures for monitoring airborne effluents. These effluents include measurement of radioactive particulates, radon gas, and ambient gamma radiation levels. The licensee established procedures and programs for collecting and analyzing airborne effluents. The licensee established 5 air particulate sampling stations and 12 passive gamma/radon sampling stations. The licensee's procedures provide instructions for data analysis and reporting. Instructions for public dose assessments from airborne effluents are addressed in Health Physics Procedure HP-016, "Radiation Dose Determinations." The licensee plans to compare the results of effluent and environmental monitoring to the annual effluent concentration limits and public dose limits provided in 10 CFR 20.1301.
Documents Reviewed:	Procedures ENV-004, ENV-005, ENV-006, ENV-013, ENV-014, HP-016

Category:	Effluent Control and Environmental Protection
Topic:	Procedures for Controlling the Release of Radioactive Liquid and Gaseous Effluents
Reference:	IP 88045, Section 02.06
Requirement:	License Condition 10.4; Application Sections 5.7.7, 5.7.8
Findings:	The inspectors determined that the licensee had implemented regulatory requirements for control of effluents and is adequately following effluent control procedures. In accordance with License Condition 10.4, the licensee developed and implemented written procedures for environmental monitoring. The inspectors confirmed that site procedures incorporated the program requirements as specified in Application Section 5.7.7 for airborne effluents and Section 5.7.8 for groundwater and surface water effluents. Based on records review, interviews, and procedures review, the inspectors confirmed that the licensee was implementing these procedures. The QAPP provides instructions for controlling effluent releases. These controls include assignment of responsibilities, establishment of acceptance criteria, control of data, training of workers, establishment of implementing procedures, and establishment of QA requirements.
Documents Reviewed:	QAPP dated July 2013

Category:	Effluent Control and Environmental Protection
Topic:	Identification and Resolution of Problems
Reference:	IP 88045, Section 02.07
Requirement:	License Conditions 9.2, 9.10, 11.6; Application Section 5.7.9
Findings:	The licensee has established procedures to identify and resolve problems, if identified in the effluent control and environmental protection program areas. The QAPP provides instructions for assigning responsibility, providing training, conducting audits, documenting corrective actions, and recordkeeping. Standard Operating Procedure AD-007 provides detailed instructions for conducting internal audits and implementing the corrective action program. The environmental monitoring and sampling procedures provide instructions for actions to be taken if a sample result exceeds an action level. The licensee is required to conduct an annual program review to include radiological survey data and sampling data. Procedure AD-007 requires any increase in data trends from radiological or environmental monitoring to be included as a deficiency in the corrective action program.
Documents Reviewed:	QAPP; Procedure AD-007

Category:	Maintaining Effluents from Materials Facilities ALARA
Topic:	Management Commitment
Reference:	IP 87102, Section 02.01
Requirement:	10 CFR 20.1101(b); License Conditions 9.2, 10.4; Application Sections 5.3.3, 5.7.6.6
Findings:	The ALARA requirements are specified in Application Section 5.3.3. This section describes management and staff responsibilities for implementing the ALARA concept. This section also requires licensee management to conduct annual audits of the radiation safety and ALARA programs. Section 5.7.6.6 describes the requirements for the ALARA committee. This committee must meet at least annually to review the causes of recent spills. The inspectors noted that the philosophy of ALARA was incorporated into the individual environmental monitoring and sampling procedures. The QAPP provides additional instructions for implementing the ALARA philosophy. In particular, Section 8.1 of the QAPP states that the RSO is assigned sufficient authority to enforce safe ALARA operations, and employees are trained to understand and apply the ALARA philosophy. The QAPP, Section 8.2, provides the instructions for conducting the annual ALARA audit. Similar to the Application, the QAPP stipulates that licensee management shall conduct the annual ALARA audit.
Documents Reviewed:	QAPP

Category:	Maintaining Effluents from Materials Facilities ALARA
Topic:	Audits and Appraisals
Reference:	IP 87102, Section 02.02
Requirement:	10 CFR 20.1101(c), License Conditions 9.2, 9.10; Application Sections 5.3.3, 5.7.6.6
Findings:	The ALARA program audit requirements are provided in Sections 5.3.3 and 5.7.6.6 of the Application. Section 5.3.3 requires licensee management to conduct annual ALARA audits, and Section 5.7.6.6 requires the ALARA committee to conduct an annual review of spills. The QAPP provides additional instructions for performing audits. Standard Operating Procedure AD-007, Section 6.1.3, provides detailed instructions for the annual radiation protection program and ALARA audit.
Documents Reviewed:	QAPP; Procedure AD-007

Category:	Maintaining Effluents from Materials Facilities ALARA
Topic:	Procedures, Engineering Controls, and Process Controls
Reference:	IP 87102, Section 02.03
Requirement:	License Conditions 9.2, 10.4; Application Sections 3.0, 4.0
Findings:	To maintain effluents ALARA, the licensee designed and constructed the plant to minimize releases, and the licensee incorporated ALARA concepts into the

	environmental monitoring and sampling procedures. The licensee designed and constructed the wellfield to minimize the potential for leaks and spills. The wellfield design includes lessons learned from other facilities. The CPP was
	designed and constructed to minimize radon and particulate releases. For example, the licensee uses vacuum drivers to reduce particulate emissions, and
	the licensee designed and constructed the building venting and ventilation systems to minimize radon discharges within the plant. The licensee installed instrumentation to monitor key plant parameters (flow, level, and pressure) for potential spills and leaks. The licensee also developed and implemented operating procedures which incorporated the concept of ALARA. For example, the environmental monitoring procedure for radioactive air particulates (ENV- 004) incorporated an effluent concentration action level that is based on the concept of ALARA. Not all environmental procedures clearly discuss ALARA; although, Procedure AD-007 states the effluent and environmental monitoring
	program is required to be audited annually by the ALARA committee.
Documents Reviewed:	Procedures ENV-004, AD-007

Category:	Maintaining Effluents from Materials Facilities ALARA
Topic:	Instrumentation
Reference:	IP 87102, Section 02.04
Requirement:	License Conditions 9.2, 10.4, 10.9; Application Sections 5.7.7, 5.7.8; RG 4.14 (referenced in Application Section 5.7.7.1)
Findings:	The inspectors reviewed the licensee's program for detecting and quantifying effluents and the licensee's program for maintaining detection instrumentation. The licensee plans to collect and quantify radioactivity in airborne particulates, gaseous radon, ambient gamma radiation, surface water, groundwater, and soil samples. The collection equipment includes air samplers, radon collection canisters, thermoluminescent dosimeters (or equivalent), water samplers, and water sampling instruments (pH, temperature). The inspectors confirmed that the licensee has established procedures for ensuring that air samplers (ENV-006) and the water sampling meters (ENV-015) are properly calibrated for use. The radon and gamma radiation detectors were the types that were commonly used throughout the uranium recovery industry. The replacement times and calibration intervals were found to be in accordance with license requirements. Section 5.0 of the QAPP provides the QA and quality control requirements for radiological effluent and environmental monitoring data and samples. In addition, QA requirements have been incorporated into each individual environmental protection program implementing procedure. In summary, the licensee has established programs for maintaining instrumentation.

	limits of detection that were provided in the RG. The laboratory's reported
	minimum detectable concentrations were sometimes higher than the lower limit
	of detection specified in the RG. In response to the inspectors' concerns, the
	licensee changed laboratories. The current laboratory is expected to meet the
	required lower limits of detection for the environmental samples.
Documents	Dropoduros ENIV 006 ENIV 015: OADD
Reviewed:	FIDEEULIES EINV-DUD, EINV-DID, WAFF

Category:	Maintaining Effluents from Materials Facilities ALARA
Topic:	Surveys and Effluent Monitoring
Reference:	IP 87102, Section 02.05
Requirement:	10 CFR 20.1302, 10 CFR 40.65; License Condition 12.10; Application Sections 5.7.1, 5.7.7, 5.7.8
Findings:	License Condition 12.10A requires the licensee to explain, prior to the preoperational inspection, how the principle radionuclides from all point and diffuse sources will be accounted for and verified by surveys and monitoring. The licensee responded to this license condition by letters dated June 13 and July 12, 2013. In these letters, the licensee states that site procedures have been developed to monitor, to account for, and to quantify principle radionuclides. Inspectors reviewed the program as outlined in the licensee's submittal dated July 12, 2013, and found they are ready to proceed pending final review and written verification of the license condition by headquarters' staff.
	The inspectors confirmed that environmental monitoring sample stations were established to monitor effluent releases. The licensee's staff is required to review the data monthly and to monitor for trends. Further, the licensee installed six additional passive radon canisters immediately downwind of the central processing plant to monitor radon releases. Procedure HP-016 provides action levels, release limits, and public dose limits for site effluents. In summary, the inspectors confirmed that all significant release pathways are being monitored and procedures have been developed and implemented for monitoring site effluents.
Documents Reviewed:	Procedures ENV-004, ENV-008, ENV-013, ENV-014, HP-016

Category:	Maintaining Effluents from Materials Facilities ALARA
Topic:	Worker Training
Reference:	IP 87102, Section 02.06
Requirement:	10 CFR 19.12; License Conditions 9.2, 10.17; Application Section 5.5
Findings:	The inspectors reviewed training procedures, training presentations made to staff, and training records. The inspectors identified that the ALARA concept is a component of worker training. As this is a new facility, future inspections will evaluate the presence of the ALARA concept in periodic retraining.

Lost Creek Proj	ect Preo	perational Ins	pection Field Notes
-----------------	----------	----------------	---------------------

Documents Reviewed:	Procedure AD-010

Category:	Maintaining Effluents from Materials Facilities ALARA
Topic:	Changes
Reference:	IP 87102, Section 02.07
Requirement:	License Conditions 9.2, 9.4; Application Sections 5.2.2, 5.3.3
Findings:	License Condition 9.4 stipulates that the licensee shall analyze possible changes using the SERP process. The licensee provides detailed information about the performance-based license condition in Section 5.2.2 of the Application and Administrative Procedure AD-003. For example, Section 5.2.2.2 states, in part, that the licensee shall review the proposed change to determine if any changes in environmental monitoring and record keeping are required to ensure compliance with existing programs. Application Section 5.3.3 provides guidance for implementing the ALARA concepts. This section states that the annual ALARA audit will be conducted, in part, to ensure compliance with applicable regulations, procedures, and policies. Finally, Procedure AD-002 provides guidance for managing change. This procedure provides instructions for implementing field changes, through use of work orders and radiation work permits, and for ensuring that certain changes are reviewed by the SERP. The inspectors found that the procedures were consistent with the license conditions.
Documents Reviewed:	Procedures AD-002, AD-003

Category:	Inspection of Transportation Activities
Topic:	Preparation of Packages for Shipment
Reference:	IP 86740, Section 02.01
Requirement:	10 CFR 71.5, 49 CFR Parts 171-178; License Conditions 9.2, 9.9; Application Sections 9.2, 9.9, 10.4
Findings:	The inspectors verified that the licensee has established a program to ensure that packages are prepared for shipment as required by NRC and DOT regulations. There are three types of radioactive material considered for shipment by the licensee: (1) shipment of dried yellowcake in 55-gallon drums to a processing facility; (2) shipment of radioactive waste to a licensed disposal site; and (3) liquid and solid samples shipped to an analytical laboratory. The licensee has procedures to ensure that packages have been prepared for shipment including preparation of shipping papers and marking and labeling of packages. Also, the inspectors verified that a program for external radiation and removable contamination monitoring was in place with appropriate survey methods that were able to detect the limits specified in 49 CFR 173.441 and 173.443.
Documents Reviewed:	Procedures TR-007, OPS-026, OPS-054

Category:	Inspection of Transportation Activities
Topic:	Delivery of Completed Packages to Carriers
Reference:	IP 86740, Section 02.02
Requirement:	10 CFR 71.5, 49 CFR Parts 171-178; License Conditions 9.2, 9.9; Application Sections 9.2, 9.9, 10.4
Findings:	The inspectors verified that the licensee had procedures in place for preparation of shipping papers that included the appropriate radiological information, emergency contact number, and certification statement. The licensee had procedures in place for loading and placarding of exclusive-use shipments. The licensee plans to ship yellowcake to a licensed facility for processing. The inspectors reviewed the shipping papers to be used for these shipments and found them to be complete for exclusive-use shipments. The licensee will ship byproduct waste material to a licensed disposal facility. The inspectors ensured that shipment paperwork met the waste shipping and disposal requirements of 10 CFR Part 20, Appendix G requirements. The licensee established procedures for designating HAZMAT employees. The training program for HAZMAT employees was outlined in the licensee's training procedure. All operators will be designated as HAZMAT employees when operations begin. At the time of the inspection, most CPP operators had received training; although, the licensee will provide the required training to all applicable employees prior to performing HAZMAT work including transportation activities.
Documents Reviewed:	Procedure TR-007

Category:	Inspection of Transportation Activities
Topic:	Receipt of Packages
Reference:	IP 86740, Section 02.03
Requirement:	10 CFR 20.1906; License Conditions 9.2, 9.9; Application Sections 9.2, 9.9, 10.4
Findings:	The licensee does not expect to receive any radioactive material shipped as a Type A shipment or greater to the site that requires a receipt inspection, although procedure TR-007 has instructions for receiving packages containing radioactive material.
Documents Reviewed:	Procedures TR-007, TR-009

Category:	Inspection of Transportation Activities
Topic:	Records and Reports
Reference:	IP 86740, Section 02.04
Requirement:	10 CFR 20.2202, 49 CFR 171.15 & 171.16; License Conditions 9.2, 9.9; Application Sections 9.2, 9.9, 10.4

Findings:	The licensee established procedures for reporting of incidents related to radioactive shipments. TR-007 and TR-008 describe the procedures for reporting of incidents related to transportation of radioactive material. Record requirements are provided in Procedure AD-009.
Documents Reviewed:	Procedures TR-007, TR-009, AD-009

Category:	Inspection of Transportation Activities
Topic:	General License Requirements
Reference:	IP 86740, Section 02.05
Requirement:	10 CFR Part 71, Subpart C; 49 CFR 173.410-426
Findings:	The licensee does not plan to ship packages under the general license requirements of 10 CFR Part 71. The inspectors verified that all packages used for shipment of yellowcake and byproduct material are industrial or excepted packages which do not require a general license.
Documents Reviewed:	None

Category:	Inspection of Transportation Activities
Topic:	Management Controls
Reference:	IP 86740, Section 02.06
Requirement:	10 CFR 71.5, 49 CFR Parts 171-178; License Condition 9.2
Findings:	The licensee's procedure, TR-009, DOT Compliance Internal Audit, outlines the responsibilities for ensuring that all radioactive shipments are prepared and shipped in accordance with all applicable regulations.
Documents Reviewed:	Procedure TR-009

Category:	Inspection of Transportation Activities
Topic:	Indoctrination and Training Program
Reference:	IP 86740, Section 02.07
Requirement:	10 CFR 19.12, 10 CFR 71.5, 49 CFR 172 Subpart H; License Conditions 9.2 9.9; Application Sections 9.2, 9.9, 10.4
Findings:	The inspectors reviewed the licensee's training program for HAZMAT employees. The training consisted of interactive computer training, RSO or designee discussions using PowerPoint slides, and hands-on function-specific training. An exam is given to each HAZMAT employee to ensure understanding of the requirements. Training is given within 90 days of hire, or reassignment to a new position requiring knowledge of radioactive shipping, and every three years thereafter. The training documentation maintained by the licensee meets the requirements of 49 CFR 172.704(d). At the conclusion of the preoperational

	inspection, the licensee had not completed the hands-on function-specific
	training for site workers. The licensee is aware that this training has to be
	completed prior to the first shipment of radioactive materials. The inspectors
	will review this program area during a future inspection.
Documents Reviewed:	Procedures AD-010, TR-007

Category:	Inspection of Transportation Activities
Topics:	QA/QC program
Reference:	IP 86740, Sections 02.08 through 02.12
Requirement:	10 CFR 71.101, 10 CFR 71.137
Findings:	These Inspection Procedure sections do not apply to this licensee.
Documents Reviewed:	None

Category:	Inspection of Transportation Activities
Topic:	Records, Reports, and Notifications
Reference:	IP 86740, Section 02.13
Requirement:	10 CFR 71.91(a), 10 CFR 20.1906(d); License Condition 9.2
Findings:	The inspectors reviewed the measures taken to ensure that records of shipments are maintained on file for three years and that the records contain the required information. Procedures ER-001 and TR-008 describe the procedures for reporting incidents related to transportation of radioactive material. Documentation requirements are described in various sections of Procedure AD-008.
Documents Reviewed:	Procedures AD-006, AD-008, ER-001, TR-007, TR-008

Category:	Radioactive Waste Management
Topic:	Management Controls for Waste Classification, Shipping and Burial
Reference:	IP 88035, Section 02.01
Requirement:	License Conditions 9.2, 9.9, 10.8; Application Sections 4.2, 4.3
Findings:	The licensee's procedures HP-013 and TR-007 specify the responsibilities and instructions for classifying, shipping, and disposal of wastes. The RSO has overall responsibility for the classification and shipment of wastes.
Documents Reviewed:	Procedures HP-013, OPS-023, OPS-024, OPS-054, TR-007

Category:	Radioactive Waste Management
Topic:	Quality Assurance
Reference:	IP 88035, Section 02.02
Requirement:	License Condition 9.2; Application Section 5.7.9
Findings:	As described in Procedures TR-009 and AD-007, periodic audits will be conducted to: (1) verify that the QA program is effectively implemented; (2) verify compliance with applicable rules, regulations and license requirements; and (3) protect employees by maintaining effluent releases and exposures ALARA. The RSO has the primary responsibility for implementing the QA/QC programs.
Documents Reviewed:	Procedures TR-009, AD-007

Category:	Radioactive Waste Management
Topic:	Waste Classification
Reference:	IP 88035, Section 02.03
Requirement:	License Condition 9.9; Application Section 4.3.2
Findings:	Procedure HP-013 provides the waste classification instructions for 11e.(2) byproduct material. Wastes generated at this facility resulting from the extraction or concentration of uranium is considered 11e.(2) byproduct material. It is not anticipated that low level radioactive wastes will be generated at this facility.
Documents Reviewed:	Procedure HP-013

Category:	Radioactive Waste Management
Topic:	Waste Form and Characterization
Reference:	IP 88035, Section 02.04
Requirement:	License Condition 9.2; Application Section 5.8
Findings:	Procedure HP-013 provides the waste form and characterization instructions for 11e.(2) byproduct material. It is not anticipated that low level radioactive wastes will be generated at this facility.
Documents Reviewed:	Procedure HP-013

Category:	Radioactive Waste Management
Topic:	Waste Shipment Labeling
Reference:	IP 88035, Section 02.05
Requirement:	10 CFR 71.5; License Condition 9.2; Application Section 5.8
Findings:	Procedures HP-013 and TR-007 provide the waste packaging, preparation, and loading instructions for 11e.(2) byproduct material. The byproduct material marking, labeling, and placarding requirements are provided in the applicable sections of the procedures.
Documents Reviewed:	Procedures TR-007, HP-013

Category:	Radioactive Waste Management
Topic:	Tracking of Waste Shipments
Reference:	IP 88035, Section 02.06
Requirement:	10 CFR 71.5; Application Section 5.8
Findings:	Procedures HP-013 and TR-007 provide the waste packaging, preparation, and loading instructions for 11e.(2) byproduct material. The waste shipments include providing the shipper with a copy of the waste manifest documentation.
Documents Reviewed:	Procedures HP-013, TR-007

Category:	Radioactive Waste Management
Topic:	Disposal Site License Conditions
Reference:	IP 88035, Section 02.07
Requirement:	License Condition 9.9
Findings:	License Condition 9.9 requires the licensee to have a valid 11e.(2) waste disposal agreement with a licensed disposal facility. The inspectors reviewed the licensee's disposal contract and found it to be sufficient for the solid waste disposal requirements.
Documents Reviewed:	Byproduct Material Disposal Agreement; Procedure HP-013

Category:	Radioactive Waste Management
Topic:	Management Controls and Surveys for Solid Waste Storage
Reference:	IP 88035, Section 02.08
Requirement:	10 CFR 71.5; License Condition 9.3; Application Section 4.3.2
Findings:	The licensee has established procedure controls for surveys of solid wastes in

	storage. These surveys are considered part of the routine plant surveys. The RSO will maintain oversight of these surveys as part of the routine plant walk-
Documents Reviewed:	Procedure HP-003, ALARA Commitment and Audit

Category:	Radioactive Waste Management
Topic:	Radioactive Solid Waste
Reference:	IP 88035, Section 02.09
Requirement:	License Condition 9.2; Application Section 4.3
Findings:	The licensee uses intermodal containers for storage and shipment of solid radioactive waste. Solid waste is shipped off-site once the intermodal container is full.
Documents Reviewed:	Procedure HP-013

Category:	Radioactive Waste Management
Topic:	Waste Burial
Reference:	IP 88035, Section 02.10
Requirement:	None
Findings:	This section does not apply to this licensee.
Documents Reviewed:	None

Category:	Radioactive Waste Management
Topic:	Adequacy of Storage Area
Reference:	IP 88035, Section 02.11
Requirement:	License Condition 9.3; Application Section 4.3
Findings:	The storage of solid wastes (i.e., trash) within the CPP is considered part of general plant housekeeping. Inspectors observed that restricted area access is controlled by postings, fencing, gates, or locked doors. Solid wastes stored in laydown yards were stored in fenced-in areas, while wastes stored in dumpsters or intermodals in the yard were identified with container markings and placards. The licensee has identified a container that will be used to store 11e.(2) byproduct material. Inspectors observed that waste or waste packages were stored (or planned to be stored) in a stable manner, were adequately protected from the environment, were segregated from hazardous materials, and were appropriately labeled.
Documents Reviewed:	Procedure HP-013

Category:	Radioactive Waste Management
Topic:	Earthen (Surface) Waste Retention Systems
Reference:	IP 88035, Section 02.12
Requirement:	License Condition 10.8; Application Sections 4.2, 4.3
Findings:	The licensee has two lined ponds. The lined ponds are used for temporary storage or surge capacity for liquids prior to injection into the DDWs. The inspectors visually inspected the storage ponds at the facility. The storage ponds do not fall under the Wyoming Dam Safety Program. The inspectors reviewed the installation records, as well as procedures and SERPs related to the storage ponds. The lined ponds are constructed with two liners, each with operable leak detection systems. The waste disposal system has adequate capacity during startup and foreseeable future operations. Future inspections will evaluate waste disposal capacity. The inspection team determined that the licensee had adequate personnel with appropriate training and adequate procedures to meet the requirements for maintaining the ponds.
Documents Reviewed:	Procedures ENV-10, OPS-23

Category:	Emergency Preparedness
Topic:	Program Changes, Implementing Procedures, Training and Staffing, Offsite Support Agencies, Test Drills and Exercises, Emergency Equipment and Facilities, and Audits and Assessments
Reference:	IP 88050
Requirement:	License Conditions 10.4, 12.2; Application Sections 5.7.1.4, 5.8.2, 7.4, 7.4.7, 7.6
Findings:	The licensee established an emergency preparedness program and associated implementing procedures. The licensee also established a spill response procedure for responding to spills of radioactive and other hazardous liquids. Training includes first aid, cardio pulmonary resuscitation (CPR), fire extinguisher use, first responder awareness, and security-related incident responses. The licensee had equipment available for responding to emergencies. On July 10, 2013, the licensee held a meeting with representatives from Sweetwater County emergency response organization and staff from the Rawlins hospital. At this meeting, the licensee discussed the layout of the facility; the type, quantity, and location of hazardous materials onsite, accidents that commonly occur at ISR facilities, and radiological hazards at ISR facilities. This meeting satisfied the requirement contained in License Condition 12.2.
Documents Reviewed:	Procedures ER-1, ER-2, ER-3, ER-4, TR-8, OPS-9, OPS-21, AD-10

Category:	Fire Protection
Topic:	Program Implementation, Annual Inspection, Identification and Resolution of Problems
Reference:	IP 88055
Requirement:	29 CFR Part 1910; License Conditions 12.2, 10.4; Application Sections 5.7.1.4, 7.6
Findings:	The licensee has established adequate fire protection procedures. This includes general fire safety and prevention, fire protection systems, exit routes, welding and cutting, and hot work permits. The licensee established a routine inspection program for fire extinguishers as well as fire suppression equipment.
Documents Reviewed:	Procedures OHS-4, OHS-10, OHS-15, OPS-28, ER-3