



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

April 12, 2016

Mr. Larry L. Teahon
Crow Butte Resources, Inc.
86 Crow Butte Road
Post Office Box 169
Crawford, NE 69339-0169

SUBJECT: NRC INSPECTION REPORT 040-08943/2016-001 AND NOTICE OF VIOLATION

Dear Mr. Teahon:

This letter refers to the announced, routine U.S. Nuclear Regulatory Commission (NRC) inspection conducted on March 8-10, 2016, at your Crow Butte Resources facility in Dawes County, Nebraska. The purpose of the inspection was to examine activities conducted under your license as they relate to public health and safety, and to confirm compliance with the Commission's rules and regulations and 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. The preliminary inspection findings were discussed with you at the conclusion of the onsite inspection, and the final exit briefing was held with you by telephone on March 17, 2016.

Based on the results of this inspection, the NRC has determined that two Severity Level IV violations of NRC requirements occurred. The violations involve your failure to sample the underdrains of a leaking pond and to submit a corrective action plan for the pond to the NRC within 30 days. The violations were evaluated in accordance with the NRC Enforcement Policy. The current Enforcement Policy is included on the NRC's Web site at (<http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html>). The violations are cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding them are described in detail in the subject inspection report. The violations are being cited in the Notice because they were identified by the NRC during the inspection.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response to the Notice. The NRC review of your response to the Notice will also determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

The NRC also determined that two additional Severity Level IV violations of NRC requirements occurred. Both violations involve an incident that occurred in July 2015 when a visitor entered a radiologically restricted area without authorization. The first violation involves your failure to secure from unauthorized removal or access licensed material stored in a controlled area. The second violation involves your failure to perform and document alpha and beta contamination monitoring of all personnel leaving the restricted area. These licensee-identified and corrected violations are being treated as Non-Cited Violations (NCVs), consistent with Section 2.3.2.b of the Enforcement Policy. These NCVs are described in the subject inspection report.

If you contest the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, Region IV; and the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

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

If you have any questions concerning this inspection, please contact Dr. Robert Evans, Senior Health Physicist, at 817-200-1234, or the undersigned at 817-200-1917.

Sincerely,

/RA by RSBrowder Acting For/

Jack E. Whitten, Chief
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety

Docket: 040-08943

License: SUA-1534

Enclosures:

1. Notice of Violation
2. NRC Inspection Report 040-08943/16-001

cc:

Director, Nebraska Radiation Control Program

Public Document Room
Upper Niobrara-White Natural Resources District
805 East Third
Chadron, Nebraska 69337

Nebraska Department of Environmental Control
Box 94877 Statehouse Station
301 Centennial Mall South
Lincoln, Nebraska 68509

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NOTICE OF VIOLATION

Crow Butte Resources, Inc.
Dawes County, Nebraska

Docket No. 040-08943
License No. SUA-1534

During an NRC inspection conducted March 8-10, 2016, two violations of NRC requirements were identified. In accordance with the NRC Enforcement Policy, the violations are listed below:

- A. NRC License Number SUA-1534, License Conditions 11.4 dated November 12, 2013, and 11.9 dated November 5, 2014, state, in part, that upon verification of a liner leak, the water quality in the affected standpipe shall be analyzed for the five parameters [specific conductance, chloride, alkalinity, sodium, and sulfate] once every 7 days during the leak period and once every 7 days for at least 14 days following repairs.

Contrary to the above, as of July 2, 2014, the licensee failed to analyze the water quality in the affected standpipe once every 7 days during the leak period. Specifically, the licensee identified a liner leak in Commercial Evaporation Pond 4 on May 28, 2014, and analyzed samples on May 29, June 6, June 11, June 25, 2014, and suspended any further analysis of the water quality in the affected standpipe of pond 4. The next analysis should have been performed on July 2, 2014, which was 7 days later, with continued analyses as required by the license condition.

This is a Severity Level IV violation (Section 6.9).

- B. NRC License Number SUA-1534, License Condition 11.9 dated November 5, 2014, requires that upon verification of a liner leak, the licensee shall submit a corrective action plan within 30 days to NRC for review. The corrective action plan will document steps to adequately address the leak and procedures used to verify that the leak has been adequately addressed and permanently fixed. The corrective action plan should also evaluate how much and for how long the diminished waste capacity will impact operations.

Contrary to the above, as of October 23, 2015, the licensee failed to submit a corrective action plan to the NRC for review. Specifically, the licensee failed to submit a corrective action plan documenting the corrective actions, procedures, and impact to facility operations after verification of a liner leak in Commercial Evaporation Pond 4 on September 23, 2015.

This is a Severity Level IV violation (Section 6.9).

Pursuant to the provisions of 10 CFR 2.201, Crow Butte Resources is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, Region IV, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation" and should include for each violation: (1) the reason for the violation, or, if contested, the basis for disputing the violation or severity level; (2) the corrective steps that have been taken and the results achieved; (3) the corrective steps that will be taken; and (4) the date when full compliance will be achieved.

Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued requiring information as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Your response will be made available electronically for public inspection in the NRC Public Document Room or in the NRC's Agencywide Documents Access and Management System (ADAMS), accessible from the NRC 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. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information).

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days of receipt.

Dated this 12th day of April 2016

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket: 040-08943

License: SUA-1534

Report: 040-08943/16-001

Licensee: Crow Butte Resources, Inc.

Facility: Crow Butte Facility

Location: Dawes County, Nebraska

Dates: March 8-10, 2016

Inspectors: Robert Evans, Ph.D., Senior Health Physicist
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety

Bernadette Baca, Health Physicist
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety

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Uranium Recovery Licensing Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety and Safeguards

Approved by: Jack E. Whitten, Chief
Fuel Cycle and Decommissioning Branch
Division of Nuclear Materials Safety

Attachment: Supplemental Inspection Information

EXECUTIVE SUMMARY

Crow Butte Resources, Inc.
NRC Inspection Report 040-08943/16-001

This U.S. Nuclear Regulatory Commission (NRC) inspection was a routine, announced inspection of licensed activities being conducted at the Crow Butte Resources in-situ uranium recovery plant in Dawes County, Nebraska. The licensee was conducting site operations in accordance with procedures, license, and regulatory requirements, with several exceptions as described below.

Management Organization and Controls

- The organizational structure and staffing levels met the requirements specified in the license and were sufficient for the work in progress. The licensee's Safety and Environmental Review Panel evaluations were conducted in accordance with the requirements of the performance-based license. The licensee conducted audits and inspections as required by regulations and the license. The licensee provided the appropriate reports to comply with the Additional Protocol reporting requirements specified in regulations. (Section 1.2)

In-Situ Leach Facilities

- Site operations were conducted in accordance with applicable license requirements. Radiological postings and boundaries were maintained in accordance with regulatory requirements. (Section 2.2)

Radiation Protection

- The licensee implemented a radiation protection program that met the requirements of 10 CFR Part 20 and the license. The annual doses to employees were below regulatory dose limits. Training, radiological surveys, radiation work permits, and respiratory protection programs met license and regulatory requirements. (Section 3.2.a - 3.2.e)
- Two Non-Cited Violations were identified related to the licensee's failure to control access into a radiologically controlled area and failure to ensure that all individuals surveyed out of the restricted area. (Section 3.2.f)

Effluent Control and Environmental Protection and Maintaining Effluents from Materials Facilities As Low As Reasonably Achievable

- The licensee conducted environmental monitoring in accordance with license requirements. The licensee reported the results in semi-annual reports to the NRC. (Section 4.2.a)
- The annual dose to members of the public remained below regulatory limits. (Section 4.2.b)
- The licensee was conducting excursion sampling as specified in the license. Mechanical integrity testing of wells was conducted in accordance with approved procedures. (Section 4.2.c)

Inspection of Transportation Activities and Radioactive Waste Management

- The licensee was conducting solid and liquid waste disposal operations in accordance with license and regulatory requirements. The licensee was conducting yellowcake and solid byproduct waste shipments in accordance with U.S. Department of Transportation and NRC requirements. (Sections 5.2.a - 5.2.c)
- Two violations were identified related to the licensee's failure to sample the underdrains of a leaking pond and failure to submit a corrective action plan for the pond to the NRC within 30 days. (Section 5.2.d)

Implementation of the Decommissioning Planning Rule

- The licensee was in compliance with the requirements of the Decommissioning Planning Rule. The licensee established and implemented plant controls, radiological monitoring, and response programs for spills and releases. The licensee maintained records of releases and updated financial assurance as required by the license. (Section 6.2)

Report Details

Site Status

The Crow Butte Resources, Inc. facility started commercial operations in April 1991. At the time of this inspection, the licensee continued to conduct operations using the in-situ recovery process. Mine Units 7-11 were in production, while Mine Units 2-6 were undergoing groundwater restoration. The groundwater in Mine Unit 1 had been restored and related wells and wellhouses have been decommissioned. Uranium processing and drying operations continued in the Central Processing Plant (CPP), while groundwater restoration equipment continued to be operated in the former R&D Pilot Facility. The licensee also continued to dispose of waste water by evaporation and deep well disposal. In the near future, the licensee expects to begin construction of additional mine units in the Marsland Expansion Area, after approval by the NRC.

1 Management Organization and Controls (88005)

1.1 Inspection Scope

Ensure that the licensee has established an organization to administer the technical programs and performs internal reviews, self-assessments, and audits.

1.2 Observations and Findings

a. Organizational Structure

The licensee's organizational structure is illustrated in Figure 5.1-1 of the License Application. The inspectors reviewed the licensee's current organizational structure against the license requirement.

Since the June 2014 inspection, the licensee implemented three changes to the organizational structure. The first change eliminated the Safety, Health, Environment, and Quality Director position. This change was incorporated into the license application dated November 7, 2007, that was updated and compiled through November 2014; and which was subsequently approved by the NRC via license renewal on November 5, 2014. The second change added the position of General Manager of U.S. Operations and changed the title of the highest ranking individual onsite from General Manager to Mine Manager. Finally, the third change involved a turnover in Radiation Safety Officers (RSOs). The former RSO retired in September 2014, and the licensee's Safety and Environmental Review Panel (SERP) approved the qualifications of the replacement RSO in July 2014. The inspectors concluded the qualifications of the new RSO were adequate.

At the time of the inspection, the licensee had 41 full time employees at the facility. The licensee continued to assign staff to support the safety, health, environment, and quality group. In addition to the RSO, the licensee had one full-time health physics technician (HPT). The licensee employed contractors for drilling operations and other work as needed. In summary, the current organizational structure was in agreement with the SERP-approved structure, and the licensee had sufficient staff to implement the operational, radiation safety, groundwater, and environmental monitoring programs.

b. Safety and Environmental Review Panel

License Condition 9.4 dated November 12, 2013, and November 5, 2014, of the performance-based license requires, in part, that the licensee establish a SERP process to evaluate whether program changes require an NRC license amendment prior to implementation. The inspectors reviewed the licensee's SERP evaluations performed since the previous inspection. In summary, the inspectors concluded that the licensee implemented the SERP process in accordance with license requirements.

The licensee conducted 10 SERP evaluations in 2014, seven evaluations in 2015, and two evaluations in 2016. The evaluations included approval of additional wells, radiation protection staff qualifications, organizational changes, deep disposal well (DDW) permit changes, and restricted area boundary changes. The licensee reported the results of the SERP evaluations in annual reports to the NRC as required by License Condition 9.4(E). The annual report for 2014 was submitted to the NRC by letter dated January 8, 2015 (ML15014A427), while the annual report for 2015 was submitted to the NRC by letter dated January 8, 2016 (ML16014A693).

c. Audits and Inspections

The inspectors reviewed routine audits and site inspections required by regulations and the license. To begin with, 10 CFR 20.1101(c) requires annual audits of the radiation safety program. In addition, effective on November 5, 2014, License Condition 11.2 requires in part, that the licensee submit the results of the annual review of the radiation protection program content and implementation to the NRC. The inspectors reviewed the annual audits for 2014 and 2015. The 2014 audit was submitted to the NRC by letter dated April 8, 2015 (ML15110A334). The 2015 audit was available for onsite review but had not been formally submitted to the NRC by the conclusion of the onsite inspection. Both audits included reviews of occupational exposures, radiation survey results, training activities, and compliance with license and regulatory requirements. Included in the annual submittal was a copy of the most recent land use survey. The inspectors found that the audits met the requirements of 10 CFR 20.1101(c) and License Condition 11.2, as appropriate.

The inspectors reviewed the routine site inspections required by License Conditions 9.2, 9.7, and 11.9, dated November 5, 2014. The licensee was conducting and documenting daily walk-through inspections of all work and storage areas within the facility, to ensure that good radiation practices were being followed. The RSO, HPTs, or other qualified designated operator performed the daily walk-throughs. In accordance with License Condition 9.7, the licensee implemented a training program for plant operators to conduct the daily walk-throughs when the RSO and HPT are not present; in particular, during weekends and holidays. The inspectors reviewed the designated operator training program and confirmed that operators who performed the daily walk-throughs had received the required training.

The RSO, or an HPT when the RSO was not available, performed weekly inspections of all facility areas to observe general radiation control practices and review changes in procedures and equipment. Also, the RSO generated a monthly report that summarized the results of the daily and weekly inspections as well as monitoring and radiation exposure data. The inspectors reviewed selected records for 2014-2015 and

concluded that these routine inspections were being conducted and recorded in accordance with license requirements.

License Conditions 11.4 dated November 12, 2013, and 11.9 dated November 5, 2014, and License Application Section 5.4.2 specify that the licensee must perform evaporation pond inspections. The inspectors reviewed recent pond inspection documentation, toured the Commercial Evaporation Ponds, and discussed the pond inspection requirements with licensee staff to determine if the routine inspections were being performed. The inspectors confirmed that the licensee had established and implemented daily and weekly pond inspections. In addition, the licensee conducted detailed annual inspections of the ponds as required by the license. The most recent annual report was submitted to the NRC by letter dated November 2, 2015 (ML15322A127).

d. Additional Protocol Verification

The inspectors verified that the licensee had provided the NRC with appropriate documentation to comply with the requirements of 10 CFR 75.11, which relates to the Agreement between the U.S. and the International Atomic Energy Agency for the Application of Safeguards in the U.S. The licensee presented four of the necessary forms that provide contact information, capacity of yellowcake production, actual annual yellowcake production, and quantity of yellowcake on hand. The licensee also explained how it collected the information for reporting. The inspectors concluded that the reports for 2014-2015 were accurate, complete, and consistent.

1.3 Conclusions

The organizational structure and staffing levels met the requirements specified in the license and were sufficient for the work in progress. The licensee's SERP evaluations were conducted in accordance with the requirements of the performance-based license. The licensee conducted audits and inspections as required by regulations and the license. The licensee provided the appropriate reports to comply with the Additional Protocol reporting requirements specified in regulations.

2 In-Situ Leach Facilities (89001)

2.1 Inspection Scope

Determine if in-situ recovery activities were being conducted in accordance with regulatory requirements and the license.

2.2 Observations and Findings

At the time of this inspection, uranium recovery operations were in progress in Mine Units 7-11. Thirty-eight header houses were in service in these mine units. Mine Unit 1 had been restored, Mine Units 2 and 3 remain in stability monitoring, and Mine Units 4-6 were in restoration. Three reverse osmosis units were in service supporting restoration operations. The licensee continued to produce uranium in the CPP using both up-flow and down-flow ion exchange columns. The licensee continued to dry uranium using a vacuum dryer. The licensee had partially installed a second dryer, but the licensee had not placed this second dryer into service.

Uranium solution mining is a process that takes place underground, or in-situ, by injecting lixiviant (leach) solutions into the ore body and then recovering these solutions when they are rich in uranium. License Condition 10.1 dated November 12, 2013, and November 5, 2014, provides the limitations for the lixiviant. The licensee was using a lixiviant composed of native groundwater, sodium carbonate, and oxygen, as allowed by the license.

License Conditions 10.8 dated November 12, 2013, and 10.2 dated November 5, 2014, provide limits for the dryer emission controls. During site tours, the inspectors observed and discussed these emission controls with licensee staff. The inspectors confirmed that the licensee continued to maintain the dryer effluent control system as specified in the license.

The licensee is required to develop standard operating procedures for operational activities per License Condition 10.3 dated November 5, 2014. In addition, Chapter 3 of the License Application, referenced in License Condition 9.2 dated November 5, 2014, provides general guidance and limitations for site operations. The inspectors reviewed procedures and compared as-found operations with the instructions provided in the procedures. The procedures reviewed included wellfield, DDW, production, and injection operations. In summary, the licensee was operating the plant in accordance with site procedures and License Application commitments.

License Conditions 10.5 dated November 12, 2013, and 10.13 dated November 5, 2014, limit the maximum plant flow rate to 9,000 gallons per minute (gpm), excluding restoration flow. During the inspection, the combined production flow was 5,100 gpm, while the combined injection flow was 4,558 gpm. The restoration recovery flow rate to Mine Units 3-5 was 554 gpm, while the restoration injection flow rate was 449 gpm. The licensee reported the average operating flow rates in the semi-annual radiological and environmental monitoring reports. The licensee's records indicate that the average flow rate has remained below the 9,000 gpm limit in 2014-2015. The annual uranium production limit is also provided in the same License Conditions. The inspectors reviewed the licensee's records and confirmed that actual production was less than the licensed limit of 2 million pounds of yellowcake per year.

License Application Section 3.1.3, Wellfield Design and Operation, states that the difference between the amounts of water produced and injected is the wellfield "bleed." The bleed rate will be a nominal 0.5 percent of the total wellfield production rate and the maximum bleed rate typically approaches 1.5 percent. The licensee reported the bleed rate in its semi-annual reports to the NRC. The bleed rates in 2014-2015 ranged from 1.5 to 3.2 percent. In summary, the actual bleed rates were above the minimum bleed rate of 0.5 percent as specified in the License Application.

Pursuant to License Condition 10.7 dated November 5, 2014, the inspectors selected a sample of facility records for Mine Unit 11 to verify that the licensee was maintaining an inward hydraulic gradient. The inspectors reviewed average daily bleed rate data and hydrographs (i.e., time-series graphs of monthly ground water level measurements) for perimeter monitoring wells CM11-07, CM11-09, CM11-10, and CM11-11 from January 1, 2015, to February 1, 2016. The records indicate that an inward hydraulic gradient had been maintained at the mine unit.

During the inspection, the inspectors identified a minor error in the licensee's bleed rate calculation. In particular, the licensee did not properly account for the pond water treatment system flow. As a result, the licensee over-estimated the bleed rate by about 0.15-0.20 percent. This finding was not safety significant because the actual bleed rate remained above the license-required minimum bleed rate during the last two years. The licensee agreed to revise its calculation prior to submittal of the next semi-annual report to the NRC.

License Condition 10.14 dated November 5, 2014, provides a 100-pounds per square inch pressure limit on injection flow pressures. The licensee's records indicate that the injection manifold pressures in 2014-2015 were less than the licensed limit. During site tours, the inspectors confirmed that injection pressures remained less than the licensed limit.

License Conditions 10.6 dated November 12, 2013, and 10.16 dated November 5, 2014, provide the limits for evaporation pond freeboard. The inspectors confirmed that the freeboard levels in the five onsite ponds were below the licensed limits.

License Conditions 10.7 dated November 12, 2013, and 10.17 dated November 5, 2014, provide the liquid effluent disposal pathways. At the time of the inspection, the licensee disposed of waste water through evaporation in the evaporation ponds and discharge in the DDWs. Although allowed by the license, the licensee did not dispose of liquid effluents via land irrigation.

Site tours were conducted, in part, to observe radiological postings and boundaries. The inspectors noted that all entrances to the facility were posted as required by License Condition 9.11 dated November 5, 2014. The inspectors performed independent radiological surveys using an NRC-issued Ludlum Model 19 microRoentgen survey meter (NRC No. 015546, calibrated to radium-226, calibration due date of 08/12/16). The inspectors did not measure any areas greater than 5,000 microRoentgen per hour which the licensee had not previously identified and posted as a radiation area. In summary, the inspectors determined that the licensee's posting and boundaries were in compliance with license, license application, and regulatory requirements.

2.3 Conclusions

Site operations were conducted in accordance with applicable license requirements. Radiological postings and boundaries were maintained in accordance with regulatory requirements.

3 **Radiation Protection (83822)**

3.1 Inspection Scope

Determine if the licensee's radiation protection program was in compliance with license and 10 CFR Part 20 requirements.

3.2 Observations and Findings

a. Occupational Exposures

The inspectors reviewed the licensee's occupation exposure records for calendar years (CY) 2014-2015. Approximately 70 employees and contractors were monitored during the two year period for external exposures using optically stimulated luminescence dosimeters that were exchanged on a quarterly basis. Occupationally monitored employees included plant operators, health physics staff, laboratory staff, and wellfield operators. The highest deep dose equivalent exposure for calendar year 2014 was 196 millirem to a plant operator. For CY 2015, the highest deep dose equivalent exposure was 184 millirem, also received by a plant operator. These doses were below the 5,000 millirem annual limit established in 10 CFR 20.1201(a).

The licensee conducted air sampling, in part, to assess internal exposures. The inspectors reviewed the licensee's radon progeny, uranium particulate, and worker breathing zone air sample results for CY 2014-2015. The highest exposure for radon progeny in CY 2014 was 0.133 working level months to a plant operator. In CY 2015, the highest exposure to radon progeny was 0.137 working level months to a dryer operator. These maximum exposures were below the annual regulatory limit of 4 working level months. The highest airborne uranium particulate exposure in CY 2014 (1.63 E-2 microcurie) was to a dryer operator. In CY 2015, the highest uranium particulate exposure (1.58E-2 microcurie) was received by a dryer operator. These maximum exposures were below the regulatory limit of 1.0 microcurie. The inspectors confirmed that the licensee had conducted air sampling at the required intervals.

The inspectors reviewed the bioassay program to verify compliance with License Conditions 9.7, 11.7, and 11.8 dated November 5, 2014, and License Conditions 11.8 and 11.9 dated November 12, 2013. Urine bioassays were collected to ensure that the respiratory protection program and engineering controls for airborne uranium were being appropriately utilized. The licensee submitted the bioassays to an outside analytical laboratory for analysis on a monthly basis for yellowcake dryer operators and quarterly for CPP operators and others in the bioassay program. Since the previous inspection, no bioassay result exceeded the action level of 15 micrograms of uranium per liter of urine. The inspectors also verified that bioassay quality assurance/quality control procedures were completed in accordance with License Condition 9.7 requirements.

The highest total effective dose equivalent received for CY 2014 was 437 millirem to a dryer operator. For CY 2015, the highest total effective dose equivalent received was 389 millirem to a dryer operator. These occupational exposures were below the annual regulatory limit of 5,000 millirem.

b. Training

The inspectors reviewed the licensee's radiation safety training procedures and training documentation. The licensee's training program requirements are provided in License Condition 9.7 dated November 5, 2014, which includes a requirement to follow the guidance in Regulatory Guide 8.31, and License Application Section 5.6. The inspectors reviewed the radiation safety training procedures, training course material for new employees, annual refresher training course material, and written

exams. The inspectors concluded that the licensee's implementation of its training program met license requirements.

The licensee conducted annual refresher training on April 23, 2014, and April 15, 2015. Records indicate that approximately 115 employees and contractors completed annual refresher training and 11 new employees and contractors completed initial radiation safety training during 2014-2015. Employees performing duties related to the U.S. Department of Transportation (DOT) hazardous materials shipping had training within the past three years, in accordance with the requirements of 49 CFR 172.702. All annual and refresher radiation safety training activities and records were found to be in accordance with license requirements.

c. Radiation Protection Surveys

The inspectors reviewed selected records for 2014-2015 for in-plant radiological surveys that included routine radiation exposure, fixed and loose surface contamination for unrestricted and restricted areas, in-plant air uranium and radon progeny, and material release surveys. The inspectors reviewed the results for the monthly radon progeny samples in the plant. The highest average radon progeny concentration during CY 2014-2015 was 0.018 working levels. During the same time frame, the maximum radon progeny concentration was 0.66 working levels.

The inspectors also reviewed the monthly area airborne uranium samples. For CY 2014-2015, the highest plant average uranium concentration was 1.9 E-12 microcuries per millimeter. For this same time period, the highest plant maximum uranium concentration was 1.11 E-9 microcuries per millimeter. In summary, the inspectors reviewed the survey results for CY 2014-2015 and found them to be in compliance with the requirements of the license.

d. Radiation Work Permits

Since the previous inspection, the licensee issued 31 radiation work permits. The radiation work permits were related to inspecting, clean-out, and maintenance of the precipitation tank, demisters, bicarbonate mix tank, ion exchange columns, down-flow tanks, drier, deep disposal wells, and reverse osmosis system. The inspectors noted that the radiation work permits included the appropriate personal protective equipment, respiratory protection, and air monitoring requirements. In summary, the radiation work permits were reviewed in conjunction with the licensee's internal procedures and license requirements and were found to have met these requirements.

e. Respiratory Protection

The inspectors examined respiratory protection equipment and reviewed the licensee's procedures for respiratory protection. All respirators used at the facility are National Institute for Occupational Safety and Health certified, and the respirators examined by the inspectors appeared to be in like-new condition. The licensee's respiratory protection procedures included fit-testing of respirators for employees, inspection and storage of respirators, and annual audits of the respiratory protection program. The inspectors found the licensee's respiratory protection program to be in accordance with license application and regulatory requirements.

f. Licensee Identified Violation

The inspectors reviewed a licensee identified violation that occurred on July 10, 2015, when a RSB Logistics Inc. driver entered the CPP without an escort and exited the CPP without performing a personnel contamination survey (frisk) for licensed material. The driver was delivering an empty trailer to the site and entered the radiologically restricted area looking for someone to assist him. After exiting the radiologically restricted area, the driver was intercepted while walking around the south side of the plant and was escorted to the front office. On July 13, 2015, health physics staff became aware the driver had entered the radiologically restricted area from an east bay door and exited a south bay door without an escort and without performing a personnel contamination survey prior to exiting the restricted area.

The licensee implemented corrective actions that limited unauthorized access to the restricted area by installing scissor gates at all bay doors. In addition, the licensee performed a conservative dose assessment of the driver's exposure for the time period the individual was in the central processing plant. Based on the results, the licensee determined that the individual received a total effective dose equivalent of less than 0.1 millirem, which is less than the regulatory limit of 100 millirem/year.

The requirement in 10 CFR 20.1801 states that the licensee shall secure from unauthorized removal or access licensed materials that are stored in controlled or unrestricted areas. Contrary to the above, on July 10, 2015, the licensee failed to secure from unauthorized access to licensed materials that were being stored in the CPP's radiologically restricted area. As a result, a member of the public (a truck driver) was able to enter the area without an escort (NCV 040-08943/1601-01).

The requirement in 10 CFR 20.1501(a) requires, in part, that each licensee shall make or cause to be made, surveys that may be necessary to comply with the regulations in Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels; and concentrations or quantities of residual radioactivity; and the potential radiological hazards of the radiation levels and residual radioactivity detected.

As defined in 10 CFR 20.1003, *survey* means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation.

The licensee's Health Physics Manual, Volume IV, Section 5.5.4, "Personnel Monitoring," states, in part, that all personnel leaving the restricted area are required to perform and document alpha and beta contamination monitoring.

Contrary to the above, on July 10, 2015, the licensee failed to ensure that all personnel leaving the restricted area had performed and documented alpha and beta contamination monitoring. Specifically, a member of the public (a truck driver) who entered the radiologically restricted area did not perform a personnel contamination survey for residual radioactivity after exiting the area. This failure was safety significant because the individual could have left the site with contamination above the release limits (NCV 040-08943/1601-02).

These two non-repetitive, licensee-identified, and corrected violations are being treated as Severity Level IV Non-Cited Violations, consistent with Section 2.3.2.b of the NRC Enforcement Policy.

3.3 Conclusions

The licensee implemented a radiation protection program that met the requirements of 10 CFR Part 20 and the license. The annual doses to employees were below regulatory dose limits. Training, radiological surveys, radiation work permits, and respiratory protection programs met the license and regulatory requirements. Two Non-Cited Violations were identified related to the licensee's failure to control access into a radiologically restricted area and failure to ensure that all individuals perform contamination surveys upon leaving the restricted area.

4 **Effluent Control and Environmental Protection and Maintaining Effluents from Materials Facilities ALARA (88045, 87102)**

4.1 Inspection Scope

Determine if the environmental and effluent monitoring programs were effective to monitor the impacts of site activities on the local environment.

4.2 Observations and Findings

a. Environmental Monitoring

The effluent and environmental monitoring program and reporting requirements are specified in License Conditions 11.3 and 12.1 dated November 12, 2013, and in License Application Sections 5.8.7 and 5.8.8 and License Conditions 11.1(D) and 11.13 dated November 5, 2014. The environmental monitoring program included radon, airborne particulate, gamma radiation, surface water, soil, and sediment sampling. The results of sampling are presented in semi-annual reports to the NRC. The inspectors reviewed the reports for CY 2014-2015, reviewed selected records used in the development of the reports, and interviewed site staff. In summary, the inspectors concluded that the licensee had implemented the environmental monitoring program in accordance with license requirements.

The licensee's effluent and environmental monitoring program has expanded over time. In the first half of CY 2015, the licensee added four new environmental sample stations, in addition to the existing seven stations. These four stations are located around the CPP within the permit area boundary. The licensee also added a sampling station at the revised location of the nearest residence. This change in nearest residences was identified during the annual land use survey. At the time of the inspection, the licensee was collecting ambient environmental data at 12 sampling stations including one environmental control station.

During the second half of CY 2015, the licensee started collecting soil samples at the perimeter sampling stations, as required by License Condition 11.15 dated November 5, 2014. The licensee also collected ambient gamma radiation measurements at 13 locations within the permit boundary on a temporary basis. This information was voluntarily included in the semi-annual report for the second half of CY 2015.

On January 2, 2015, the licensee submitted its proposed operational airborne effluent and environmental monitoring program to the NRC as required by License Condition 11.11 dated November 5, 2014. On January 6, 2016, the NRC documented its review and verification that the requirements of License Condition 11.11 had been met (ML15345A256). During the first half of CY 2016, the licensee implemented its sampling program and the respective sample results will be included in future semi-annual effluent reports.

The inspectors reviewed the licensee's environmental monitoring reports for CY 2014-2015 and the information used in the development of the reports. To begin with, the licensee estimated the quantity of radon-222 released due to site operations. The amount of radon-222 released was proportional to plant flow rates. The inspectors noted that the licensee's estimates for CY 2014-2015 were bounded by the radon modeling estimate provided in Section 7.12.5, Exposures from Air Pathways, of the License Application.

The licensee monitored radon-222 at the environmental sample stations. The licensee elected to place three detectors at each sampling station, in part, to measure the potential variability in data as compared to using only one detector. The results for CY 2014-2015 indicate that radon-222 concentrations ranged between 2 to 7-percent of the effluent concentration limit, with a background range of 2 to 4-percent of the limit. As noted above, the licensee added four sampling stations within the permit area boundary around the CPP in CY 2015. The sample results for these stations ranged from 4 to 19-percent of the effluent concentration limit.

The sample stations were used to measure natural uranium, radium-226, and lead-210 concentrations in air. The licensee also voluntarily measured thorium-230 concentrations in air. The results for CY 2014-2015 indicate that all sample results were less than 7-percent of the respective effluent concentration limits.

The licensee measured ambient gamma radiation levels at the sample stations using dosimeters that were exchanged quarterly. The highest combined annual ambient gamma radiation levels for CY 2014-2015 were measured at boundary station AM-8. The combined result for CY 2014 was 43.3 millirem at this location, with a background of 35.1 millirem. The combined quarterly result for CY 2015 was 37.8 millirem at AM-8, with a background of 33.3 millirem.

The licensee collected quarterly samples from all surface waters and water supply wells within one kilometer of the active wellfield boundary. During CY 2014-2015, elevated concentrations of natural uranium were identified in samples collected from two impoundments, one stream, and one livestock well. The licensee is not required to take any specific action in response to the elevated concentrations.

Stream sediment samples were collected annually from two streams and three impoundments. The samples were analyzed for natural uranium, radium-226, and lead-210 concentrations. No specific limit has been established for sediment samples, and the licensee continued to trend the sample results.

Finally, pursuant to License Condition 11.15 dated November 5, 2014, the licensee began collecting soil samples in CY 2015 at the environmental sample stations. The licensee analyzed the samples for uranium, radium-226, and lead-210 concentrations.

There are no specific limits for soil samples, and the licensee plans to trend the sample results over time.

b. Doses to Members of the Public

The licensee conducted annual assessments of public doses as required by 10 CFR Part 20. The maximum public dose for CY 2014, 52.6 millirem/year total effective dose equivalent, was calculated using data from the nearest residence air monitoring station AM-2. The maximum dose for CY 2015, 66 millirem/year, was calculated using data from the nearest residence air monitoring station AM-9. (The licensee added sample station AM-9 during CY 2015 in response to the results of the annual land use survey.) The assigned doses were primarily from radon-222 and its progeny. These maximum doses were less than the annual limit (100 millirem/year) specified in 10 CFR 20.1301(a)(1).

c. Wellfield and Excursion Monitoring

License Condition 11.2 dated November 12, 2013, and 11.5 dated November 5, 2014, specifies, in part, the monitoring well sampling requirements and the criteria for placing a well on excursion status. The licensee's groundwater sampling program requirements include biweekly monitoring of well sampling in active mine units, weekly sampling of wells in excursion status, and lower-frequency well sampling in mine units under restoration. The inspectors reviewed the licensee's groundwater sampling records from July 2014 to July 2015 to determine whether the licensee was collecting samples at the required frequency and whether excursions were properly identified. The inspectors selected monitoring data at random and confirmed that the licensee's automated excursion reporting system was functioning properly. Data from known excursions were also reviewed to ensure that the monitoring frequency had been increased according to the respective license requirements. The inspectors concluded that the licensee was implementing the groundwater monitoring program in accordance with license requirements.

The inspectors reviewed the licensee's spill records for CY 2015 pursuant to the requirements of License Condition 11.6 dated November 5, 2014. According to the licensee's records, 16 spills occurred resulting in a total of 8,768 gallons of unrecovered fluids. Of the total unrecovered volume, 2,062 gallons of production fluid were released. The inspectors confirmed that none of these spills were reportable to the NRC.

The inspectors reviewed recent mechanical integrity testing (MIT) documentation to determine whether test results were being appropriately reported and to ensure that tests were being performed in accordance with License Conditions 10.2 dated November 12, 2013, and 10.5 dated November 5, 2016. The facility's 5-year cycle MIT scheduling database system was reviewed, and the inspectors verified that wells were being scheduled for retest every five years.

The inspectors observed an MIT in progress at injection Well I-1046 and verified that the test was performed in accordance with instructions provided in Standard Operating Procedure P-23 of the facility's operating manual. The inspectors determined that the licensee was performing and documenting the well MITs in accordance with the license.

Finally, the inspectors visited the site of overlying aquifer well SM10-18, a well that has experienced excursions in the past reportedly due to ponding of purge and storm water around the wellhead, as a consequence of the well inadvertently not being shut off at the header house following routine sampling. In response to the excursions, the licensee took several corrective actions. The inspectors observed that the well had been equipped with a dedicated gas-powered pump jack and a discharge pipe that extended about 40 feet downgradient. In addition, the top of casing had been extended above ground level and the soil was re-contoured around the wellhead to promote drainage. Well SM10-18 was removed from excursion status in June 2015, and the licensee continues to routinely monitor the well on a bi-weekly basis in accordance with License Condition 11.5 dated November 5, 2014, requirements.

4.3 Conclusions

The licensee conducted environmental monitoring in accordance with license requirements. The licensee reported the results in semi-annual reports to the NRC. The annual dose to members of the public remained below regulatory limits. The licensee was conducting excursion sampling as specified in the license. Mechanical integrity testing of wells was conducted in accordance with approved procedures.

5 Inspection of Transportation Activities and Radioactive Waste Management (86740, 88035)

5.1 Inspection Scope

Determine whether transportation and radioactive waste disposal activities were being conducted in compliance with license requirements.

5.2 Observations and Findings

a. Inspection of Transportation Activities

The licensee shipped containers of 11e.(2) wastes and drums of yellowcake on a routine basis, activities which fall under NRC and DOT hazardous material shipping regulations. The licensee shipped yellowcake product to Canada for processing. The licensee shipped a total of 23 yellowcake shipments during 2014-2015. Since January 2014, the licensee made five shipments of waste to a licensed facility. The inspectors reviewed a selected sample of shipping records and found them to be complete and in accordance with DOT and NRC regulations.

b. Solid Byproduct Waste

License Conditions 9.7 dated November 12, 2013, and 9.9 dated November 5, 2014, requires, in part, that the licensee maintain a waste disposal agreement to dispose of 11e.(2) byproduct material at an offsite location. The inspectors reviewed the waste disposal agreement and noted that it was valid until 2020. Material sent for disposal consisted of 11e.(2) contaminated equipment such as filters, pipes, pumps, and soil.

License Condition 10.18 dated November 5, 2014, states, in part, that the licensee shall maintain an area within the restricted area boundary for temporary storage of contaminated materials. The inspectors observed that the licensee maintained two

restricted areas for waste storage bins. These two areas were secured from unauthorized access with fences and gates.

c. Wastewater Disposal

Consistent with License Condition 10.7 dated November 12, 2013, and 10.17 dated November 5, 2014, the licensee disposed of plant wastewater using two DDWs and several evaporation ponds. The licensee provided the inspectors with the waste disposal rates recorded over the past two years for each of the two operating DDWs. The licensee presented the information in monthly and semi-annual reports, including volumes of water disposed, disposal flow rates, and injection pressures. The semi-annual reports for CY 2014-2015 documented that the disposed water contained less than the permitted limits for natural uranium and radium-226 concentrations in the waste water.

d. Review of Commercial Evaporation Pond 4 Liner Leak

In May 2014, the licensee discovered that water level readings from all six underdrains at Commercial Evaporation Pond 4 indicated a potential pond liner leak. Facility records indicate that water samples from the underdrains were analyzed for chloride, alkalinity, conductivity, sodium, and sulfate concentrations in May 2014. The results for the underdrain samples were similar to the pond contents, suggesting that the pond liner was leaking. Upon confirmation of the liner leak, the water level in pond was lowered by transferring the contents of the pond to an adjacent pond.

The licensee subsequently notified the NRC about the pond leak by letter dated June 26, 2014 (ML14189A074), as required by the license. In this letter, the licensee provided its short-term plans including plans to inspect the liner to identify the source of the leak. In addition, the licensee provided its results of the water samples collected and analyzed from the underdrains for May 29, June 6, June 11, and June 25, 2014. During the June 2014 inspection, the inspectors noted that the licensee's actions and reporting of the pond leak were consistent with the requirements of License Condition 11.4 dated November 12, 2013.

The inspectors reviewed the status of this pond leak during this inspection. The licensee attempted to identify and repair the leak; however, these efforts were unsuccessful. In early July 2014, the licensee elected to discontinue sampling the underdrains of Pond 4, in part, because the sample results did not provide useful information. The licensee documented its decision in an internal Memo-to-file dated February 25, 2016.

NRC License Number SUA-1534, License Conditions 11.4 dated November 12, 2013, and 11.9 dated November 5, 2014, state, in part, that any time 6 inches or more of fluid is detected in a commercial pond standpipe, it shall be analyzed for specific conductance. If the water quality is degraded beyond the action level, the water shall be further sampled and analyzed for chloride, alkalinity, sodium, and sulfate. The license conditions further states that upon verification of a liner leak, the licensee shall notify the NRC in accordance with License Condition 11.6, lower the fluid level sufficiently to eliminate the leak by transferring the pond's contents to an alternate cell or approved destination, and undertake repairs, as needed. Water quality in the affected standpipe shall be analyzed for the five parameters listed above once every 7 days during the leak period and once every 7 days for at least 14 days following repairs.

The licensee documented its analysis of the water quality in the affected standpipe once every 7 days as required by the respective license condition through June 25, 2014. The data was provided to the NRC in the licensee's letter dated June 26, 2014 (ML14189A074). However, since the licensee did not continue to analyze the water quality in the affected standpipe for specific conductance, chloride, alkalinity, sodium, and sulfate once every 7 days during the leak period, and the licensee had not requested relief from this requirement, the NRC determined this was a violation of License Conditions 11.4 dated November 12, 2013, and 11.9 dated November 5, 2014. The next anticipated analysis should have been performed on July 2, 2014; however, the licensee had suspended the analysis of water in the affected standpipe. Specifically, the licensee identified a liner leak and concluded that the Commercial Evaporation Pond 4 liner needed to be replaced, but the licensee did not continue to analyze water quality every 7 days as required by its license (VIO 040-08943/1601-03).

As part of the license renewal issued on November 5, 2014, License Condition 11.9 was expanded to include a requirement that upon verification of a liner leak, the licensee shall submit a corrective action plan within 30 days to NRC for review. The corrective action plan will document steps to adequately address the leak and procedures used to verify that the leak has been adequately addressed and permanently fixed. The corrective action plan should also evaluate how much and for how long the diminished waste capacity will impact operations.

During the first half of 2015, as a result of snow melt and rainwater accumulation in the Commercial Evaporation Pond 4, the underdrain levels rose. The licensee stated that this was an indication that previous repairs had not been successful. As a result, on September 23, 2015, the licensee used the services of a contractor to inspect and attempt to make additional repairs to the liner. The licensee stated that it was at this time they decided to replace the liner. The licensee continued to sample the pond monitor wells, and the licensee reported that the data indicated that the liner leak had no impact to the lower liner, and therefore there was no impact to groundwater. The liner replacement work was added to the licensee's budget for CY 2016. At the time of the inspection, the liner had not been replaced.

The inspectors concluded that on September 23, 2015, the licensee made a decision to replace the liner due to the inability to repair the liner, as originally proposed in its June 26, 2014, letter to the NRC. This decision was a verification there was a liner leak, and the licensee should have implemented License Condition 11.9, which had been in effect since November 5, 2014. However, the licensee failed to submit a corrective action plan within 30 days of September 23, 2015, that documented the steps to adequately address the leak and procedures used to verify that the leak has been adequately addressed and permanently fixed. In addition, the failure to not submit the corrective action plan did not provide the opportunity for the NRC to review the licensee's evaluation for how much and for how long the diminished waste disposal capacity would impact operations. This required reporting is a method used by the NRC to monitor compliance with safety standards for your facility. The failure to submit a corrective action plan by October 23, 2015, that documented the corrective actions, procedures, and impact to facility operations after verification of a liner leak in Commercial Evaporation Pond 4 is a violation of License Condition 11.9 dated November 5, 2014 (VIO 040-08943/1601-04).

In response to the NRC's findings, the licensee committed by Memorandum dated March 14, 2016 (ML16099A201), that it would submit a corrective action plan to the NRC within 30 days, detailing its path forward for resolving the liner leak.

5.3 Conclusions

The licensee was conducting solid and liquid waste disposal operations in accordance with license and regulatory requirements. The licensee was conducting yellowcake and solid byproduct waste shipments in accordance with DOT and NRC requirements. Two violations were identified related to the licensee's failure to sample the underdrains of a leaking pond and failure to submit a corrective action plan for the pond to the NRC within 30 days.

6 **Implementation of the Decommissioning Planning Rule (TI 2600/017)**

6.1 Inspection Scope

The inspectors conducted a review of the licensee's implementation of the Decommissioning Planning Rule (DPR).

6.2 Observations and Findings

The NRC issued the DPR on June 17, 2011 (76 *Federal Register* 35512) with an effective date of December 17, 2012. The DPR requires certain licensees to establish programs to: (1) minimize the introduction of radiological contamination into the site environment; (2) ensure that releases of radioactivity to the environment are promptly identified and characterized; (3) document radiological survey data which identifies the location and concentrations or quantities of contamination that may require remediation at the time of license termination; and (4) report updated financial assurance information as required by the DPR. The inspectors reviewed the licensee's implementation of the DPR.

The licensee is required to minimize the introduction of radiological contamination into the site environment. The licensee used a combination of procedural controls, plant design, and site inspections. The most likely sources of environmental radiological contamination at the facility are spills and leaks. To counter the potential for spills and leaks, the licensee installed sump level alarms, differential flow alarms, high/low tank level alarms, high/low pressure alarms, tank level indicators, and automatic shutdown interlocks. The licensee used engineering controls including sumps, berms, and containments within site structures to contain leaks and spills. For example, the licensee used impoundments to help contain and wellfield spills and releases. Operators are trained to respond to alarms, including identification and termination of releases and spills. Plant staff conduct routine plant walk downs, in part, to identify ongoing leaks, spills, and releases.

To avoid the potential for build-up of long-term gaseous and liquid effluent releases to the environment, the licensee established and implemented an NRC-approved environmental monitoring program. The licensee also developed instructions for responding to wellfield leaks and spills. Depending on the circumstances of the spill, the licensee's response may include gamma radiation surveys, soil sampling, solution sampling, spill containment, and soil/fluid recovery. The inspectors confirmed that the

licensee had the procedures and equipment, including calibrated survey meters, for responding to spills within a structure or the environment.

License Conditions 12.2 dated November 12, 2013, and 11.6 dated November 5, 2014, provide the requirements for documenting unplanned releases of source or byproduct material as well as agency reporting requirements. The licensee established and implemented a program for recording radiological survey data collected in response to spills. Based on the circumstances of each spill, the licensee may choose to clean up the spill at that time, or delay cleanup until a later date. The inspectors confirmed that the licensee maintained records important to decommissioning in accordance with the requirements of 10 CFR 40.36(f). The inspectors commonly review the licensee's spill and release records as part of the routine inspection program. In addition, the NRC routinely reviews the licensee's semi-annual effluent and environmental monitoring reports, required to be submitted to the NRC in accordance with the respective license conditions.

Finally, the licensee is required by the DPR to update its financial assurance for spills that have not been cleaned up. License Condition 9.5 dated November 5, 2014, provides the requirements for maintaining financial assurance. The licensee's current financial assurance included costs of decommissioning, decontamination, and offsite disposal. The licensee is required to update the financial assurance amount at least annually.

6.3 Conclusions

The licensee was in compliance with the requirements of the DPR. The licensee established and implemented plant controls, radiological monitoring, and response programs for spills and releases. The licensee maintained records of releases and updated financial assurance as required by the license.

7 **Exit Meeting Summary**

The inspectors presented the preliminary inspection results to the licensee's representatives at the conclusion of the onsite inspection on March 10, 2015. A final exit briefing was held by telephone with licensee staff on March 17, 2016. Representatives of the licensee acknowledged the findings as presented. During the inspection, the licensee did not identify any information reviewed by the inspectors as proprietary.

SUPPLEMENTAL INFORMATION

Partial List of Persons Contacted

Licensee

W. Beins, Senior Geologist
T. Dyer, Radiation Safety Officer
D. Kratz, Restoration Engineer
W. Nelson, Environmental Leadership Coordinator
L. Teahon, Safety, Health, Environment and Quality Manager
M. Thomas, Safety, Health, Environment and Quality Director
B. Tiensvold, Mine Manager
K. Vogl, Central Plant Foreman
C. Yada, Health Physics Technician

Items Opened, Closed, and Discussed

Open

040-08943/1601-01	NCV	Failure to secure from unauthorized removal or access licensed material stored in a controlled area
040-08943/1601-02	NCV	Failure to perform and document alpha and beta contamination monitoring of all personnel leaving restricted area
040-08943/1601-03	VIO	Failure to analyze water quality in standpipe at frequency listed in license
040-08943/1601-04	VIO	Failure to submit corrective action plan within 30 days to NRC

Closed

040-08943/1601-01	NCV	Failure to secure from unauthorized removal or access licensed material stored in a controlled area
040-08943/1601-02	NCV	Failure to perform and document alpha and beta contamination monitoring of all personnel leaving restricted area

Discussed

None

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
TI 2600/017	Implementation of the Decommissioning Planning Rule

List of Acronyms Used

ADAMS	Agencywide Documents Access and Management System
ALARA	As Low As Reasonably Achievable
CY	calendar year
CFR	Code of Federal Regulations
CPP	Central Processing Plant
DDW	deep disposal well
DOT	Department of Transportation
DPR	Decommissioning Planning Rule
gpm	gallons per minute
HPT	health physics technician
IP	NRC Inspection Procedure
MIT	mechanical integrity test
NCV	Non-Cited Violation
NRC	U.S. Nuclear Regulatory Commission
R&D	research and development
RSO	Radiation Safety Officer
SERP	Safety and Environmental Review Panel
TI	NRC Temporary Instruction
VIO	Cited Violation