



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

May 16, 2008

John McCarthy, Manager
Safety, Health and Environment
Power Resources, Inc.
P.O. Box 1210
Glenrock, Wyoming 82637

SUBJECT: NRC INSPECTION REPORT 040-08964/08-001

Dear Mr. McCarthy:

This refers to the announced inspection conducted on March 24-27, 2008, at the Smith Ranch In-Situ Recovery facility in Converse 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. The preliminary inspection findings were discussed with you at the exit briefing conducted at the conclusion of the onsite inspection, and the final inspection findings were presented to you by telephone on April 16, 2008. The enclosed report presents the results of this inspection.

One unresolved item was identified related to uranium recovery operations that had commenced in Mine Unit K and in the Southwest Area. License Condition (LC) 9.13 requires, in part, that the licensee submit a complete evaluation of the area's baseline radiological characteristics for NRC review and approval prior to the licensee engaging in uranium recovery operations. The baseline radiological characteristic reports for Mine Unit K and the Southwest Area were submitted to the NRC on April 26, 2007, and April 20, 2007, respectively. These two reports were in the process of being reviewed by NRC but have not been formally approved. A review of both reports indicates that the field work was performed in the Mine Unit K and the Southwest Area between January and March 2007, and also indicates that uranium recovery operations may have been in progress during sample collection. Please provide the NRC with additional information as to your interpretation of LC 9.13 and to the reasoning why operations commenced prior to NRC approval.

Two unresolved items were identified related to the purge storage reservoir Number 2 (PSR2). The inspectors could not identify or locate baseline groundwater quality data or information related to the groundwater flow regime in the vicinity of the PSR2. The inspectors noted that PSR2 was originally licensed by the NRC as a holding pond to accept waters that were classified as "unrestricted release" for land application at Irrigator 2. The addition of other waste water streams to PSR2 may be inconsistent with the licensed use for this reservoir. Additional information is needed pertaining to the exact content of the waste water streams to PSR2. Also, it was noted that there are no leak detection systems for PRS2. Additional information is needed to show that the PSR2 is not leaking into neighboring areas.

A fourth unresolved item was identified related to the conversion factor used for calculating the weekly soluble uranium in milligrams from the total Derived Air Concentration hours. You could not sufficiently answer this question during the inspection. Additional information is needed to show that the conversion factor is correct.

Please provide your response to the unresolved items to the NRC within 60 days of receipt of this letter. Upon receipt of this information, NRC will continue its review.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response 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 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 inspection, please contact Mr. Robert Evans at (817) 860-8234, or the undersigned at (817) 860-8197.

Sincerely,

/RA/

Jack E. Whitten, Chief
Nuclear Materials Safety Branch B

Docket No.: 040-08964
License No.: SUA-1548

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NRC Inspection Report 040-08964/08-001

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 040-08964

License No.: SUA-1548

Report No.: 040-08964/08-001

Licensee: Power Resources, Inc.

Facility: Smith Ranch In-Situ Recovery Facility

Location: Converse County, Wyoming

Dates: March 24-27, 2008

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Approved by: Jack E. Whitten, Chief
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Attachment: Supplemental Inspection Information

ENCLOSURE

EXECUTIVE SUMMARY

Power Resources, Inc. Smith Ranch In-Situ Recovery Facility NRC Inspection Report 040-08964/08-001

This inspection included a review of site status, management organization and controls, site tours, site operations, radiation protection, environmental protection, transportation, radioactive waste management, emergency preparedness, fire protection, and emergency procedures.

Management Organization and Controls

- The organizational structure and staffing levels met license requirements and were sufficient for the work in progress. The licensee's Safety and Environmental Review Panel evaluations were conducted in accordance with requirements of the performance-based license. One previous violation was closed (Section 1).

In-Situ Leach Facilities

- Site operations appeared to be conducted in accordance with the performance-based license and regulatory requirements. Three Unresolved Items were identified. One previous violation was closed (Section 2).

Radiation Protection

- The licensee implemented a radiation protection program that met the requirements of 10 CFR Part 20 and the license. One Unresolved Item was identified and one previous violation was closed (Section 3).

Environmental Protection and Maintaining Effluents from Materials Facilities as Low As Reasonably Achievable (ALARA)

- The licensee did not release effluents into the environment during calendar year (CY) 2007, in quantities exceeding regulatory limits. The reports related to groundwater and environmental monitoring programs were submitted to the NRC as required. No findings of significance were identified during the review of environmental monitoring data (Section 4).

Transportation of Radioactive Material and Radioactive Waste Management

- The licensee was conducting transportation and waste disposal operations in accordance with regulatory requirements (Section 5).

Emergency Preparedness, Fire Protection, and Emergency Procedures

- The licensee had established an emergency preparedness program as required by the license (Section 6).

Report Details

Site Status

At the time of the inspection, Power Resources, Inc (PRI) was in the process of mining uranium through in-situ recovery operations in a number of wellfields. Three satellite facilities (Sat-2, Sat-3, and SR-1) were in service to support wellfield operations. Uranium processing and drying operations were in progress at the Smith Ranch central processing plant (CPP). Operations had been previously discontinued at Satellite No. 1 and the Highland CPP.

Mine Unit MU-15A had recently begun active production. The licensee was also developing the Southwest Mine Unit, the location where Satellite SR-2 is currently being constructed and wells were being installed.

The licensee was also conducting limited work at its other licensed locations. Delineation work was in progress at the Gas Hills and Reynolds Ranch sites. The licensee plans to revise the design of the Gas Hills plant, and the updated design is expected to be submitted to the NRC at a later date. At Reynolds Ranch, the licensee plans to begin operations in late CY 2008. The North Butte and Ruth sites continue to remain in standby.

1 Management Organization and Controls (88005)

1.1 Inspection Scope

Ensure that the licensee had established an organization to administer the technical programs and had established programs to perform internal reviews, self assessments, and audits.

1.2 Observations and Findings

a. Organizational Structure

The licensee's organization structure is illustrated in Figure 9-1 of the March 12, 2003, application. The inspectors found that the licensee's current organizational structure was in agreement with the license application. Staff turnover was significant in CY 2007. Of the 106 employees, 24 were new hires in CY 2007. The licensee had sufficient staff to implement the radiation protection and groundwater monitoring programs at its current operating level, although hiring experienced staff for future growth could be a challenge.

b. Safety and Environmental Review Panel and Audits

License Condition 9.4 of the performance based license requires, in part, that the licensee establish a Safety and Environmental Review Panel (SERP). The inspectors reviewed the three SERP evaluations performed during CY 2007. No SERP evaluations have been performed thus far in the CY 2008. The SERP evaluations were technically adequate and provided sufficient detail to support the proposed changes.

The annual audit for CY 2006 was conducted by the licensee in May 2007. The inspectors reviewed the report and proposed follow up actions and found them to be adequate.

- c. (Closed) Violation 040-08964/0702-01: SERP Approval of an Unqualified Individual as the PRI Radiation Safety Officer

During a previous inspection, the NRC identified a violation of the licensee's SERP process. The NRC issued a notice of violation (NOV) on December 11, 2007, and the licensee provided their response in a letter dated December 28, 2007. The licensee identified a total of nine corrective actions that would be implemented to address the NOV. Since the last inspection, the licensee has implemented these corrective actions; corrective actions included hiring of a training coordinator, revising several procedures to identify whether a SERP may be required for a certain action, providing information to the SERP members prior to the review, and submitting a revised Chapter 9 of the existing license application to reflect changes in the organizational structure and responsibilities at the facility. The inspectors reviewed the corrective actions from the December 28, 2007, letter and identified that the licensee had adequately addressed and implemented the nine corrective actions.

1.3 Conclusions

The organizational structure and staffing levels met license requirements 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. One violation related to the SERP process was closed.

2 In-Situ Leach Facilities (89001)

2.1 Inspection Scope

Observe site operations to determine if these activities were being conducted in accordance with regulatory and license requirements.

2.2 Observation and Findings

The inspectors conducted site tours to observe in-situ leach operations in progress. Areas toured included the Smith Ranch CPP, the three operating satellites, wellfields, irrigation areas, header houses, and bell holes. Use of Satellite 1 had been discontinued, while Satellite SR-2 was under construction. Thirteen mine units were actively in operation. Mine Units A and B have been restored. The licensee's request to release Mine Unit B was recently approved by Wyoming Department of Environmental Quality (WDEQ). The licensee plans to submit a similar request to release Mine Unit B to the NRC in the near future. In addition, Mine Units C and 1 were in restoration.

During the site tours, the inspectors observed the condition of plant equipment, fences, and gates. Plant operating parameters (flow, pressure) were compared to licensed limits. The inspectors concluded that the licensee was conducting operations in accordance with established procedures. The inspectors also observed the licensee successfully conduct a dryer vacuum alarm functionality test, a function required by License Condition 10.1.2.b.

During the previous inspection, the inspectors noted that certain tank anchor points appeared to be cracking. This finding caused the inspectors to question the structural integrity of the tank anchor points. Since the previous inspection when this degraded

condition was observed by the inspectors, the licensee had conducted repairs using epoxy grout. The inspectors observed the repairs made by PRI and concluded that the repairs using epoxy grout on the concrete was adequate to retard or to eliminate the cracks in the tank anchor points.

The inspectors conducted independent radiological surveys using NRC-issued survey meters. The surveys were conducted using a Ludlum Model 19 microRoentgen meter (NRC No. 015525 with a calibration due date of 02/14/09, calibrated to radium-226) and a Ludlum Model 2401-P survey meter (NRC No. 016296G with a calibration due date of 11/30/08, calibrated to cesium-137). The ambient gamma exposure rates noted by the inspectors varied from background up to about 7-10 millirems per hour observed in the resin processing areas of the CPP and satellite structures. The inspectors noted that the dose rates were consistent with licensee's measurements, and all areas with exposure rates in excess of 5 millirems per hour were posted as radiation areas as required by regulations.

The inspectors reviewed a new wellfield design. Wells were being installed in Southwest Mine Unit 9, which will be served by Satellite SR-2. Hydrogeological test reports for Mine Units K, 15 and 15 A, the newest wellfields in operation, were reviewed and found to be complete. For mine units slated to come into operation, the inspectors determined that pre-mining water data was being collected, mechanical integrity tests (MITs) were being performed, and the appropriate pump tests were being conducted. Inspectors observed personnel conducting a MIT in a new mine unit, and the MIT was performed in accordance with the procedures approved by NRC.

Unresolved Item 040-08964/0801-01 was identified related to uranium recovery operations that have commenced in Mine Unit K and in the Southwest Area. License Condition (LC) 9.13 requires, in part, that the licensee submit a complete evaluation of the area's baseline radiological characteristics for NRC review and approval prior to engaging in uranium recovery operations. The baseline radiological characteristic reports for Mine Unit K and the Southwest Area were submitted to the NRC on April 26, 2007, and April 20, 2007, respectively. These reports are currently under review, but have not been formally approved by the NRC. A review of both reports indicates that the field work was performed between January and March 2007, and that uranium recovery operations may have been in progress during sample collection. Additional information is needed from PRI explaining their interpretation of LC 9.13 and outlining the reason why uranium recovery operations commenced prior to obtaining NRC approval. Upon receipt of this information, NRC will determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation.

The safety of wellfield operation was investigated. In newer mining units, header houses are being upgraded with newer flow monitoring equipment and video cameras. The header houses are also being constructed with concrete basements and sumps monitored with leak alarms. Newly installed wells are being fitted with continuous leak monitors which have warning lights. At the request of the inspectors, an operator at the Sat-3 satellite facility control room demonstrated how the newer header houses are being monitored in real time by computer. In older mine units, header house pressures and flow rates are downloaded to a hand held unit and recorded. The results are then compared to limits specified in the license and values in the semi-annual effluent monitoring report. The inspectors noted that the results on SR-1 did not show a bleed for the well fields it services, such that total injection well flow rates were equal to total

recovery well flow rates. The wellfield operators were questioned about the issue. The operators indicated that the bleed value was taken at the CPP so SR-1 showed no bleed. The inspectors requested that future reports made by PRI attribute the amount of bleed for wellfields serviced by SR-1 and separate it from the amount contributed from the CPP bleed to ensure balancing is clearly demonstrated for all wellfields.

Monitoring well sampling records were examined by the inspectors for both the Smith Ranch and Highland mine units and no problems were noted. The inspectors observed sampling performed by a field technician on a monitoring well and determined that the field technician performed the sampling procedures correctly and in accordance with the license. Excursion reports were examined by the inspectors and found to be in compliance with license conditions. Three wells are currently on excursion, CM-32 (July 3, 2007), CM-33 (March 4, 2008) and DM-3 (long term). Increased monitoring and corrective actions are currently in progress at these two wells. Two self identified, minor violations were noted. The first involved several monitoring wells missing biweekly sampling due to safety issues originating from weather conditions, nesting raptors, and personnel issues. Corrective actions were taken by PRI to ensure personnel coverage would not be a future issue. The second self identified violation involved the failure to conduct the required five year MITs on four wells as a consequence of documentation error in the PRI records. Corrective actions were taken by PRI to insure MITs are properly documented. No excursions incurred as a result of these violations. Due to the minimal safety significance of this failure, this violation is not subject to formal enforcement action per Section IV of the NRC Enforcement Policy. There were no recent spills identified and the inspectors found spill reporting, investigation, and corrective actions were being satisfactorily undertaken and were in compliance with license conditions. The inspectors concluded the operations were being conducted in accordance with established procedures.

The inspection included a visit to the east evaporation pond area. The licensee indicated that they plan on removing the sediment from the bottom of the currently dewatered pond and replacing the geosynthetic liner in the spring of CY 2008. After the liner has been repaired, it is anticipated that PRI will place the east evaporation pond back into service. Evaluation of these actions will be part of the next NRC inspection.

The inspectors toured the equipment storage area (aka boneyard) near the CPP. The inspectors identified several actions that the licensee had initiated to improve the conditions in this portion of the facility, including: shredding of pipe for off-site disposal, relocation of equipment; and identification of contaminated equipment. In discussions with the inspectors, the licensee indicated that continued work on this portion of the facility is a priority for this year. The inspectors plan to review the licensee's progress in this area during the next inspection.

Unresolved Item 040-08964/0801-02 was identified related to the Purge Storage Reservoir 2 (PSR2). The inspectors noted that PSR2 was originally licensed as a holding pond to accept waters that were classified as "unrestricted release" for land application at Irrigator 2. The addition of other waste water streams to PSR2 may be inconsistent with the licensed use originally approved by the NRC for this reservoir. Additional information is needed from PRI that pertains to the exact content of the waste water streams flowing into PSR2. Upon receipt of this information, NRC will determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation.

Unresolved Item 040-08964/0801-03 was also identified related to the PSR2. The inspectors noted that there are no leak detection systems in the PSR2 and no baseline water quality data was available for review during the inspection. Additional information is needed from PRI to demonstrate to the NRC that the PSR2 is not leaking into neighboring areas. Upon receipt of this information, the NRC will determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation.

One minor violation of License Condition 10.1.6 was identified pertaining to the 4 foot freeboard requirement at PSR2. The inspectors found that the freeboard inspections were performed at the required monthly frequency; however, the inspectors noted three individual inspections where the 4 foot freeboard requirement was not maintained. The dates and associated freeboard measurements are as follows: 6/11/07 (3.1 ft), 5/11/07 (3.1 ft), and 4/12/07 (2.9 ft). Due to the minimal safety significance of this failure, this violation is not subject to formal enforcement action per Section IV of the NRC Enforcement Policy.

2.3 Conclusions

Site operations appeared to have been conducted in accordance with the performance-based license and regulatory requirements. Three unresolved items and three minor violations were identified.

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 dose assessment records for CY 2007. The Smith Ranch CPP and satellite/restoration operators were monitored with quarterly thermoluminescent dosimeters for external exposures. The highest deep dose equivalent exposure for CY 2007 was 765 millirems.

The licensee determines internal exposures by using combined totals from radon sampling, particulate sampling, personnel lapel monitoring, and bioassays.

The licensee conducted air sampling, in part, for assessment of internal exposures. The inspectors reviewed the licensee's CY 2007 and early CY 2008 air sampling records, and confirmed that the licensee had conducted sampling at the required intervals. Internal exposures were calculated and assigned to individuals using these air sample results. The highest internal dose assigned to an individual for this period was 310 millirems.

The occupational worker total effective dose equivalents, the combination of internal and external exposures, were compared to the dose limits specified in 10 CFR 20.1201. The

maximum total effective dose equivalent exposure for CY 2007 was 902 millirems with a regulatory limit of 5000 millirems. In summary, occupational doses reviewed by the inspectors were well below the regulatory limit.

The licensee collected bioassay samples to assess the potential for intake of uranium. The inspectors reviewed the bioassay program to verify compliance with License Conditions 11.2 and 11.3. During CY 2007, no bioassay sample results exceeded any action levels; and therefore, no doses from bioassays were assigned to individuals.

Unresolved Item 040-08964/0801-04 was identified related to PRI's use of conversion factor for calculating the weekly soluble uranium (in milligrams) from the total Derived Air Concentration hours. The licensee's staff, when questioned by the inspectors, could not determine where the conversion factor originated. Additional information is needed from the PRI to demonstrate that the conversion factor is correct. Upon receipt of this information, NRC will determine whether the issue in question is an acceptable item, a deviation, a nonconformance, or a violation.

b. Radiation Protection Surveys

Section 9.8 of the license application requires, in part, that the licensee perform quarterly gamma radiation surveys in specific locations to verify postings and to assess external radiation conditions. These gamma radiation surveys are currently being done weekly by the licensee. The inspectors verified that the licensee had performed the required routine surveys during the second, third and fourth quarters of CY 2007 and the first quarter of CY 2008.

Contamination surveys were conducted weekly in clean areas of the site and in the process areas, although Section 9.13 of the license application only requires monthly process area surveys. Quarterly spot checks were conducted on personnel leaving the site. These spot checks for personnel contamination consisted of visual checks and radiation surveys. Equipment, materials, and trash leaving the site were surveyed. The licensee maintained extensive records of contamination surveys. Records maintained by PRI indicated that nothing had left the site with contamination in excess of licensed limits.

c. Training

The licensee conducts training in accordance with License Condition 9.7 for contractors and new employees, and annual refresher training for current employees. An inspector observed the radiation safety training class conducted by the radiation safety technician (RST) for two contractors hired to perform welding in the dryer drum area. The training included slides and videos, and the RST answered questions raised by the two welders. The inspectors also reviewed radiation safety training records of 11 current employees, 4 new employees hired since January 2008, and several Department of Transportation (DOT) training records. All training and associated records appeared to be conducted and maintained in accordance with regulatory requirements.

d. Instrumentation

The inspectors reviewed the operations, calibration, and individual records maintained by PRI for several portable radiation instruments. The calibration process used by PRI

when calibrating breathing zone pumps was examined. The quality control for counting air samples was also reviewed by the inspectors. The quality control procedures and instrumentation calibrations appeared to be adequate.

e. (Closed) Violation 040-08964/0701-01: Failure to Post a Radiation Area

During the April 2007 inspection, a violation of NRC requirements was identified. The violation involved the NRC's discovery of an unposted radiation area near the Satellite SR-1 resin transfer water tank. In response to the NRC's finding, the licensee immediately posted the tank at that time of this inspection. The licensee subsequently elected to implement area postings versus equipment postings. This programmatic change was necessary because radiological conditions routinely vary as a result of operational evolutions. The licensee also updated site procedures to specify when tank cleanouts were necessary. Additionally, the licensee began conducting area gamma radiation surveys more frequently than required by the license. The inspectors reviewed the licensee's corrective actions and determined that these actions were effective.

3.3 Conclusions

The licensee implemented a radiation protection program that met the requirements of 10 CFR Part 20 and the license. One unresolved item was identified. One previous violation was closed.

4 Environmental Monitoring and Maintaining Effluents from Materials Facilities ALARA (88045 and 87102)

4.1 Inspection Scope

Review environmental and effluent monitoring programs to assess the effectiveness of the licensee to monitor the impacts of site activities on the local environment.

4.2 Observations and Findings

a. Environmental Monitoring

License Condition 12.2 states, in part, that the results of effluent and environmental monitoring shall be reported to the NRC in accordance with the provisions of 10 CFR 40.60. The inspectors reviewed the two semiannual environmental monitoring reports for CY 2007. The licensee's environmental monitoring program consisted of air particulate, radon, ambient gamma radiation, groundwater, surface water, soil, and vegetation sampling.

Continuous air particulate sampling was conducted at three locations: a background station, a downwind boundary station, and a nearest downwind resident station. The air was sampled for uranium, radium-226, and lead-210 particulate concentrations. The licensee also elected to voluntarily sample for thorium-230 concentrations in air. None of the sample results for CY 2007 exceeded the respective effluent concentration limits specified in 10 CFR Part 20, Appendix B.

The licensee sampled for radon-222 concentrations in air at the three sample stations. The licensee also collected baseline radon-222 data at the Reynolds Ranch site. All sample results taken by PRI were less than the effluent concentration limit, with one exception. During the second quarter of CY 2007, the radon-222 concentration at the fence line location was 185-percent of the limit. The licensee after an investigation into the high reading concluded that this sample result was not valid because the radon-222 measuring device was found lying on the ground. The licensee's research determined that this device was most likely damaged by the sunlight or moisture, resulting in an erroneously high reading.

The licensee measured ambient gamma radiation levels at the three sample stations. The licensee also collected baseline gamma radiation measurements at the Reynolds Ranch site. During CY 2007, the highest annual gamma radiation exposure was measured at the background station. Therefore, all sample results were determined to be comparable to background levels.

In summary, based on the data collected by the licensee, the potential radiation dose to any member of the public from licensed material during CY 2007 was below the 100 millirem per year annual dose limit specified in 10 CFR 20.1301(a).

b. Groundwater and Environmental Water Sampling

The inspectors reviewed surface water, groundwater, and effluent monitoring data for the Highland and the Smith Ranch sites. The groundwater and environmental water sampling reports reviewed included data from both surface water sites and groundwater monitoring wells, Irrigator 1&2 soil data, Irrigator 1&2 vegetation, Irrigator 1&2 water, Sat-2 and Sat-3 radium filter press effluents, Irrigator 1&2 lysimeters, and PSR2 ground water monitoring data.

The groundwater and surface water site monitoring programs were implemented by PRI in accordance with Chapter 5 of the license application. The monitoring consisted of quarterly sampling for natural uranium and radium-226 in groundwater wells and surface water sites used for livestock or domestic water located within 1-kilometer of the operating wellfields. The latest semi-annual effluent and monitoring report for the July 1 through December 31, 2007, time period provided sample data for six out of ten surface water sites, as four were dry and no samples were available for analysis. All reported values for natural uranium and radium-226 were within effluent concentration limits. Only twelve of the twenty groundwater wells were sampled for the same time period as eight windmills were not running. All of the wells reviewed by the inspectors were in compliance for radium-226. Only one well, GW-16 was measured at 97 picocuries per liter (pCi/L) which is over the regulatory limit of 30 pCi/L for natural uranium. This well was located in an area where mining had not started.

c. Wellfield and Excursion Monitoring

License Condition 12.1 requires, in part, that the licensee maintain documentation on spills of source materials, 11e.(2) byproduct materials, or process chemicals. The licensee is also required to report any wellfield excursions, spills or pond leaks involving source materials, 11e.(2) byproduct materials or process chemicals that may have an impact on the environment.

The inspectors reviewed the licensee's spill records and noted no spills were reported since the last inspection. No pond leaks were reported, although it was noted that the PSR2 monitoring wells currently exceed the groundwater protection standards for selenium (0.01 milligrams per liter) and natural uranium (30 pCi/L). At the time of the inspection, PRI staff were asked to provide background groundwater quality data so NRC staff could make a determination as to whether the measured values are indicative of leakage from PSR2 (see Section 2.2).

Three excursions were reported for monitoring wells DM-3, CM-32, and CM-33. Monitoring well DM-3 has been on excursion since January 29, 2002. Corrective actions taken by the licensee since that time have not removed the well from excursion status. This specific well is thought to be under the influence of contaminated water in an old underground mine works. The well continues to be monitored by PRI staff on a weekly basis. Monitoring well CM-32 was placed on excursion status on July 3, 2007 and monitoring well CM-33 was placed on excursion status on March 4, 2008. Wellfield C is currently undergoing restoration by the licensee. Corrective actions have been taken to bring monitoring wells CM-32 and CM-33 off excursion status. Both wells are being monitored by PRI staff on a weekly basis.

4.3 Conclusions

The licensee did not release effluents into the environment during CY 2007 in quantities exceeding regulatory limits. The reports related to groundwater and environmental monitoring programs were submitted to the NRC as required. No findings of significance were identified during the review of the environmental monitoring data.

5 Transportation of Radioactive Materials and Radioactive Waste Management (86740 and 88035)

5.1 Inspection Scope

Determine if transportation and disposal activities were being conducted in compliance with regulatory requirements.

5.2 Observations and Findings

The licensee's transportation records were reviewed by the inspectors. The licensee utilized tankers to transport resin to and from the satellite buildings. The inspectors reviewed selected resin tanker shipping papers. The inspectors concluded that the shipping papers provided all the pertinent information required by DOT regulations.

The licensee also ships byproduct material off site. In CY 2007, and the first quarter of CY 2008, approximately 88 shipments of yellowcake, loaded in 55-gallon drums, were shipped to a processing facility out of state. The inspectors took confirmatory surveys of a truck loaded with yellowcake. The dose rate results were compatible with the licensee's measurements and satisfied DOT requirements. In CY 2007, three shipments of yellowcake slurry was also shipped out of state as alternate feed material.

License Condition 9.6 allows the licensee to dispose of byproduct material at an offsite location. Equipment contaminated with 11e.(2) material, such as shredded poly, piping, and pumps, is shipped offsite to a facility licensed to dispose of this material. The

inspectors reviewed the shipping records for recent disposal shipments and found them to be complete.

5.3 Conclusions

The licensee was conducting transportation and waste disposal operations in accordance with regulatory requirements.

6 Emergency Preparedness, Fire Protection, and Emergency Procedures (88050, 88055, and 88064)

6.1 Inspection Scope

Ensure that the licensee's emergency preparedness program was being maintained in a state of readiness.

6.2 Observations and Findings

Volume VIII of the Operations Manual details the health physics and safety requirements for emergency preparedness. Coordination with local law enforcement and fire protection units was reviewed and emergency contacts were kept up-to-date. Daily logs maintained by the RSO ensured that day-to-day operations of the facility are within specified parameters. Spill kits and the emergency response trailer had all required materials. Random field vehicles were inspected to verify that they contained the required first-aid equipment. Employees when interviewed appeared to be aware of their responsibilities and expectations depending on the type of emergency or spill. An emergency simulation drill was conducted in July 2007 involving all aspects of the facility.

6.3 Conclusions

The licensee has an emergency preparedness program in place that was adequate for the current operations.

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 27, 2008. The final exit briefing was held telephonically with the licensee on April 16, 2008. During the inspection, the licensee did not identify any information reviewed by the inspectors as propriety.

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. McCarthy, Manager, Safety, Health & Environment, Radiation Safety Officer
A. Crook, Radiation Safety Technician
C. Foldenauer, Mine Manager

INSPECTION PROCEDURES USED

IP 88005	Management Organization and Control
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	Transportation of Radioactive Material
IP 88035	Radioactive Waste Management
IP 88050	Emergency Preparedness
IP 88055	Fire Protection
IP 88064	Emergency Procedures
IP 92701	Followup

ITEMS OPENED, CLOSED, AND DISCUSSED

Open

040-08964/0801-01	URI	Uranium recovery operations commenced in Mine Unit K and in the Southwest Area prior to NRC approval
040-08964/0801-02	URI	Determine the exact content of the waste water streams to PSR2
040-08964/0801-03	URI	Demonstrate that PSR2 is not leaking into neighboring areas
040-08964/0801-04	URI	Conversion factor used to determine the weekly soluble uranium in milligrams

Closed

040-08964/0701-01	VIO	Failure to Post a Radiation Area
040-08964/0702-01	VIO	SERP Approval of an Unqualified Individual as RSO

Discussed

None

LIST OF ACRONYMS USED

CPP	central processing plant
CY	calendar year
DOT	U.S. Department of Transportation
IP	inspection procedures
LC	license condition
MIT	mechanical integrity test
NOV	notice of violation
pCi/L	picocuries per liter
PSR2	purge storage reservoir number 2
RST	radiation safety technician
SERP	Safety and Environmental Review Panel
URI	unresolved item
VIO	violation
WDEQ	Wyoming Department of Environmental Quality