UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

October 15, 2007

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

SUBJECT: NRC INSPECTION REPORT 040-08964/07-002

Dear Mr. McCarthy:

This refers to the inspection conducted on September 20-21, 2007, at the Smith Ranch facility in Glenrock, Wyoming. The 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. Details of the inspection were presented to you at the exit briefing conducted on September 21, 2007. No violations were identified, and no response to this letter is required.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if any) 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 www.nrc.gov/reading-rm/adams.html.

Should you have any questions concerning this inspection, please contact the undersigned at (817) 860-8191 or Mr. Robert J. Evans, Senior Health Physicist, at (817) 860-8234.

Sincerely,

/RA/

D. Blair Spitzberg, Ph.D., Chief
Fuel Cycle and Decommissioning Branch

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

Enclosure:
NRC Inspection Report
040-08964/07-002

cc w/enclosure:
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Wyoming Department of Environmental Quality
Solid and Hazardous Waste Division
122 West 25th
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Mr. Lowell Spackman
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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	040-08964
License No.:	SUA-1548
Report No.:	040-08964/07-002
Licensee:	Power Resources, Inc.
Facility:	Smith Ranch In-Situ Recovery Facility
Location:	Converse County, Wyoming
Dates:	September 20-21, 2007
Inspectors:	Robert Evans, PE, CHP, Senior Health Physicist Fuel Cycle & Decommissioning Branch Robert G. Lukes, Health Physicist Decommissioning and Uranium Recovery Licensing Directorate Division of Waste Management and Environmental Protection Office of Federal and State Materials and Environmental Management Programs
Accompanied by:	Elise Striz, Hydrogeologist Decommissioning and Uranium Recovery Licensing Directorate Division of Waste Management and Environmental Protection Office of Federal and State Materials and Environmental Management Programs
Approved by:	D. Blair Spitzberg, PhD, Chief Fuel Cycle & Decommissioning Branch
Attachment:	Supplemental Inspection Information

EXECUTIVE SUMMARY

Power Resources, Inc. Smith Ranch In-Situ Recovery Facility
NRC Inspection Report 040-08964/07-002

This inspection included a review of site status, management organization and controls, site tours, site operations, radioactive waste management, radiation protection, environmental protection, and followup of a previously cited violation. In summary, the licensee was conducting operations safely and in accordance with regulatory and license requirements.

Management Organization and Controls

- The organizational structure and staffing levels met license requirements and were sufficient for the work in progress (Section 1).

In-Situ Leach Facilities and Radioactive Waste Management

- Site operations were being conducted in accordance with the performance-based license and regulatory requirements (Section 2).

- The licensee's resin transfer program was in compliance with U.S. Department of Transportation regulations (Section 2).

Radiation Protection

- Exposure rate measurements collected by the inspectors during the inspection were comparable to the licensee's measurements (Section 3).

- A previously-cited violation was left open pending completion of all corrective actions by the licensee to prevent recurrence of the violation (Section 3).

Environmental Protection

- Site wellfield operations were being conducted in accordance with the performance-based license and regulatory requirements (Section 4).

- Spill and excursion reporting, investigation, and corrective actions were being conducted in accordance with license conditions (Section 4).

Report Details

Site Status

At the time of the inspection, the licensee was in the process of mining uranium through in-situ recovery operations in a number of wellfields. Three satellite facilities (2, 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 central plant. Satellite No. 1 had been deactivated and was scheduled for future demolition.

At Satellite SR-1, Mine Unit MU-15A was being developed for future operations. The work in progress in MU-15A included drilling, ore body delineation, and monitor well installation. The licensee was also developing the Southwest Mine Unit, the location where Satellite SR-2 may be constructed in the future. The work in progress at the Southwest Mine Unit included road construction, power line installation, and equipment procurement.

The licensee was also conducting limited work at its other licensed locations. Delineation work was in progress at the Gas Hills site. The licensee plans to revise the design of the Gas Hills plant, and the updated design is expected to be submitted to the NRC by the end of 2007. Delineation work was also in progress at the Reynolds Ranch permit area. At Reynolds Ranch, the licensee plans to construct a satellite building and a deep disposal well during 2008. The North Butte and Ruth sites continued to remain in standby.

1 Management Organization and Controls (88005)

1.1 Inspection Scope

The purpose of this portion of the inspection was to ensure that the licensee had established an organization to administer the technical programs.

1.2 Observations and Findings

The licensee's approved organizational structure is illustrated in Figure 9-1 of the March 12, 2003, application. At the time of the inspection, the licensee employed a staff of about 100 people. In addition, the licensee employed about 36 contractors who conducted drilling operations. In summary, the licensee's organizational structure was in agreement with the license application commitments.

The licensee planned to hire additional people during 2008 to support expanded site operations. To support expanded site operations, the licensee planned to hire additional staff for the environmental, health and safety programs.

1.3 Conclusions

The organizational structure and staffing levels met license requirements and were sufficient for the work in progress.

2 In-Situ Leach Facilities and Radioactive Waste Management (89001, 88035)

2.1 Inspection Scope

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

2.2 Observations and Findings

Site tours were conducted to observe in-situ recovery operations in progress. Areas toured included the CPP, wellfields, selected header houses, and satellite buildings. During the site tours, the inspectors observed the condition of plant equipment, fences, signs, and gates. Plant operating parameters (flow, pressure) were compared to licensed limits. All pressures and flow rates were within licensed and procedural limits. The inspectors concluded that operations were being conducted in accordance with established procedures.

During the inspection, several tanks located within the CPP were observed to have anchor points with cracked cement or grout pads. These small cracks were apparently the result of tank movement during filling, draining, and pressurizing operations. Although no immediate safety concern existed, the licensee stated that it would conduct a review of these damaged anchor points to ensure that a long-term safety problem did not exist.

The inspectors conducted a review of resin transfer operations for compliance with U.S. Department of Transportation regulations. The design of a resin trailer that was in service during the inspection was compared to the general design requirements of 49 CFR 173.410. The shipping papers used during transport of the resin were compared to the requirements of 49 CFR 172.202 and 172.203. In summary, the licensee's resin transfer program was found to be in compliance with these regulations.

Since the last inspection, the licensee implemented a new program for creating individual shipping papers for each resin shipment. This new program was determined to be a positive action that was taken by the licensee to upgrade its resin shipment program and to ensure compliance with Department of Transportation regulations.

2.3 Conclusions

Site operations were being conducted in accordance with the performance-based license and regulatory requirements. The licensee's resin transfer program was in compliance with U.S. Department of Transportation regulations.

3 Radiation Protection (83822)

3.1 Inspection Scope

The purpose of this portion of the inspection was to determine if the licensee's radiation protection program was in compliance with license and 10 CFR Part 20 requirements.

3.2 Observations and Findings

The inspectors performed independent radiological surveys using NRC-issued exposure rate meters including a Ludlum Model 19 microRoentgen meter (NRC No. 015546 with a calibration due date of 02/12/08) and Ludlum Model 2401-P survey meter (NRC No. 016296G with a calibration due date of 12/11/07). The inspectors' gamma exposure rate measurements were comparable to the measurements obtained by the licensee.

During the April 2007 NRC inspection, the inspectors identified that the resin transfer water tank in Satellite SR-1 was an unposted radiation area. This finding was a violation of 10 CFR 20.1902(a)[Violation 040-08964/0701-01]. During this inspection, the inspectors conducted a review of the corrective actions taken by the license. One immediate corrective action taken by the licensee was to post the tank as a radiation area. However, the inspectors concluded that the licensee had not fully implemented the corrective actions necessary to prevent recurrence of the violation. The inspectors discussed these incomplete corrective actions with the licensee. This violation remains open pending implementation of all remaining corrective actions.

3.3 Conclusions

Exposure rate measurements collected by the inspectors during the inspection were comparable to the licensee's measurements. A previously-cited violation was left open pending completion of all corrective actions by the licensee to prevent recurrence of the violation.

4 Environmental Monitoring (88045)

4.1 Inspection Scope

The environmental and effluent monitoring programs were reviewed by the inspectors to assess the effectiveness of the licensee to monitor the impacts of site activities on the local environment. Specifically, the NRC conducted a review of wellfield operations, excursion monitoring, and spill reporting.

4.2 Observations and Findings

Site tours were conducted to observe in-situ recovery operations in progress. Areas toured included the wellfields, irrigation areas, header houses and bell holes. Plant and header house pressures and flow rates were compared to licensed limits. The inspectors concluded that wellfield operations were being conducted in accordance with established procedures.

Excursion reports were examined and were found to be in compliance with license conditions. Well DM-3 in Mine Unit D has remained in excursion status since January 23, 2002. Well CM-32 in Mine Unit C was placed in excursion status on June 11, 2007. Both wells monitor the underlying aquifer. The licensee continues to take corrective actions in an effort to restore these areas to non-excursion conditions.

Recent spill reports were reviewed to assess spill reporting procedures, causation analysis, and corrective actions. The inspectors focused specific attention on the spill from well HI-744 discovered by the licensee on June 22, 2007. This spill consisted of almost 200,000 gallons of fluid. The licensee's investigation included radiation surveys, soil samples, and groundwater samples at three locations in the spill area. A monitoring well was also installed within the spill area. Daily wellfield logbooks were examined and licensee staff were interviewed. These staff reported that corrective actions were being taken as recommended to prevent future spills. Actions included retrofitting all wells with new flanges and hoses. In addition, well field inspection, maintenance, and reporting procedures had been improved and communicated to satellite staff.

Inspectors also investigated an August 20, 2007, spill resulting from a subsurface break in the main line to the deep disposal well. The spill was 11,600 gallons but only 7,500 gallons of fluid reached the surface. In summary, the inspectors found that the reporting, investigation, and corrective actions for spills were being satisfactorily undertaken and were in compliance with license conditions.

4.3 Conclusions

Site wellfield operations were being conducted in accordance with the performance-based license and regulatory requirements. Spill and excursion reporting, investigation, and corrective actions were being conducted in accordance with license conditions.

5 Exit Meeting Summary

The inspectors presented the preliminary inspection results to the licensee's representatives at the conclusion of the onsite inspection on September 21, 2007. During the inspection, the licensee did not identify any information reviewed by the inspectors as propriety.

SUPPLEMENTAL INSPECTION INFORMATION

Partial List of Persons Contacted

Licensee

F. Bendrick, Senior Safety, Health & Environmental Coordinator
A. Crook, Radiation Safety Officer
C. Foldenauer, Mine Manager
J. McCarthy, Manager, Safety, Health & Environmental

Colorado Department of Public Health and Environment

E. Ethington, Geologist
E. Stroud, Health Physicist

Items Opened, Closed, and Discussed

Open

None

Closed

None

Discussed

040-08964/0701-01	VIO	Failure to post a radiation area

Inspection Procedures Used

IP 88005	Management Organization and Control
IP 83822	Radiation Protection
IP 88035	Radioactive Waste Management
IP 88045	Environmental Monitoring
IP 89001	In-Situ Leach Facilities

List of Acronyms Used

CPP	central processing plant
IP	NRC Inspection Procedure
VIO	Violation