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

August 11, 2006

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

SUBJECT: NRC INSPECTION REPORT 040-08964/06-001 AND NOTICE OF VIOLATION

Dear Mr. McCarthy:

This refers to the inspection conducted on July 11-13, 2006 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 July 13, 2006. A final exit briefing was conducted with you by telephone on August 10, 2006.

Based on the results of this inspection, the NRC has determined that a Severity Level IV violation of NRC requirements occurred. The violation involved your failure to utilize a radiation work permit to control exposure to uranium during non-routine work activities resulting in the intake of radioactive material by an occupational worker. The violation was evaluated in accordance with the NRC Enforcement Policy. [The current Enforcement Policy is included on the NRC's Web site at www.nrc.gov; select **What We Do**, **Enforcement**, then **Enforcement Policy**.] The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. The violation is being cited in the Notice because the incident was determined to be self-revealing, not self-identified, and because your corrective actions were incomplete. In particular, the NRC believes that a dose assessment should have been conducted as suggested in NRC Regulatory Guide 8.9, "Acceptable Concepts, Models, Equations, and Assumptions for a Bioassay Program." Section 2.3 of this Regulatory Guide states that licensees should estimate the intake for any bioassay measurement that indicates internally deposited radioactive material resulting from licensed activities.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. For your consideration and convenience, an excerpt from NRC Information Notice 96-28, "Suggested Guidance Relating to Development and Implementation of Corrective Action," is enclosed. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

Based on the results of this inspection, the NRC has also determined that one additional Severity Level IV violation of NRC requirements occurred. This violation involved your shipment of a package with external contamination in excess of U.S. Department of Transportation limits for removable contamination. The violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the Enforcement Policy. The NCV is described in the subject inspection report. If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with a copy to the Regional Administrator, Region IV, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

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 the undersigned at (817) 860-8191 or Mr. Robert J. Evans, Senior Health Physicist, at (817) 860-8234.

Sincerely,

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

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

Enclosures:
1. Notice of Violation
2. NRC Inspection Report
   040-08964/06-001
3. NRC Information Notice 96-28

cc w/enclosure:
Mr. Pat Mackin, Assistant Director
Systems Engineering & Integration
Center for Nuclear Waste Regulatory Analyses
6220 Culebra Road
San Antonio, Texas 78238-5166

Mr. David Finley
Wyoming Department of Environmental Quality
Solid and Hazardous Waste Division
122 West 25th
Cheyenne, Wyoming 82002

Mr. Lowell Spackman
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Land Quality Division
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122 West 25th
Cheyenne, Wyoming 82002

Wyoming Radiation Control Program Director

ENCLOSURE 1

NOTICE OF VIOLATION

Power Resources, Inc.
Glenrock, Wyoming

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

During an NRC inspection conducted on July 11-13, 2006, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

> License Condition 9.3 states that the licensee shall conduct operations in accordance with commitments, representations, and statements contained in the license application. Section 9.7 of the application states that if employees are required to conduct activities of a non-routine nature where there is the potential for significant exposure to radioactive materials, and no standard operating procedure exists for the activity, then a radiation work permit will be required.
>
> Contrary to the above, on or about February 15, 2006, workers commenced with non-routine work on a yellowcake dryer without a radiation work permit. As a result, one worker experienced an intake of radioactive material.

This is a Severity Level IV violation (Supplement IV).

Pursuant to the provisions of 10 CFR 2.201, Power Resources, Inc. is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555, 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 to avoid further violations, 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 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.

Because 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, it 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.

Dated this 11th day of August 2006

ENCLOSURE 2

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	040-08964
License No.:	SUA-1548
Report No.:	040-08964/06-001
Licensee:	Power Resources, Inc.
Facility:	Smith Ranch In-Situ Leach Facility
Location:	Converse County, Wyoming
Dates:	July 11-13, 2006
Inspector:	Robert Evans, P.E., C.H.P., Senior Health Physicist Fuel Cycle & Decommissioning Branch
Accompanied by:	Linda M. Gersey, Health Physicist Nuclear Materials Inspection Branch
	Ashley M. Tull, Health Physicist Fuel Cycle & Decommissioning Branch
Approved by:	D. Blair Spitzberg, Ph.D., Chief Fuel Cycle & Decommissioning Branch
Attachment:	Supplemental Inspection Information

EXECUTIVE SUMMARY

Power Resources, Inc. Smith Ranch In-Situ Leach Facility
NRC Inspection Report 040-08964/06-001

This inspection included a review of site status, management organization and controls, site tours, radiation protection, environmental monitoring, transportation and radwaste activities, emergency preparedness, and followup of a previous NRC inspection finding. In summary, the licensee was conducting operations safely and in accordance with regulatory and license requirements, with two exceptions mentioned below.

Management Organization and Controls

- The organizational structure and staffing levels were sufficient for the work in progress at the facility. The licensee's Safety and Environmental Review Panel (SERP) evaluations were conducted in accordance with requirements of the performance-based license (Section 1).

In-Situ Leach Facilities

- Site operations were being conducted in accordance with applicable performance-based license and regulatory requirements. The safety features of the operating dryer were found to be in accordance with license requirements. Radiation and area postings met requirements (Section 2).

Radiation Protection

- The licensee implemented a radiation protection program that met the requirements of 10 CFR Part 20 and the license, with one exception. A violation was identified involving the licensee's failure to issue a radiation work permit for a non-routine task, resulting in the intake of uranium by a plant worker (Section 3).

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

- A review of records and data by the inspectors indicated that the licensee had not released effluents into the environment during 2005 in quantities exceeding regulatory limits. Reports related to groundwater and environmental monitoring programs were submitted to the NRC as required (Section 4).

Transportation of Radioactive Material and Radioactive Waste Management

- The licensee was conducting transportation and waste disposal operations in accordance with regulatory requirements, with one exception. A Non-Cited Violation was identified involving the licensee's shipment of a resin tanker with external removable contamination in excess of the U.S. Department of Transportation regulatory limit (Section 5).

Emergency Preparedness, Fire Protection, and Emergency Procedures

- The licensee had established an emergency preparedness program. An audit of emergency supplies identified some non-critical items as missing, but the licensee agreed to restock the items in a timely manner (Section 6).

Follow up

- The inspectors reviewed a previously identified Inspection Followup Item involving the licensee's well sampling protocols. This Item was left open pending further review by the licensee (Section 7).

Report Details

Site Status

At the time of the inspection, the licensee was in the process of recovering uranium through in-situ leach operations in a number of wellfields. Uranium processing and drying operations were in progress at the Smith Ranch central processing plant. Three satellite facilities (2, 3, and SR1) were in service to support wellfield operations. Operations had been previously discontinued at Satellite No. 1 and the Highland central plant. Further, the licensee's three offsite locations (North Butte, Ruth, and Gas Hills) remained in standby. One of two yellowcake dryers were in service. The second dryer was being repaired during the inspection.

During the Fall 2005, the licensee identified that the east evaporation pond at the Smith Ranch central processing plant was leaking. The pond was used to hold water prior to deep well disposal. The pond has since been dewatered. The licensee plans to reline the pond later this year.

1 Management Organization and Controls (88005)

1.1 Inspection Scope

The purposes of this portion of the inspection were to ensure that the licensee had established an organization to administer the technical programs and to ensure that the licensee had established a program to perform internal reviews, self-assessments, and audits.

1.2 Observations and Findings

The licensee's approved corporate organization structure is illustrated in Figure 9-1 of the March 12, 2003 application. The inspectors found that the licensee's organization structure was in agreement with the license application. One position vacancy, for the radiation safety technician position, remained open at the time of the inspection. The licensee had not decided whether to fill or to eliminate the position. In summary, the licensee had sufficient staff to implement the radiation protection and groundwater monitoring programs.

License Condition 9.4 of the performance-based license requires, in part, that the licensee establish a Safety and Environmental Review Panel (SERP). The SERP is required by the license to ensure that changes to the facility, procedures, and tests or experiments, which have not been reviewed by the NRC, do not have adverse effects on systems, structures, components, and the operation of the facility. The inspectors reviewed the licensee's SERP evaluations performed during calender year 2005. The 2005 SERP evaluations were technically adequate and provided sufficient detail to support the proposed change.

1.3 Conclusions

The organizational structure and staffing levels were sufficient for the work in progress at the facility. The licensee's SERP evaluations were conducted in accordance with requirements of the performance-based license.

2 In-Situ Leach Facilities (89001)

2.1 Inspection Scope

The inspection objectives were to determine if operations were being conducted in accordance with regulatory and license requirements.

2.2 Observations and Findings

Site tours were conducted to observe in-situ leach operations in progress. Areas toured included the central processing plant, wellfields, selected header houses, and satellite buildings. 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 operations at all locations were being conducted in accordance with established licensee procedures.

The inspectors compared dryer operations to the requirements of License Condition 10.1.2 and Section 4.1.3 of the license application. At the time of the inspection, Dryer B was in service, and Dryer A was being repaired. Dryer A experienced pedestal failure during early June 2006. Plant management stated that the dryer failed because of a poorly designed pedestal. The metal support anchors were located too close to the edges of the concrete walls resulting in pedestal and gear box failure. The licensee stated that the repair process included an in-depth analysis of pedestal design by a third party contractor. Corrective actions included redesign and planned rebuild of the pedestal. The dryer was expected to be returned to service during mid-August 2006.

The inspectors discussed recent dryer modifications with the licensee. The bag house had been modified from a shaker design to an air blow-down design. The new design was expected to be more efficient and required less maintenance. Licensee management believed that the new design was performing its intended function in an efficient and effective manner. The inspectors compared the design change to the license application commitments and concluded that the change complied with the NRC-approved design criteria.

The safety functions of Dryer B were reviewed during a system walkdown. The walkdown included a review of operating parameters and setpoints. The inspectors concluded that the dryer's safety features were in service and were being maintained in accordance with license requirements and license application commitments.

License Condition 10.1.1 states, in part, that the annual yellowcake production shall not exceed 5.5 million pounds. The licensee stated that its yellowcake production during 2005 was 1.342 million pounds.

The inspectors performed independent radiological surveys using an NRC-issued Ludlum Model 19 microRoentgen meter (Serial Number 015518, calibration due date December 22, 2006). The inspectors did not observe any area that was greater than five millirems per hour that the licensee had not previously posted as a radiation area. Ambient gamma exposure rates near the resin tanks in the central processing plant were about 0.5 millirems per hour. Exposure rates near the full resin tanker trailers ranged from 3.2 to 4.0 millirems per hour. Full 55-gallon drums of yellowcake material ranged from 2.5 to 3.2 millirems per hour. The inspectors determined that the licensee had posted its radiation areas as required by 10 CFR 20.1902.

2.3 Conclusions

Site operations were being conducted in accordance with applicable performance-based license and regulatory requirements. The safety features of the operating dryer were found to be in accordance with license requirements. Radiation and area postings met requirements.

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

a. Occupational Dose Assessments

The inspectors reviewed the licensee's dose assessment records for 2005-2006. License Application Section 9.8 states that the external radiation exposures to plant operators will be monitored on a quarterly basis. During 2005, 38 employees were monitored for external exposures to radioactive materials, although some employees were monitored for only part of the year. The highest deep dose equivalent exposure for 2005 was 350 millirems. During 2006, 12 employees were monitored. The highest deep dose equivalent exposure for 2006 (first quarter results) was 91 millirems.

Internal exposures were measured and assigned to individuals using air sampling results. The highest internal dose assigned to an individual during 2005 was 255 millirems. The internal exposure results for 2006 were not reviewed in detail but will be assessed during a future inspection.

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(a). The maximum total effective dose equivalent exposure for 2005 was 546 millirems with a regulatory limit of 5000 millirems. For comparison, the maximum total effective dose equivalent for 2004 was 537 millirems. In summary, the licensee's occupational doses were 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. Action levels used by the licensee were defined in Table 1 of Regulatory Guide 8.22, "Bioassay at Uranium Mills," Revision 1. The licensee collected a total of 184 urine samples during 2005. One sample result was just above the detection limit of 5 micrograms of uranium per liter of uranium (µg/L). However, the result (5.7 µg/L) was below the lowest action level of 15 µg/L; therefore, no response was required by the licensee.

During February 2006, routine sampling of workers identified a positive sample of 39.0 µg/L for one worker. This individual had worked on a yellowcake dryer the week before the sample was collected. A followup sample was collected eight days later; the sample result was less than the minimum detectable activity level of 5 µg/L.

The licensee conducted a followup review of this elevated bioassay sample result. The licensee's investigation determined that several workers had conducted work on equipment with visible yellowcake material. The workers felt that the work could be conducted without risk of contamination. However, during performance of this work, one of the workers apparently ingested or inhaled a small amount of uranium resulting in a positive bioassay sample result.

License Condition 9.3 states that the licensee shall conduct operations in accordance with commitments, representations, and statements contained in the license application. Section 9.7 of the application states that if employees are required to conduct activities of a non-routine nature where there is the potential for significant exposure to radioactive materials, and no standard operating procedure exists for the activity, then a radiation work permit (RWP) will be required. The workers commenced with non-routine work on a yellowcake dryer without an RWP. As a result, one worker experienced an intake of radioactive material.

The licensee's failure to issue an RWP prior to commencement of this work activity was a violation of License Condition 9.3 (VIO 040-08964/0601-01). Corrective actions taken by the licensee included staff meetings and retraining of workers in the RWP process. However, the inspectors concluded that this self-revealing incident was not fully investigated by the licensee, including a dose assessment. Regulatory Guide 8.9, "Acceptable Concepts, Models, Equations, and Assumptions for a Bioassay Program," Section 2.3, recommends that licensees estimate the intake for any bioassay measurement that indicates internally deposited radioactive material resulting from licensed activities.

Regulatory Guide 8.22, Section 5.2 states that the corrective actions to be taken depend on the amount of uranium detected. Section 5.2 further states that Figure 2 (a plot of concentration of uranium in urine versus time after exposure) may be used to obtain acceptable action levels for a single intake as a function of time. In other words, the required corrective actions may have been different from the actual corrective actions taken, based on the timing of the bioassay sample. In summary, the corrective actions taken by the licensee in response to the intake was determined to be incomplete.

At the time of the inspection, the inspectors were unaware of the significance of the intake. Following the completion of the onsite inspection, the inspectors conducted a dose assessment of the uranium intake by the worker. Using the general guidance provided in Regulatory Guide 8.9, "Acceptable Concepts, Models, Equations, and Assumptions for a Bioassay Program," the inspectors calculated the potential intake and the dose to the worker for comparison to regulatory limits. The intake was determined to be well below the 10 milligrams regulatory limit specified in 10 CFR 20.1201(e) and the 5000 millirem Annual Limit of Intake specified in 10 CFR 20.1201(d). Accordingly, the incident was not reportable per 10 CFR Part 20.

b. Monitoring Programs

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. The inspectors verified that the licensee had performed the required routine surveys during 2005-2006. The highest ambient exposure rate measured by the licensee was 9 millirems per hour at Tank T-20 in the central processing plant. Tank T-20 contains discharge fluid from the plant shakers. The inspectors confirmed that the area was posted as a radiation area.

Radon progeny sampling is required by Section 9.10 of the license application. Radon progeny is monitored monthly at the Smith Ranch central processing plant, satellite facilities, and one header house. The action level established by the licensee is 0.08 working levels. During 2005, the highest sample result (measured twice in the central processing plant) was 0.04 working levels. The highest sample result for 2006, also measured in the central processing plant, was 0.051 working levels. In summary, the radon progeny sample results were less than the action level during 2005-2006.

Airborne uranium monitoring is required by Section 9.10 of the application. The Smith Ranch central processing plant is sampled monthly in three locations to assess the uranium concentrations in air and to provide data for use in internal exposure determinations. Breathing zone samplers were used at least weekly by dryer operators. The general area and breathing zone sample results for 2005-2006 were reviewed. The general area sample results were consistently less than 1-percent of the derived air concentration limit. The breathing zone sample results were less than 67-percent of the derived air concentration limit. The highest sample results were obtained in the vicinity of the dryer/packaging station. Dryer operators were required to wear respirators during yellowcake packaging operations.

Contamination surveys were conducted in clean areas, including lunch rooms and offices in the restricted area, with an action level of 250 disintegrations per minute per 100-square centimeters (dpm/100 cm^2) and with a target goal of no detectable activity. During 2005, measurable amounts of contamination below the action level were identified on the central processing plant lunchroom floor and a satellite office chair. The licensee took corrective actions to ensure that clean areas remained contamination free.

The licensee also sampled the restricted areas for contamination. Contamination was identified in the restricted areas but in concentrations less than the action level of

200,000 dpm/100 cm^2. The licensee routinely conducted cleanup operations, such as wash-downs, to keep the restricted areas below the uranium contamination action level.

During January 2006, the licensee placed a new groundwater restoration unit into service at Satellite No. 2. The inspectors reviewed the licensee's radiological sampling protocols for this location to ascertain whether the new process had an observable impact on ambient radiation levels. At the time of the inspection, the reverse osmosis unit filters were considered a radiation area with gamma exposure rates of 4-6 millirems per hour. These exposure rates were comparable to the radium filter presses that were located in the same building.

The licensee routinely conducts radon progeny and ambient gamma exposure rate sampling in Satellite No. 2, as well as other processing plant structures at the site. The licensee trends this data, but not enough data was available as of July 2006 to determine whether negative trends in radon-222 concentrations and ambient gamma exposure rates are identified because of the new process circuit. Based on preliminary data, the highest sampling results continue to be identified in the central processing plant, not Satellite No. 2. The licensee stated that negative trends, if any exist, will be evaluated by the licensee as part of the annual As Low As Reasonably Achievable (ALARA) audit.

c. Radiation Protection Programs

Radiation work permits (RWPs) are required when employees conduct activities of a non-routine nature where there is the potential for significant exposure to radioactive materials, and no standard operating procedure exists for the activity. During 2005, the licensee issued 13 RWPs. Most of these RWPs were related to the removal of sludge from the evaporation pond. During 2006, the licensee issued 11 RWPs. Most were related to equipment maintenance. Selected RWPs were reviewed and were determined to provide sufficient instructions for protection from uranium as well as sufficient industrial safety controls.

The license application requires, in part, that all radiation monitoring, sampling and detection equipment be re-calibrated after each repair as recommended by the manufacturer, or at least annually, whichever is more frequent. The inspectors reviewed the licensee's calibration records and determined that survey instruments were being calibrated at frequencies that met requirements. During the site tour, the inspectors observed that instruments in use by the licensee had current calibration stickers affixed.

3.3 Conclusions

The licensee implemented a radiation protection program that met the requirements of 10 CFR Part 20 and the license, with one exception. A violation was identified involving the licensee's failure to issue an RWP for a non-routine task, resulting in the intake of uranium by a plant worker.

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

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 40.65. The two semiannual environmental monitoring reports for 2005 were reviewed during the inspection. The semiannual reports were submitted to the NRC in a timely manner and provided relevant data for the facility. The inspectors found several minor discrepancies between the actual data collected verses the data documented in the reports although all values were less than the respective limits. In response, the licensee stated that it would submit corrected data sheets as an addendum to the next semi-annual report.

The environmental monitoring program consisted of air particulate, radon, groundwater, surface water, soil, and vegetation sampling. Measurements of ambient gamma exposure rates were also performed. Since the last inspection, the central processing facility at the Highland Uranium Project has not been used for yellowcake drying and processing. Thus, no stack emission monitoring was required. Stack monitoring of the Smith Ranch central processing plant is not required because the plant is a zero gaseous and particulate effluent release facility based on the design of the processing equipment.

The licensee has five air monitoring stations at various locations around the licensed property. The stations are used to measure natural uranium, thorium-230, radium-226, and lead-210 concentrations in air on a quarterly basis. Radon-222 was also measured using track-etch detectors. Two of the air monitoring stations are related to the Highland central processing plant and were not in service because the Highland plant was not in operation.

The inspectors reviewed the monitoring procedures and quarterly results since the last inspection for the three remaining monitoring stations. All results for natural uranium, thorium-230, radium-226, lead-210, radon-222 concentrations were found to be 17-percent or less of the effluent concentration limits specified in 10 CFR Part 20, Appendix B.

The licensee used environmental thermoluminescent dosimeters to monitor ambient gamma radiation. The dosimeters were routinely placed adjacent to the three operating air monitoring stations and exchanged quarterly. The dosimeters at the background

station, referred to as Dave's Waterwell, measured a total of 124 millirems of exposure during 2005. During the same time frame, the sample station with the highest total exposure was the Fence Line station. This location totaled 146 millirems, or 22 millirems above background. The dosimeter data indicated no upward trend as compared to previous years.

In summary, the inspectors concluded that the potential radiation dose to any member of the public from licensed material during 2005 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 groundwater monitoring well and effluent monitoring data. All required data was presented in the semi-annual reports. The groundwater and surface water monitoring programs were implemented by the licensee in accordance with Chapter 5 of the license application. The groundwater program consisted of quarterly sampling for natural uranium and radium-226 in wells used for livestock or domestic water within 1-kilometer of the operating wellfields. The inspectors found no significant changes over the previous year's results.

The inspectors reviewed the water sampling standard operating procedure and observed a groundwater technician performing well sampling at Wellfield E, monitoring well EM-21. The water collection process was performed in accordance with the instructions provided in the licensee's procedures.

c. Wellfield and Excursion Monitoring

License Condition 12.1 requires, in part, that until the license is terminated, the licensee maintain documentation on spills of source materials, 11e.(2) byproduct materials, or process chemicals. Also, the licensee is required to report any well-field excursions, spills, or pond leaks involving source materials, 11e.(2) byproduct materials, or process chemicals that may have an impact on the environment. The licensee is required to make notification to the NRC in accordance with License Condition 9.2.

The inspectors reviewed the licensee's spill records and determined that the licensee was in compliance with License Conditions 9.2 and 12.1 requirements. The licensee recorded 20 spills for 2005, seven of which were reportable. During the first half of 2006, there were 5 recorded spills, two of which were reported to NRC.

The licensee continues to monitor excursion well DM-3 on a weekly basis. The licensee initially notified the NRC of this finding by letter dated January 29, 2002. The licensee believes that the excursion was not caused by over-injection of lixiviant but was due to the overlap of two mining units in the vicinity of the well. This conclusion was based on the technical assistance provided by a hydrological consulting firm.

4.3 Conclusions

A review of records and data by the inspectors indicated that the licensee had not released effluents into the environment during 2005 in quantities exceeding regulatory

limits. The inspectors noted that reports related to groundwater and environmental monitoring programs were submitted to the NRC as required.

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

5.1 Inspection Scope

The objectives of the inspection were to determine if transportation and disposal activities were being conducted in compliance with regulatory requirements.

5.2 Observations and Findings

The licensee's transportation of resins was reviewed during the inspection. The licensee utilized tankers to transport resin to and from the satellite buildings. In recent months, the licensee permanently removed several tankers from service and replaced the tankers with newer ones. At the time of the inspection, the licensee had two tankers in service and was about to place a third into service.

The inspectors reviewed the resin tanker shipping papers. The material was being shipped as low specific activity (LSA-1) material, exclusive use shipment. The papers provided all the pertinent information as required by U.S. Department of Transportation (DOT). Included in the licensee's records were survey forms for documentation of DOT-required radiological surveys.

On April 21, 2006, a resin trailer was transported from Satellite SR1 to the Smith Ranch central processing plant. Prior to shipment, the tanker was apparently overfilled, resulting in spilled resin on the top and sides of the tanker. Upon arrival at the central processing plant, plant operators noted that the trailer had dried resin on the sides of the tanker. Radiological surveys were conducted on the trailer. The survey results indicated removable contamination up to 33,846 disintegrations per minute per 100-square centimeters (dpm/100 cm^2). The licensee initiated a formal review of the incident.

The DOT limits the amount of removable contamination on external surfaces of packages. The level of non-fixed radioactive contamination may not exceed the limits set forth in Table 11 of 49 CFR 173.443. The limit is 2,200 dpm/100 cm^2. Regulation 10 CFR 71.5 states that each licensee who transports licensed material outside the site of usage shall comply with the applicable requirements of the DOT regulations. Prior to shipment, a trailer survey was conducted for removable contamination. Contamination was apparently visible, but the surveyor swipe sampled four discrete areas that were not contaminated by following a predetermined swipe sampling protocol.

The licensee's shipment of the trailer tanker with removable exterior surface contamination greater than the Table 11 limits was a violation of 10 CFR 71.5 requirements (NCV 040-08964/0601-02). However, this non-repetitive, licensee-identified and corrected violation is being treated as a Non-Cited Violation, consistent with Section VI.A.8 of the NRC Enforcement Policy. Corrective actions taken by the

licensee included staff meetings, retraining, and updating of the applicable survey procedure. The revised procedure provides instructions for taking wide area swipe samples versus discrete location samples.

License Condition 9.6 allows the licensee to dispose of byproduct material at an offsite location. The inspectors reviewed the shipping records for recent disposal shipments to ascertain whether the records were complete. The records included radiological surveys of the packages prior to shipment. The inspectors noted that the shipping papers did not always include an emergency telephone number, although the telephone number was located on the emergency instructions given to drivers. Further, the papers did not always include the activity of each package in SI units, although the papers always included the activity in traditional units. These two findings were not considered safety significant by the inspectors, and the licensee agreed to make the appropriate corrections to their transportation paper program.

The inspectors reviewed the licensee's DOT hazardous material training program. The inspectors confirmed that the licensee provided the training, although the licensee's records weren't always compatible with DOT requirements. Because the training had been provided and the licensee provides some documentation of training, this finding was determined not to be safety significant. The licensee stated that it would change its method of documentation to comply with all DOT requirements.

5.3 Conclusions

The licensee was conducting transportation and waste disposal operations in accordance with regulatory requirements, with one exception. A Non-Cited Violation was identified involving the licensee's shipment of a resin tanker with external removable contamination in excess of the DOT regulatory limit.

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

6.1 Inspection Scope

The objective of this portion of the inspection was to ensure that the licensee's emergency preparedness program was being maintained in a state of readiness.

6.2 Observations and Findings

The inspectors reviewed the licensee's emergency preparedness program and confirmed that the licensee had established emergency instructions, including spill and accident response instructions. As part of the inspection, the licensee's emergency supplies were audited. The Emergency Manual, Volume XIII requires the licensee to prepare the site spill response supplies for dispatch in the case of an accident. The site spill response supply kit is maintained in the emergency response trailer for emergency use. The inspectors conducted an audit of the supplies in the trailer. The trailer contained most of the items necessary, and those items that were not in the trailer at the time of the audit were readily available onsite.

The Emergency Manual, Volume XIII also requires the licensee to prepare vehicle spill kits. The kits include gloves, coveralls, shoe covers, respirators, plastic sheeting, stakes, nails, a hammer, a knife, and radioactive materials signs. During the inspectors' audit of the kit contents, only a few of the items were found in the kits, but the licensee agreed to update the kits in a timely manner.

In case of fire or similar emergency, the licensee stated that the volunteer fire departments in Glenrock, Rolling Hills, and Douglas, Wyoming were available to respond. The fire responders are located approximately 30 miles from the licensee's site. The inspectors noted that first aid kits were located in company vehicles and fire extinguisher inspection tags were current at various locations around the site.

6.3 Conclusions

The licensee had established an emergency preparedness program. An audit of emergency supplies identified some non-critical items as missing, but the licensee agreed to restock the items in a timely manner.

7 Followup (92701)

7.1 (Discussed) Inspector Follow up Item (IFI) 040-08964/0501-01: Followup of Licensee's Procedures and Protocols for Well Sampling

During the previous inspection, the inspectors reviewed the licensee's program for performing well sampling. The NRC inspectors questioned whether the licensee's well purge process was adequate. At that time, the licensee agreed to submit documentation (i.e., historical correspondence with regulatory agencies or detailed sampling and analytical data) that addressed the issue of whether current sampling procedures actually resulted in representative aquifer samples, and to revise groundwater sampling procedures.

Since the previous inspection, the licensee submitted updated information to the NRC by letter dated May 10, 2006. This letter provided some, but not all, of the information that was needed to resolve this issue.

During this inspection, the licensee agreed to review the issue formally through its performance-based license provisions. The licensee is expected to submit this issue to its SERP for technical review. The technical issues identified in this IFI will be reviewed during a future inspection, following the licensee's formal review of its groundwater sampling protocols.

8 Exit Meeting Summary

The inspectors presented the preliminary inspection results to the licensee's representatives at the conclusion of the onsite inspection on July 13, 2006. A final exit briefing was conducted with the licensee by telephone on August 10, 2006. Representatives of the licensee acknowledged the findings as presented. During the

inspection, the licensee did not identify any information reviewed by the inspectors as propriety.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

A. Crook, Radiation Safety Officer
P. Drummond, Superintendent, Plant Operations & Maintenance
C. Foldenauer, Mine Manager
S. Hatten, Wellfield Manager
J. McCarthy, Manager, Environmental Health & Safety
J. Winter, Senior Environmental Health and Safety Coordinator

ITEMS OPENED, CLOSED, AND DISCUSSED

Open

040-08964/0601-01	VIO	Conducting non-routine work without an RWP
040-08964/0601-02	NCV	Shipment of resin trailer with external contamination greater than U.S. DOT limits

Closed

040-08964/0601-02	NCV	Shipment of resin trailer with external contamination greater than U.S. DOT limits

Discussed

040-08964/0501-01	IFI	Followup of licensee's procedures and protocols for well sampling

INSPECTION PROCEDURES USED

IP 83822	Radiation Protection
IP 86740	Transportation of Radioactive Material
IP 87102	Maintaining Effluents from Materials Facilities ALARA
IP 88005	Management Organization and Control
IP 88035	Radioactive Waste Management
IP 88045	Environmental Monitoring
IP 88050	Emergency Preparedness
IP 88055	Fire Protection
IP 88064	Emergency Procedures
IP 89001	In-Situ Leach Facilities
IP 92701	Followup

LIST OF ACRONYMS USED

ALARA	as low as is reasonably achievable
DOT	U.S. Department of Transportation
dpm/100 cm^2	disintegrations per minute per 100-square centimeters
IFI	Inspection Followup Item
µg/L	micrograms per liter
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
RWP	radiation work permit
SERP	Safety and Environmental Review Panel
VIO	Violation