

January 23, 2008

Mr. John McCarthy
Power Resources, Inc.
Smith Ranch-Highland Uranium Project
P.O. Box 1210
Glenrock, WY 82637

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION - REBASELINED SURETY
ESTIMATES FOR SMITH RANCH – HIGHLAND URANIUM PROJECT -
SOURCE MATERIALS LICENSE SUA-1548 (TAC J00514)

Dear Mr. McCarthy:

On June 29, 2007, Power Resources Inc. (PRI) submitted re-baselined surety estimates for its Smith Ranch – Highland Uranium Project (SR-HUP) in Converse County, Wyoming, to the Nuclear Regulatory Commission (NRC) per License Condition 9.5 of Source Materials License SUA-1548. Subsequently, PRI submitted two additional documents to the NRC: Response to SR-HUP surety bond issues and In Situ Wellfield Release Follow-up Report, both dated July 30, 2007. Upon reviewing this material, NRC staff has identified several items that require further clarification. NRC staff comments are contained in the enclosed material. Please provide the requested information no later than March 31, 2008.

If you have any questions regarding this matter, please contact me at (301) 415-7612, or by e-mail, at PXM2@nrc.gov.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

/RA/

Paul Michalak, Hydrogeologist
Uranium Recovery Licensing Branch
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8964
License No.: SUA-1548

Enclosure: Request for Additional Information

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Power Resources, Inc.
Smith Ranch-Highland Uranium Project
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Docket No.: 40-8964
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**Request for Additional Information
Power Resources Inc
Smith Ranch Highland Uranium Project
Converse County, Wyoming**

Comment 1: For Power Resources Inc. (PRI) (2007a, WorleyParsons Komax response to Item 1), Nuclear Regulatory Commission (NRC) staff agrees that the methodology used by PRI in its revised surety estimates is consistent with the previously approved Crow Butte Resources method for determination of impacted soils. However, approximately 20 of the 79 Smith Ranch-Highland Uranium Project (SR-HUP) liquid releases reported to NRC since June 1997 have been associated with headerhouses. Impacted soils associated with liquid releases at headerhouses are not accounted for in PRI's revised surety estimates. Consequently, please revise the SR-HUP soil clean up surety estimates to account for impacted soils in the vicinity of headerhouses.

Comment 2: For PRI (2007a, WorleyParsons Komax response to Item 2), NRC staff agrees that the recently completed well in Mine Unit H indicates that the upper 130 feet of material consists of claystone, mudstone, shale and/or siltstone. However, this boring, which is located on the Highland portion of SR-HUP, does not support the assertion that similar conditions exist "across the site" (i.e., throughout SR-HUP). In particular, liquid releases greater than 10,000 gallons have been reported for Smith Ranch Wellfields 1 (January 1998 and December 1999), 3 (July 1999, October 2001, and December 2006), and 4 (April 2002 and September 2003). Consequently, please provide additional stratigraphic, water level and/or potentiometric information, including geologic cross-sections, which support the conclusion that a significant thickness of low permeable material exists above the shallow water table throughout SR-HUP.

Comment 3: For PRI (2007a, WorleyParsons Komax response to Item 3), PRI's estimate that only 0.09% of existing SR-HUP well parts would need to be replaced appears inconsistent with its statements that, as of July 30, 2007, PRI had replaced 1,700 well unions due to PRI's ban on reusing pipe unions during maintenance activities (PRI 2007b, Item 2) and that it currently retrofits all wellheads in wellfields targeted for restoration (PRI 2007b, Item 8). In addition, although PRI (2007c and d, Recurring Costs_Basis worksheets) have line items for restoration spare parts, these line items do not appear to be utilized in any of the calculated costs. Please provide additional information that indicates how the 0.09% assumption is consistent with reported wellfield retrofitting/repair at SR-HUP and how PRI-reported wellfield retrofitting prior to restoration is accounted for in SR-HUP surety estimates.

Comment 4: As part of its June 29, 2007 surety estimate revisions (PRI 2007c and 2007d), PRI reduced its estimated restoration pore volumes from six to four. To support the reduction, PRI enclosed the Lewis Water Consultants October 29, 1999 report Draft Evaluation and Simulation of Wellfield Restoration at the RAMC Smith Ranch Facility (Lewis Water Consultants 1999). Lewis Water Consultants (1999) contains analytical, numerical, and geochemical modeling analysis of the Smith Ranch Q-sand pilot restoration study and derives between 3.2 and 4.4 restoration pore volumes for the Q-sand restoration. NRC staff has reviewed historical records contained under docket file 40-8768 (Sequoyah Q-Sand In-Situ Leach R&D project). For the Q-sand pilot restoration study (November 1984 through May 1986), NRC staff calculates that between nine to 18 pore volumes were removed. Furthermore, just over 15 pore volumes were removed as part of the Wellfield A restoration effort at the Highland site (PRI 2004). Consequently, NRC staff believes there is insufficient basis for PRI to reduce its estimation of

restoration pore volumes in its surety estimates. As a result, please provide additional information to support PRI's current estimate of four pore volumes necessary to complete ground water restoration at SR-HUP wellfields or revise the pore volume estimate based on completed restorations.

Comment 5: PRI's estimated restoration periods (PRI 2007c, Monitoring and Sampling Costs, Ground Water Restoration worksheet) appear to be inconsistent with the reported wastewater disposal capacity at Smith Ranch. PRI uses a default value of two years for all Mine Unit restorations. However, for large Mine Units (e.g., Mine Units 2, 15, and 15A), the apparent reduced waste disposal capacity of Waste Disposal Wells Nos. 1 and 2 (combined 150 gallons per minute (gpm), PRI (2007a, Figure 1, Current Mass Flow Chart)) would result in restoration periods of greater than two years. Moreover, any increase in restoration pore volumes (see Comment 4) will further increase the estimated restoration period. As a result, please reconcile the Estimated Restoration Periods on the Ground Water Restoration worksheet with reported wastewater disposal capacities at SR-HUP.

Comment 6: For PRI (2007c and 2007d), please provide the following information:

- 1) Conversion factor for kilowatt to horsepower and horsepower to gpm on the Recurring Costs_Basis worksheet.
- 2) Cost basis for the Central Plant, Satellites, and Main Office unit electrical costs on the Recurring Costs_Basis worksheet.
- 3) Cost basis for the Environmental Manager, Environmental Technician, and Maintenance Technician labor rates on the Recurring Costs_Basis worksheet.
- 4) Cost basis for the Elution Unit Chemical Cost on the Recurring Costs_Basis worksheet.

References

Lewis Water Consultants (1999) Draft Evaluation and Simulation of Wellfield Restoration at the RAMC Smith Ranch Facility. October 29. (ADAMS Accession No. ML071920087)

Power Resources Inc. (2004) Smith Ranch - Highland Uranium Project – A Wellfield Ground Water Restoration information. January 15. (ADAMS Accession No. ML040300369)

Power Resources Inc. (2007a) Letter from J. McCarthy to P. Michalak, NRC – Response to SR-HUP surety bond issues identified in NRC letter dated May 22, 2007 with WorleyParsons Komax enclosure. July 30 (ADAMS Accession No. ML072200503)

Power Resources Inc. (2007b) Letter from J. McCarthy to P. Michalak, NRC – In Situ Wellfield Release Follow-up Report. July 30 (ADAMS Accession No. ML072210887)

Power Resources Inc. (2007c) Letter from J. McCarthy to G. Janosko, NRC – Containing Smith Ranch 2007-2008 Surety Estimate Revision. June 29 (ADAMS Accession No. ML072210876)

Power Resources Inc. (2007d) Letter from J. McCarthy to G. Janosko, NRC – Containing Highland 2007-2008 Surety Estimate Revision. June 29 (ADAMS Accession No. ML072210866)