

August 19, 2011

Mr. Josh Leftwich
Director of Radiation Safety and Licensing
Cameco Resources
2020 Carey Ave., Suite 600
Cheyenne, WY 82001

SUBJECT: REVIEW OF QUALIFICATIONS FOR RADIATION SAFETY OFFICER AT
SMITH RANCH HIGHLAND URANIUM *IN SITU* RECOVERY FACILITY,
POWER RESOURCES INC., DOUGLAS, WYOMING, LICENSE SUA-1548

Dear Mr. Leftwich:

By letter dated June 3, 2011, Power Resources, Inc.,(PRI), doing business as Cameco Resources, submitted to the U.S. Nuclear Regulatory Commission (NRC) staff, a request to review the qualifications of its recently designated Radiation Safety Officer (RSO). Cameco reviewed the new RSO's qualifications through its Safety and Environmental Review Panel (SERP) process on May 5, 2011. This letter documents the staff's preliminary review.

Condition 9.7 of license SUA-1548 relates to Cameco's radiation protection program at Smith Ranch and currently reads as follows:

In the conduct of its Radiation Protection Program, the licensee shall follow the guidance set forth in U.S. Nuclear Regulatory Commission, Regulatory Guides 8.22, "Bioassay at Uranium Mills," 8.30, "Health Physics Surveys in Uranium Recovery Facilities," and 8.31, "Information Relevant to Ensuring that Occupational Radiation Exposure at Uranium Recovery Facilities will be As Low as is Reasonably Achievable (ALARA)," or NRC-approved equivalent.

Regulatory Guide 8.31 recommends minimum qualifications for members of the radiation protection staff. For the RSO, these qualifications are as follows:

- *Education: A bachelor's degree in the physical sciences, industrial hygiene, or engineering from an accredited college or university or an equivalent combination of training and relevant experience in Uranium Recovery (UR) facility radiation protection. Two years of relevant experience are generally considered equivalent to 1 year of academic study.*
- *Health Physics Experience: At least 1 year of work experience relevant to UR operations in applied health physics, radiation protection, industrial hygiene, or similar work. This experience should involve actually working with radiation detection and measurement equipment, not strictly administrative or "desk" work.*

- *Specialized Training: At least 4 weeks of specialized classroom training in health physics specifically applicable to uranium recovery. In addition, the RSO should attend refresher training on UR facility health physics every 2 years.*
- *Specialized Knowledge: A thorough knowledge of the proper application and use of all health physics equipment used in the UR facility, the chemical and analytical procedures used for radiological sampling and monitoring, methodologies used to calculate personnel exposure to uranium and its daughters, and a thorough understanding of the UR process and equipment used in the facility and how the hazards are generated and controlled during the UR process.*

Cameco provided a copy of the new RSO's resume that includes education, training, and experience in its June 3, 2011 submittal. The staff has completed its preliminary review of this information and finds that the new RSO appears to meet the recommendations of RG 8.31, section 2.4.1, for the following reasons:

- **Education:** The new RSO has approximately 7 years of radiation safety experience at Smith Ranch. As RG 8.31 considers 2 years of relevant experience equivalent to 1 year of academic study, the new RSO's relevant experience is equivalent to 3.5 years of academic study. The new RSO also has completed 21 credits of academic study in coursework related to physical science or industrial hygiene. The staff finds that the new RSO's combination of relevant experience and academic study appears to be consistent with the recommendations of RG 8.31, section 2.4.1.
- **Health Physics Experience:** The new RSO has approximately 7 years of radiation safety experience, including serving as the assistant RSO since December 2007. The staff finds that the new RSO's health physics experience appears to be consistent with the recommendations of RG 8.31, section 2.4.1.
- **Specialized Training:** The new RSO has attended four weeks of specialized training applicable to uranium recovery. The new RSO's specialized training has covered topics such as: RSO training, radiation fundamentals, radiation detection instruments, radiation detection and measurements, and Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). The staff finds that the new RSO's specialized training appears to be consistent with the recommendations of RG 8.31, section 2.4.1.
- **Specialized Knowledge:** The new RSO has worked in various roles at the Smith Ranch facility for more than 10 years. The new RSO has performed various job functions, including: conducting radiological surveys, supervising radiation safety technicians in training, managing the bioassay program, managing the respirator protection program, developing standard operating procedures (SOPs), overseeing compliance with the NRC license and

maintaining doses ALARA. The staff finds that the new RSO appears to meet the recommended specialized knowledge component of RG 8.31, section 2.4.1.

Therefore, the staff has verified that the new RSO's education, training, and experience appears to be consistent with the qualifications recommended in RG 8.31, section 2.4.1. Note that the staff reviews changes made during the SERP process as part of its inspection program. Therefore, formal review and concurrence with this action, if the staff agrees, would occur during the next inspection at Smith Ranch.

If you have any questions, I can be reached at 301-415-0724, or by email at Douglas.Mandeville@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 the NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

/RA/

Douglas T. Mandeville, Project Manager
Uranium Recovery Licensing Branch
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

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Douglas T. Mandeville, Project Manager
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 Office of Federal and State Materials
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