

April 9, 2014

Mr. Ken Garoutte, Manager
Safety, Health, Environment, and Quality
Cameco Resources
P.O. Box 1210
Glenrock, WY 82637

SUBJECT: 3rd QUARTER 2013 INJECTION WELL CASING LEAK INVESTIGATION
PROGRESS REPORT, SMITH RANCH HIGHLAND URANIUM PROJECT,
SOURCE MATERIALS LICENSE SUA-1548

Dear Mr. Garoutte:

By letter dated March 17, 2014, Power Resources Inc., doing business as Cameco Resources, submitted a copy of its 3rd Quarter 2013 Injection Well Casing Leak Investigation Progress Report to the U.S. Nuclear Regulatory Commission (NRC) staff. The report provided an update of Cameco's activities investigating injection well casing leaks in Mine Units C, E, and F at the Highland portion of the Smith Ranch Highland Uranium Project (SR-HUP). Cameco submitted the March 17th report in response to an NRC staff request during the August 2012 inspection of the facility.

NRC staff understands that Cameco intends to continue its investigation into the injection well casing leaks by installing wells and sampling ground water. The NRC staff also recognizes that Cameco has collected ground water data over several quarters in portions of Mine Units C, E, and F. As Cameco's efforts transition from characterization to development and implementation of corrective actions; the NRC staff offers the following comments.

- Previous casing leak progress reports indicated the Cameco planned to perform aquifer testing on the affected sands to estimate parameters needed to design a corrective action plan (e.g. pump and treat). The March 17th report indicates that Cameco no longer plans to perform any aquifer testing. It is not clear to the staff how a corrective action plan can be developed without an estimate of aquifer characteristics such as conductivity and storage coefficient/specific yield. In the next report, please explain why aquifer testing is no longer required.
- The March 17th report indicates that Cameco plans to use existing infrastructure to perform corrective actions in Mine Units C, E, and F. It is not clear to the NRC staff which existing infrastructure Cameco plans to use which may include pipelines and trunklines, RO units, purge storage reservoirs or disposal wells. The NRC staff is concerned about the ability to maintain adequate disposal capacity for operations and ongoing ground water restoration in addition to the casing leak investigation.
- The NRC staff appreciates Cameco's progress on the casing leak investigation, however, it appears that Cameco is proceeding with cleanup activities prior to developing a corrective action plan or a remediation plan in Wyoming Department of Environmental Quality (WDEQ) terminology. Prior to starting cleanup activities, Cameco should submit a corrective action plan to the NRC. The corrective action plan should

include: (1) maps or drawings showing locations and concentrations of constituents targeted for corrective action in impacted ground water in each sand; (2) ground water quality remediation targets for each targeted constituent for each sand; (3) treatment method and proposed design for targeted constituents in each sand; (4) ground water monitoring proposed to monitor progress of treatment for targeted constituents in each sand; (5) existing or new infrastructure to be used for treatment; (6) anticipated quantity of ground water that will be treated from each sand; (7) waste water disposal and volumes expected from treatment; (8) flow diagrams of treatment method with a water balance; (9) an anticipated schedule for treatment for each sand; (10) a schedule for providing reports on progress of treatment; (11) a cost estimate to complete these activities that can be incorporated into the financial assurance estimate. It may be possible to develop one report that can address the needs of both WDEQ and NRC. The NRC staff will coordinate its review with WDEQ.

In accordance with 10 CFR 2.390 of NRC's "Agency Rules of Practice and Procedure," 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 ADAMS. ADAMS is accessible from the NRC Web site at: <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions regarding this matter, please contact me at (301) 415-0724, or by e-mail at Douglas.Mandeville@nrc.gov.

Sincerely,

/RA/

Douglas T. Mandeville, Project Manager
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

cc: P. Rothwell, WDEQ
J. Leftwich, Cameco

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