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November 26, 2013

Kristen Yannone
Bureau of Land Management
Lander Field Office
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Comments on Final Environmental Impact Statement for the Gas Hills In-Situ Recovery Uranium Project

Dear Ms. Yannone:

Cameco Resources (Cameco) is writing to provide you with its comments on the Gas Hills Final Environmental Impact Statement (FEIS). Cameco appreciates the effort that the BLM has put into the preparation of the FEIS. There are, however, a number of issues remaining that Cameco believes should be clarified, altered or amended in the preparation of the Record of Decision (ROD).

Introduction and Overview

As the BLM is aware, the U.S. Nuclear Regulatory Commission (NRC) has already reviewed Cameco's proposed Gas Hills In-situ Recovery (ISR) Uranium Project (the Project) in connection with Cameco's request for a Source Materials License and Radioactive By-Products Material License. As well as the Wyoming Department of Environmental Quality – Land Quality Division (WDEQ-LQD) in which Cameco currently holds a Permit to Mine No. 687, which has been recently updated to reflect current trends within the Uranium industry.

The BLM served as a cooperating agency in the preparation of NRC's Environmental Assessment (EA). In addition to receiving licenses from NRC and a Permit from LQD, the Project is subject to regulatory review and approval by several other Wyoming state agencies, including the Wyoming Game and Fish Department (WGFD), Wyoming Department of Transportation (WYDOT), and the State Engineers Office (SEO). Cameco has been diligently navigating this regulatory landscape for more than a decade.

The FEIS explains that the BLM is responding to Cameco's request for approval of its Plan of Operations (PoO) for the Project. (FEIS, 1-3) Under applicable laws, "the BLM has the obligation to allow and encourage claim holders" like Cameco "to develop their claims, subject to restrictions to ensure this development will not cause ***undue*** or ***unnecessary*** degradation of public lands." *Id.* (emphasis added). The FEIS suggests two strategies for fulfilling this legal

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obligation while avoiding undue or unnecessary degradation of public lands—a "BLM-preferred Alternative" and a series of mitigation measures.

Cameco submitted comments on the Draft Environmental Impact Statement (DEIS) January 29, 2013. In this submittal Cameco commented on the proposed actions and alternatives and several mitigation measures identified in the DEIS. Four alternatives have been analyzed in the FEIS, including the No Action Alternative, the Proposed Action Alternative, the Resource Protection Alternative and the BLM-Preferred Alternative (BPA). The BPA includes modifications of the Proposed Action based on public and regulatory agency comments on the DEIS.

Cameco believes that as the BLM prepares the ROD for the Gas Hills project it needs to consider all the comments submitted previously through the DEIS and those stated currently. It is Cameco's intent to work with all regulatory agencies to protect the environment while ensuring that the project remains economically viable and technically feasible. Cameco offers the following comments on the BLM-Proffered Alternative and proposed mitigation measures.

BLM-Preferred Alternative

Section 2.5 of the FEIS includes a detailed discussion of the BPA. The BPA proposes that Cameco prepare an annual development plan (ADP) prior to initiating surface disturbance. As described in the BPA, this ADP would include a designation of a reclamation coordinator, site-specific reclamation plans; meeting BLM defined reclamation success criteria, including but not limited to topsoil handling and management plans, and the use of existing access roads. In addition, the BPA proposes construction timing constraints and allows Cameco the option to process resin into slurry if it is determined to be economically feasible.

Section 2.5.1 of the FEIS proposes an ADP and report. Under Subpart 3809 – Surface Management of 43 CFR Ch. 11, it requires that Cameco submit a Plan of Operations (PoO) for approval if it is determined that the operation is classified as more than "casual use". Cameco's submittal of an updated PoO in 2009 resulted in the facilitation of the EIS process. The purpose of the PoO is to show how Cameco intends to prevent unnecessary and undue degradation while conducting operations on public lands.

Under the PoO Cameco must provide information such as that being requested in the proposed ADP. Cameco has committed to updating the PoO to reflect the findings through the EIS process. Cameco believes that once the PoO is approved that requiring an approval process of the ADP on an annual basis is defeating the purpose of the PoO. Although Cameco supports project-appropriate, economically and technically feasible changes to its Plan of Operations (PoO) that will reduce the Project's environmental effects, Cameco believes that many of the changes proposed as part of the BPA are unnecessary, impractical, infeasible, or not appropriately tailored to the Project. Cameco believes that several of the preferred alternatives carried forward in the FEIS are inconsistent with the Project's purpose and need.

As previously stated in comments to the DEIS, Cameco has committed to providing BLM a copy the annual report of its activities, both completed and proposed, as required by the Wyoming Department of Environmental Quality – Land Quality Division (LQD). All information in the annual report is required by W.S. 35-11-411 and LQD Rules and Regulations, Chapter 11-

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Noncoal In-Situ mining and is not required for any approval of activities. The approved mine plan and PoO are the mechanisms used for approval of said operations.

Cameco still believes that an ADP will not offer significant environmental benefits. The additional requirements proposed in the ADP in addition to the standard requirements of the Annual Report to LQD would place additional, unreasonable administrative burdens and expenses on Cameco. Adding an annual requirement for approval would almost certainly require a longer administrative process, which would upset the timing of the Project as a whole. Since the Project's economic viability depends on its ability to remain on schedule, this additional, redundant planning process is impracticable during operations.

Section 2.5.2 of the FEIS proposes "construction timing constraints" that would not allow wellfield installation within the third mine unit until a wellfield in the first mine unit is deemed successful. Currently Gas Hill's reclamation practices have established the use of Comparison Areas (COMA) which address species (density/diversity and invasive species) based on what is actually out there. Upon DEQ Permit update approval, Cameco will likely be subject to something similar for vegetation bond release. Interim reclamation will be adequate ground cover and erosion stabilization. It is unrealistic to establish a criterion that is more stringent than what site conditions dictate i.e. what is naturally present under baseline.

Setting aside the uncertainty it creates, the provision's imposition of construction timing constraints of any kind is both unnecessary and infeasible. Under its Wyoming Department of Environmental Quality's Land Quality Division permit and its PoO, Cameco has already committed to timely interim reclamation, which will occur as soon as each mine unit is developed. Moreover, requiring Cameco to cease construction of a new mine unit could lead to a temporary shut-down of the mining facilities, resulting in significant economic hardship and an unplanned extension of the Project schedule. This sort of threat to the Project's viability would be completely inconsistent with Cameco's objectives for the Project, with the FEIS's assertion that the BPA would not change the Project's timing or processes, and with the BLM's obligation to encourage the development of mining claims.

Mitigation

Section 4.0 – Environmental Consequences and Appendix J of the FEIS summarizes the mitigation measures in which Cameco has already committed and/or BLM is proposing. The following comments are derived from the summary of mitigation measures and BLM's response to Cameco's comments on the DEIS.

Paleontological Resources

Section 4.7 of the FEIS contains several mitigation measures designed to address paleontological resources in the Project area. Cameco commented on several of these measures in the DEIS and wishes to reiterate these comments. Cameco completed a Paleontological Resource Survey through contract with Arcadis U.S., Inc. for the Gas Hills Uranium Project. Paleontological surveys were conducted from July 11, 2011 through August 4, 2011. The investigation was carried out in accordance with policies and regulations implemented by the Paleontological Resources Preservation Act, the National Environmental Policy Act, and the Federal Land Policy

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and Management Act. The resource survey was completed to locate, identify, document, and mitigate potential impacts to paleontological resources that could be affected through construction and development activities.

Cameco's major concern with the proposed measures is the use of a qualified paleontological resource monitor. The mitigation measures identified would require that Cameco hire a monitor to be present during construction of the wellfield. This is not a reasonable request and results in a financial burden to the project. Cameco is aware of the areas in which Paleontological resources are present and has committed to ceasing work if a resource is identified during construction. Cameco also stated that prior to beginning work in areas in concern that BLM would be notified so that they can be present during excavation if necessary.

According to the *Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources* (United States Department of the Interior, 2008), Cameco has already assessed the possible effects to significant paleontological resources for direct and indirect effects. Under the guidelines, Cameco has completed field surveys and potential fossil yield classification (PFYC) as requested. Cameco is aware of the potential for finding fossil remains during excavation of certain areas within the Gas Hills Project Area, and agrees to monitor those locations if avoidance is not possible. As previously noted, Cameco has a standard policy that if any cultural resources, fossils or remains are found during the excavation process, that work would immediately cease at that location and the proper personnel would be notified. This language will be added to a Standard Operating Procedure for inclusion. If the findings are determined to be significant, mitigation methods would be commenced. Mitigation could include consultation with a certified paleontologist, additional field surveys and possible salvage of any paleontological resources.

If salvage is determined to be necessary it is Cameco's understanding according to the Guidelines presented by the BLM that Cameco's responsibility ends after salvage is completed:

> *By regulation, after a 3809 plan of operations is approved or where there is no plan, the BLM is responsible for the cost of any investigation and recovery of fossil materials.* (United States Department of the Interior, 2008)

Cameco agrees to salvage of any finds that may be recovered during Cameco's disturbance if avoidance is not possible. After removal of the find it would be handed over to the BLM, or a museum of their choice to be curated. Cameco will not be responsible for specimens to be prepared to the point of identification, identified, and catalogued into the permanent collections of an established institution.

Soils

Cameco would like some additional clarification on the intent of SOL-2; *Topsoil will be stripped from areas used for subsoil storage piles.*

In wellfield development and during delineation/development drilling, subsoil is removed from the drilling pits and placed adjacent to the pit. Typically the pit is left open for a very short

period of time. Cameco would like to point out that removal of topsoil, for subsoil placement, increases the surface disturbance within each mine unit.

Special Status Wildlife Species

The FEIS contains multiple mitigation measures directed at the protection of special status wildlife species. Cameco will continue to work collaboratively with the BLM and the lead regulatory agency that has management authority over the species in need of mitigation measures. This allows for Cameco to remain uniform and consistent with the required applications of wildlife protection and mitigation measures.

Conclusion

As stated previously, several proposals in the BPA, including several proposed mitigation measures would add significant costs to Cameco. In some cases, these costs would be enough to threaten the Project's economic viability. If degradation cannot be prevented without threatening the overall project, then that degradation does not qualify as "undue or unnecessary" under applicable regulations. Put differently, the alternative ultimately approved by the BLM should not be so costly that Cameco must reconsider its project, because that would contravene the BLM's obligation to "allow and encourage" the development of mining claims.

Cameco is providing these comments on the FEIS as part of its effort to cooperate in the preparation of the ROD for the Project. As always, Cameco is available to answer any questions that the BLM may have. In that regard, please feel free to contact Jeanie Wolford at 307-333-7644 or by email at Jeanie_wolford@Cameco.com.

Sincerely,
Cameco Resources

Jeanie Wolford
SHEQ

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Ref: EPR-N

Kristin Yannone
Project Manager
Bureau of Land Management
Lander Field Office
1335 Main Street
Lander, WY 82520

Re: Final EIS Gas Hills In-Situ Uranium Recovery
Project Fremont and Natrona Counties, Wyoming
CEQ#: 20130307

Dear Ms. Yannone:

The U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Bureau of Land Management's (BLM's) Final Environmental Impact Statement (EIS) for the proposed Gas Hills In-Situ Uranium Recovery (ISR) Project. Our comments are provided for your consideration pursuant to our responsibilities as an informal cooperating agency and our authority under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C) and Section 309 of the Clean Air Act (CAA), 42 U.S.C. Section 7609.

We appreciate that the BLM addressed many of our Draft EIS comments, as well as comments we made during review of the preliminary Final EIS. The EPA supports the BLM's efforts to incorporate into the BLM's Preferred Alternative many of the mitigation measures identified in the Resource Protection Alternative. We also appreciate the additional information provided in the Final EIS on the deep well disposal option for waste water management. The information is as current as the permitting agencies have made available at this time.

The Preferred Alternative adopts all options for handling the wastewater from the facility: solar evaporation ponds alone, a combination of solar evaporation ponds with forced evaporation and crystallization equipment, or a combination of UIC injection wells and solar evaporation ponds. The EPA considers ISR evaporation ponds to be subject to 40 CFR Part 61 Subpart W and continues to believe that for the wastewater management options that operate more than two ponds at a time, the regulatory requirements of 40 CFR Part 61 Subpart W will not be met. The EPA also believes that solar evaporation rates alone will not keep up with the generation of wastewater after the sixth year of the project when the maximum production rate

and the aquifer restoration rate combine for 445 acre-feet of wastewater disposal requirements. We appreciate the acknowledgement of this concern with the new language addressing EPA regulatory requirements in the body of the Final EIS in Section 2.3.1.2. We also appreciate the additional explanation provided in Section 2.6.4 regarding the option of reducing the number of evaporation ponds so that the deep disposal wells are the primary waste water management option with fewer ponds serving as back-up when the wells are not available. The additional information in the Final EIS results in an adequate analysis of the impacts from the full range of wastewater management options.

The EPA appreciates the BLM adaptive management strategy to prevent adverse particulate matter impacts. The Final EIS acknowledges that there is potential to exceed the NAAQS if multiple activities (construction, operation, reclamation) occur in close proximity during the same period of time (Section 4.1.2.2). The EPA generally agrees with BLM that applicant-committed mitigation as well as permitting requirements under WDEQ-AQD (Table 1-2) would reduce impacts from fugitive dust. In Section 4.1.2.3, the Final EIS acknowledges that greenhouse gases from natural gas combustion may increase with the use of forced evaporation and crystallization equipment for wastewater disposal under the Preferred Alternative, but the Final EIS does not analyze the impacts of these combustion emissions. As we have discussed, the EPA believes it is feasible to quantify this increase in criteria pollutants, hazardous air pollutants, and greenhouse gas emissions, and doing so would have resulted in a more thorough analysis.

Including an adaptive management strategy in the project planning process can be extremely valuable in situations where the modeling conducted for NEPA is incomplete or contains uncertainties in the predicted impacts. The required Annual Development Plan (ADP) and reporting from the facility operator to the BLM is a good example of an adaptive management plan to inform the BLM of changes in the environmental conditions on a timely basis. We suggest that a strategy be included in the Record of Decision (ROD) that would provide for actions to be taken under a contingency plan should high dust events occur. If the ROD does not outline steps to be taken under a contingency plan, we suggest that the ROD indicate that a goal of the ADP will be to provide a baseline for approving changes to the Plan of Operations and for proposing additional adaptive management measures to respond to unexpected adverse impacts from operations.

We hope that these comments will assist you in finalizing the ROD. We appreciate the opportunity to review and comment on the Final EIS. If we may provide further explanation of our comments, please contact me at 303-312-6925, or your staff may contact James Hanley, at 303-312-6725.

Sincerely,

Suzanne J. Bohan
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

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Tom Sunderland, Project Manager
Bureau of Land Management
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Lander, WY 82520

Gas Hills ISR Project Comments

Dear Mr. Sunderland,

The Wyoming Outdoor Council is Wyoming's oldest statewide environmental advocacy organization, and has been working for over forty-five years to protect Wyoming's public lands, environmental quality, and quality of life for future generations.

As per our comments submitted on the Draft EIS in January of 2013, we would like to express our support for the inclusion of annual development planning, construction timing constraints, and additional on-site processing in the BLM's Preferred Alternative and encourage the inclusion of these components in the Record of Decision.

After reviewing the Final EIS, one component of the Resource Protection Alternative was noticeably absent from the BLM's Preferred Alternative. In keeping with the BLM's responsibility to prevent undue or unnecessary degradation to public lands, we would again strongly urge the BLM to include in the ROD a requirement for closed loop drilling systems.

Closed Loop Drilling Systems:
Understanding that the ISR process has inherent surface water and groundwater impacts, to which there may be little alternatives in order for development to occur; the use of any available options capable of reducing those inherent impacts is imperative to the BLM fulfilling its obligation to prevent undue or unnecessary degradation.

The use of closed loop drilling systems is one of these options. Table 2-7 on page 2-67 of the Final EIS indicates that there will be no difference in the impacts to water

use between the Proposed Alternative and the Resource Protection Alternative. We believe this is an oversight. Earlier in the same document, the BLM writes that, "In addition to reducing surface-disturbance associated with excavation of drill pits, the use of closed loop drilling systems *could reduce water use during drilling, enable recycling of water* [emphasis added] and drilling mud between wells, and facilitate improved reclamation by eliminating excavation of subsoils" (FEIS, 2-44).

Therefore, it would seem that by including the use of closed-loop drilling systems (as described in the RPA) in the ROD, the BLM could still mitigate the inherent impacts of the ISR process to water use. Since it is possible to require closed-loop drilling, not requiring it in the ROD would allow unnecessary degradation of the public's water resources.

Thank you for the additional opportunity to provide our input on the Gas Hills In-Situ Recovery project. We understand that the responsibility to consider a multitude of perspectives is not an easy task to undertake and we greatly appreciate the BLM's efforts to do so.

Best Regards,

Amber L. Wilson

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