UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

JAN 10 2013

Ref: EPR-N

Cindy Bladey, Chief
Rules, Announcements, and Directives Branch
Division of Administrative Services
Office of Administration
Mail Stop: TWB-05-B01M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Draft Environmental Impact Statement
Dewey-Burdock Project In-Situ Uranium Recovery
Project in Custer and Fall River Counties, SD
CEQ#: 20120370

Dear Ms. Bladey:

The U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the U.S. Nuclear Regulatory Commission's (NRC's) Draft Environmental Impact Statement (Draft EIS) for the proposed Dewey-Burdock In-Situ Uranium Recovery (ISR) Project. Our comments are provided for your consideration pursuant to our responsibilities and 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.

Project Background

The issuance of an NRC license to possess and use source material for uranium milling requires an EIS. The Dewey-Burdock ISR Draft EIS (supplement to NRC's Generic EIS for In-Situ Leach Uranium Milling Facilities) analyzes environmental impacts associated with a proposal from Powertech (USA), Inc. to develop the uranium resource on the company's existing leases and private property in the Dewey-Burdock project area. The Draft EIS presents two Alternatives: the No Action Alternative and Proposed Action Alternative for ISR mining and processing at two contiguous areas within the Dewey-Burdock project area. For the Proposed Action Alternative, approximately 7.6 million pounds of uranium would be produced over a 10 year period by using ISR methods and one of three process wastewater disposal options.

The EPA provided both a scoping letter and subsequent preliminary Draft EIS comments for the project. We appreciate that the NRC addressed many of our comments in this Draft EIS. As a result, we have narrowed our concerns to the following issues: 1) facility pond design, 2) monitoring and underground injection control (UIC) wells, 3) land application methods (LAMs), 4) phased development, 5) Clean Water Act concerns, and 6) water resources.

Facility Pond Design

The Proposed Action presents three options for handling the wastewater from the facility: UIC wells, LAMs or a combination of UIC and LAMs. For the UIC option, the Draft EIS identifies 9 ponds with a total pond area of 14 acres. For the LAM option, 17 ponds with a total pond area of 64.3 acres are identified. For the combined waste disposal option, land application facilities and infrastructure (e.g., irrigation areas, storage ponds and center pivot irrigation systems) would be constructed and operated on an as-needed basis depending on the capacity of the Class V injection wells to dispose of the wastewater.

As presented in the Draft EIS, the three waste disposal options will not meet the current regulatory requirements of 40 CFR Part 61 Subpart W, National Emission Standards for Radon Emissions From Operating Mill Tailings. This regulation allows for two impoundments (i.e., ponds) each one no more than 40 acres. No new impoundment can be built unless it meets the work practice standards in Subpart W. In addition, an application for the construction of any new source or the modification of an existing source must be submitted to EPA for approval, in accordance with 40 CFR §61.07. Each pond must meet the requirements of 40 CFR §192.32(a), as referenced in 40 CFR §61.252(b)(1) (e.g., double liner, leak detection). The NRC should ensure the facility design, such as size and number of ponds, meets the regulatory requirements of 40 CFR Part 61, Subpart W, and document this in the Final EIS. Please note that EPA is currently considering revisions to 40 CFR Part 61, Subpart W that may result in changes to this requirement (http://www.epa.gov/rpdweb00/neshaps/subpartw/rulemaking-activity.html).

The Draft EIS states that for both the UIC and LAM options, double liners are planned for the radium settling, spare, and central plant ponds, and single pond liners are specified for the remaining ponds. According to both 40 CFR Part 61, Subpart W and 10 CFR Part 40, Appendix A, Criteria 5A, 5E and 13, the impoundments must incorporate the basic groundwater protection standards specified by 40 CFR Part 192, Subpart D, which require a minimum of double liners for ponds utilized in milling operations. The NRC should ensure that the facility pond design will meet these groundwater protection standards, and document this in the Final EIS. We would like to point out that EPA is also currently considering revisions to 40 CFR Part 192 and this regulation may be changed prior to construction of the facility. (http://yosemite.epa.gov/opei/rulegate.nsf/byRIN/2060-AP43#1).

On page 3-23 the DEIS states that some of the waste water storage ponds and wellfields are within the 100- year floodplain as shown on Figure 3.5-3. EPA recommends an evaluation of options to avoid discharge from these facilities during flood events be included in the FEIS.

Monitoring and UIC Wells

The Draft EIS Section 3.2.3 (page 3-6) presents information on several oil and gas test wells in the project area. Within the Burdock area, we understand that two wells have been plugged and abandoned, and one has been re-completed as a stock watering well. In addition, of the ten oil and gas test wells located within two kilometers of the project boundary, eight have been plugged and abandoned and two have been re-completed as stock watering wells. We recommend that the Final EIS identify the location of these oil and gas and re-completed stock wells, along with an evaluation of the plugging, abandonment and recompletion records to assess whether any of the wells are likely to create a

communication pathway across aquifers. If the assessment identifies the need to further evaluate or modify any wells, we recommend the Final EIS include such plans.

Section 7.3.1.1 of the Draft EIS, Background Groundwater Sampling, states that the applicant can establish background groundwater quality before beginning operations by sampling "four times for baseline characterization, a minimum of 14 days between sampling events." This stipulation may result in the applicant not addressing seasonal variability, thus introducing uncertainty between the subsets of wells being sampled. We recommend a more complete sampling schedule across a calendar year to better capture seasonal variability.

The applicant's nonproduction zone monitoring plan is described in SEIS Section 2.1.1.1.2.3.2. Figure TR RAI 5.7.8-12-1 is referenced to show the nonproduction zone monitoring wells; however, Figure TR RAI 5.7.8-12-2 presents a more complete picture of the various possible configurations for nonproduction zone monitor wells at the site. We recommend referencing Figure TR RAI 5.7.8-12-2 in this section of the Final EIS.

Section 7.3.1.2 of the Draft EIS also describes nonproduction zone monitoring wells. In the description of the overlying nonproduction zone monitoring wells, only overlying wells above the Skull Creek Shale are included. The Skull Creek Shale is only one of the possible upper confining units for ore zones at the site above which overlying aquifers will be monitored. The only geologic unit that will be monitored above the Skull Creek is the alluvium. Therefore, rather than include an incomplete description of overlying non-production monitor wells in Section 7.3.1.2, we recommend including in the Final EIS the more specific overlying confining unit information from Section 2.1.1.1.2.3.2 and refer to Figure TR RAI 5.7.8-12-2, or reference the description in Section 2.1.1.1.2.3.2 here.

Figure 3.5-5 of the Draft EIS present the hydrostratigraphic units present at the project area. To our knowledge, the Whitewood and Winnipeg Formations, as depicted in Figure 3.5-5, are not present at the Dewey Burdock project area and therefore, are not part of the confining zone separating the overlying Madison Formation aquifer from the Deadwood Class V deep well UIC injection zone. We recommend updating the Final EIS to ensure the Deadwood upper confining zone is clearly identified as the Englewood Formation, and does not include the Whitewood and Winnipeg Formations.

Land Application Methods

The Draft EIS Section 4.5.1.1.2.2, Operations Impacts, states that the applicant proposes to treat liquid wastes applied to land application areas so they meet NRC release limit criteria for radiological contaminants, as referenced in 10 CFR Part 20, Appendix B, Table 2, Column 2 (see Table 7.5-3 of the Draft EIS). However, Table 7.5-3 only presents a list of radionuclide material discharge limits and does not include many of the metals found in 10 CFR Part 20, Appendix B, Table 2, Column 2. We recommend that Table 7.5-3 in the Final EIS be expanded to include metals such as arsenic, cadmium, fluoride, lead, mercury and selenium, which have been found to be elevated in other ISR operations.

The discharge limits in Table 7.5-3 are not consistent with the regulatory requirement set forth in 10 CFR Part 20 Appendix B, Table 2. According to this requirement, "the limiting value should be derived as follows: determine, for each radionuclide in the mixture, the ratio between the concentration present in the mixture and the concentration otherwise established in Appendix B for the specific radionuclide

when not in mixture. The sum of such ratio for all the radionuclides in the mixture may not exceed "1" (i.e., "unity")." According to Table 7.5-3, the allowable sum of ratios for land application is 4. In the Final EIS, please either ensure the limit is consistent with the regulatory requirement or provide an explanation as to why this limit is not applicable.

Phased Development

The Draft EIS Section 2.1.1.1.4.1, Groundwater Restoration Methods, states that mine unit restoration and reclamation will be performed concurrently with production from adjacent operating units. It is our understanding that both the production process and restoration process may use the same reverse osmosis (RO) treatment unit(s). Since it is critical to sustain reclamation activities without interruptions that could lead to excursions, we recommend including in the Final EIS a more complete description of the RO treatment capacity and associated RO production and reclamation operational design capacity.

The Draft EIS states that the aquifer restoration process will use 6 pore volumes. A pore volume is the volume of water required to replace the water in the volume of aquifer that was mined. We suggest disclosing the approximate pore volume amount and the amount of time required for each pore volume to be replaced.

Air Quality

Section 4.7.1 of the Draft EIS presents a discussion of the air quality impacts for the proposed action. Air modeling analysis was conducted from the project source emissions to determine impacts at 47 locations on and in the vicinity of the proposed site. While this analysis does not predict impacts over any National Ambient Air Quality Standard (NAAQS), we note that no analyses were performed for several pollutants, including PM2.5 (annual and 24 hour), SO2 (1 hour), and NO2 (1 hour). The Draft EIS states additional air modeling, using an updated emissions inventory, will be included in the Final EIS, and will include an analysis of these pollutants. The Final EIS modeling analysis will also include results for Class I and Class II Prevention of Significant Deterioration (PSD) increment comparisons; air quality related value (AQRV) results at Wind Cave National Park, a federal Class I area; and additional details for emission inventory work and modeled receptor locations. Since the complete modeling results are not presented in the Draft EIS, we cannot complete our review of the air quality impacts at this time. However, we concur with your approach on supplying additional air quality impact results for the Final EIS. We recommend that in the event adverse air quality impacts to either air quality or AQRVs are predicted for the project, NRC identify in the Final EIS mitigation and control measures and design features to address these impacts. Mitigation and control measures can include: best management practices, control technologies, and alterations to pace of development.

Chapter 3 of the Draft EIS lists the Annual PM2.5 NAAQS as being 15 micrograms per cubic meter (µg/m3) (page 3-65). On December 14, 2012, EPA lowered the Annual PM2.5 NAAQS to 12.0 µg/m3 (http://www.epa.gov/airquality/particlepollution/actions.html). Please include this updated information in the Final EIS.

Water Resources

According to the Draft EIS, the Dewey Burdock project could potentially impact waters of the U.S. subject to Clean Water Act (CWA) jurisdiction, such as Pass and Beaver Creeks and ephemeral tributaries to Pass and Beaver Creeks as indicated by the United States Army Corps of Engineers (USACE). The USACE issues CWA Section 404 permits for the discharge of dredged and fill material into waters of the U.S. including wetlands. The Draft EIS explains that siting wellfields within jurisdictional wetlands and crossing tributaries upstream of jurisdictional wetlands may require the applicant to obtain USACE permits before construction activities (e.g., drilling wells, laying pipeline, and constructing access roads). The USACE may be required to conduct additional environmental impact analyses to support issuance of CWA Section 404 permits associated with the project.
We recommend including more specific information in the Final EIS such as the status of the USACE permitting process for the Dewey-Burdock project, specific acreages of wetlands that could be impacted, and identification of mitigation for impacts, including riparian/wetlands that may be banked or enhanced.

EPA's Rating and Recommendations

Consistent with Section 309 of the CAA, it is the EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. Based on the procedures the EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action, the EPA is rating this Draft EIS as Environmental Concerns – Insufficient Information (EC-2). The "EC" rating indicates that the EPA review has identified environmental impacts that need to be avoided in order to fully protect the environment. The "2" rating indicates that the EPA review has identified a need for additional information, data, analysis or discussion in the Final EIS in order for the EPA to fully assess environmental impacts from the proposed project. A full description of the EPA's rating system is enclosed.

We hope that our comments will assist you in further reducing environmental impacts of this project. We appreciate the opportunity to review and comment on the Draft EIS. If we may provide further explanation of our comments, please contact me at 303-312-6925, or your staff may contact Ken Distler, at 303-312-6043.

Sincerely,

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

Enclosure: EPA's Rating System Criteria

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the Final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the Draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The Draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new, reasonably available alternatives that are within the spectrum of alternatives analyzed in the Draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the Final EIS.

Category 3 - - Inadequate: EPA does not believe that the Draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the Draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the Draft EIS is adequate for the purposes of the National Environmental Policy Act and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised Draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.