



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Gregory Suber, Acting Deputy Director  
U.S. Nuclear Regulatory Commission  
Environmental Protection and Performance Assessment Directorate  
Division of Waste Management and Environmental Protection  
Office of Federal and State Materials and Environmental Management Programs  
Mail Stop TWB-5B01M  
Washington, D.C. 20555-0001

Re: EPA Scoping Comments for  
Proposed Ross Uranium In-Situ  
Recovery Project, Crook County,  
WY

Dear Mr. Suber:

The U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the U.S Nuclear Regulatory Commission (NRC) November 16, 2011 Federal Register, Notice of Intent to prepare a Supplemental Environmental Impact Statement (SEIS) for the proposed Ross Uranium Project In-Situ Recovery (ISR) Project, reference Docket No. 40-9091. The NRC is planning the Draft SEIS to tier to the Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities (NRC, May 2009). Consistent with our authority under the National Environmental Policy Act, 42 U.S.C. Section 4332(2)(C) and Section 309 of the Clean Air Act 42 U.S.C. Section 7609, we offer the following comments as you proceed with the SEIS.

**Project Description**

Strata Energy, Inc. (Strata) has proposed the Ross Uranium ISR Project (Ross Project) that includes plans for a central processing plant, accompanying wellfields and wastewater storage ponds. The ISR process extracts uranium from sandstone rock by pumping chemical treatments through a series of injection wells. The uranium rich solution is then pumped from the wells to the central processing plant for uranium concentration via ion exchange column methods. Final processing is conducted at the plant to produce yellowcake, which is then sold offsite for further processing. The Ross Project is to be located in Crook County, Wyoming approximately 32 miles northeast of Gillette, Wyoming.

60051 Review Complete  
Template = ADM-013

E-RIDS = ADM-03  
Add = A. Bjornsen (ABB5)

## **Key Issues Identified by the EPA**

The EPA has identified the following key issues that we believe must be clearly addressed in the SEIS so that potential impacts to public health and the environment can be fully evaluated and disclosed for construction, operation and decommissioning phases of the Ross Project. They are: (1) development of reasonable set of alternatives; (2) impacts on water resources, (3) radionuclide, air quality and climate change impacts; (4) impacts on wetlands; (5) socio-economic/environmental justice concerns; and (6) impacts to wildlife.

### (1) Development of reasonable set of alternatives for wastewater disposal

We recommend that a thorough review of alternatives to meet the project's purpose and need be presented in the SEIS. Since the Ross Project would likely generate large quantities of liquid byproduct waste, we believe the NRC should rigorously explore and objectively evaluate a range of reasonable wastewater disposal alternatives for the SEIS. Alternative wastewater disposal methods could include deep well injection, solar evaporation ponds, land application, and surface water discharge.

### (2) Impacts to water resources

ISR construction, operation and decommissioning phases all have the potential to significantly impact water resources if the potential impacts are not fully evaluated and the appropriate mitigation measures are not implemented.

For a thorough disclosure of site-specific groundwater conditions and potential impacts, we recommend that the SEIS present detailed information available in the Wyoming Department of Environmental Quality (DEQ) underground injection control (UIC) permit (permit number 10-263, April 2011) for the Ross Project. This information includes discharge zones, well locations, groundwater classifications, monitoring requirements, and plugging and abandonment procedures. We also recommend that the SEIS disclose the proposed injection formation and a description of any underground sources of drinking water (USDWs) that may occur above or below the proposed Class I or Class V injection zones. We suggest that the NRC provide any relevant information on existing aquifer exemptions in the vicinity that have been approved by the permitting agency. An important part of public disclosure under NEPA is clearly identifying mitigation measures or design features that are in place to prevent potential adverse impacts to groundwater resources. To this end, we also suggest including a discussion of the process by which UIC permits are issued and the environmental and safety factors that are considered in their approval.

We also recommend that the SEIS present a thorough characterization and disclosure of potential impacts to surface water resources within the project. This characterization may include maps and descriptions of surface water resources, including acreages and channel lengths, habitat types, values and functions of these waters. We recommend the analysis include all nearby surface waters, including ephemeral streams and nearby Oshoto Reservoir and identification and description of the connectivity of any spring and groundwater to surface water. We also suggest

the analysis identify any agricultural, domestic and public water supply wells or intakes near the Ross Project.

Further, since the project has the potential to cause or contribute to erosion of soils and subsequent sediment loading to nearby surface waters, we recommend this analysis evaluate construction, design and operation practices that will be used to minimize erosion and controlling stormwater runoff from the site. We recommend that the NRC disclose in the SEIS those permit provisions to prevent erosion and control stormwater. Strata may be required to obtain construction and industrial National Pollutant Discharge Elimination System (NPDES) stormwater permits from the Wyoming DEQ.

### (3) Radionuclide, air quality and climate change impacts

We recommend that NRC evaluate and disclose the background radiation levels as well as the potential impacts to human health from exposure to radiation from the Ross Project. Deposition of radionuclide containing dust may impact nearby watersheds or enter into the food chain as a result of uptake into vegetation and subsequent ingestion by cattle and game animals. Based on the potential cumulative exposure to radiation from these pathways, we encourage NRC to conduct a cumulative impact analysis for impact to public health from radiation exposure. We suggest that for the analysis, the NRC use the Argonne National Laboratory MILDOS-AREA program to predict the radiological dose exposure received by individuals within an 80-km radius of the Ross Project.

We also recommend that NRC address in the SEIS the need for Strata to submit to the EPA a construction approval application for the planned Ross Project wastewater (i.e., uranium byproduct material) storage ponds. The construction approval is required by 40 CFR Part 61 Subpart A, General Provisions, since the ponds are subject to 40 CFR Part 61 Subpart W, National Emission Standards for Radon Emissions from Operating Mill Tailings. Subpart W regulates radon emissions while protecting ground water by requiring compliance with 40 CFR § 192.32(a). We understand that the requirements in 40 CFR § 192.32(a) have been incorporated into the NRC's regulations and are addressed as part of the license application review process. For this reason, during our review of Strata's construction approval application, we would like to collaborate with the NRC in reviewing the information required by 40 CFR § 192.32(a) for the wastewater storage ponds at the Ross Project in Subpart W.

We suggest that protection of air quality be addressed in the SEIS. We recommend that the SEIS present existing air quality conditions in the project vicinity, addressing National Ambient Air Quality Standards, Prevention of Significant Deterioration standards, and air quality related values (AQRVs), including visibility impairment. The amount of stationary, mobile and non-road source emission activities, including hazardous air pollutants from construction, operation and decommissioning phases, are typically quantified and disclosed. We recommend that the emissions inventory make use of commonly accepted emission factors from reliable publically available sources, such as EPA's AP-42, EPA's NONROAD mobile source program and manufacturer supplied data. If emissions are substantial, we recommend that the SEIS evaluate

and disclose air quality impacts and, if necessary, detail mitigation steps that will be taken to minimize associated adverse impacts.

EPA recommends an inter-agency air quality workgroup be formed for projects that may have substantial pollutant emissions to discuss the approach to air quality analysis, the results of the analysis, and appropriate mitigation measures. An air quality workgroup might include members from the EPA, the applicable State(s), and any other Federal or Tribal agency with management responsibilities in the area (i.e., the National Park Service, the U.S. Forest Service, the U.S. Fish and Wildlife Service). One of the primary purposes of an air quality workgroup is to provide feedback to the lead agency at the earliest stages of SEIS development, which can reduce costly delays. EPA Region 8 recommends the approach to analyze and predict air quality impacts be documented in an Air Quality Modeling Protocol and be fully vetted with the air quality workgroup. An Air Quality Modeling Protocol provides a "roadmap" for how the air analysis will be conducted and the results presented. It describes the model that will be used for analysis, including model settings, modeling boundaries, and important model inputs such as meteorology, background data, and emission inventories. The Protocol generally presents the standards and thresholds to which the air impact results will be compared.

Finally, we recommend that the SEIS include a discussion of global climate change and greenhouse gas emissions from the project. We recommend that potential greenhouse gas mitigation measures be discussed in the SEIS.

#### (4) Impacts to wetlands

We recommend that the extent of wetland areas near the project area be mapped and described in the SEIS, including a formal wetland delineation to identify any jurisdictional wetlands or waters of the United States that are present on the project area. Discharge of dredged or fill material into waters of the United States, including wetlands, is regulated under Clean Water Act (CWA) Section 404. This permit program is administered jointly by the U.S. Army Corps of Engineers (Corps) and EPA. Please consult with the Corps to determine the applicability of CWA Section 404 permit requirements to waters in the project area. If any wetland areas should be disturbed by the proposed facility, we encourage the NRC to consider including a mitigation plan for wetland losses in the SEIS. Executive Order 11990 directs federal agencies to provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities. We recommend the SEIS describe how the NRC will show compliance with Executive Order 11990, Protection of Wetlands, including how wetlands will be identified and avoided, and how impacts would be mitigated.

#### (5) Socio-economic/environmental justice concerns

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," applies to federal agencies that conduct activities that substantially affect human health or the environment. In accordance with this order, we

recommend that the SEIS address potential socio-economic and environmental justice impacts within Crook and Campbell Counties in the SEIS. Close coordination with any potentially impacted Native American tribes is encouraged. We recommend conducting a socio-economic/cultural assessment that includes data from census surveys and local and regional sources. The assessment of the socioeconomic environment may include information on population, employment and income, housing, community services and facilities, fiscal conditions, recreation, and cultural aspects. An environmental justice analysis also includes consideration of potential environmental or human health impacts to minority, low-income, or tribal communities in the area, as well as determining whether impacts may be disproportionately high and adverse. Identification of an impact should heighten agency attention to mitigation strategies, monitoring needs, and preferences expressed by the affected community or population.

#### (6) Impacts to wildlife

The project area may contain numerous special status species, including the Endangered Species Act (ESA)-listed threatened Black-Footed Ferret and the candidate species Greater Sage-Grouse. Early coordination with the U.S. Fish and Wildlife Service (USFWS) on this project will be important. We recommend the SEIS include a summary of the status and trends of analysis area ESA-listed species and potential suitable habitat; disclosure of potential impacts to these resources; and the results of USFWS coordination, including any recommended design criteria, monitoring and mitigation requirements.

The characterization may include a discussion on the sage grouse including a sage grouse lek survey. Cooperative efforts between Wyoming Game and Fish Department, Wyoming Department of Agriculture, USFWS, the Wyoming State Grazing Board, the oil and gas industry, and Bureau of Land Management (BLM) have identified significant threats and associated conservation measures have been developed and are being reviewed by the USFWS. We suggest that these sage grouse conservation initiatives be consulted to determine survey requirements.

We also recommend that the surrounding project area be surveyed to determine if prairie dogs are present and mapped according to USFWS guidelines. Prairie dog colonies provide potential habitat to the black-footed ferret, burrowing owl, and other high interest species. If colonies are present, surveys for black-footed ferrets may be required. A survey of nesting raptors may also be necessary for the project and cumulative effects analysis area. We encourage the NRC to consult with the USFWS and Wyoming Game and Fish Department to determine if any additional surveys for crucial big game ranges are needed to understand the project impacts on this important resource to the State of Wyoming. We suggest the survey of the project area also include special-status plant species.

We appreciate your consideration of our scoping comments at this early stage of the process. These comments are intended to help ensure a comprehensive assessment of the project's environmental impacts, adequate public disclosure, and informed decision-making process. 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,

A handwritten signature in black ink, appearing to read 'S. J. Bohan', with a stylized flourish at the end.

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