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OFFICE OF  
ECOSYSTEMS, TRIBAL AND  
PUBLIC AFFAIRS

June 18, 2009

Michael Lesar, Chief  
Rules and Directives Branch  
U.S. Nuclear Regulatory Commission  
Mail Stop TWB-05-B01  
Washington, DC 20555-0001

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RULES AND DIRECTIVES  
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**Subject: Eagle Rock Enrichment Project (Docket No. 70-7015)**  
**EPA Project Number: 09-022-NRC**

Dear Mr. Lesar:

The US Environmental Protection Agency (EPA) has reviewed the U.S. Nuclear Regulatory Commission (NRC) Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the proposed **Eagle Rock Enrichment Project** in Idaho Falls, Bonneville County, ID. The National Environmental Policy Act (NEPA) and Clean Air Act § 309 authorities require EPA to review and comment in writing on environmental impacts associated with all major federal actions and to evaluate the EIS document adequacy in meeting NEPA requirements.

According to the NOI, the NRC is proposing to evaluate potential environmental impacts of authorizing construction, operation and decommissioning of a gas centrifuge uranium enrichment facility near Idaho Falls, ID. The actual project footprint would be about 592 acres, including 4,200 acres of private land and 40 acres of public land administered by the Bureau of Land Management. If authorized, the NRC license Applicant, AREVA Enrichment Services (AES) LLC, could start to build the facility as early as 2011 and be at full operational capacity by 2022 when uranium enrichment capacity would be 6.6 million separative work units (SWU – a measure of work used to enrich uranium) per year from an initial enrichment of 3.3 million. The NRC license would be for 30 years. After this period, the facility would be decommissioned or relicensed.

The NOI has identified a tentative list of resource areas/issues to be addressed. EPA agrees that the list is an appropriate starting point for analyzing the effects of the proposed action. Our concerns with the proposed action are related to the project's potential for surface and groundwater contamination, air quality impacts, and release of hazardous materials in the environment as discussed in attached scoping comments.

Thank you for the opportunity to provide comments. If you have questions or concerns regarding our scoping comments, please contact me at (206) 553-6322.

*SUNSI Review Complete*  
*template = ADM-013*

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*add = E. Kulisa (gxx3)*

Sincerely,

/s/

Theo Mbabaliye  
Environmental Review and Sediment  
Management Unit

cc:  
EPA Idaho Operations Office  
Idaho Department of Environmental Quality  
Shoshone-Bannock Tribes

**EPA Scoping Comments on  
Eagle Rock Enrichment Project  
(NRC Docket No. 70-7015)**

**Water quality and hydrology**

Preventing water quality degradation is one of EPA's primary concerns. Section 305(b) of the Clean Water Act (CWA) requires that the quality of all waterbodies be characterized, while section 303(d) of the same act requires the state of Idaho and Tribes with water quality standards to identify those waterbodies that are not meeting or are not likely to meet State water quality standards. The EIS should therefore disclose waterbodies that could be impacted by the proposed project, the nature of potential impacts, and specific pollutants likely to impact those waters. The EIS should also describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters. For waterbodies where water quality standards are currently being met, anti-degradation provisions of the CWA prohibit degrading water quality in those waters.

Public drinking water supplies and/or their source areas also may exist within the watershed in which the Eagle Rock facility would be located. As a result, activities associated with the proposed project may impact waters that serve as the sources of drinking water for communities in the watersheds. The 1996 amendments to the Safe Drinking Water Act (SDWA) require federal agencies to protect these source waters. The EIS for the project should therefore identify any drinking water sources in the project area, any potential contamination of these sources that may result from the proposed project, and measures that will be taken to protect these sources.

The facility would be within the Eastern Snake River Plain Aquifer, which has been designated as a Sole Source Aquifer by EPA. This aquifer is vulnerable to being contaminated from surface activities such as septic sewage disposal, over-fertilization, and chemical spills. The aquifer also spreads contamination faster once it becomes contaminated because its ground water moves through fractures, rubble zones and lava tubes within and between the lava flows that comprise the aquifer ([www.idahogeology.org/services/hydrogeology](http://www.idahogeology.org/services/hydrogeology)). Geologic differences also influence aquifers' susceptibility to contamination. Since many residents within the proposed sites' aquifers may be obtaining their drinking water from ground water, we recommend that the potential impacts to ground water quality by the project be fully analyzed. The potentially affected groundwater basin should be identified and any potential for subsidence and impacts to springs or other open water bodies and biologic resources should be analyzed. If groundwater impacts are significant, the EIS should indicate how they would be minimized.

Guidance documents that address contaminant levels in soil to protect groundwater include: "*Soil Screening Guidance for Radionuclides: User's Guide*" (OSWER Directive No. 9355.4-16A), October 2000, and "*Soil Screening Guidance for Radionuclides: Technical Background Document*" (OSWER Directive No. 9355.4-16), October 2000. These Superfund guidance documents may be found on the Internet at: <http://www.epa.gov/superfund/resources/radiation/radssg.htm>. In assessing groundwater impacts

and rehabilitation criteria, the EIS for the project should include maximum contaminant levels (MCLs), including MCLs for uranium.

The proposed project would also require significant infrastructure, including machinery for construction of new access roads and buildings, transportation of materials, and earth excavation to install uranium centrifuges. Roads contribute more sediment to streams than any other management activity and interrupt the subsurface flow of water. Roads and their use also contribute to habitat fragmentation, wildlife disturbance and the introduction or exacerbation of noxious weeds. The EIS therefore should include data about existing road networks and evaluate the change in road miles and density that will occur because of the project and predicted impacts to water quality by roads. The EIS should note that, under the federal Clean Water Act (CWA), any construction project disturbing a land area of one or more acres requires a construction storm water discharge permit or the National Pollutant Discharge Elimination System (NPDES) permit for discharges to waters of the United States. The EIS should document the project's consistency with applicable storm water permitting requirements and should discuss specific mitigation measures that may be necessary or beneficial in reducing adverse impacts to water quality and aquatic resources.

Construction of facilities and access roads may also inadvertently compact the soil or disturb it, thus compromising the ability of a site to handle normal flow of organisms, nutrients, and toxic wastes. For example, about 40% of the average annual streamflow in the U.S. is from ground water. As such, ground water may be an important conduit for transfer of nutrients, contaminants, and organisms to surface waters, facilitate greater persistence of contaminants in soils and subsequent discharge into receiving wetlands, streams, rivers, and lakes. The EIS analysis for the proposed project should include a detailed discussion of the cumulative effects from this and other projects on the hydrologic conditions of the project area. The proposed project includes installation of a well to pump groundwater for use at the facility. Such pumping action not only could deplete groundwater resources, but also could increase existing groundwater contamination by seepage of toxic and radioactive contaminants into ground water.

### **Hazardous Materials**

The EIS should address potential direct, indirect and cumulative impacts of hazardous waste from construction and operation of the project. The document should identify projected hazardous waste types and volumes, and expected storage, disposal, and management plans. It should address the applicability of state and federal hazardous waste requirements. Appropriate mitigation should be evaluated, including measures to minimize the generation of hazardous waste (i.e., hazardous waste minimization). Alternate industrial processes using less toxic materials should also be considered.

Since the disposal of radioactive waste may affect the parties involved with the disposal, as well as the public who would access the sites during and after construction of the project, then the EIS should include information ensuring the public that no hazardous materials would be released in the environment because of implementation of the proposed project. For example, ground water transport, and surface runoff of radioactive materials can yield considerable radiological impacts to nearby individuals and populations, resulting in significant consequences.

The EIS should address in detail what these consequences are likely to be and all potential pathways should be considered and periods of exposure should be stated.

Because of the project, radioactive materials would be transported across states. Although their transport is usually safe, concerns remain about the possibility of an accident happening through the areas in which they go through, resulting in release of radioactive materials in the environment. The EIS for this project should therefore describe measures that will be taken to ensure that the chances of such an accident would be kept to a minimum, but also to ensure that the workers involved in transport, including those loading and unloading shipments are protected.

### **Air quality impacts and public health**

The EIS should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), and criteria pollutant non-attainment areas in the project area. The EIS should estimate emissions of criteria pollutants for the project site and discuss the timeframe for release of these emissions over the lifespan of the project. The EIS should also analyze the potential impacts to air quality (including cumulative and indirect impacts) from the project construction and operation. The EIS should specify emission sources and quantify these emissions. Such an evaluation is necessary to assure compliance with State and federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality. The EIS should include:

- Detailed information about ambient air conditions, NAAQS, and criteria pollutant non-attainment areas in and around the project area.
- Data on emissions of criteria pollutants from the proposed project and discuss the timeframe for release of these emissions over the lifespan of the project.
- Specific information about pollutant from mobile sources, stationary sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention.
- An Equipment Emissions Mitigation Plan that identifies actions to reduce diesel particulate, carbon monoxide, hydrocarbons, and NOx associated with construction activities.
- Evaluation of radioactive and non-radioactive emissions. Such evaluation should use the 10 mrem/year constraint when considering the effects of radon emissions and other potential radioactive and non-radioactive emissions.

### **Seismic Risk**

Uranium enrichment activities can cause increased seismicity (earthquake activity) in tectonically active zones. Usually the magnitude of the increased activity is low, ranging from 1 - 3 on the Richter Scale. However, we recommend that the EIS discuss the potential for seismic risk and discuss how this risk will be evaluated, monitored, and managed. A seismic map should either be referenced or included in the EIS.

## Cumulative Impacts

CEQ definition of *cumulative impact* is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions". The cumulative impacts analysis should therefore provide the context for understanding the magnitude of the impacts of the alternatives by analyzing the impacts of other past, present, and reasonably foreseeable projects or actions and then considering those cumulative impacts in their entirety. For this project EIS, present and reasonably foreseeable projects and actions would include large-scale planning activities proximate to the facility. For example, the EIS document should discuss coordination with the Idaho National Laboratory. Where adverse cumulative impacts may exist, the EIS should disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts.

The EIS should clearly identify the resources that may be cumulatively impacted, the time over which impacts are going to occur, and the geographic area that will be impacted by the proposed project. The focus should be on resources of concern - those resources that are at risk and/or are significantly impacted by the proposed project before mitigation. In the introduction to the *Cumulative Impacts Section*, identify which resources are analyzed, which ones are not, and why. For each resource analyzed, the EIS should:

- a. Identify the current condition of the resource as a measure of past impacts. For example, the percentage of species habitat lost to date.
- b. Identify the trend in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or in stasis.
- c. Identify the future condition of the resource based on an analysis of the cumulative impacts of reasonably foreseeable projects or actions added to existing conditions and current trends. For example, what will the future condition of the watershed be?
- d. Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource, and provide a specific measure for the projected impact from the proposed alternatives.
- e. Disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts.
- f. Identify opportunities to avoid and minimize impacts, including working with other entities.

## Coordination with Tribal Governments

The EIS should describe the process and outcome of government-to-government consultation between NRC and each of the tribal governments in and around the project area, issues that were raised, if any, and how those issues were addressed. Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in

the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes.

### **Environmental Justice and Public Participation**

The EIS should include an evaluation of environmental justice populations within the geographic scope of the project. If such populations exist, the EIS should address the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Assessment of the project's impact on minority and low-income populations should reflect coordination with those affected populations.

The EIS must demonstrate that communities bearing disproportionately high and adverse effects have had meaningful input into the decisions being made about the project. The EIS needs to include information describing what was done to inform the communities about the project and the potential impacts it will have on their communities (notices, mailings, fact sheets, briefings, presentations, exhibits, tours, news releases, translations, newsletters, reports, community interviews, surveys, canvassing, telephone hotlines, question and answer sessions, stakeholder meetings, and on-scene information), what input was received from the communities, and how that input was used in decisions that were made regarding the project. One tool available to locate Environmental Justice populations is the Environmental Justice Geographic Assessment tool available online at: <http://www.epa.gov/enviro/ejl>.

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations, allowing those populations a meaningful opportunity to participate in the decision-making process.

### **Alternatives**

All reasonable alternatives that fulfill the license applicant's purpose and need should be evaluated in detail, including alternatives outside the legal jurisdiction of the NRC. A robust range of alternatives will include options for avoiding significant environmental impacts. The EIS should provide a clear discussion of the reasons for the elimination of alternatives that are not evaluated in detail. Reasonable alternatives should include, but are not necessarily limited to, alternative sites, and different enrichment techniques. EPA supports alternative actions that would minimize adverse environmental impacts.

Finally, the environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public. The potential impacts of each alternative should also be quantified to the greatest extent possible. If possible, it would also be useful to list each alternative action's impacts and corresponding mitigation measures.

**Climate change effects**

There are concerns that continued increases in greenhouse gas emissions resulting from human activities contribute to climate change. Effects of climate change may include changes in hydrology, sea level, weather patterns, precipitation rates, and chemical reaction rates. The EIS should discuss how climate change could potentially influence the proposed project area resources and vice versa, especially within sensitive areas.

**Monitoring**

The proposed uranium enrichment facility has the potential to impact a variety of resources for 30 years or more. Because of that, we recommend that the project be designed to include a monitoring program to assess both impacts from the project and the effectiveness of waste disposal technologies and methods used. The EIS document should describe such monitoring program and how it will be used as an effective feedback mechanism for the project. The EIS should also provide assurances that the facility's environmental measures would be adjusted to meet federal, state, and local laws, regulations, and policy requirements during the life of the facility's license.