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General Counsel

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Ms. Patrice Bubar
Deputy Director
Division of Waste Management and Environmental Protection
United States Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Ms. Bubar:

The National Mining Association (NMA) has become aware that the United States Environmental Protection Agency's (EPA) Region 8 office submitted public comments on three (3) draft supplemental environmental impact statements (SEIS) recently released by the United States Nuclear Regulatory Commission (NRC) for proposed in situ leach uranium recovery (ISR) projects in the State of Wyoming. After reviewing these comments, NMA has concluded that NRC Staff's SEIS analyses combined with the programmatic analyses offered in its Generic Environmental Impact Statement for ISR projects ("NUREG-1910" or "ISR GEIS") adequately address the substance of each issue raised by EPA Region 8. As a result, NMA believes that NRC Staff should respond to each of EPA Region 8's comments in turn and that such comments should not result in any additional delay in the finalization of each SEIS and the issuance of the requested ISR licenses.

EPA Region 8's comments fail to take into account the administrative process by which each draft SEIS was prepared. In July of last year, NRC Staff finalized the ISR GEIS (NUREG-1910) and determined that it would "tier" each draft SEIS for ISR projects off the programmatic analyses offered by NUREG-1910. NRC's intent in preparing NUREG-1910 was to incorporate by reference, where possible, programmatic assessments of proposed ISR projects that are common to all such projects so that redundant reviews could be avoided. In the event that NUREG-1910 programmatic assessments are deemed insufficient to adequately address site-specific aspects of a proposed ISR project, additional site-specific analysis is to be performed in a SEIS. Thus, draft SEISs for ISR projects are not intended to serve as stand-alone documents, but rather they are intended to be read in accord with NUREG-1910 to provide a single, comprehensive, site-specific environmental review of a proposed ISR project.

The Commission also has evaluated in a rulemaking proceeding the procedures by which it will comply with the National Environmental Policy Act of 1969 (NEPA) and the manner in which Council on Environmental Quality (CEQ) regulations apply to its environmental review procedures. Indeed, the Preamble to the Commission's 10 CFR Part 51 rulemaking refers to 40 CFR § 1502.22(b)'s provisions on Worst Case Analysis wherein the Commission states, "each agency must decide for itself whether the information which is not known is relevant to adverse impacts and if relevant, whether the information is important to the decision."¹ While the Commission agreed that this was permissible, it determined that Section 1502.22(b)'s requirement that an agency must specify what information must be considered in order to proceed with agency action was a substantive requirement rather than a procedural one. As such, the Commission determined that it was not subject to substantive requirements under NEPA and, thus, stated "[i]n these circumstances, the judgment of the NRC as the agency with the requisite technical expertise should govern."² Therefore, NMA believes that EPA Region 8 has failed to account for the analyses provided in NUREG-1910 and the comprehensive NUREG-1910/SEIS environmental review process, which the Commission has deemed to be in accordance with its 10 CFR Part 51 regulations.

Moreover, to provide NRC Staff with additional insight into the manner in which NUREG-1910 and each SEIS adequately addresses each of EPA Region 8's comments, NMA hereby provides the following analysis of each comment, although the first two comments appear to be the bases for EPA's Environmentally Unsatisfactory (EU) determination:

Comment #1: "Consequently, disposal of wastewater from these projects has the potential for significant environmental impacts. For each of these projects, deep Class I injection well disposal is the only wastewater disposal method analyzed. Determination of USDW/non-USDW status can be difficult and proposed aquifer exemptions are subject to public comment, with final approval by EPA....there is significant uncertainty whether Class I injection well disposal will be available at these sites. Consequently, the fact that these draft SEISs evaluate only Class I UIC injection wells as the waste disposal method is inadequate.

Response: This comment can be addressed by looking at each SEIS as a supplement to NUREG-1910. NUREG-1910, Sections 4.2.4.2.1 and 4.2.4.2.3 provide a programmatic assessment of a variety of wastewater alternatives including operational and restoration impacts to shallow (near-surface), production and surrounding, and deep aquifers. These analyses included references to potential wastewater disposition methods such as evaporation ponds, land application, and deep well disposal. While the intent of NUREG-1910 is to provide a

¹ 49 Fed. Reg. 9352, 9356 (March 12, 1984).

² *Id.*

programmatic assessment of all potential options for wastewater disposal and/or treatment, the draft site-specific SEISs only evaluate the wastewater disposal and/or treatment method(s) proposed by the license applicant. NRC is not required to impose new methods of wastewater disposal on a licensee that are not proffered by the applicant. Indeed, under the AEA, the primary responsibility for the safe use and management of AEA materials and operations lies with the licensee. As a result, the licensee proposes the methods of wastewater disposal and/or treatment that would be used for a proposed ISR operation, and NRC is required to evaluate only those options proposed by the license applicant.³ It is also well-settled that ISR operators are required to obtain appropriate aquifer exemptions and UIC permits prior to the commencement of licensed ISR operations. In the event that such permits cannot be obtained, licensed ISR operations cannot go forward. Thus, if a license applicant only proposes deep-disposal wells as a wastewater disposition option and appropriate UIC permits cannot be obtained, then the license applicant would be required to propose other such options for NRC's consideration and approval. Therefore, EPA Region 8 cannot use the lack of an analysis of wastewater disposal and/or treatment options not proposed by the license applicants as a basis to classify the draft SEISs as "Environmentally Unsatisfactory."

EPA Region 8 states that the three proposed ISR projects are located in the State of Wyoming which has "primacy" over the issuance of Class I UIC permits for deep well disposal. Currently, Wyoming has informed at least one of the three ISR license applicants that the Madison Formation in the area where these proposed ISR projects are located is not a USDW and, thus, obtaining Class I UIC permits for these areas would be possible. Further, there are a number of Class I UIC deep disposal wells that have been operating at ISR projects in the States of Wyoming, Nebraska, and Texas for many years without any adverse impacts on sources of drinking water and without any significant regulatory hurdles. It is our understanding that the responsible federal and State ISR regulatory agencies agree that deep-disposal wells are the best technical and environmental alternative for disposing of liquid effluents where geological conditions are favorable. Thus, it is unclear as to why EPA Region 8 would make statements that obtaining Class I UIC

³ It is important to note that the agency actions that the Commission may take with respect to AEA licensing are limited. In its 10 CFR Part 51 rulemaking, the Commission states regarding these actions:

"Their scope is determined in the first instance by the nature of the application or petition presented to the Commission for action. So far as Commission action is concerned, the available alternatives are to grant the application, grant the application subject to certain conditions, or deny the application, either with or without prejudice. Although the Commission has an obligation to determine the accuracy and relevance of the safety-related and environmental information presented and to perform the requisite safety and environmental analyses, the Commission has no power to compel and applicant to come forward or to require an applicant, once having come forward, to prepare and submit a totally different proposal."

Id. at 9353.

deep disposal well permits 'may be difficult for these types [ISR] projects located in Region 8.'

Comment #2: "The SEIS analysis of air quality impacts associated with these projects is not adequate to allow assessment of the environmental impacts of the projects."

Response: Again, this comment can be addressed by looking at each SEIS as a supplement to NUREG-1910. Section 4.2.6 of NUREG-1910 provides a programmatic analysis of the potential air quality impacts associated with ISR facilities. As a general matter, NUREG-1910 determined that ISR facilities are not major non-radiological air emission sources and that potential air quality impacts would be classified as "SMALL" if specific conditions are met including: (1) gaseous emissions are within regulatory limits and requirements; (2) air quality in the region of influence is in compliance with NAAQS; and (3) the proposed ISR facility is not classified as a major source under the New Source Review or operating (Title V) permit programs described in NUREG-1910, Section 1.7.2. NUREG-1910's programmatic assessment of potential air quality impacts also applies to the entire ISR project lifecycle as defined by NRC Staff: (1) construction; (2) operations; (3) aquifer restoration; and (4) decommissioning. This programmatic assessment serves as the basis by which site-specific ISR proposals can be evaluated.

With respect to the draft SEISs, each of the three ISR companies have performed site-specific assessments of potential air emissions from their proposed facilities. Based on data gathered from its member companies, NMA has determined that EPA overestimates actual air quality measurements by two to several hundred percent, which directly contradicts EPA Region 8's statement that several hundred tons per year would be generated. Further, at least one of the ISR companies (Uranerz's and its proposed Nichols Ranch project) currently possesses air quality permits for its proposed ISR facilities. Thus, NMA believes that the draft SEISs, along with the analyses offered in NUREG-1910, provide an adequate basis for concluding that each of the three proposed ISR projects will not result in significant potential impacts to air quality.

Comment #3: "The draft SEISs do not fully assess the operational requirements and constraints associated with the restoration activities that are critical for achieving groundwater restoration goals."

Response: There are several aspects of existing assessments of potential groundwater impacts at past, current, and future proposed ISR facilities, as well as NUREG-1910, and the draft SEISs, that have not been considered by EPA Region 8 in its comments which demonstrate that the draft SEISs adequately assessed such potential impacts. Initially, EPA Region 8's comments misstate the relevant groundwater restoration standard at 40 CFR Part 192 and 10 CFR Part 40, Appendix A, Criterion 5(B)(5). Currently, Criterion 5(B)(5), as applied to ISR facilities, states that groundwater restoration shall be conducted to (1) pre-operational baseline or a

maximum contaminant limit (MCL), *whichever is higher*, or (2) an alternate concentration limit (ACL). An ACL is a site and constituent-specific, risk-based, health standard that NRC does not approve for implementation at an ISR facility until it can be demonstrated by the ISR operator that such standard does not pose a significant potential threat to public health, safety or the environment. NRC's review process for ACLs, which is based on 40 CFR § 192.32(a)(2)(iv) requirements, is rigorous and can take a substantial amount of time to review and approve. Thus, even though it states that a lack of discussion of ACLs in the draft SEISs raises questions regarding the "small" potential impacts to groundwater quality from ISR operations, EPA Region 8 fails to acknowledge the fact that any ACL request will have to satisfy rigorous review processes to establish that there will be no significant, adverse short or long-term potential impacts to groundwater.⁴

This lack of evidence of significant, adverse short or long-term potential groundwater impacts is further supported by a recent evaluation of historical ISR operational and restoration data by NRC Staff. In December of 2008, NRC Staff provided testimony at a scheduled uranium recovery briefing at which the Commission directed NRC Staff to review historical ISR operational and restoration data to determine if there was any evidence of significant, adverse short or long-term impacts to groundwater from past ISR operations. On July 10, 2009, NRC Staff presented a paper to the Commission entitled *Staff Assessment of Groundwater Impacts from Previously Licensed In-Situ Uranium Recovery Facilities* in which it was determined that there have been no significant impacts to groundwater from past ISR operations. The fact that no evidence of significant impacts to groundwater exists demonstrates that many of EPA Region 8's statements, including the need to provide an analysis of the adequacy of the "six-month post-restoration 'stability period,'" are misguided.⁵

In addition, EPA Region 8 makes several statements regarding the process by which pore volumes for restoration are determined and altered over the course of an ISR project and by which ACLs are approved that can be answered readily. First,

⁴ It is well-established in the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) that EPA has no implementation or enforcement authority over actions such as determining whether to approve site-specific ACLs—that authority has been reserved to NRC. See 42 U.S.C. § 2113 (2010).

⁵ In December of 2008, the Commission held a briefing on uranium recovery at which Mr. Steven Heare, Director of the Drinking Water Protection Division in EPA's Office of Ground Water and Drinking Water Protection Division in Washington, D.C. testified regarding the ISR process:

"I would just add that this [ISR] process is used to mine a number of things: salt, baking soda. So there is a fair amount of history and experience with the process; the idea of dissolving in a formation and then bringing the material back up and separating it. Again, I am not aware that we're aware anywhere [sic] in our program of major problems that have been caused by these facilities."

See United States Nuclear Regulatory Commission, *Transcript: Briefing on Uranium Recovery Activities*, pages 89-90 (December 11, 2008).

development of an ISR project is a "phased, iterative" process that requires each ISR operator to identify, analyze, and finalize restoration values and processes over the course of a given project. For example, prior to the issuance of an ISR license, a proposed licensee is required to provide initial baseline water quality data for a proposed ore recovery zone and the portions of aquifers above, below and adjacent to this recovery zone. However, NRC regulations do not permit the gathering of the detailed site-specific data that will result in final water quality values until after a license is issued. See 10 CFR § 40.32(e). Thus, the water quality values offered in the initial license application and analyzed by NRC Staff in the draft SEISs are not necessarily the final restoration values that will be in place when operations begin.

Further, after license issuance, NRC Staff has a number of safeguards in place that will ensure that pore volume estimates will remain consistent with restoration requirements and that adequate financial assurance in support of such restoration will be available. 10 CFR Part 40, Appendix A, Criterion 9 requires that an ISR operator update its financial assurance cost estimate, which is a function of the number of pore volumes required for restoration, annually so that, in the event that additional pore volumes are needed for restoration, appropriate corresponding financial assurance will have to be provided. Failure to do this on the part of the ISR operator can result in NRC enforcement action.

The ACL approval process also is subject to administrative procedures at NRC that result in additional public participation opportunities. First, in order to even consider the grant of an ACL, the ISR operator is required to conduct groundwater restoration in an attempt to achieve baseline or MCL values in a manner that is consistent with NRC's as low as reasonably achievable (ALARA) principle. ISR operators are not permitted to avoid engaging in active groundwater restoration to achieve baseline by seeking an ACL as soon as uranium recovery operations cease.⁶ Further, in order to obtain an ACL from NRC, an ISR licensee must submit a license amendment application because restoration to baseline or an MCL, whichever is higher, is a license condition in all ISR operating licenses. As part of the license amendment process, NRC will perform an acceptance review on the license amendment application and, if it is deemed acceptable for detailed technical and environmental review, it will be published in the Federal Register with a notice of opportunity for a hearing. Per NRC regulations at 10 CFR Part 2, interested stakeholders have the opportunity to request a hearing on requested ACLs. Thus, EPA Region 8's concerns regarding public participation in the ACL process are unfounded.

Lastly, EPA Region 8 makes statements regarding the proposed ISR operation at Lost Creek claiming that ISR operations would occur in the Battle Springs/Wasatch Formation "which is an important aquifer/USDW." This statement fails to account

⁶ In fact, however, it should be noted that the language of the regulatory requirement in Criterion 5(B)(5) (and 40 CFR § 192.32) treats the standards as essentially equal (i.e., pre-operational baseline *or* an MCL, whichever is higher, *or* an ACL).

for the fact that usually aquifers in which ISR operations occur are large, regional aquifers, wherein some portions serve as a USDW while other portions can be exempted from being a USDW for *in situ* recovery. Pursuant to the Safe Drinking Water Act and EPA's UIC regulations, no ISR operations can occur in aquifers that are not exempted from serving as a source of public drinking water. More specifically, EPA's standard for such exemptions is that the portion of the aquifer where ISR operations are proposed to occur cannot now, nor ever in the future, serve as a source of public drinking water. Thus, it is incorrect for EPA to state that the Lost Creek project will occur in a USDW without first stating that the exempted portion of the Battle Springs/Wasatch Formation where ISR operations will occur will not be a USDW before, during or after ISR operations, including restoration.

Comment #4: "EPA suggests that the SEISs include an expanded discussion of greenhouse gas (GHG) emissions and climate change...."

Response: NRC's NUREG-1910 and its Response to Comments address the issue of human-induced climate change. In response to a comment received requesting that an analysis of climate change be provided, NRC Staff stated that a consideration of human-induced climate change is outside the scope of NUREG-1910's analysis. EPA Region 8's comments do not offer any citation to regulations or policy statements that require NRC Staff to provide an analysis of human-induced climate change in the draft SEISs. Further, as stated above, NUREG-1910 and the draft SEISs, as well as site-specific license applicant calculations have demonstrated that the proposed ISR facilities are not major sources for air quality impacts, which necessarily means that there are no potentially significant impacts to climate change concerns.

These responses to EPA Region 8's comments address all of the agency's concerns associated with the adequacy of the three aforementioned draft SEISs as supplements to and tiered off NUREG-1910. However, whether or not EPA Region 8 takes action to refer the draft SEISs to CEQ, 10 CFR § 51.10(b)(3) permits the Commission to determine the appropriate nature and form of environmental analyses for licensing decisions within its AEA jurisdiction and to engage in final agency action, including the issuance of a specific license, even while a referral to CEQ is pending. EPA Region 8 states in closing its comments that each of NRC's draft SEISs potentially could be candidates for referral to the Council on Environmental Quality (CEQ) for resolution under 40 CFR § 1504. While it is unclear whether these SEISs actually will be referred to CEQ, it is important to note that NRC regulations specifically allow for the finalization of agency action (e.g., issuance of a specific license for ISR projects) despite the pendency of such a review. Specifically, 10 CFR § 51.10(b)(3) states:

"(b) The Commission recognizes a continuing obligation to conduct its domestic licensing and related regulatory functions in a manner which is both receptive to environmental concerns and consistent with the Commission's responsibility as an independent regulatory agency for protecting the

radiological health and safety of the public. Accordingly, the Commission will:

(3) Reserve the right to make a final decision on any matter within the NRC's regulatory authority even though another agency has made a predecisional referral of an NRC action to the Council under the procedures of 40 CFR part 1504."⁷

Thus, in light of the failure of EPA Region 8's comments to raise significant substantive concerns, even if EPA were to refer one or all of these SEISs to CEQ for review and resolution, NRC regulations specifically allow the finalization of such SEISs and issuance of a specific license for proposed ISR operations on its own schedule. Accordingly, EPA Region 8's comments and the potential for referral of the SEISs to CEQ should not result in any additional delay in the issuance of the requested ISR licenses, and NRC Staff should respond to EPA Region 8's comments accordingly and finalize each of the draft SEISs on schedule.

Further, in addition to the comments above, NMA does not understand why NRC is permitting EPA to file specific comments on each draft SEIS well after the deadline for public comments, especially considering that the comment period was extended by NRC for an additional thirty days from the original comment deadline. NMA would appreciate some sort of explanation as to why this is being permitted. Thank you for your time and consideration in this matter and, if you have any questions, please do not hesitate to contact me at your convenience.

Sincerely,



Katie Sweeney
General Counsel

⁷ 10 CFR § 51.10(b)(3) (2010).