



KATIE SWEENEY
Executive Vice President & General Counsel

June 12, 2020

The Honorable Kristine L. Svinicki
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Chairman Svinicki:

Nearly a year ago, the National Mining Association (NMA) provided comments in response to the U.S. Nuclear Regulatory Commission's (NRC) question regarding whether NRC should resume rulemaking to amend its regulations governing the domestic licensing of source material by codifying general requirements to address groundwater protection at uranium *in situ* recovery (ISR) facilities. NMA's comments expressed support for a narrowly tailored risk-informed rulemaking that refines the uranium recovery regulatory program to facilitate certainty and eliminate dual/overlapping jurisdiction over ISR operations, especially with respect to groundwater restoration. NMA's support was and is contingent on finding a non-industry source of funding. Funding of the rulemaking is critical as the costs to current uranium licensees would be prohibitive given the general financial condition of the industry.

NMA represents producers of most of America's coal, metals, industrial and agricultural minerals; manufacturers of mining and mineral processing machinery and supplies; transporters; financial and engineering firms; and other businesses related to coal and hardrock mining. Among these NMA members are companies who are current or prospective NRC (or Agreement State) ISR licensees.

Since the submission of NMA's comments, NRC has released the staffs' recommendations on "Regulatory Options for Uranium In Situ Recovery Facilities" (SECY-19-0123). The paper provides three options for a path forward on the rulemaking: (1) no action; (2) revisions to guidance only and (3) restarting the rulemaking accompanied by guidance revisions. NRC Staff recommended option 3. The staff's rationale for resuming a narrow rulemaking echoed much of the reasoning of NMA's comments.

In another noteworthy development, the Department of Energy (DOE) recently released a report setting forth the recommendations of the president's Nuclear Fuel Working Group (NFWG) established to "reinvigorate the entire nuclear fuel supply chain." Among the key recommendations – smartly decrease undue permitting and regulatory burdens on industry. Specifically, the report notes the complex nature of the permitting related to

uranium recovery: “[u]ranium producers that hope to develop new facilities must navigate complicated licensing and permitting procedures that often require interaction with multiple federal agencies and/ or regulatory entities.” Importantly, the report notes the need to clarify the roles and responsibilities of relevant federal agencies and regulatory bodies in permitting and licensing procedures.

With the staff and NFWG recommendations as a backdrop, NMA believes now is the time to conduct the rulemaking as well as finalize the ongoing efforts between NRC and the U.S. Environmental Protection Agency (EPA) to develop a memorandum of understanding (MOU). The MOU is intended to confirm EPA's authority to set generally applicable health and environmental protection standards for uranium recovery activities and NRC's authority to implement those standards. The MOU is an important first step to clarify and resolve any remaining jurisdictional issues. The MOU alone, however, may be insufficient to provide long-term certainty. A targeted rulemaking that provides all interested stakeholders a better understanding of the application of NRC's program to ISR facilities would provide additional durability to the MOU.

NRC has evaluated a rulemaking several times in the past, but those efforts were eventually overtaken by EPA action. In 2010, EPA informed NRC that it would undertake its own rulemaking to issue the generally applicable standards for ISR facilities. As a result, NRC deferred its ongoing ISR rulemaking effort, prior to the publication of a proposed rule, in anticipation of the need to conform its implementing regulations to the generally applicable standards to be issued by the EPA.

While EPA announced its intent in 2010, the agency did not formally propose its “Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings” until 2015. Unlike NRC's rulemaking initiatives, EPA's proposal was not focused on addressing dual jurisdiction or ISR regulatory program efficiencies. Rather, it was a regulatory overreach that trampled on NRC's jurisdiction and that of the NRC Agreement States or states with primacy over underground injection control permits. NMA submitted extensive comments on the 2015 proposal that demonstrated that EPA does not have the statutory authority to regulate ISR facilities in the manner proposed and that regardless, the rule is simply unnecessary since any potential risks to sources of drinking water are already adequately addressed by federal and state agencies.¹

Based on the significant concerns raised in comments by industry, state and congressional opposition (as well as NRC concerns), on the proposal, EPA withdrew its first proposal but immediately issued a new, equally onerous, 2017 proposed rule. Ultimately based on additional stakeholder concerns, EPA concluded that it had serious questions concerning whether it had the legal authority under UMTRCA to issue the regulations as proposed in 2017. Additionally, EPA determined that the existing regulatory framework was sufficient to ensure the protection of public health and the environment at existing ISR facilities. As a result, EPA withdrew the 2017 proposal on October 30, 2018.

NMA was pleased with EPA's decision not to move forward with its regulations but our participation in that effort revealed that there are many misapprehensions from the

¹ Available in the rulemaking docket, EPA-HQ-OAR-2012-0788-0172.

public and other agencies including EPA regarding NRC groundwater protections for ISR facilities. Some of these misperceptions stem directly from the fact that NRC currently regulates ISR operations through application of regulations that primarily focus on conventional uranium mills and site-specific license conditions. Those experienced with the existing regulations and license conditions, such as NRC, state regulators and ISR licensees understand the comprehensive nature of NRC's regulations. The lack of understanding by other stakeholders leads to perceptions that there are gaps in NRC's coverage, even when they may be aware of other agencies' roles in regulating ISR facilities. This lack of understanding creates vulnerabilities for both NRC and its licensees. It is in this context that NMA believes a narrowly tailored, risk-informed, performance-based rulemaking may be appropriate.

NMA requests that the Commission commence a narrow rule to shore up vulnerabilities that have been created by lack of specificity within NRC regulations for groundwater protection at ISR facilities. NMA has reviewed the existing regulations at 10 CFR Part 40 and Criteria at Appendix A, and in the enclosure to this letter, provide specific recommendations for revisions and/or additions to harmonize, update, and/or clarify these regulations and Criteria. The intent of NMA's efforts is to avoid sweeping changes to the regulations and instead, codify language that represents how ISR facilities are currently regulated in practice, through license conditions, guidance and commission decisions.

We look forward to engaging with the NRC staff and Commission as this effort moves forward. If you have any questions regarding this letter or the enclosure, please contact me at (202)463-2627 or ksweeney@nma.org.

Sincerely,

A handwritten signature in cursive script that reads "Katie Sweeney". The signature is written in dark ink and is positioned above the printed name.

Katie Sweeney

CC: The Honorable Jeff Baran
The Honorable Annie Caputo
The Honorable David A. Wright
The Honorable Christopher T. Hanson
John Lubinski, Director, Office of Nuclear Materials Safety and Safeguards
Patricia Holahan, Director, Division of Decommissioning, Uranium Recovery, and
Waste Programs
Bo Pham, Deputy Director, Division of Decommissioning, Uranium Recovery,
and Waste Programs
Bill Von Till, Chief, Uranium Recovery Licensing Branch

Specific Rulemaking Additions and Revisions

NMA offers the following recommended additions and modifications to existing uranium recovery regulations at 10 CFR Part 40 and Criteria at Appendix A. These recommendations also address associated NRC regulations that either directly or indirectly relate to said regulations and Criteria. The following proposals are intended to provide NRC with revisions and/or additions to these regulations in an effort to harmonize, update, and/or clarify these regulations and Criteria. **For purposes of this submission, all proposed revisions or additions to regulations or Criteria are highlighted in bold, underlined italic print:**

A. **10 CFR Part 40.4 Definition for Domestic Recovery of Source Material**

Proposed Revised Rule:

Byproduct Material means the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by such solution extraction operations do not constitute “byproduct material” within this definition.

In situ (or solution) recovery means the recovery of uranium through the use of natural or native groundwater circulated throughout an ore body with the intentional introduction of a lixiviant

Explanation for Proposed Additions and Revisions:

The proposed additions and revisions listed above are consistent with previous NRC rulings on licensee and license applicant inquiries as to the regulatory status of NRC’s uranium recovery program.

Since the purpose of the proposed rulemaking is to address ISR, the term “ISR” should be defined. The above-proposed language is a starting point.

B. **10 CFR Part 40.32(e) Construction Rule Clarification**

Proposed Revisions:

(e) In the case of an application for a license for a uranium enrichment facility, or for a license to possess and use source and byproduct material for uranium milling, production of uranium hexafluoride, or for the conduct of any other activity which the NRC determines will significantly affect the quality of the environment, the Director, Office of Nuclear Material Safety and Safeguards or his/her designee, before commencement of construction, on the basis of information filed and evaluations made

pursuant to subpart A of part 51 of this chapter, has concluded, after weighing the environmental, economic, technical and other benefits against environmental costs and considering available alternatives, that the action called for is the issuance of the proposed license, with any appropriate conditions to protect environmental values. Commencement of construction prior to this conclusion is grounds for denial of a license to possess and use source and byproduct material in the plant or facility. Commencement of construction as defined in §40.4 may include non-construction activities if the activity has a reasonable nexus to radiological safety and security.

(1) Examples of “commencement of construction” include, but are not limited to:

(a) Installation of a complete monitoring well network for an ISR wellfield;

(b) Construction of an ISR central processing plant or conventional mill or heap leach processing facility;

(c) Construction of a conventional or heap leach mill tailings impoundment;

(d) Installation of a complete ISR wellfield, including production and injection wells and monitoring well network;

(e) Any other activity identified as “construction” or within the definition of “commencement of construction” in 10 CFR Part 40.4;

(f) This subsection is not intended to apply to any activities listed as outside the definition of “commencement of construction” in 10 CFR Part 40.4

Explanation for Proposed Revisions:

In 2010, NRC Staff and industry collaborated on the revisions to the previous construction rule to clearly delineate what site development activities an ISR license applicant may conduct prior to the issuance of a license, because some ISR license applicants were unclear as to where the regulating requirements applied. The need for clarification was especially important, as it is possible that violation of this regulation could result in denial of a license application. However, while the revisions to the rule resulted in a legal description in 10 CFR § 40.4 of “commencement of construction” means, and they did not provide any specific examples of site-specific activities in this particular regulation that may or may not be conducted. Industry representatives have identified instances where interpretations of activities defined as “construction” have been inconsistent such as the clearing of land for erection of a site building or facility versus the laying of a foundation for such building. Since the development of ISR facilities are phased by nature, this proposed revision adds additional clarification.

C. 10 CFR Part 40.42 Timeliness in Decommissioning for ISR Wellfields

Proposed Revised Rule:

(l) Specific licenses for uranium and thorium milling are exempt from paragraphs (d)(4), (g) and (h) of this section with respect to reclamation of tailings impoundments and/or waste disposal areas, **as well as the restoration of groundwater in wellfields associated with NRC (or Agreement State)-licensed ISR wellfields.**

Explanation for Proposed Revisions:

When initially promulgated, Part 40.42 was intended to require that licensees not allow stored 11e.(2) byproduct material or wastes generated from the use and or possession of source material to remain unattended for extended periods of time so that residual contamination in the various forms potentially could be exposed to the public without proper controls or potentially could migrate to other adjacent areas of a licensed site or offsite. However, this regulation did not take into account the time necessary to properly decommission/reclaim a mill tailings impoundment which, at the time, represented the primary form of uranium recovery (conventional milling). At the time, NRC appeared to agree with the fact that it would take far longer than 24 months to decommission/reclaim a mill tailings impoundment due to moisture and compaction requirements; but, NRC Staff claimed that the regulation, as written, did not address this issue and subsumed mill tailings impoundments within the scope of its requirements. Accordingly, through a rulemaking process, NRC Staff revised Part 40.2 to add the above-referenced exemption for mill tailings impoundments.

Since this exemption for mill tailings impoundments was added, uranium recovery technology evolved to the point where ISR has become a substantial contributor to gross uranium recovery production under NRC's and its Agreement State's regulatory authority. Since the finalization of NUREG-1910, each new ISR license applicant has been required to request an alternate schedule for decommissioning under 10 CFR § 40.42(f) to complete its technical and environmental reports for its application. This was deemed necessary by NRC Staff despite the fact that "restoration" and "decommissioning" are defined as separate stages of ISR project development and closure. It has been argued by many interested stakeholders and by ISR licensees and license applicants alike that it is unlikely that most wellfields can be fully restored with stabilization confirmation within a 24-month period with any tangible certainty. Thus, NMA asserts that an exemption should be included in this regulation for ISR wellfields.

There is no demonstrable public health and safety or environmental hazard associated with this exemption, as ISR license applicants are required by Commission ruling in HRI and, potentially, by the proposed revisions in these regulations requiring a restoration action plan (RAP) for all new ISR licenses or projects (via license amendment). These RAPs provide site-specific and, indeed, wellfield-specific restoration plans over a certain timeframe for independent NRC Staff evaluation, so there is no need for an all-

encompassing timeframe requirement when each RAP will be site and/or wellfield-specific.

E. Introductory Language for 10 CFR Part 40, Appendix A Criteria for ISRs

For purposes of Appendix A's Introduction, the following language is suggested for inclusion, including definitions:

“Under UMTRCA, the federal government has designated the Commission and the Administrator as the primary parties in the development of 11e.(2) byproduct material regulations. The Administrator is required to promulgate “generally applicable standards” which set forth the broad parameters within which the Commission must regulate 11e.(2) byproduct material. At that point, the Administrator’s responsibilities cease and the Commission is required to promulgate regulations that implement and enforce these “generally applicable standards.” The, the Commission is empowered to enforcement these new regulations upon its licensees through the program outlined in this Appendix and other associated regulations and guidance.”

“In situ leach uranium recovery (ISR) is “uranium milling” as defined in 10 CFR Part 40.4 and, therefore, generates 11e.(2) byproduct material to be regulated pursuant to Appendix A Criteria. While these Criteria were initially intended to apply to conventional uranium recovery techniques such as conventional milling and heap leaching, as a “uranium milling” activity, these Criteria are applicable to the extent practicable to ISR facilities. As is the case with conventional milling techniques, the flexibility accorded to the Commission by Congress by statute is to be equally applied to ISR facilities.

The sequential development of ISR facilities, including wellfield construction, operation, and restoration/stabilization mandates that specific Criteria are applied to such facilities such as those intended to protect public health and safety and the environment from potential groundwater impacts. Evaluation of ISR facilities pursuant to these Criteria to the extent practicable for all applicable resource areas are conducted on a site-specific basis and is intended to encompass the flexibility accorded to the Commission when regulating 11e.(2) byproduct material sites.”

“Regulations and Criteria in this Appendix are designed to minimize potential risks to public health and safety, including those associated with dose from tailings impoundments and other associated ancillary impoundments such as evaporation and settlement ponds and groundwater restoration. The dose requirements found in NRC’s 10 CFR Part 20 regulatory program along with the requirements specifically associated with 11e.(2) byproduct material have been taken into account by the Commission when evaluating the viability of a site-specific facility. Groundwater restoration is a legal requirement for NRC and

Agreement State licensees, as determined by NRC Staff as a matter of law. The information and processes used by NRC to formulate its programs have been taken from a wide variety of different statutory programs and address each of those concerns, including those of the Administrator of the Environmental Protection Agency's which also serves a similar purpose. This assessment of 11e.(2) byproduct material facilities constitutes a robust assessment of industry-wide regulatory programs to centralize regulation such facilities, since the Commission has exclusive, federal preemptive authority over such material."

"It is critical to these rules that NRC's Agreement States maintain compliance with the agency's "adequacy" and "compatibility" requirements. Prior to NRC's determination that regulates groundwater restoration as a matter of law, various States, some of which were Agreement States and some which were not by now are, addressed groundwater restoration and submitted for NRC concurrence. Now, these programs have been deemed "adequate" and "compatible" but often times use approaches that are not identical to those used by NRC Staff. Any differences in these programs, while intended to reach the same result, should be harmonized by the Agreement States with NRC's final rules and Criteria to the maximum extents practicable."

For purposes of this Appendix:

"Class of use means a category of water quality meeting applicable, risk based, groundwater quality standards for a particular state or federal groundwater programs delegated and authorized under the Safe Drinking Water Act and Underground Injection Control Programs. Since ISR operations are authorized under an authorized underground injection control permit and occur in portions of aquifers exempted from protection as an underground source of drinking water, uranium recovery activities are conducted in aquifers or portions thereof that cannot now nor ever in the future serve as a source of public drinking water, this category of water quality is not included in this definition."

"Excursion means a condition in an ISR wellfield where the concentrations or certain indicator parameters exceed upper control limits (UCL) established by the licensee and NRC. An excursion condition does not mean that effluents have been released in concentrations to the environment to those regulatory limits in excess of unrestricted use. Evaluation of which indicator parameters should be applied will be established on a wellfield-specific basis."

"Indicator parameters means the constituents of concern demonstrating wellfield-specific mobility in groundwater sufficient to provide early warning of a potential excursion"

"Point of compliance means monitor wells surrounding an ore body during ISR operation used to detect potential excursions if an exceedance of UCL(s) is detected"

“Point of exposure means the outermost boundary of the exempted portion of an underground source of drinking water (USDW)”

“Upper control limits means the Commission-approved background water quality levels at A monitoring well established post-license issuance for identifying excursions.”

Explanation for Proposed Revisions

Simply put, NMA believes that the Commission has initiated discussions on this issue to further demonstrate to interested stakeholders and members of the public that its uranium recovery regulatory program applies, to the maximum extent practicable, to ISR operations as well as conventional and heap leach milling facilities. The addition of this language and these definitions further clarifies this position and sets forth the Commission’s specific intent to maintain regulatory authority through the implementation of the U.S. EPA’s *generally applicable standards* under UMTRCA.

F. Criterion 5B(5) Groundwater Clarification for ISRs

Proposed Revised Criterion Language:

5B(5)—At the point of compliance, the concentration of a hazardous constituent must not exceed—

(a) The Commission approved background concentration of that constituent in the groundwater; **For purposes of ISR license applications, groundwater quality data gathered pursuant to this Criterion are intended to establish groundwater quality standards for operational purposes post-license issuance.**

(b) The respective value given in the table in paragraph 5C if the constituent is listed in the table and if the background level of the constituent is below the value listed; or

(c) An alternate concentration limit established by the Commission.

Explanation for Proposed Revisions:

As will be discussed with respect to Criterion 7 below, there frequently is a misunderstanding between the groundwater quality data sufficient for license issuance gathered pursuant to Criterion 7 and that required post-license issuance to establish Commission-approved background (CAB) for operational purposes. NRC Staff does not and is not required to rely on complete information necessary to establish CAB to issue an ISR license. The key difference between Criterion 7 “baseline” groundwater quality and Criterion 5B(5) CAB is that the latter is established post-license issuance when detailed facility and wellfield construction has taken place but prior to the conduct of active ISR operations. Indeed, the FSEIS for the Strata Ross ISR project specifically

notes in its groundwater evaluation that there is post-license issuance groundwater quality levels that are established as the operational and restoration standards for each particular wellfield. Interested stakeholders should be properly informed that the determination to separate the two classes of groundwater quality data/standards is not the choice of industry; but rather, it is what is allowable per NRC's construction rule prior to and post-license issuance. The proposed revised language should provide additional clarity. Further, when revising this regulation, NRC Staff should reiterate the point that, per EPA RCRA regulations that were promulgated as *generally applicable standards* pursuant to EPA's UMTRCA-based authority and implemented by the Commission per the same statute, is a *legal right* and not an elective standard. Additionally, the record should indicate that a condition precedent to issuance of an ACL is satisfaction of the ALARA principle.

G. Criterion 7 Groundwater Clarification for ISR License Applications

Proposed Revised Criterion Language:

Criterion 7—At least one full year prior to any major site construction, a preoperational monitoring program must be conducted to provide complete baseline data on a milling site and its environs. Throughout the construction and operating phases of the mill, an operational monitoring program must be conducted to measure or evaluate compliance with applicable standards and regulations; to evaluate performance of control systems and procedures; to evaluate environmental impacts of operation; and to detect potential long-term effects. **For purposes of ISR license applications, groundwater quality data gathered pursuant to this Criterion are intended solely to provide sufficient information for issuance of a license and not to serve as operational groundwater quality standards pursuant to Criterion 5B(5).**

Explanation for Revised Criterion Language:

Frequently, there has been a critical misunderstanding by interested stakeholders regarding the difference between Criterion 7 “baseline” groundwater data necessary for a site-specific ISR license application and Criterion 5B(5) CAB groundwater quality levels in ISR wellfields necessary for post-license issuance establishment of operating and restoration groundwater levels for excursion monitoring. As stated in NUREG-1569, NRC Staff does not and is not required, by regulation, to rely on *complete* information to issue an ISR license. Indeed, an ISR license applicant is prohibited by 10 CFR Part 40.32(e)'s construction rule limitations from gathering enough groundwater quality data to establish Criterion 5B(5) CAB as that would require the installation of a complete wellfield, including monitoring well network. This proposed revised language provides additional clarity for interested stakeholders on this issue.

H. Criterion 5B(6) “Class of Use” for ACLs

Since NRC Staff issued Regulatory Issue Summary 2009-05 entitled *Uranium Recovery Policy Regarding: (1) The Process for Scheduling Licensing Reviews of Applications for New Uranium Recovery Facilities and (2) The Restoration of Groundwater at Licensed Uranium In Situ Recovery Facilities*, ISR licensees have been on notice that it was NRC’s legal interpretation that Criterion 5B(5) groundwater quality standards applied, as a matter of law, to ISR wellfields. As a result, at least two (2) license amendment applications for ACLs have been submitted for evaluation to NRC and the State of Wyoming as a new Agreement State.

It is well-understood how ACLs and, indeed, the entirety of Criterion 5B(5) groundwater quality standards were incorporated by the Commission into its Appendix A Criteria. As stated previously, under UMTRCA, EPA is empowered to prescribe *generally applicable standards* for 11e.(2) byproduct material use, management, and storage. However, under UMTRCA, the Commission is empowered to implement and enforce said standards. Through its statutory power, EPA issued groundwater quality standards based on those from the Resource Conservation and Recovery Act (RCRA); accordingly, those in Criterion 5B(5) are virtually identical to these RCRA groundwater standards. Through its statutory power, the Commission implemented these groundwater quality standards but maintained the ability determine the evaluative requirements for determining whether primary standards (i.e., Commission-approved background or an MCL, whichever is higher) have been satisfied or whether an ACL is required on a site-specific, constituent-specific, risk-based basis. The evaluative criteria for the grant of an ACL, which is legally applicable to ISR wellfields, are set forth in Criterion 5B(6).

Over the past two (2) decades, ISR operations have become the primary form of uranium production in the United States. As a result, NRC Staff was forced to re-evaluate its uranium recovery regulatory program to determine which elements thereof were directly applicable to ISR. As stated above, since the primary resource area evaluated in an ISR license application is groundwater, NRC Staff determined that its prior determination that such operations were “milling underground” and its 2000 determination that restoration fluid was 11e.(2) byproduct material resulted in complete AEA jurisdiction over groundwater at ISR facilities including groundwater restoration. As such, NRC Staff determined that it was empowered to apply Criterion 5B(5) as a matter of law to ISR wellfields.

During the timeframe within which ISR became the primary form of domestic uranium production, NRC Staff had entered into discussions with the States of Nebraska and Wyoming, both Agreement States at the time but both possessing “primacy” over groundwater under EPA’s Safe Drinking Water Act Underground Injection Control (UIC) program, to defer decision-making on satisfaction of groundwater restoration standards to said States. A critical element of these States’, and others, UIC programs for groundwater quality is to determine whether groundwater quality in a restored aquifer meets a specific “class of use” such as agricultural, industrial or stock watering because, by statutory definition, groundwater in an ISR wellfield aquifer *cannot now nor ever in the future serve as a source of public drinking water*. These discussions were

halted while the initial processes of EPA and NRC began to consider proposing new rules for uranium recovery. During the course of EPA's and NRC's discussions, it was hypothesized that NRC might be able to evaluate an ACL application using "class of use" as the standard for an alternative to CAB or an MCL, whichever is higher. But, it was determined that "class of use" could not be used as a standard for groundwater restoration without a *generally applicable standard* promulgated by EPA under its UMTRCA authority, and it also likely would require amendment of the aforementioned RCRA standards which properly was viewed as unlikely.

However, while "class of use" now is not considered to be a hard and fast groundwater quality standard under UMTRCA, EPA's RCRA regulations and UMTRCA *generally applicable standards* and NRC's implementing Criterion 5B(5) standards, it has been acknowledged that groundwater "class of use" can be considered as part of the scope of a Commission Criterion 5B(6) ACL evaluation when setting appropriate restoration values, perhaps in conjunction with the required finding of as low as reasonably achievable (ALARA), which is mandatory under NRC ACL regulations and guidance. The use of "class of use" in considering ACL approvals is consistent with past NRC practices for prior restoration approvals.

Furthermore, given that most licensees that are in active operations are ISR licensees in Agreement States such as Wyoming and Texas, revisions of this type will lessen the regulatory burden and expenditure of resources when proceeding to license termination. Regardless of whether a licensed uranium milling facility is a conventional, heap leach or ISR facility, the Commission retains the ultimate authority to terminate a license under its regulations. In an NRC non-Agreement State, the Commission simply maintains the license, oversees site decommissioning, and in consultation with the mandatory long-term custodian, approves license termination. In the case of an Agreement State, the State itself can only "recommend" that the license be terminated and must send such recommendations to the Commission for concurrence through a completion review report (CRR) pursuant to NRC's SA-900 guidance. Given that many Agreement States have "primacy" under EPA's SDWA UIC program and utilize "class of use" to approve groundwater restoration, it would be efficient for NRC to accept "class of use" as a part of Criterion 5B(6) ACL criteria. Thus, review of a CRR would be seamless and license termination can be done efficiently without jeopardizing public health and safety or the environment.

As stated above, some Agreement States with ISR licensees utilize different terms of groundwater classification and for restoration standards. It is imperative that these differences be identified, analyzed, and either approved or marked for change so that all ISR operators have transparency as to what is required of them during license operations.

Proposed Revisions:

"5B(6)—Conceptually, background concentrations pose no incremental hazards and the drinking water limits in paragraph 5C state acceptable hazards but these two options may not be practically achievable at a specific site. Alternate concentration limits that present no significant hazard may be proposed by licensees for Commission

consideration. Licensees must provide the basis for any proposed limits including consideration of practicable corrective actions, that limits are as low as reasonably achievable, and information on the factors the Commission must consider. The Commission will establish a site specific alternate concentration limit for a hazardous constituent as provided in paragraph 5B(5) of this criterion if it finds that the proposed limit is as low as reasonably achievable, after considering practicable corrective actions, and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In making the present and potential hazard finding, the Commission will consider the following factors:

(a) Potential adverse effects on groundwater quality, considering—

(i) The physical and chemical characteristics of the waste in the licensed site including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of groundwater and the direction of groundwater flow;

(iv) The proximity and withdrawal rates of groundwater users;

(v) The current and future uses of groundwater in the area such as those categorized in available class of use requirements;

(vi) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality such as those categorized in available class of use requirements;

(vii) The potential for health risks caused by human exposure to waste constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects.

(b) Potential adverse effects on hydraulically-connected surface water quality, considering—

(i) The volume and physical and chemical characteristics of the waste in the licensed site;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of groundwater, and the direction of groundwater flow;

- (iv) The patterns of rainfall in the region;
- (v) The proximity of the licensed site to surface waters;
- (vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, **such as those categorized in available class of use requirements;**
- (vii) The existing quality of surface water including other sources of contamination and the cumulative impact on surface water quality **such as those categorized in available class of use requirements;**
- (viii) The potential for health risks caused by human exposure to waste constituents;
- (ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and
- (x) The persistence and permanence of the potential adverse effects.”

Explanation of Proposed Revisions:

There are several requirements on this list where a “class of use” consideration would be appropriate, including the mandatory ALARA finding. For example, Criterion 5B(6)(a)(v) where current and future uses of groundwater in the area may be affected by a “class of use” evaluation in that adjacent, non-exempt aquifers may serve similar functions to the “class of use” of a restored ISR wellfield aquifer. Criterion 5B(6)(a)(vi) or the existing quality of groundwater also necessarily requires a “class of use” evaluation because the restored aquifer would not be lost for future use(s). Allowance of this as an evaluative factor is consistent with NUREG-1569 which allows “class of use” and, pursuant to Commission case law, while guidance such as NUREGs are not given the full weight of regulations, they are entitled to “special weight.”

Based on the above discussion, while NMA does not seek a formal amendment to Criterion 5B(5) to add “class of use” as a groundwater quality restoration standard for ISRs, it does assert that NRC Staff should include in its administrative rulemaking record the role a “class of use” evaluation may play in an ACL evaluation by the Commission and its Agreement States (which frequently evaluate “class of use”) so that a foundation may be built for a future RIS or Policy Statement, as well as for future revisions to ISR-based guidance such as NUREG-1569. Given that most ISR facilities are currently located in Agreement States but that the Commission is the only entity that can finally terminate a license, including ACL approval as part of a Completion Review Report (CRR), it is important for NRC to set the stage for what types of evaluation an Agreement State should engage in when evaluating ISR-based ACL applications. However, a reference by NRC Staff to these evaluative factors as part of a rulemaking effort would be justified to provide absolute clarity to interested stakeholders how NRC

regulates groundwater quality and is consistent with NRC's UMTRCA-based implementation authority for the U.S. EPA's *generally applicable standards* for groundwater quality as listed in Criterion 5B(5).

I. Criterion 9 Restoration Action Plan Requirements for ISRs

Proposed Revised Criterion Language:

Criterion 9—(a) Financial assurance arrangements must be established by each mill operator before the commencement of operations to assure that sufficient funds will be available to carry out the decontamination and decommissioning of the mill and site and for the reclamation of any tailings or waste disposal areas. The amount of funds to be ensured by such financial assurance arrangements must be based on Commission-approved cost estimates in a Commission-approved plan, or a proposed revision to the plan submitted to the Commission for approval, if the proposed revision contains a higher cost estimate, for: . . .

(j) For purposes of ISR license applications and ongoing annual financial assurance updates for existing ISR projects, the following shall apply:

(1) An ISR license shall not be issued without an NRC Staff-approved restoration action plan (RAP) with approved financial assurance cost estimates using an acceptable financial assurance arrangement;

(2) For purposes of ISR license applications only a RAP for the initial wellfield and processing plant (and associated infrastructure) proposed for development shall be required for license issuance. For purposes of ongoing annual financial assurance updates for existing ISR projects, NRC-approved RAPs for wellfields projected to commence development during that twelve (12) month timeframe shall be required

Explanation for Revisions:

While UMTRCA indicates Congress' intent to address "surety" in order to prevent a site requiring additional decommissioning and decontamination work from being unable to complete such work due to a bankrupt licensee, the implementation regulations, guidance, and policy used by NRC Staff in a variety of locations, including but not limited to uranium recovery standard review plans (i.e., NUREG-1569 & NUREG-1620) does not use the term "surety" as appropriate nomenclature. Thus, in an effort to harmonize these documents, NMA proposes that Criterion 9 and, to the extent appropriate, any other regulation dealing with uranium recovery licenses referencing "surety" be changed to reflect the term "financial assurance." Further, this term has been used by the Atomic Safety and Licensing Board and the Commission in during the course of administrative litigation proceedings such as HRI. Thus, it is prudent for NRC Staff to revise this Criterion to reflect the current and proper term "financial assurance." This change in no way contravenes Congressional intent in UMTRCA to assure that

appropriate funds are available to decommission and close an NRC (or Agreement State)-licensed uranium recovery site.

The additional revision to the “independent contractor” requirement of this Criterion is in accord with the Commission’s decision in HRI where it found that the use of an “independent contractor” to conduct decommissioning activities under a RAP does not require disassembling wellfield infrastructure, central processing plant facilities, and other relevant equipment to conduct activities required to proceed to license termination.

The final addition is intended to clarify the Criterion in accord with the HRI decision in 2005 in which the Commission requires NRC-approved RAPs with associated financial assurance cost estimates prior to license issuance. *See In the Matter of Hydro Resources, Inc.* (Crownpoint Uranium Project), CLI-00-08, 51 NRC 227 (May 25, 2000).

J. Criterion 10 Long-Term Surveillance and Monitoring Contribution Update

Proposed Revised Criterion Language:

Criterion 10—A minimum charge of **\$ 965,153.37 (2019 dollars)** to cover the costs of long-term surveillance must be paid by each mill operator to the general treasury of the United States or to an appropriate State agency prior to the termination of a uranium or thorium mill license, in the event that the Commission determines long-term surveillance is necessary.

If site surveillance or control requirements at a particular site are determined, on the basis of a site-specific evaluation, to be significantly greater than those specified in Criterion 12 (e.g., if fencing is determined to be necessary), variance in funding requirements may be specified by the Commission. In any case, the total charge to cover the costs of long-term surveillance must be such that, with an assumed 1 percent annual real interest rate, the collected funds will yield interest in an amount sufficient to cover the annual costs of site surveillance. The total charge will be adjusted annually prior to actual payment to recognize inflation. The inflation rate to be used is that indicated by the change in the Consumer Price Index published by the U.S. Department of Labor, Bureau of Labor Statistics.

Explanation for Revisions:

UMTRCA was enacted by Congress in 1978 and NRC/EPA finalized its *generally applicable standards* and implementing regulations in 1985. The figure in Criterion 10 has not been updated since it was originally implemented and puts the onus on the licensee to determine what that amount is. While it is understood that the licensee, NRC, and DOE may arrive at a contribution amount based on the site-specific circumstances of each site that goes to closure and license termination, it is important to keep all relevant regulations up-to-date. There are several Title II sites that are in the process of decommissioning, most of which are in the State of Wyoming and an updated contribution amount can be helpful. The addition of the language regarding the

need for long-term surveillance is included because the Commission has not previously required transfer of restored ISR wellfields to a long-term custodian. No evidence at this time indicates that such long-term surveillance is necessary for such restored wellfields, so this regulatory revision further clarifies the application of this Criterion for interested stakeholders and the public.

CHAIRMAN Resource

From: Sweeney, Katie <KSweeney@nma.org>
Sent: Friday, June 12, 2020 2:33 PM
To: CHAIRMAN Resource
Cc: CMRBARAN Resource; CMRCaputo Resource; CMRHanson@nrc.gov; CMRWright Resource; Lubinski, John; Holahan, Trish; Pham, Bo; Von Till, Bill
Subject: [External_Sender] National Mining Association Recommended Regulatory Language
Attachments: Final NRC UR Reg Lang Cover Letter.pdf; Final Proposed Regulatory Language NRC ISR Rule.docx

Chairman Svinicki,

The National Mining Association (NMA) would like to express its continued support for a narrowly tailored U.S. Nuclear Regulatory Commission's (NRC) rulemaking to amend its regulations governing the domestic licensing of source material by codifying general requirements to address groundwater protection at uranium in situ recovery (ISR) facilities. Attached please find a cover letter outlining NMA's position as well as an attachment that provides specific recommendations for updating the existing regulations at 10 CFR Part 40 and Criteria at Appendix A. The intent of NMA's efforts is to avoid sweeping changes to the regulations and instead, codify language that represents how ISR facilities are currently regulated in practice, through license conditions, guidance and commission decisions. We look forward to engaging with the NRC staff and Commission as this effort moves forward. If you have any questions regarding this letter or the attachment, please contact me at (202)463-2627 or ksweeney@nma.org.

Regards,

Katie Sweeney



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