



POLICY ISSUE **(Notation Vote)**

December 16, 2019

SECY-19-0123

FOR: The Commissioners

FROM: Margaret M. Doane
Executive Director for Operations

SUBJECT: REGULATORY OPTIONS FOR URANIUM IN SITU RECOVERY FACILITIES

PURPOSE:

The purpose of this paper is to provide the Commission with options and the staff recommendation for the regulatory oversight of uranium *in situ* recovery (ISR) facilities.

SUMMARY:

In 2006, the U.S. Nuclear Regulatory Commission (NRC) staff began work on a rulemaking to promulgate a set of ISR-specific requirements to standardize existing NRC regulatory practices.¹ In 2010, work on this rulemaking was deferred after the NRC staff was notified that the U.S. Environmental Protection Agency (EPA) planned to undertake its own rulemaking in this area to establish generally applicable standards. The EPA ultimately withdrew this rulemaking in 2018, which led the NRC staff to explore whether to restart its own rulemaking. The NRC staff has assessed three options for a path forward for NRC's deferred ISR rulemaking, including a no-action option and an option for revising guidance only, and recommends the option of restarting the rulemaking.

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Enclosure 3 transmitted herewith contains
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¹ The staff does not believe a rulemaking plan is necessary since this rulemaking was initiated by the Commission (staff requirements memorandum to COMJSM-06-0001, "Regulation of Groundwater Protection at In-Situ Leach Uranium Extraction Facilities," Agencywide Documents Access and Management System (ADAMS) Accession No. ML060820503, dated March 24, 2006). The staff is providing options rather than a rulemaking plan. For the rulemaking option, the staff has provided the scope of the rule.

Agreement States, industry, and other stakeholders broadly support rulemaking in this area. The NRC staff would also take the opportunity during the rulemaking process to identify and implement changes in associated guidance and/or internal procedures used in the licensing process to gain additional efficiencies.

BACKGROUND:

The NRC's current regulations in Appendix A to Part 40 of Title 10 of the *Code of Federal Regulations* (CFR) is focused on conventional uranium milling and does not specifically address ISR facilities. A brief overview of the differences between conventional mills and ISR activities can be found in Enclosure 1.

A general overview of the statutory and regulatory framework can be found in Enclosure 2. The regulations in Appendix A to 10 CFR Part 40, when coupled with site-specific ISR license conditions and with the NRC staff's ongoing oversight of licensee operations, allow the NRC to meet its statutory obligation under the Atomic Energy Act of 1954, as amended (AEA), namely, to provide reasonable assurance of adequate protection for public health and safety. To date, and with over 40 years of ISR operational experience, the uranium ISR technique has been demonstrated to be a low-risk activity under the current regulatory framework. The NRC staff is not aware of any instance of an ISR-licensed activity causing a significant safety or environmental impact, including the contamination of an adjacent or nearby aquifer.

In the staff requirements memorandum (SRM) to COMJSM-06-0001, "Regulation of Groundwater Protection at In-Situ Leach Uranium Extraction Facilities" (ADAMS Accession No. ML060820503), dated March 24, 2006, the Commission directed the NRC staff to initiate a rulemaking that would focus on eliminating dual regulation of groundwater protection by the NRC and the EPA by deferring active regulation of groundwater protection programs to the EPA or the EPA-authorized state through the EPA's underground injection-control (UIC) permit program. During discussions with the EPA staff in response to the Commission's direction, the EPA staff raised concerns about basing groundwater protection requirements for ISR facilities upon the EPA's UIC program, which is authorized by the Safe Drinking Water Act. The EPA stated that any NRC groundwater protection requirements should be based upon the EPA's generally applicable standards that were promulgated as regulations in Part 192 of Title 40 CFR, "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings," rather than the UIC requirements. In COMSECY-07-0015, "Path Forward for Rulemaking on Groundwater Protection at In Situ Leach Uranium Extraction Facilities" (ADAMS Accession No. ML070930332), dated April 30, 2007, the NRC staff informed the Commission of the EPA position and requested a modification of the March 24, 2006, SRM to reflect that any NRC ISR-specific rule would rely upon the EPA's generally applicable standards set forth in 40 CFR Part 192. In its SRM (ADAMS Accession No. ML071590310) dated June 8, 2007, the Commission approved the NRC staff's request.

In response to the SRM, the NRC staff began a rulemaking to promulgate a set of ISR-specific requirements to standardize existing NRC regulatory practices. The purpose of the rulemaking effort was to ensure more consistency and certainty in the NRC staff's evaluation and approval of ISR license applications and to expedite and streamline the overall ISR licensing process.

During the NRC's rulemaking efforts from 2006 to 2010, the NRC staff coordinated its efforts extensively with the EPA and included EPA staff as members of the NRC rulemaking working group. During this period, the NRC staff almost completed a proposed rule package twice. However, because NRC and EPA staff could not reach resolution on certain key issues

(e.g., long-term monitoring duration), the NRC staff's proposed rulemaking was never submitted to the Commission. The NRC staff deferred its rulemaking in 2010,² after the EPA staff informed the NRC staff that it planned to promulgate generally applicable standards for ISR facilities pursuant to its authority under Section 275 of the AEA.

The EPA initially issued a proposed rule in the *Federal Register* (FR) on January 26, 2015 (80 FR 4156). It issued a new proposed rule on January 19, 2017 (82 FR 7400), which superseded the January 2015 proposed rule. The NRC staff had jurisdictional and technical concerns with both the January 2015 and January 2017 proposed rules and provided comments to EPA staff numerous times during EPA's rulemaking, including formally submitting comments addressing the NRC staff's concerns on July 18, 2017 (ADAMS Accession No. ML17173A638), in response to EPA's January 2017 FR notice requesting public comments. In its comments, the NRC staff highlighted the established low-risk operational record (over 40 years) demonstrating no significant safety or environmental impacts arising from ISR activities under the current regulatory framework.

On October 30, 2018 (83 FR 54543), the EPA withdrew its proposed rule. The EPA concluded, based on feedback from stakeholders, that it had "serious questions concerning as to whether the [2017 EPA] proposed rule as written was within EPA's authority under [the Uranium Mill Tailings Radiation Control Act of 1978, as amended (UMTRCA)]." The EPA also concluded that "the EPA no longer believes that a national rulemaking to promulgate standards is necessary at this time, as the EPA believes the existing regulatory structures are sufficient to ensure the targeted protection of public health and the environment at existing ISR facilities." Finally, the EPA stated that, "present market circumstances suggest that the influx of new ISR applicants that was once anticipated and that was an underlying motive for the proposal is not likely to materialize."

Stakeholder Feedback

After EPA's withdrawal of its rulemaking, the NRC staff sought stakeholder perspectives to inform its decision regarding whether it should restart its deferred rulemaking. On January 31, 2019, the NRC staff published a notice in the FR (84 FR 574) requesting views from interested stakeholders. The comment period closed on May 3, 2019. The NRC received 33 comment submissions from individuals, Agreement States, Native American Tribal governments, environmental groups, and industry.

Most commenters were supportive of continuing the rulemaking:

1. Agreement States: In their comments, the Organization of Agreement States and the respective regulatory agencies of the states of Colorado, Oregon, Washington, and Wyoming supported resumption of the NRC's deferred ISR rulemaking. For example, the Wyoming Department of Environmental Quality stated that it agrees with former NRC Commissioner Merrifield when he stated, "[W]hile the [NRC] staff has done its best to regulate [ISR] licensees through generally applicable requirements, Part 40, and impositions of license conditions, our failure to promulgate specific regulations for [ISR] has resulted in an inconsistent and ineffective regulatory program ..., we should finally remedy this situation through notice and comment rulemaking. In developing a proposed rule, the staff should

² The NRC staff notified the Commission of the rulemaking's deferment by Commissioners' Assistants Note (ADAMS Accession No. ML102950502), dated October 25, 2010.

formulate a regulatory framework that is tailored specifically to this unique group of licensees.”³ Because the promulgation of an NRC rulemaking specific to ISR facilities would require Agreement States to conform to the new or amended NRC regulations, to the extent appropriate for regulatory compatibility, most of these commenters recommended that the NRC implement the procedures in SA-801A, “Agreement State Participation in Rulemaking Working Groups” (January 2019).

2. Industry: Most industry commenters supported a limited-scope rulemaking to better ensure the efficiency and effectiveness of the regulations. The Nuclear Energy Institute (NEI) stated that it was “supportive of an expedited, limited scope, and risk-informed rulemaking.”⁴ However, NEI also identified that “NRC must address how this rulemaking will be funded as not to burden the remaining NRC ISR licensees.” Most other industry commenters were also concerned about ensuring that the costs of the rulemaking would not be borne by the industry considering there is only one NRC licensee.
3. Other: Most other commenters wanted to ensure that the implementation of regulations would lead to regulatory programs that ensured protection of groundwater resources. For example, the Navajo Nation Environmental Protection Agency stated in their comments that “The current regulations at 10 CFR Part 40, Appendix A were not developed to address ISRs. As both the NRC and EPA have recognized, the lack of consistent regulations for these facilities is inappropriate and should be remedied with rulemaking specific to the ISR facility processes.”⁵

Certain individuals and environmental groups did not support continuing the rulemaking, with their primary assertion being that such regulations could allow greater expansion of the industry and subsequently result in greater adverse environmental impacts. One stakeholder recommended that EPA restart its rulemaking to develop generally applicable standards and that the NRC continue to defer rulemaking until EPA finalizes its rulemaking.⁶

Development of Memorandum of Understanding with the Environmental Protection Agency

In 2019, the NRC staff began development of a memorandum of understanding (MOU) with the EPA staff to delineate the roles and responsibilities of each agency under Title II of UMTRCA for the regulation of uranium ISR activities. The purpose of this draft MOU is to:

1. Provide a framework for cooperation and coordination between the NRC and the EPA for implementing each party’s statutory responsibilities under AEA Sections 84 and 275 with respect to the regulation of uranium ISR activities in a timely, efficient, and thorough manner.
2. Describe and delineate the respective roles and responsibilities of each of the parties in the regulation of uranium ISR activities.

³ Wyoming Department of Environmental Quality comments (ADAMS Accession No. ML19064A931, page 1) dated March 1, 2019.

⁴ Nuclear Energy Institute comments (ADAMS Accession No. ML19123A130, page 1) dated May 3, 2018.

⁵ Navajo Nation Environmental Protection Agency comments (ADAMS Accession No. ML19127A061, page 4 dated May 3, 2018).

⁶ Natural Resources Defense Council, Inc., et al. comments (ADAMS Accession No. ML19127A058, page 2) dated May 3, 2019.

3. Foster opportunities for effective and efficient communication between the NRC and the EPA, including the exchange of written information, and interagency meetings.

The goal is to enter into this MOU by the spring of 2020; the NRC staff expects to provide the draft MOU for the Chairman's signature. Although this MOU may help resolve certain matters between the NRC and EPA, a completed MOU is not a prerequisite to conducting rulemaking.

DISCUSSION:

Regulatory Issue

The NRC first promulgated regulations under UMTRCA in 1980 (45 FR 65521, October 3, 1980). The 1980 rule made several amendments to the 10 CFR Part 40 regulations, including the addition of Appendix A. Following an EPA rulemaking in 1983, which promulgated generally applicable standards under UMTRCA, the NRC promulgated additional conforming amendments to Appendix A in 1985 (50 FR 41852, October 16, 1985), and 1987 (52 FR 43553, November 13, 1987). In the 1990s, ISR technology became the predominant means of extracting uranium in the United States. The Appendix A regulations are primarily focused on the operation of conventional mills, although the NRC has applied some of these regulations to ISR facilities. With respect to the protection of groundwater, most Appendix A requirements concern the potential contamination caused by seepage from tailings piles resulting from conventional mill operations. ISR operations do not produce any tailings, but do produce waste streams containing AEA Section 11e.(2) byproduct material that require proper management. Such waste streams originate: (1) on or near the surface from pipes, evaporation ponds, and ion exchange facilities; and (2) deep underground in the aquifer where the injected lixiviant frees the uranium from the host rock.⁷ Because the NRC's regulations do not specifically address ISR activities, the NRC staff has relied upon the current Appendix A regulations coupled with site-specific license conditions to make ISR licensing decisions and to otherwise appropriately regulate ISR facilities.

The absence of specific regulations for ISR activities and the NRC staff's reliance upon site-specific license conditions to cover items such as groundwater protection has led the NRC staff and many stakeholders to conclude that the lack of ISR-specific regulations has produced inefficiencies in the licensing process. In addition, this lack of ISR-specific regulations has created inconsistencies in the application of regulatory requirements between Agreement States and in individual licensing reviews whether conducted by an Agreement State or by the NRC, created challenges in evaluating the compatibility of Agreement State regulations with their NRC counterpart regulations, resulted in reduced transparency in the licensing process for members of the public, and reduced the stability and predictability of the licensing process for ISR facility applicants and licensees. As the National Mining Association (NMA) notes in its comments submitted in response to the staff's January 31, 2019, FR notice, "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."⁸

⁷ The ore body itself is not considered to be AEA Section 11e.(2) byproduct material per the definition of "Byproduct Material" in 10 CFR 40.4.

⁸ NMA comments (ADAMS Accession No. ML19127A063, page 3) dated May 3, 2019.

In particular, industry has long expressed interest in codifying the applicability of and the requirements for the establishment of alternate concentration limits (ACLs), currently defined in Criteria 5(B)5 and 5(B)6 of Appendix A to 10 CFR Part 40, for ISR wellfield restorations. The NRC's position regarding the applicability of ACLs to ISR wellfield restoration is currently expressed in Regulatory Information Summary (RIS), RIS-2009-05, "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," dated April 29, 2009. This RIS states the NRC's intention of applying the ACL criteria in 10 CFR Part 40, Appendix A to ISR licensees. Approval of an ACL may be requested by a licensee, through a license amendment request, for a given wellfield after the licensee has attempted and failed restoration to background or a defined maximum concentration limit.

As a generic communication, the RIS does not have the force and effect of a regulation. The NRC issued the RIS as an interim measure, "pending issuance of the proposed ISR rule for public comment."⁹ As such, industry continues to express interest in a rulemaking codifying the regulation of ISR activities. In recent comments submitted in response to the staff's January 31, 2019, FR notice, the Wyoming Mining Association (WMA) stated that the RIS was "far more than merely informational and that it contains a major regulatory change that should have been noticed in the *Federal Register*."¹⁰ The WMA further stated that "[a] rulemaking is required to replace the current ad hoc regulatory scheme for groundwater restoration at in-situ uranium recovery facilities."¹¹ Similarly, the NMA indicated that it would support an ISR-specific rulemaking that will "codify language that represents how ISR facilities are currently regulated in practice," including the "availability of ACLs."¹²

In initiating the ISR-specific rulemaking in 2006, the NRC intended to resolve these issues. In 2006, the NRC had expected over 25 new ISR facility applicants based on letters of intent that were provided by potential applicants after a spike in the price of uranium. Shortly thereafter, the price of uranium dropped substantially, and most of those license applications never materialized.

Most currently operating ISR facilities are licensed by Agreement States. As of July 2019, there are eight ISR facilities licensed and constructed in the Agreement States—five are in operation in Wyoming and three are on standby in Texas. In addition, there are currently four sites that have been issued licenses, although the facilities have not yet been constructed (two in Texas and two in Wyoming). Finally, there are two ISR facilities currently undergoing decommissioning, both in Texas. In non-Agreement States, the NRC currently has three ISR licenses. One facility is operating (Crowe Butte Resources in Nebraska). The other two have not yet been constructed (Dewey Burdock in South Dakota and Crownpoint in New Mexico).

⁹ RIS 2009-05 (ADAMS Accession No. ML083510622, page 2).

¹⁰ WMA comments (ADAMS Accession No. ML19123A049, page 3 (referencing its previous June 3, 2009, letter to the NRC)) dated May 2, 2019.

¹¹ WMS comments (ADAMS Accession No. ML19123A049, page 11) dated May 2, 2019.

¹² NMA comments (ADAMS Accession No. ML19127A063, page 5) dated May 3, 2019.

Evaluation of Options

As part of its evaluation of potential paths forward for the future regulation of ISR facilities, the staff identified three potential options: (1) no action, (2) revising regulatory guidance, and (3) rulemaking. Enclosure 3 provides a discussion of resource impacts for each option.

Option 1: No Action.

Under this option, the NRC would withdraw its currently deferred rulemaking and continue to license ISR activities for current and new license applicants using license conditions based on existing guidance. This option would result in no new direct costs to the NRC, Agreement States, or the industry.

This option would continue to provide reasonable assurance that the public health and safety and the environment would be adequately protected. The staff is not aware of any instance of an ISR-licensed activity causing a significant safety or environmental impact that must be addressed. In addition, while the staff is aware of the U.S. Nuclear Fuel Working Group (USNFWG) activities,¹³ the staff is not aware of any specific information at this time that would indicate an increase in the number of ISR applications in the near future. The resources the agency has currently budgeted in fiscal years 2020 and 2021 for the deferred rulemaking can be reallocated.

This option would not clarify the applicability of the current 10 CFR Part 40, Appendix A regulations to ISR activities, including the applicability of the establishment of ACLs for ISR restoration. There could also be some loss of efficiency in the licensing process for renewals or future new license applications because of the lack of clarity of the current regulatory framework. In addition, this option would not provide the increased transparency and stability to the ISR licensing process that rulemaking or guidance development could offer.

Further, this option also would not provide the same level of consistency for a national program or the enhancements to the staff's ability to review Agreement State compatibility that rulemaking would provide. Specifically, this option would not address potential inconsistencies in the evaluation of ISR applications by different reviewers or in the regulatory oversight provided by different regulators. In addition, under this option, current guidance would not be updated to reflect risk-informed best practices for Agreement States to use.

Delaying an ISR-specific rulemaking until some point in the future, particularly after an unexpected increase in the demand for uranium, similar to the one that occurred during 2005-2006, could be less efficient and costlier than pursuing rulemaking in the near term because of the risk of losing institutional knowledge over next several years. In addition, the same resources needed for conducting a rulemaking prompted by an increase in demand for uranium would most likely be responsible for processing any incoming ISR applications prompted by that same increase, thus potentially affecting the timelines of both processes.

¹³ On July 12, 2019, President Trump issued an executive memorandum, entitled "Memorandum on the Effect of Uranium Imports on the National Security and Establishment of the United States Nuclear Fuel Working Group," which directed the establishment of the USNFWG. The USNFWG is tasked to develop recommendations for reviving and expanding domestic nuclear fuel production. As part of its tasking, the USNFWG "shall examine the current state of domestic nuclear fuel production to reinvigorate the entire nuclear fuel supply chain, consistent with U.S. national security and nonproliferation goals." Memorandum on the Effect of Uranium Imports on the National Security and Establishment of the U.S. Nuclear Fuel Working Group, § 2(c)(iii) (July 12, 2019).

Option 2: Revise regulatory guidance to clarify the ISR requirements.

Under this option, the NRC staff would update NUREG-1569, "Standard Review Plan for In Situ Leach Uranium Extraction License Applications," to better represent current risk-informed practices in uranium ISR activities based upon "lessons learned" that have been identified since its initial publication. During the revision of the guidance, the overall licensing process would be evaluated, and potential efficiencies could be identified. Staff would involve the Agreement States in the development of the guidance.

This option would provide current and prospective applicants, as well as Agreement State regulators, more current information about the NRC's ISR application review process, would help clarify how certain requirements in 10 CFR Part 40, Appendix A would be applied to ISR activities, and would provide a potential framework for Agreement State license programs. Historically, the NUREG-1569 guidance has been used by the Agreement States. The current NRC licensees and the Agreement States are very supportive of revising the NUREG-1569 guidance, not only to update risk-informed groundwater protection practices, but to also update other risk-informed practices in radiation protection, waste disposal, and conduct of performance-based evaluations for ISR facilities. This option would likely be faster and less costly to complete than rulemaking and would be able to take advantage of currently available NRC ISR experience.

This option would not resolve concerns that the current guidance is not based on an ISR-specific regulatory framework, including resolution of the industry's longstanding concern regarding the applicability of ACLs to ISR wellfield restoration. Moreover, guidance is not binding on licensees nor does ISR-specific guidance by itself (i.e., without an implementing ISR-specific regulation in support) provide a basis for a uniform evaluation by the NRC of the various Agreement State programs. Furthermore, the process to revise guidance may also be less transparent to members of the public than a notice and comment rulemaking.

Option 3: Restart the ISR-specific rulemaking.

Under this option, the NRC staff would restart its currently deferred rulemaking to establish risk-informed regulatory requirements that specifically addressed ISR activities. The rulemaking would be based on the current guidance in NUREG-1569, proven license conditions, and other "lessons learned" from the NRC's and Agreement States' respective operational experiences; the staff's intention is to minimize, to the extent possible, adverse impacts to existing licensees and Agreement State programs. Enclosure 4 provides a summary of the expected scope and anticipated actions required to complete a rulemaking, including updating NUREG-1569. The rulemaking working group would also consider any findings and recommendations that are identified by the USNFWG that would be applicable to ISR activities. The staff expects to minimize costs by including Agreement State representatives on the rulemaking working group and leveraging existing Agreement State regulations to inform potential rule changes. As discussed under "Stakeholder Feedback," there is broad support from the Agreement States, industry, and other stakeholders for rulemaking in this area.

The establishment of ISR-specific regulations would address the fact that ISR technology is now the predominant technology used for removing uranium from its places of deposit in nature. Such regulations would clarify the applicability of existing 10 CFR Part 40 regulations to ISR activities for new and current licensees. The new regulations should result in more consistent and complete information provided across applications and facilitate greater transparency,

predictability, and efficiency in the review of such applications, leading to savings in time and resources for both the NRC and industry.

In addition, an ISR-specific rulemaking would streamline the hearing and licensing process for those items now covered principally by license conditions, for example, the appropriate requirement or standard for applying an ACL. A requirement or standard in a proposed license condition can be challenged in an individual licensing proceeding, particularly if that requirement or standard is not directly supported by an underlying regulation. Once a rule is promulgated, however, the substance of the regulation cannot be challenged in individual licensing proceedings under 10 CFR 2.335(a).¹⁴

Furthermore, this option would also provide a stronger basis for the NRC to establish a national program for purposes of Agreement State compatibility and for the NRC's evaluation and oversight of Agreement State programs. Restarting the ISR-specific rulemaking would allow for greater public stakeholder involvement in developing the regulatory framework than the other options considered and allow the NRC to develop a well-thought out rule that would position the agency to be able to effectively respond to an increase in ISR facility applications should there be another surge in the demand for uranium. Likewise, restarting the rulemaking in the near future would provide Agreement State programs more time to develop and adopt compatible regulations in the event of a future surge. This option would also leverage currently available NRC staff expertise that may not be available in the future due to potential retirements or movement to other positions. Finally, having an ISR-specific rulemaking in place would respond to those stakeholders who have expressed concern in the past about the lack of ISR-specific regulations.

If the NRC decides to move forward with rulemaking, under section 84a.(3) of the AEA, the staff is required to seek concurrence from the EPA during development of any draft final rule that would promulgate general requirements to control the non-radiological hazards arising from a licensee's possession, transfer, and disposal of section 11e.(2) byproduct material. EPA's concurrence is limited to the question of whether these general requirements are comparable, to the maximum extent practicable, with the requirements for the possession, transfer, and disposal of similar hazardous material regulated by the EPA under the Resource Conservation and Recovery Act of 1976, as amended (RCRA).¹⁵ As described in the Background section, a draft MOU is being developed by the NRC and the EPA staffs that should help facilitate the concurrence process and the NRC staff would plan to engage the EPA staff consistent with the agreements in the draft MOU.

This option is the costliest and would likely take the longest to implement, however, some stakeholder concerns regarding burden would be largely alleviated by plans to provide fee relief and not recover costs through Part 171 fees for current uranium recovery licensees consistent with past Commission direction on this project. This option would also incur costs to Agreement State programs which are required to promulgate compatible regulations and to the industry for implementing any new requirements.¹⁶

¹⁴ Under 10 CFR 2.335(b), a participant in a 10 CFR Part 2 adjudicatory proceeding can request that the presiding officer waive the 10 CFR 2.335(a) prohibition.

¹⁵ Section 84a.(3) references the Solid Waste Disposal Act, as amended (SWDA). In 1976, RCRA extensively amended the SWDA and RCRA is currently the primary authority used by EPA to regulate non-radiological hazardous materials. EPA's website states that RCRA "is our nation's primary law governing the disposal of solid and hazardous waste" (<https://www.epa.gov/rcra/history-resource-conservation-and-recovery-act-rcra#statutes>).

¹⁶ There is no backfit provision for the 10 CFR Part 40 regulations, thus there would be no formal backfitting analysis if rulemaking is approved. The NRC staff, however, will prepare a regulatory analysis for the rulemaking.

Agreement State Considerations for Rulemaking

Several Agreement States and the Organization of Agreement States support the development of ISR-specific regulations and guidance. If the Commission approves Options 2 or 3, in accordance with SA-801A, the NRC staff would actively engage with the Agreement States in developing the guidance and/or rulemaking. Under Option 3, the NRC staff would invite representatives from those Agreement States with active ISR programs to be members of the staff's rulemaking working group. Because the Agreement States currently regulate most of the ISR industry, the staff would rely extensively on the recommendations of the Agreement State members to develop a rule that would consider existing Agreement State regulations and practices to minimize Agreement State implementation costs and impacts to their licensees. In addition, all Agreement States would be offered an opportunity to comment on the proposed rulemaking prior to its submission to the Commission, and the issues raised by the Agreement States would be identified for the Commission.

Expected Rulemaking Schedule

If Option 3 is approved, the staff estimates that developing a proposed rule for Commission consideration would take 1 year. The staff estimates it would take 15 months after the close of the public comment period to complete the draft final rule. This approximate 15-month period includes obtaining EPA concurrence.

RECOMMENDATION:

The staff recommends that the Commission approve Option 3 to restart the ISR-specific rulemaking to achieve the following goals: (1) provide risk-informed ISR-specific requirements that would provide increased consistency and transparency in licensing reviews between the NRC and the Agreement States; (2) clarify the applicability of existing requirements to ISR activities in 10 CFR Part 40, in particular the applicability of ACLs for ISR facilities; (3) establish a national standard for the licensing, renewals, and regulatory oversight of ISR facilities and as such, result in a greater consistency amongst Agreement State regulatory programs and allow for a more effective NRC evaluation of such Agreement State programs; and (4) leverage present agency in-house expertise to efficiently develop an ISR-specific rule. There is currently broad support from the Agreement States, industry, and other stakeholders for an NRC ISR-specific rulemaking. Although the staff is aware that there is some risk that there may be no new ISR applicants for some time, the staff has concluded that rulemaking would still provide many of the benefits described above to both the NRC, the Agreement States, and the industry.

Should the Commission approve Option 3, in accordance with SECY-16-0042, "Recommended Improvements for Rulemaking Tracking and Reporting," dated April 4, 2016 (ADAMS Accession No. ML16075A070), the staff will update the rulemaking activity in the agency's rulemaking tracking tool and proceed with rulemaking.

RESOURCES:

Enclosure 3 includes an estimate of the resources needed to complete the guidance or the rulemaking. Consistent with Commission's original direction in SRM-COMJSM-06-0001, "Regulation of Groundwater Protection at *in situ* Leach Uranium Extraction Facilities," if the

Commission approves Option 3, the costs of this rulemaking will be included in fee relief and will not be recovered through Part 171 fees for current uranium recovery licensees.

COORDINATION:

The Office of the General Counsel has no legal objection to this action. The Office of the Chief Financial Officer has reviewed this paper and has no objections.



Margaret M. Doane
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for Operations

Enclosures:

1. Conventional Mills vs.
ISR Activities
2. Statutory and Regulatory Framework
for ISR Activities
3. Resources
4. Scope and Anticipated Activities
Related to Rulemaking

REGULATORY OPTIONS FOR URANIUM IN SITU RECOVERY FACILITIES, DATED:
DECEMBER 16, 2019.

**ADAMS Accession Numbers: package ML19221B516; SECY paper ML19221B519;
Enclosure 1 ML19221B520; Enclosure 2 ML19221B521; Enclosure 3 ML19221B523;
Enclosure 4 ML19252A050 SRM-CMJSM06-0001REV-9**

OFFICE	NMSS/REFS/ MRPB	NMSS/REFS /MRPB	NMSS/DUWP	NMSS/REFS /MRPB	OCFO
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DATE	08/08/2019	08/15/2019	08/20/2019	08/16/2019	08/22/2019
OFFICE	NMSS/DUWP	OGC	NMSS/REFS	NMSS Tech Editor	NMSS
NAME	PHolahan	APessin	CCarusone	CGoode	JLubinski
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