Uranium Recovery Briefing

February 20, 2013

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National Mining Association
General Counsel

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Addressing Resource Constraints

- **NRC Staff Review Priorities [1]**
  - Operating Facility Inspections and Operating License Reviews
  - New License Applications
  - Guidance Development
- **Streamlining Regulatory Processes [2]**
  - GEIS
  - NRC/BLM MOU
  - Performance Based Licensing
- **Risk-informed Performance-Based Commission Policies [3]**
  - Focus on significant risks
  - Shouldn't be limited to regulations but also extended to licensing actions, development of policy and identification of inspection/enforcement priorities

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NRC Billing Practices & Fees [4]

- **Level of Invoice Detail**
  - Staff
  - Contractors
- **Use of Cost Estimates**
- **Use of Flat Fees for Routine Activities**

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National Historic Preservation Act Section 106 Process [5]

- **NRC Tribal Protocol**
- **Improvements to Implementation of Section 106 process**
  - Timeframes/Milestones
  - Guidelines
  - Thresholds for substantive consultation
- **NMA Recommendation for a Programmatic Agreement**
  - Foster cooperation between the agencies, tribes and industry and develop a standardized approach
  - Include the Northern Plains area
  - Include potentially interested parties (e.g., Industry, NRC, BLM, SHPOs, Tribal Leadership/THPOs, ACHP)

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EPA's Subpart W Rulemaking [6]

- **Took a fatally flawed legal position that evaporation ponds at uranium facilities need to be regulated under 40 CFR Part 61 (Radon NESHAPS)**
  - Administrative rulemaking record directly contradicts current legal position
- **Demanding approval of evaporation pond construction at new facilities -- NRC should be involved in the development of these regulations to ensure no duplicative regulatory oversight**
  - Parallels to Subpart I and T
- **Proposed rule anticipated in 2013**

Pre-Licensing Site Construction [7]

- **Clarification of Final Rule is Needed**
  - Question: What Constitutes Grounds for Denial of License
  - Relevance of *Nuclear Fuel Services* decision
  - Activities that can be undertaken without a license
  - Activities that might be prohibited

Endnotes

1. Slides from K. McConnell 2012 NMA/NRC Workshop Presentation (Attachment 1)
2. See NMA FY2012 Fee Comments (Attachment 2)
3. See NMA Comments on Incorporation of Risk Management Concepts in Regulatory Programs Proposal (Attachment 3)
4. See Attachment 2
5. NMA 8-3-12 Letter to NRC CFO James Dyer (Attachment 4)
6. A. J. Thompson 2012 NMA/NRC Workshop Presentation on NHPA Section 106 (Attachment 5)
7. See NMA White Paper on Subpart W (Attachment 6)
8. See NMA Comments on 40.32(e) (Attachment 7)

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Overview of NRC Uranium Recovery New Licensing Activities: Past, Present and Future

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U.S. Nuclear Regulatory Commission

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Current Licensing Activities (Review Priorities)

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

- Review Priorities:
  - Inspection of Operating facilities
  - Operating license reviews (e.g., renewals, amendments, etc.)
  - New License applications (e.g., new facilities, major expansions)
  - Guidance development

- New License Review Priorities:
  - First accepted, first reviewed

Current Licensing Activities

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

- Operating License Reviews
  - Willow Creek, PRI, Crow Butte and HRI renewals
  - Willow Creek – increased flow; Lost Creek – Dryer amendment
  - Exemption request for ground water restoration (Cameco)

- New Licensing Reviews
  - North Trend, Strata, Ludeman, Dewey-Burdock

- Guidance and Programmatic Document Development
  - Conventional and Heap Leach Standard Review Plan
  - NUREG-1569 (delayed)
  - Reg. Guide 8.30 (delayed)
  - NUREG-1757, Vol. 4

Bottom Line: Resources sufficient to work on a maximum of approximately 8-10 major licensing actions during a given year

April 16, 2012

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-001

Dear Sir/Madam:

The National Mining Association (NMA) submits these comments in response to the Nuclear Regulatory Commission's (NRC) proposed revisions to the licensing, inspection and annual fees for Fiscal Year (FY) 2012. 77 Fed. Reg. 15,530 (March 15, 2012). 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. These comments are submitted by NMA on behalf of its member companies who are current or prospective NRC licensees and who are adversely affected by the NRC fee regulations. These members include the current and prospective owners and operators of uranium mills and mill tailings sites and *in situ* uranium production facilities.

NMA has commented extensively in the past on NRC's fee allocation system. NMA acknowledges that the 1999 amendments (NRC Fairness in Funding Act) to the Omnibus Budget Reconciliation Act of 1990 (OBRA) addressed some of NMA's fairness and equity concerns regarding charging licensees for activities that provide licensees no direct benefit. Yet NMA remains concerned about NRC fees, particularly rising hourly rates, lack of cost containment measures, mounting delays, and inadequate billing details. Together, NRC and industry must find some solutions to these problems.

Annual Fees

Under the proposed rule, the annual fees for all categories of uranium recovery activities decrease slightly. The annual fees decrease as follows:

- Conventional and heap leach mills – from $31,900 in FY 2011 to $23,600;
- Basic *in situ* recovery facilities – from $30,300 in FY 2011 to $29,900;
- Expanded *in situ* recovery facilities – from $34,300 in FY 2011 to $33,800;
- *In situ* recovery resin facilities – from $28,800 in FY 2011 to $28,300;

- 11e.(2) disposal incidental to existing tailings sites – from $10,400 in FY 2011 to $10,200; and
- Uranium water treatment – from $7,200 in FY 2011 to $7,100.

NMA supports the decrease in the annual fee category but notes that these costs pale in comparison to the hourly fees. Admittedly, in years past NMA's fee comments focused primarily on annual fees because (1) the level of UR activity was such that for most companies the annual fees overshadowed hourly fees and (2) NRC was less vigilant about assessing hourly fees for certain licensee-specific actions. As the pace of activity has increased and the percentage of fees recovered for UR activities through hourly rates nears 90 percent, our concerns logically have shifted to the hourly fees. As explained below, however, while the actual hourly rate is important, it is the number of hours charged and lack of cost containment that trouble industry the most.

Hourly Fees

While the increase in the new hourly rate is slight, from $273 in FY2011 to $274, it continues the steady increase in hourly rates over the last decade. NMA understands that without additional legislative changes, NRC is required by existing law to collect 90 percent of its budget through fees. Applicants and licensees are well aware they must pay for NRC services that convey an identifiable benefit to them but in return, applicants and licensees expect fair, efficient and timely results. NRC may not be able to completely control the budget amount it must recover through fees, but the agency certainly should be able to exercise better management and oversight of the hourly fees and investigate ways to reduce those fees by streamlining regulatory processes.

To the extent that lack of NRC staff resources limits NRC's ability to provide timely results or accomplish streamlining efficiencies, NMA is prepared to assist the agency in future budgeting initiatives. From industry's perspective, it appears as if the agency is attempting a juggling act between processing new applications and performing needed actions related to existing licenses including license renewals. Unfortunately for NRC, both types of actions must be able to move forward in a timely manner otherwise companies are left in limbo, unable to plan and budget and vulnerable to losing investment backing. If resource constraints are forcing NRC to favor processing of new licenses over existing license maintenance or vice versa, NRC needs to seek additional resources with appropriate expertise to allow the agency to perform its job. NMA is willing to speak to the commission or contact Congress to advocate for additional resources for uranium recovery activities. Though first, the agency should ensure that it is wisely using the resources it does have.

- Streamlining Processes

As NRC has recognized, streamlining of processes can maximize efficient use of agency resources. An added benefit is reduction in hourly fees and maximizing use of

licensee or applicant resources. Three examples of streamlining efforts NRC initiated in the uranium recovery area are preparation of a "Generic Environmental Impact Statement (GEIS) for *In Situ* Leach Uranium Milling Facilities" (GEIS), performance based licensing and establishment of a Memorandum of Understanding (MOU) between the Commission and the Bureau of Land Management (BLM) regarding cooperation on environmental analyses. NMA strongly supported all of these efforts as ways to contain costs for licensees/applicants and save NRC resources. In fact, NMA spent near three-quarter of a million dollars to provide technical information to support the GEIS and allocated resources to support the MOU. As promising as both these efforts are, they have not been as effectively implemented as needed to achieve the desired results.

The intent of the GEIS is to streamline licensing actions for *in situ* recovery (ISR) operations by using the GEIS as the starting point for site-specific environmental reviews of license applications for new ISR facilities, as well as applications to renew or amend existing ISR licenses. Specifically, the GEIS addresses common environmental issues associated with the construction, operation, and decommissioning of ISL facilities, as well as the ground water restoration at such facilities, if they are located in particular regions of the western United States. In the press release announcing the GEIS, NRC indicated:

> The GEIS will improve the efficiency of the agency's environmental reviews of these applications by serving as a starting point for site-specific environmental reviews of these applications. The agency expects to complete most licensing reviews within two years, subject to available resources.

NRC June 4, 2009 Press Release, No. 09-103.

The promised efficiencies have yet to be realized – the most recently licensed facilities experienced lengthy and unexpected delays as have licensees engaged in expansion or license renewal. Not all these delays are attributable to NRC but some significant delays have been. NRC needs to redouble its efforts to capitalize on the GEIS, more expeditiously review licensing actions and better allocate its time and resources.

Similarly, the NRC/BLM MOU has not resulted in the promised efficiencies. The MOU outlines how the agencies will coordinate on environmental analyses related to development of uranium resources on public lands. While obviously, NRC cannot alone, without the BLM, take full advantage of the MOU, NRC could do more to ensure better implementation.

Performance Based Licensing was instituted for uranium recovery licensees over a decade ago. Licensees have yet to realize substantial benefits from this policy as NRC has made too many operational activities at licensed sites subject to license

conditions. Therefore, licensees are required to submit relatively minor changes to NRC for approval, thereby subjecting the action to NRC review, time delays and excessive fees.

Expansion of Performance Based Licensing and the increased use of Safety and Environmental Review Panels (SERPs) would help in reducing review costs. Expansion of the use of Performance Based Licensing is justified due to the very low risks posed by uranium recovery licensees considering the low specific activity of the materials that they handle. Contrary to this approach, staff has restricted actions that can be approved by a SERP in recent draft licenses.

Another process contributing to licensing delays is the National Historic Preservation Act section 106 process. It is NMA's understanding that NRC is developing a draft protocol to guide the agency's section 106 process. We urge NRC to move forward quickly to provide a draft for public comment so the process can be implemented smoothly. NRC should also look to other federal agencies, such as BLM, that more routinely and proficiently conduct section 106 reviews for examples of best practices.

- Better Management and Oversight

NRC should revise the proposed rule to require more efficient processing of services subject to hourly fees. As currently written, the rule fails to promote opportunities for cost containment. NRC should establish typical timeframes for activities and promote use of deadlines and cost estimates. Deadlines are particularly important for documents where fees are calculated on a case-by-case basis and NRC should be required to provide at least a preliminary cost estimate. These are standard practice in industry. Not only would such efforts likely reduce hourly fees they would have the added benefit of encouraging more timely actions by NRC.

Another way for NRC to provide greater certainty regarding fees would be to establish more flat fees for activities at uranium recovery operations. NRC may not yet have the needed information and experience on number of hours and typical timeframes to establish flat fees but NRC's goal should be to move to flat fees for routine activities. While the flat fees would fluctuate as hourly rates are recalculated each fiscal year, flat fees would at least result in a better ability to plan and budget. This idea was discussed at the NMA/NRC 2011 workshop but, as yet, have not been acted upon.

Improved oversight of NRC staff by managers also would provide an opportunity to ensure proper allocation of resources. Managers need to review staff responses to applicants and licensees to ascertain that requests for additional information are pertinent, consistent with NRC regulations and policies and not duplicative.

- Invoices

While improvements have been made over the last decade, NRC needs to continue its efforts to provide invoices that contain more meaningful descriptions of the work done by staff and especially contractors. With proposed hourly rates at $274 per hour, the agency should be held to at least the same standard of accountability to its licensees as a private sector consultant is to its clients. In the private sector, adequate explanations, dates and time are provided to clients in order for clients to fully understand what was done, when it was done and how long it took. This type of billing system allows costs to be specifically identified. Enhanced billing details also would better allow NRC to review bills with an eye toward cost-containment and gaining information necessary to determine appropriate flat fees for certain activities. Again, this issue was discussed at the last NMA/NRC workshop but never acted upon.

In conclusion, NMA believes that NRC needs to not only make sure the agency is using its resources effectively but needs to evaluate alternative approaches that would maximize efficiencies, minimize costs, and establish accountability. NMA appreciates this opportunity to provide comments. If you have any questions, please contact me at 202/463-2627.

Sincerely,

January 6, 2012

Cindy Bladey
Chief, Rules, Announcements & Directives
Mail Stop TWB-05-B01M
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Re: Incorporation of Risk Management Concepts in Regulatory Programs
Docket ID NRC-2011-0269

Dear Ms. Bladey:

The National Mining Association (NMA) submits these comments in response to the Nuclear Regulatory Commission's (NRC) request for comment regarding the development of a strategic vision to better incorporate risk management concepts in to its regulatory programs. 76 Fed. Reg. 72220 (Nov. 22, 2011). NMA strongly supports NRC's efforts to fully realize its goal to move toward more risk-informed, performance based approaches in its regulatory programs.

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. These comments are submitted by NMA on behalf of its member companies who are current or prospective NRC licensees engaged in the business of uranium recovery (UR).

Risk-Informed Performance-based Regulatory Approaches Are Good Public Policy

Risk-informed performance based regulation is good public policy as it promotes efficient use of already limited agency, licensee and other stakeholder resources. Because it requires a focus on higher risk Atomic Energy Act licensed activities, a risk-informed performance-based approach results in a more efficient and effective regulatory program that optimizes protections of public health, safety and the environment.

Risk-informed, performance based approaches have the potential to better educate and inform the public about risks associated with activities regulated by NRC. It is not the

role of NRC to promote nuclear energy, however, the agency does have a duty to maintain a defensible regulatory oversight program that reassures the public regarding the protection of public health, safety and the environment. A regulatory oversight program that accurately portrays potential risks to the public can assist in clearing up misperceptions about potential risks related to radiation from AEA-licensed activities. NMA endorses the comments of the Wyoming Mining Association, which reference many scientific studies related to the potential for low-level, low-risk exposures from AEA-licensed activities generally, but also specifically illuminate the low risk nature of UR activities.

NMA has participated in and supported NRC's efforts to become more risk-informed, performance-based since NRC, in response to the 1993 Government Performance and Results Act (GPRA), developed a strategic plan in which the agency committed to move toward risk-informed, performance-based regulation. As a result of that strategic plan, when NRC proposes a new regulation, alternatives considered must include a performance-based alternative that enhances the focus on the effectiveness of the agency's regulatory programs. Over the years, NRC has continued to advance the risk-informed performance based regulation concept. See e.g., Staff Requirements - COMSECY-96-061 - *Risk Informed, Performance-Based Regulation* (DSI-12), April 15, 1997; *Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities; Final Policy Statement*, 60 Fed. Reg. 42622 (August 16, 1995); SECY-98-144, *White Paper on Risk-informed and Performance Based Regulation* (June 22, 1998)

NMA strongly supports NRC's establishment of the task force for "Assessment of Options for More Holistic Risk-Informed, Performance-Based Regulatory Approach" and the current effort to gather input for the task force to consider in its work. NMA believes there are many opportunities to Identify and prioritize those areas that are either now, or can be made, with minimal additional effort/resources, amendable to a risk-informed, performance-based approach. We appreciate that this effort is not limited just to regulations but applies more broadly to regulatory programs. The risk-informed, performance-based approach should apply to licensing actions, development of policy and identification of inspection/enforcement priorities. NMA would be happy to provide a more detailed briefing to the Task Force or the Commission on our views.

Application of Risk Informed Performance Based Approached in the Uranium Recovery Arena

The Atomic Energy Act of 1954, as amended (AEA) mandates consideration of risk for management of byproduct material such as is produced by UR facilities. Thus, Section 84(a)(1) of the Act specifically states management of 11e.(2) byproduct material, and by implication, UR operations, is to be carried out in such a manner as the Commission deems appropriate to protect the public health and safety and the environment from radiological and non-radiological hazards associated with the processing and with the possession and transfer of such material **taking into account the risk to the public health, safety, and the environment,** with due consideration of the economic costs and such other factors as the Commission determines to be appropriate.

Additionally risk-informed, performance-based regulatory oversight approaches are well suited to the low risk nature of UR activities. If risk-informed, performance-based regulation is appropriate for licensed nuclear reactors, which pose the highest potential risk to public health, safety, and the environment in the nuclear fuel cycle, it is even more appropriate for the licensed fuel cycle facilities posing the lowest potential risks (i.e., conventional and ISR UR facilities). As explained in NUREG/CR-6733:

> Regulatory programs that are RIPB [risk-informed, performance-based] consider, among other factors, the degree of risk associated with specific operations in defining the nature of the applicable regulatory requirements. In general, operations that pose a high risk to public health and safety or the environment would be subject to more stringent regulatory requirements. Conversely, those operations that pose a low risk to public health and safety or the environment would be regulated less stringently. Risk considerations may also help determine which aspects of a facility should be regulated. RIPB regulatory programs typically identify performance measures as the basis for regulatory requirements.

The Commission itself has acknowledged the low risk nature of ISR facilities in NUREG-1910, the *Generic Environmental Impact Statement for In Situ Uranium Milling Facilities.* This programmatic assessment of ISR operations provides, in significant detail, an analysis of the potential impacts/risks associated with ISR facilities and concludes most are considered small.

- Early Success Story: Performance Based Licenses for UR Licensees

Performance-based licenses were first raised in the context of UR in 1993 when the impending closure of the NRC uranium recovery field office (URFO) in Denver, Colorado led to the formation of a Transition Oversight Team (TOT) at NRC headquarters. The TOT met with the uranium industry numerous times to discuss transfer of URFO's responsibilities to NRC headquarters. Many of these discussions focused on ways to reduce regulatory burdens and streamline licensing activities. Performance-based licenses, modeled after 10 CFR 50.59, were discussed as an appropriate way to assist in achieving those goals.

Through the TOT process, and NRC's increased emphasis on risk-informed, performance-based approaches, NRC and industry developed generic performance based license conditions that, while allowing licensees more flexibility to make certain changes at their facilities without license amendments, still maintained in place necessary regulatory controls (i.e., mandatory license conditions) to protect public health and safety and the environment. Performance-based licensing has become the norm as most UR facilities moved to licenses that incorporate performance-based license conditions. This accepted practice is explicitly referenced in NUREG–1569, *Standard Review Plan for In Situ Leach Uranium Extraction License Applications*.

The Commission has noted the benefits of the performance-based licensing in several instances. For example, SECY-98-144, indicates:

> A performance-based requirement relies upon measurable (or calculable) outcomes (i.e., performance results) to be met, but provides more flexibility to the licensee as to the means of meeting those outcomes. A performance-based regulatory approach is one that establishes performance and results as the primary basis for regulatory decision-making, and incorporates the following attributes: (1) measurable (or calculable) parameters (i.e., direct measurement of the physical parameter of interest or of related parameters that can be used to calculate the parameter of interest) exist to monitor system, including licensee, performance against clearly defined, objective criteria, (2) licensees have flexibility to determine how to meet the established performance criteria in ways that will encourage and reward improved outcomes; and (3) a framework exists in which the failure to meet a performance criterion, while undesirable, will not in and of itself constitute or result in an immediate safety concern. The measurable (or calculable) parameters may be included in the regulation itself or in formal license conditions, including reference to regulatory guidance adopted by the licensee. *This regulatory approach is not new to the NRC*.

See SECY-98-144, *White Paper on Risk-Informed and Performance-Based Regulation* (June 22, 1998) (emphasis added).

The Commission further recognized the value of performance-based licensing in the Hydro Resources, Inc. administrative litigation:

> The use of this licensing concept in HRI's license is consistent with well-publicized Commission direction to the Staff to employ risk informed and performance based concepts in NRC regulatory activities. It is sensible regulatory policy to allow licensees on their own to make minor adjustments and modifications that have little safety or environmental impact. To require license amendments for all changes, no matter how inconsequential, would burden both licensees and NRC, to no good end.... It [performance based licensing] is simply an additional means through which the NRC can decrease the administrative burden of regulation while ensuring the continued protection of public health and safety.

See In the Matter of Hydro Resources, Inc., CLI-99-22

Furthermore, performance-based licensing is entirely consistent with the performance-oriented structure of Appendix A's Criteria. As the preamble thereto suggests, since "*flexibility* is provided in the criteria to allow achieving an optimum…program on a site-specific basis" licensees can propose alternatives to any regulatory requirement that take into account local or regional geology, topography, hydrology, and meteorology. *See* 10 CFR Part 40, Appendix A (Preamble) (2011) (emphasis added).

- Recent Success Story: RIS on Equivalent Feed

A recent example of NRC using a risk-informed, performance-based approach in the UR area relates to NRC's draft Regulatory Issue Summary (RIS) on receipt and processing, without a license amendment, of equivalent feed at NRC and Agreement State-licensed UR sites, either conventional, heap leach, or ISR. The draft RIS is risk-informed regulation at its best. In response to queries from UR licensees and uranium water treatment suppliers/operators, NRC staff took a second look at the applicability of earlier RIS, RIS 00-23 *Recent Changes to Uranium Recovery Policy*, to resin media. Under RIS 00-23, uranium loaded ion-exchange resin is treated as an alternative feed that could not be processed at a UR facility without a license amendment. In the draft RIS, NRC staff recognize that treating uranium loaded resin as alternate feed is not a risk-informed approach since the resin is essentially the same in physical form and radiological content as the source material that is normally processed at a UR facility. Thus, the draft RIS logically designates such resins as "equivalent feed." As such, uranium loaded resins can be processed at a licensed UR facility without a license amendment so long as the uranium annual production limits are not exceeded, the currently licensed process operation does not require changes, and there are no anomalous constituents in the equivalent feed. NMA has expressed strong support for this common-sense, risk-informed approach.

- Issues that Would Benefit from a Risk-informed, Performance-based Approach

    - Remediation/Restoration of UR Facilities

NRC should commit to a more risk-informed, performance-based approach to remediation and restoration at both ISR and conventional UR facilities. Too often, the cleanup focus is on meeting numerical criteria for individual constituents rather than ensuring that cleanup is sufficient to protect public health, safety and the environment. For example, at ISR facilities, the emphasis appears to be on getting constituents back to baseline even when for other reasons, such as natural conditions, would prevent the water from being a source of drinking water or used for other purposes. Similarly, at mill tailing facilities, that are deeded to the federal government post-reclamation, it makes no sense to needlessly clean to drinking water standards when no completion of water wells would even be permitted in those areas. The same arguments apply for cleanup of soils in areas where the background levels are is high due to naturally occurring radioactivity.

    - Application of Timeliness in Decommissioning Rule to ISR Wellfields

There is disagreement between industry and NRC regarding the applicability of 10 CFR 40.42 to ISR facilities, especially as restoration water is considered 11e.2 byproduct material. But even beyond that legal distinction, application of the timeliness rule does not make sense given the requirement to complete decommissioning within 24 months. While the regulations authorize the Commission to grant a request to delay or postpone initiation of the decommissioning process, it is not a risk-informed, performance-based

approach since the 24 months is generally recognized as insufficient for ISR facilities. As recognized in NRC's latest decommissioning report: "for ISR facilities with well-field restoration, 24 months is usually insufficient, because remediation of groundwater contamination is more time-consuming than remediation of surface contamination." SECY-11-0159, Status of the Decommissioning Program – 2011 Annual Report, Nov. 10, 2011. If the 24 months is insufficient for ISRs, the timeframe should either not apply or should be amended. Licensees should not be required to go through a submission for an alternate schedule as a substitute for a risk-informed, performance based regulation.

- Health Physics Issues Raised at April 2011 Meeting

On April 11, 2011, a meeting between representatives of the UR industry and NRC staff was held to discuss certain health physics issues that have emerged during the review of license applications for new uranium recovery facilities and expansions. All Issues raised in the April 2011 Health Physics meeting are examples of issues that could use a risk informed approach. See attached meeting summary for additional details but the genesis of every item on the meeting agenda was fundamental disagreement between NRC staff and industry over risk. The issues discussed had been coming up repeatedly through the request for additional information (RAI) process and in negotiation of draft license conditions with applicants and as compliance matters with the licensees. These issues were ones that industry believed were previously settled, either by guidance, policy or past agency practice but were now being "reopened" by NRC staff without any showing that reopening was necessitated by potential or actual risk.

- NHPA Section 106 Process

The UR industry recognizes that NRC has obligations under the Section 106 of the National Historic Preservation Act (NHPA), in that NRC must attempt to identify historic properties within the area of potential effects for proposed UR facilities. As the Advisory Council on Historic Preservation (ACHP) regulations implementing NHPA section 106 explain, the agency needs to make a "**reasonable and good faith,"** as opposed to exhaustive, effort to identify Indian tribes to be consulted to determine existence of historic properties. To ensure a risk-informed, and frankly common sense approach to the section 106 process, NRC must not ignore the "reasonable and good faith" clause and engage in exhaustive, expensive and resource intensive consultation efforts.

Conclusion

In conclusion, the NMA strongly supports any NRC effort to risk-informed approach to regulation and makes sense from the public policy perspective by promoting efficient use of resources, streamlining processing and providing much needed flexibility without jeopardizing the environment, public health and safety. We appreciate NRC's recognition that deterministic and prescriptive approaches can limit the flexibility of industry and NRC to respond to lessons learned from operating experience and support

the adoption of improved designs or processes. If you have any questions regarding NMA's comments, please contact me at 202/463-2627.

Sincerely,

KATIE SWEENEY
General Counsel

August 3, 2012

Mr. James Dyer, Chief Financial Officer
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

Dear Mr. Dyer:

Recently, Christopher Pugsley and I met with you, Michael Weber, and Mark Satorius on behalf of the National Mining Association (NMA) regarding a variety of uranium recovery industry regulatory issues. One key issue discussed relates to the format and content of the Nuclear Regulatory Commission's (NRC) invoices to uranium recovery licensees and license applicants. This letter is directed specifically at our members' issues and concerns with such invoices.

Over the years, NMA members have expressed significant concerns regarding the lack of adequate information on invoices received from NRC. After much discussion and a key meeting in October 1994, NRC modified the format and content of its invoices in a manner that licensees and license applicants considered to be an improvement. Unfortunately, over time, this progress has eroded away and the current invoice format and content lacks sufficient detail and explanation to provide licensees and license applicants with little more than a simple dollar amount to be paid.

At our June 2012 meeting, you indicated that your office had sent inquiries to licensees seeking feedback on invoice format and content with the most recent billing statement. NMA has been unable to identify any uranium recovery member company that received such inquiry. You noted at our meeting that an opportunity for comment and feedback was still available if a letter was prepared and submitted by NMA to your office. Accordingly, by this letter, NMA hereby provides the following comments:

(1) NRC invoices should identify the specific NRC Staff member(s) by name charging a particular uranium recovery company for time spent on licensee/license applicant matters;
(2) NRC invoices should provide an explanation of the nature and subject of the work performed;
(3) NRC invoices should provide a numerical total of the time spent on a particular date on such work;

(4) NRC invoices should break down work done on specific reviews of licensing action into subsets (e.g., time spent on the National Historic Preservation Act (NHPA) Section 106 Tribal Consultation process under the ambit of NRC Staff's environmental review);
(5) NRC invoices should provide any relevant explanation of unusual or abnormally large amounts of time/dollars spent on any project or subset thereof.

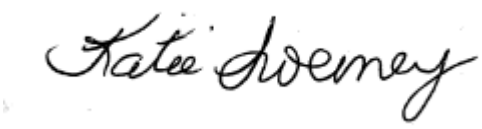
NMA members also respectfully request that NRC contractors prepare and submit their invoices in the same format and with the same content as NRC invoices. NMA believes that adding such a requirement to the basic government contracts awarded to these entities should be a simple matter. While we recognize that this may need to be done via change order for projects under current review, it should be relatively straightforward to impose such a requirement on project reviews in the future.

The above-referenced invoicing practices are (and have been for decades) standard in the private sector for consultants, accountants, attorneys, etc. Given that NRC's hourly rates for its staff rival or exceed the rates for many of the service providers for NMA's members noted above, it is unreasonable for NRC to provide less detail for its oversight and the work of its contractors. Indeed, to the extent that NRC's contractors work with the private sector, they are providing the requisite detail. Without this detail, it makes developing budgets (which include estimates for regulatory review) difficult, if not impossible, for both licensees and license applicants and NRC Staff. It also makes it virtually impossible for a licensee or license applicant to dispute an invoice or part thereof as unreasonable which they can do with their consultants, accountants, and attorneys.

NRC expects and requires detailed and thorough license or license amendment applications which must pass initial acceptance review prior to detailed technical and environmental review. Licensees/license applicants should be able to expect the same quality and detail from NRC in its invoices which can range into the hundreds or thousands or millions of dollars. Indeed, given the very large numbers NMA uranium recovery members are experiencing in their invoices, anything significantly less than what is requested herein will be deemed unacceptable and likely will require NMA seeking solutions with other entities including potentially the Office of Management and Budget (OMB) and relevant Congressional delegations.

NMA's uranium recovery members appreciate your time and the opportunity to provide comments on the current status of NRC's invoicing practices, and we would be happy to discuss such matters with you in greater detail at your convenience. Thank you once again for your time and attention in this matter and please do not hesitate to contact me at 202/463-2627 to discuss these issues.

Sincerely,



Katie Sweeney

NATIONAL HISTORIC PRESERVATION ACT AND THE SECTION 106 PROCESS: ISSUES IN NRC LICENSING

Prepared for the 2012 NMA/NRC Conference

Presented by Anthony J. Thompson, Esq.
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INTRODUCTION

- **The National Historic Preservation Act (NHPA) Has a Profound Effect on Federal Agency Licensing;**
- **The Nuclear Regulatory Commission's Endeavor to Review and/or Approve Proposed Licensing Actions Are No Different;**
- **It Has Been Unclear to Industry Why The Section 106 Process is So Inefficient But An Understanding of the Statute and Its Implementing Regulations & Requirements Serves As Useful Background**

NHPA STATUTORY LANGUAGE

- **NHPA Section One:**

- **Purpose:**

  - **The Congress finds and declares that:**
    - ***The historical and cultural foundations of the Nation should be preserved as a living part of our community life and development*** **in order to give a sense of orientation to the American people;**

    - **The increased knowledge of our historic resources, the establishment of better means of identifying and administering them, and the encouragement of their preservation *will improve the planning and execution of Federal and federally assisted projects and will assist economic growth and development***

NHPA STATUTORY LANGUAGE

- **NHPA Section One:**
  - "It shall be the policy of the Federal Government, in cooperation with other nations and in partnership with the States, local governments, Indian tribes, and private organizations and individuals to:
    - "Use measures, including financial and technical assistance, to foster *conditions under which our modern society and our prehistoric and historic resources can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations*."

NHPA REGULATIONS: 36 CFR PART 800

- **Purpose:**
-
  - **Section 106 of the National Historic Preservation Act requires Federal agencies to take into account *the effects of their undertakings* on historic properties and afford the Council a reasonable opportunity to comment on such undertakings;**
  - **The procedures in this part define how Federal agencies meet these statutory responsibilities;**
  - ***The Section 106 process seeks to accommodate historic preservation concerns with the needs of Federal undertakings* through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning.**

NHPA REGULATIONS: 36 CFR PART 800

- The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to *avoid, minimize or mitigate any adverse effects* on historic properties;

- Timing: the agency official must complete the Section 106 process "prior to the approval of the expenditure of any Federal funds on the undertaking *or prior to the issuance of any license*

NHPA REGULATIONS: 36 CFR PART 800: WHAT IS THE PROBLEM?

- With all this said, what is the scope and focus of these statutory and regulatory provisions?
  - The Section 106 process is not intended to *unnecessarily* impede or halt "undertakings" but rather to assure that appropriate ***procedural steps*** are followed:
    - To make a "reasonable" effort to identify eligible or potentially historic/cultural properties for inclusion in the National Register;
    - To assess any potentially "adverse" effects/impacts on such historic/cultural properties if eligible (i.e., "area of potential effect" (APE);
    - If no such properties are identified, proceed with conditions;
    - If "adverse" effects/impacts are identified, "to minimize harm to the maximum extent possible

NRC AND THE SECTION 106 PROCESS RECONCILED?

- **NRC, as the licensing entity under the Atomic Energy Act (AEA), is the "lead" agency for uranium recovery license applications in non-Agreement States;**

- **NRC fulfills its NHPA responsibilities to assess a proposed licensing action or "undertaking" through its environmental review regulations at 10 CFR Part 51;**

- **However, a lack of experience in this process on NRC's part has manifested itself in the following manner:**

  - Lack of clear understanding and decisiveness in the Section 106 process at each step, especially in the identification of historic properties stage;
  - Confusion as to whether a recent Tribal meeting was a "government-to-government meeting, a Section 106 consultation/working meeting or a planning meeting;
  - Leading to consistent delays in the licensing process

NRC AND THE SECTION 106 PROCESS RECONCILED?

- **As the "lead" agency for NHPA matters for AEA licensing actions/undertakings, NRC must set forth:**
  - **A coherent process within the context of NRC's jurisdictional authority under the AEA:**
    - Most Federal and State agencies have little understanding of NRC's licensing process, much less the potentially affected Tribes;
    - Thus, NRC must clearly explain its processes and where they differ from other federal agencies to all consulting parties, particularly Tribes with little or no exposure thereto;
    - NRC also must endeavor to seek expert input and advice from agencies with extensive experience in the Section 106 process and, to the best of their ability, utilize lessons learned and tools from such agencies to improve their own process

NRC AND THE SECTION 106 PROCESS RECONCILED?

- **Tribal authorities are not burdened merely with proposed NRC licensing actions/undertakings:**
  - Tribal organizations are overburdened with consultation efforts (e.g., 1,000-1,500 for a single Tribe)
- **Thus, NRC must construct a simple, critical path with expectations and timeframes so that:**
  - License applicants and licensees know what is expected of them and can communicate to their personnel, experts, and shareholders reasonable timelines for licensing;
  - Tribes can effectively manage the numerous consultation efforts they currently deal with every year

CHALLENGES FOR NRC IN THE SECTION 106 PROCESS

- **NRC's licensing process is less than ideal regarding a smooth functioning Section 106 effort:**
  - NRC cannot act until it receives a license or license amendment application; Tribes have talked about involvement in projects at the "exploration" stage which is not possible as NRC has no jurisdiction then;
  - NRC wants a Class III archaeological study with the application and tribes are reluctant to work directly with applicants (i.e., not government-to-government);
  - So NRC tribal consultation process starts late --- a conundrum that seems to have few readily apparent answers!;
  - Completing EAs and EISs/SEISs with a confusing Section 106 process can slow the license process to a crawl or outright stop it even if SER is complete; **NB: No hearing challenge can go forward until there is a FEIS**
  - One thought that has surfaced to avoid bottlenecks that cause unacceptable delays in completing NRC's environmental review process (draft and final EAs and EIS/SEISs) is to development some standard (at least as a starting point) Programmatic Agreement (PA) format(s).

CHALLENGES FOR NRC IN THE SECTION 106 PROCESS: SOLUTIONS?

- **Some logistical mechanisms exist in the 36 CFR Part 800 regulations that can assist in the Section 106 process:**
  - **Memoranda of Understanding (MOU):**
    - Possible where consulting parties are relatively fewer in number or when mandated by an existing PA or other authority;
    - Where the proposed license boundary is already extensively affected by past development activities
  - **Programmatic Agreement (PA):**
    - Based on "phased" activities, such as ISR projects as described in the HRI litigation
  - **De-Coupling from the Part 51 process:**
    - Necessary when the Section 106 process becomes unduly delayed

TRADITIONAL CULTURAL PROPERTIES

- **NHPA Section 101(d):**
  - (A) Traditional religious and cultural properties may be eligible for listing in the National Register;
  - (B) Properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization may be determined to be eligible for inclusion on the National Register;
  - (C) In carrying out its responsibilities under section 106 of this Act [NHPA], a Federal agency shall consult with any Indian tribe or Native Hawaiian organization that attaches religious and cultural significance to properties described in subparagraph (A)

TRADITIONAL CULTURAL PROPERTIES

- Only properties that are listed or eligible require the full Section 106 procedural gamut;
- Lead agency must make a “reasonable and good faith” effort to identify relevant tribes;
- So-called TCPs an be facilities, natural locations/areas/features considered sacred or culturally significant;
- So-called TCPs currently seem to be the major and most difficult Section 106 issue in the NRC licensing context

KEY QUESTIONS TO BE ADDRESSED BY EXPERTS

- **Questions to Be Addressed:**

  - **What is the True Legal Definition of "Reasonable and Good Faith Effort?";**
  - **If a Tribe Shows No Interest in a Licensing Action, What Legal Standard Requires Them to Be "Kept in the Loop?";**
  - **How Does the Agency Determine What Tribal Request(s) is "Reasonable?";**
  - **How Does the Agency Define a TCP Without a Federal Definition?;**
  - **Why Can the Agency Not Issue a License With Conditions If the Section 106 Process is Not Completed at a Portion of a Proposed Project Site?;**
  - **What About Increased Coordination in the Process Such as MOUs Between Reviewing Agencies?**

Application of United States Environmental Protection Agency 40 CFR Part 61, Subpart W Regulations to Uranium Recovery Facilities

I. INTRODUCTION

The United States Environmental Protection Agency (EPA) appears to be taking the position that the ***work practice standard***s in its 40 CFR Part 61, Subpart W *National Emissions Standards for Radon Emissions from Operating Mill Tailings* apply to evaporation ponds at conventional and in situ uranium recovery (ISR) sites licensed by the Nuclear Regulatory Commission (NRC) or its Agreement States. This memorandum evaluates the legal and regulatory bases for any potential applicability of the EPA's 40 CFR Part 61, Subpart W regulations to evaporation ponds at currently operating and future operating uranium recovery facilities, including specifically ISR facilities.

A. Atomic Energy Act of 1954 and the Uranium Mill Tailings Radiation Control Act of 1978

1. Statutory and Regulatory Program

Currently, uranium recovery facilities and the 11e.(2) byproduct material (mill process tailings and other related wastes)[1] that they produce are actively regulated by NRC under the Atomic Energy Act of 1954, as amended by the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA). As a general proposition, the AEA was intended to promote the expeditious and efficient recovery of source material for the purposes of national defense and, later, a domestic nuclear power industry. To oversee its implementation, the AEA granted broad regulatory authority to the Atomic Energy Commission (AEC) (now NRC) to regulate source material (uranium) recovery processes after the removal of the source material from its place in nature by surface or underground uranium *mining*.

As concerns about the potential hazards from uranium recovery wastes developed, the AEC/NRC determined that it had no authority to regulate the wastes generated by uranium recovery (i.e., uranium milling) upon the cessation of active recovery operations as such wastes no longer qualified as *licensable* source material under the AEA (i.e., they contained less than 0.05%, by weight, uranium and/or thorium). As a result of this and the potential radiological and *non*-radiological hazards associated with such wastes, in 1978, Congress enacted UMTRCA with two specific intentions: (1) to facilitate the remediation of abandoned "inactive" mill tailings sites that were no longer operated under an active AEA license (Title I) and (2) to provide AEA statutory authority to regulate the management and disposal of wastes from the uranium recovery processing at active (licensed) uranium recovery facilities (Title II).

[1] *See also* 42 U.S.C. § 7911 (UMTRCA definition of "residual radioactive material").

In order to address the management and control of wastes located at such facilities, UMTRCA created a new category of AEA material known as 11e.(2) byproduct material, which it defined as, "the tailings or wastes produced by the extraction or concentration of uranium or thorium from any *ore* processed *primarily* for its source material content." 42 U.S.C. § 2014(e)(2) (2007).

UMTRCA outlined a comprehensive, multi-agency regulatory oversight process by which appropriate regulations governing the safe management and containment of 11e.(2) byproduct material were to be promulgated and implemented. UMTRCA assigned EPA the authority to promulgate standards of general applicability (for both Title I and Title II programs) addressing both the radiological and *non*-radiological hazards of uranium mill tailings and related wastes. For the *non*-radiological hazards, these generally applicable standards were to provide protection equivalent to that provided by Subtitle C of the Solid Waste Disposal Act (SWDA), which is better known as the Resource Conservation and Recovery Act (RCRA). EPA purposely was not given any enforcement or implementation authority over 11e.(2) byproduct material under RCRA or UMTRCA.

In 1983, pursuant to Congress' mandate in UMTRCA, EPA promulgated its final regulations for active uranium mill tailings facilities at 40 CFR Part 192. UMTRCA directed the Commission (NRC) to implement and enforce the generally applicable standards developed by EPA through its regulations and licenses.[2] Although required to conform its general regulatory requirements to EPA's 40 CFR Part 192 regulations, UMTRCA also granted NRC expanded authority to develop its own requirements for the management of 11e.(2) byproduct material to protect public health, safety, and the environment. Specifically, Section 84(a) of the AEA (Section 205 of UMTRCA) directs NRC to ensure that any 11e.(2) *byproduct material* is managed in a manner:

> that the Commission deems appropriate to protect health, safety, and the environment from the potential *radiological* and *non-radiological* hazards associated with such materials….

42 U.S.C. § (2007).

Thus, UMTRCA amended the AEA to provide EPA/NRC with express authority to regulate both the radiological and the *non*-radiological hazards associated with 11e.(2) byproduct material, whether in the soil, in the air or in the groundwater. The primary concern, however, was the uncontrolled tailings solids (i.e., sands and slimes).[3]

It should also be noted that uranium mills are subject to additional EPA AEA regulation for radiation dosage to members of the public and the general environment, *excluding radon*, as a result of *operations*. Pursuant to its

[2] 42 U.S.C. § 2022(d).

[3] Tailings solids (sands) had been used in construction activities which generated radiation exposure concerns.

Reorganization Plan No. 3 of 1970 authority, EPA developed a dose limit applicable to *all* AEA fuel cycle facilities, including uranium mills, of 25 mrem/year to the nearest receptor from all potential pathways, excluding the dose from radon. The annual dose to the entire body of a human being must not exceed 25 millirems, 75 millirems to the thyroid, and 25 millirems to any other organ of a member of the public. These standards apply to doses associated with the milling of uranium *ore* as of December 1, 1980. Since 40 CFR Part 190 excludes radon, as a practical matter, its provisions primarily address radioactive particulate emissions from mill facilities, including (1) yellowcake dust and (2) windblown tailings. Thus, there are both EPA and NRC regulations that address the radiological and *non*-radiological effluents from active uranium mills and an EPA fuel cycle standard that addresses what effectively is airborne radiological particulate contamination from such mills.[4]

These requirements have been in place since the early 1980s and have evolved over time to create a robust regulatory program for the safe and effective management of uranium mill tailings facilities. As a necessary part of this regulatory evolution, NRC and its licensees sought to further define the extent of NRC's authority to regulate 11e.(2) byproduct material, particularly with respect to the extent of EPA and State authority over *non*-radiological aspects of 11e.(2) byproduct material. Given that 11e.(2) byproduct material contains both radiological and *non*-radiological constituents and that there were potentially significant conflicts between NRC and EPA/States relating to regulatory authority over the latter, it was inevitable that jurisdictional authority over 11e.(2) byproduct material needed to be defined more precisely.

As a general proposition, NRC has preemptive regulatory authority to address the potential *radiological* hazards associated with AEA licensed facilities, including uranium recovery facilities, their tailings impoundments, evaporation ponds, and other site facilities. In 1980, NRC's Office of Executive Legal Director "(OELD)" issued an advisory legal opinion concluding that the AEA, as amended by UMTRCA, did not preempt the exercise of *non*-Agreement State authority over the *non-radiological* components of 11e.(2) *byproduct material*. In reaching this conclusion, OELD conceded that:

> the question is *so close* that the Commission *could reasonably choose either interpretation*, but that *the better legal view* is that non-Agreement States and the NRC have concurrent jurisdiction to regulate the *non-radiological* hazards of mill tailings, both before and after the November 8, 1981 date upon which the Mill Tailings Act becomes fully effective.[5]

[4] It is important to note that, prior to the enactment of UMTRCA, *non*-radiological (hazardous) contaminants at AEA-licensed facilities typically were regulated by the States.

[5] Memorandum from Howard K. Shapar, Executive Legal Director, NRC, to Chairman Ahearne, NRC re: OELD Legal Opinion on Two Questions Relating to the Operation of the Uranium Mill Tailings Radiation Control Act of 1978, Attachment B, 2-3 (April 28, 1980) (emphasis added).

After careful consideration of the uranium recovery industry's analysis of this "concurrent jurisdiction" issue in NMA's White Paper entitled *Recommendations for a Coordinated Approach to Regulating the Uranium Recovery Industry* disputing the OELD opinion and the position of NRC Staff in SECY-99-277[6] supporting the OELD opinion, in 2000, the Commission determined that the OELD opinion should be overturned and that the Commission, indeed, exercises exclusive jurisdiction over both the radiological *and non*-radiological aspects of 11e.(2) byproduct material.[7] As a result, implementation and enforcement of relevant AEA regulatory programs for licensed uranium recovery operations is under the exclusive authority of NRC and its Agreement States, including mill facility construction and operations, tailings impoundment construction, operations, and final closure, and associated uranium recovery facilities such as evaporation ponds.

B. Clean Air Act of 1977 and Implementing Regulations (40 CFR Part 61)

In addition to the authority vested in EPA under UMTRCA, Congress granted EPA additional authority to regulate certain aspects of uranium recovery facilities. In 1977, Congress enacted the Clean Air Act (CAA) under which EPA was directed to address potentially hazardous *radiological* air emissions at a variety of facilities, including uranium mills. In response to this statutory mandate and pursuant to Section 112 of the CAA, EPA promulgated 40 CFR Part 61 to address radiological air emissions from such facilities.

40 CFR Part 61, Subpart T *National Emission Standards for Radon Emissions from the Disposal of* ***Uranium Mill Tailings*** were promulgated by EPA to address potential hazardous air pollutants (e.g., radon as particulate emissions were addressed effectively under the above-noted 40 CFR Part 190 fuel cycle regulations) at mill tailings facilities regulated under Title II of UMTRCA, which were *no longer operational*. Subpart T stated, in pertinent part:

> Radon-222 emissions to the ambient air from uranium mill tailings pile that are no longer operational shall not exceed 20 pCi/(m^2 -sec) (1.9 pCi/(ft^2 -sec)) of radon-222.

Subsequently, after challenges to Subpart T were filed in the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit), Subpart T was the subject of settlement discussions between the American Mining Congress (now NMA), EPA, NRC, and environmental groups, with NRC and Agreement States monitoring as interested, but not formally litigating, parties. These negotiations ultimately led to NRC revising its mill tailings regulations to require licensees to achieve enforceable "milestones" leading to accelerated placement of radon barriers at *non-operational*

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[6] United States Nuclear Regulatory Commission, *Concurrent Jurisdiction of Non-Radiological of Uranium Mill Tailings*, SECY-99-277 (December 2, 1999).

[7] United States Nuclear Regulatory Commission, Staff Requirements Memorandum, *Concurrent Jurisdiction of Non-Radiological of Uranium Mill Tailings*, SECY-99-277 (August 11, 2000).

(i.e., no longer actively milling or on standby) Title II mill tailings disposal sites[8] to satisfy EPA's and the environmental groups' concerns that the potential threat from radon emissions be addressed by the prompt placement of radon barriers over disposal areas.[9] After NRC finalized its revisions to 10 CFR Part 40, Appendix A in accordance with this settlement, EPA rescinded Subpart T of its 40 CFR Part 61 regulations and, as such, its requirements no longer apply to operating uranium mills.[10]

40 CFR Part 61, Subpart W entitled *National Emission Standards for Radon Emissions from* ***Operating Mill Tailings*** was promulgated to address radon emissions at *active* (including standby) uranium mill tailings facilities. Thus, Subpart W applies to operators of uranium mill tailings facilities while they are processing uranium/thorium ores and creating 11e.(2) byproduct material:

> The provisions of this subpart apply to owners or operators of facilities licensed to manage uranium byproduct materials during and following the processing of uranium ores, commonly referred to as uranium mills and their *associated tailings*. This subpart does not apply to the disposal of *tailings*.

New tailings impoundments constructed after December 15, 1989 must comply with one of two *work practice* standards:[11] (1) *phased disposal* in lined impoundments of forty (40) acres and meet the requirements of 40 CFR § 192.32(a) with no more than two impoundments in operation at one time; or (2) *continuous disposal* of tailings that are dewatered and immediately disposed of with no more than ten acres uncovered at one time. EPA's radon measurement Method 115 requires measurement of the different "regions" of tailings disposal facilities except those covered by water.[12]

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[8] 59 Fed. Reg. 28,220 (1994).

[9] EPA was clearly concerned with prompt placement of radon barriers over tailings piles and EPA, thus, indicated that the primary purpose of the settlement was:

> "to ensure that owners of uranium mill tailings disposal sites ... bring those piles into compliance with the 20 pCi/m^2s flux standard as expeditiously as practicable considering technological feasibility . . . with the goal that all current disposal sites be closed and in compliance with the radon emission standard by the end of 1997, or within seven years of the date on which existing operations and standby sites enter disposal status.

59 Fed. Reg. 36,280, 36,282 (1994).

[10] *See* 61 Fed. Reg. 68972 (December 30, 1996) (emphasis added).

[11] 40 CFR § 61.252(a) (2007).

[12] The Response to Comments to EPA's Final Rule on radon-222 emissions from licensed mill tailings demonstrates that EPA considered an emission standard and determined that "boundaries could be changed to comply with an emission standard which is not an acceptable practice under the Clean Air Act. Also, methods to determine emissions from tailings piles also have not been sufficiently developed to provide accurate and consistent measurements of radon emissions." United States Environmental Protection Agency, Office of Radiation Programs, *Final Rule for Radon-222 Emissions from Licensed Uranium Mill Tailings*, Response to Comments (August, 1986).

C. Application of Subpart W Work Practice Standards to Conventional and ISR Facilities

Whether Subpart W's work practice standards apply to other than *active* mill tailings impoundments at uranium recovery facilities is informed by review and analysis of the regulatory records associated with both Subparts T and W, since both were promulgated at the same time and, as these Subparts' titles suggest, were intended to address only uranium mill tailings disposal facilities.

1. Promulgation of Subpart T Regulations and Subpart W Work Practice Standards (Proposed Rule): March 7, 1989

On March 7, 1989, EPA issued a Proposed Rule for the regulation of hazardous air pollutants at uranium milling facilities, both active and inactive. First, 40 CFR Part 61, Subpart T entitled *National Emission Standards for Radon Emissions From the Disposal of* ***Uranium Mill Tailings*** were promulgated by EPA to address potential hazardous air pollutants (e.g., radon) at mill tailings facilities regulated under Title II of UMTRCA, which were no longer operational. Subpart T stated, in pertinent part:

> Radon-222 emissions to the ambient air from uranium mill tailings pile *that are no longer operational* shall not exceed 20 pCi/(m^2 -sec) (1.9 pCi/(ft^2 -sec)) of radon-222.

Second, 40 CFR Part 61, Subpart W entitled *National Emission Standards for Radon Emissions from* ***Operating Mill Tailings*** addresses radon emissions at *active* (including standby) uranium mill tailings facilities. Subpart W covers the owners and operators of uranium mill tailings facilities while they are processing uranium/thorium ores and creating 11e.(2) byproduct material:

> The provisions of this subpart apply to owners or operators of facilities licensed to manage uranium byproduct materials during and following the processing of uranium ores, commonly referred to as uranium mills and their associated tailings. This subpart does not apply to the disposal of tailings.

Neither the titles of these two Subparts nor the language of the Proposed Rules provide any indication that they were intended to apply to anything other than uranium mill tailings impoundments, as opposed to impoundments used solely as evaporation ponds.

2. Promulgation of Subpart T Regulations and Subpart W Work Practice Standards (Final Rule, Response to Comments, and Analysis): December 15, 1989

As noted above, on March 7, 1989, EPA proposed a new set of CAA regulations to reduce potential radon-222 emissions from inoperative uranium mill tailings

impoundments and new work practice standards for active tailings impoundments constructed after the Rule's effective date.

On December 15, 1989, EPA published a Federal Register notice promulgating its final Section 112 NESHAP standards governing radon emission standards for *non*-operational and operational uranium mill tailings impoundments, as well as future impoundments, analyzing the risks associated with radon emissions from such impoundments, and discussing the potential effects of the newly proposed 20 pCi/m2-s standard on such impoundments. The final rule makes no reference whatsoever to evaporation ponds at uranium mill sites, but did explicitly reference the types of radon source terms to which Subparts T and W were intended to apply. For example, when describing the process of uranium milling, EPA states:

> The process of separating uranium from its ore creates waste material called uranium mill tailings….These tailings are collected in impoundments that vary in size from 20 to 400 acres….For the current radionuclides NESHAP rulemaking, EPA is promulgating rules for three different subcategories that deal with mill tailings: operating mill tailings—existing *piles*, operating mill tailings—new technology, and disposal of uranium mill tailings (as a separate source category….Existing mill tailings *piles are large piles of wastes that emit radon*.

As discussed below, the use of the term mill tailings *piles* in this notice is consistent with the language used by Congress when defining "tailings" in UMTRCA:

> the remaining portion of a metal-bearing ore after some or all of such metal, such as uranium, has been extracted."[13]

This notice also reinforced a commonly accepted premise that would suggest that an evaporation pond would not be a significant radon source term because, as EPA states, "[r]adon emissions from these piles are retarded by the presence of water. However, if operations cease, and the pit is allowed to dry out, emissions can increase significantly."[14] Thus, EPA expressly recognized that the presence of water *in tailings* will significantly retard radon emission from given source terms. Accordingly, evaporation ponds which are constructed and used to contain significant amounts of process or waste water presumably would not represent a significant potential source of radon emissions.

3. Rescission of 40 CFR Part 61, Subpart T (Proposed Rule): December 31, 1991

On December 31, 1991, EPA proposed to rescind 40 CFR Part 61, Subpart T "as

[13] It is also common sense that a uranium mill tailings *pile* would not be an evaporation pond, because water generally does not collect and remain in a *pile*.
[14] 54 Fed. Reg. 51654 (December 15, 1989).

it applies to owners and operators of uranium mill tailings disposal sites that are licensed by the Nuclear Regulatory Commission (NRC) or an affected NRC Agreement State…."[15] EPA's proposed rescission notice included a section specifically devoted to the question of "whether the requirement extends to the evaporation pond thereby jeopardizing the other remedial aspects of the UMTRCA program."[16] This discussion recognized that evaporation ponds play an important role in the UMTRCA remedial action programs at uranium mill tailings sites:

> The regulations contemplated by this notice seek to control the emission of radon-222 by requiring the installation of an earthen cover over the disposal piles as expeditiously as practicable considering technological feasibility. However, there are other aspects to the UMTRCA regulatory scheme, including the long-term maintenance of the piles (once controlled) against erosion, and the reclamation and maintenance of groundwater….*These actions entail the use of evaporation ponds that in some instances….have been placed directly upon the disposal site*.[17]

After discussing whether evaporation ponds were to be subject to its 40 CFR Part 61, Subpart T standard, EPA concluded:

> EPA does not intend that the expeditious radon cover requirement extend to the areas where evaporation ponds are located, even if on the pile itself, to the extent that such evaporation pond is deemed by the implementing agency (NRC or an affected Agreement State) to be an appropriate aspect to the overall remedial program for the particular site involved.[18]

Indeed, EPA's Proposed Rule prescribed an approach to evaporation pond remediation as follows: "the evaporation pond area may be covered to control radon *after it is no longer in use and ready for covering*."[19] EPA supported this conclusion by reasoning that:

> the ponds themselves serve as an effective radon barrier, thus this decision is bolstered by the absence of any evidence that there is a significant public health risk presented by the radon emissions from

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[15] 56 Fed. Reg. 67561. This language demonstrates that EPA acknowledges that evaporation ponds are not to be considered as part of the class of facilities known as "uranium mill tailings piles."
[16] *Id.*
[17] *Id.* (emphasis added). The fact that evaporation ponds could be (and had been) located on top of an inoperative tailings piles to de-water piles and assist in groundwater corrective action was made known to EPA by American Mining Congress (AMC) negotiators during the settlement negotiations that ultimately led to the rescission of Subpart T.
[18] *Id.*
[19] 56 Fed. Reg. 67561 (emphasis added).

> these evaporation ponds during the period they are employed as part of the overall remediation of the site.[20]

Based on this determination, EPA concluded:

> EPA believes the overall public health interest in comprehensively resolving the problems associated with each site is best served by requiring that the radon cover be expeditiously installed in a manner that does not require interruption of this other aspect of remediation….Rather, EPA believes that provided all other parts of the pile are covered with the earthen cover, compliance with the 20 pCi/m2 standard will result….[21]

EPA's conclusions about the potential radon source term from evaporation ponds being actively used in uranium mill tailings site reclamation efforts are no less valid for such ponds being actively used during uranium recovery operations at an operational facility subject to Subpart W work practice standards.

4. Rescission of Subpart T (Final Rule): December 30, 1996

Five years after the issuance of its Proposed Rule for the rescission of Subpart T, EPA released its Final Rule declaring that Subpart T was indeed rescinded and noted that Subpart W work practice standards continued to apply to uranium mill tailings facilities constructed after December 15, 1989.[22] EPA's Final Rule contained no statements indicating any change in its interpretation of the scope of these standards, as offered in the Proposed Rule.

5. Amendments to EPA Mill Tailings Regulations (Final Rule): November 15, 1993

On November 15, 1993, EPA promulgated a Final Rule containing amendments to its regulations applicable to operational NRC/Agreement State licensed uranium mill tailings facilities. In this Federal Register notice/Final Rule, EPA responded to a number of public comments, including comments related to the application of Subpart W requirements to evaporation ponds. As stated by EPA:

> *EPA reiterates that the Agency does not intend the expeditious radon cover requirement to extend to areas where evaporation ponds are located*, even if on the pile itself, to the extent that such evaporation pond is deemed by the implementing agency…to be an appropriate aspect of the overall remedial program for the particular site.[23]

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[20] *Id.*
[21] *Id.*
[22] *Id.*
[23] 56 Fed. Reg. 67561 (emphasis added).

Essentially, in this Final Rule, EPA restated its conclusion in the Subpart T rescission regulatory record that active evaporation ponds do not represent a significant potential radon source term.[24]

6. Current Statutory and Regulatory Language

On the face of it, while fluids can be 11e.(2) byproduct material if they are no longer to be used in process operations, such fluids deposited in evaporation ponds do not qualify as "tailings" as the term is generally understood under any relevant regulatory definitions. As demonstrated by a variety of statutory and regulatory materials, despite the fact that evaporation pond fluids contain some fines from mill processing that are either suspended in the fluids or that have settled on the liner of the pond as such fluids have evaporated (which can be considered "tailings-like" 11e.(2) byproduct material), neither the fluids with entrained solid fines nor the fines themselves typically would be considered "tailings" in a pond used solely for evaporation purposes during *active* or closure operations. An *active* tailings pile/impoundment is one into which tailings (a mixture of sands, slimes, and fluids) are placed during uranium recovery. The sands and slimes constitute the bulk of the material (typically 70% plus).

First, UMTRCA's definition of "tailings," as incorporated by EPA in 40 CFR Part 61 from UMTRCA, indicates: "[t]he term 'tailings' means *the remaining portion of a metal-bearing ore after some or all of such metal, such as uranium, has been extracted*."[25] Water stored in an evaporation pond from either active recovery operations or groundwater corrective action is not consistent with the UMTRCA definition of "tailings" as the water is added to the processing circuit for the ore (or removed from the groundwater), and is not part of "the remaining portion of the metal-bearing ore from which uranium was extracted." Given that EPA's regulations in 40 CFR Part 61, Subpart T incorporate the UMTRCA definition of "tailings,"[26] EPA arguably has accepted the distinction between tailings in a tailings pile or impoundment and water related to uranium milling in an evaporation pond that may have resulted either from processing or from a groundwater corrective action program.

Second, as discussed above, EPA's 40 CFR Part 61, Subpart W regulations consistently utilize the terms "tailings pile" and "tailings impoundment" when discussing the site facilities that are covered by Subpart W work practice standards, which, on its face, does not apply to a liquid storage facility. For example, 40 CFR § 61.221 states in pertinent part:

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[24] *Id.*

[25] 42 U.S.C. § 7911(8)

[26] It should be noted that Subpart W's definition of "uranium byproduct material or tailings" adopts essentially the same definition of "11e.(2) byproduct material in Section 11(e) of the AEA, as amended by UMTRCA.

> As used in this subpart, all terms not defined here have the meanings given them in the Clean Air Act or subpart A of part 61. The following terms shall have the following specific meanings:
>
> (a) *Long term stabilization* means the addition of material on a uranium mill *tailings pile* for the purpose of ensuring compliance with the requirements of 40 CFR 192.02(a). These actions shall be considered complete when the Nuclear Regulatory Commission determines that the requirements of 40 CFR 192.02(a) have been met.[27]

In addition, when prescribing the 20 pCi/m2-s standard in Subpart T, EPA states:

> (a) Radon-222 emissions to the ambient air from uranium mill *tailings pile* that are no longer operational shall not exceed 20 pCi/(m^2 -sec) (1.9 pCi/(ft^2 -sec)) of radon-222.
>
> (b) Once a uranium mill *tailings pile or impoundment* ceases to be operational it must be disposed of and brought into compliance with this standard within two years of the effective date of the standard. If it is not physically possible for an owner or operator to complete disposal within that time, EPA shall, after consultation with the owner or operator, establish a compliance agreement which will assure that disposal will be completed as quickly as possible.[28]

EPA's Subpart W regulations use both the term "tailings impoundment" and "tailings pile" when discussing the facilities to which Subpart W's 20 pCi/m2-s radon emission standard applies and the work practice standards for operational and potential future tailings facilities.[29] The use of the term "pile" is consistent with prior practices at uranium mill tailings sites where mill tailings were routinely placed in a "pile" rather than the current practice of placing mill tailings in an "impoundment." However, the random use of the terms "pile" and "impoundment" suggests that as technology was transforming, the terms were being interchangeably applied to mill "tailings" disposal facilities. As a result, Subpart W appears to apply to "tailings" as described in EPA's rulemaking materials, whether the term "piles" or "impoundments" is used.

Additional evidence for the positions espoused above can be found in EPA's background and guidance documents on NESHAPs, its Final Rule on Subpart W work practice standards, and their application to uranium mill tailings piles/impoundments and the appendix setting out Method 115 entitled *Monitoring*

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[27] 40 CFR § 61.221(a-b).
[28] 40 CFR § 61.222(a-b).
[29] *Compare* 40 CFR § 61.252(a); 40 CFR § 61.252(b-c). This is entirely consistent with the history of the development of uranium mill tailings disposal facilities in that the older uranium mills constructed "piles" for disposal of tailings; but by the time that EPA's CAA regulations were being developed and promulgated, the technology had advanced to use "impoundments" which were, and are, more stable and controllable in both the short and long-term context than the old "piles."

for Radon Emissions. Initially, EPA's NESHAP documents expressly recognize that the scope of the Subpart W work practice standards was intended to reach *tailings* stored in on-site tailings piles/impoundments *and not* to other site facilities such as evaporation ponds:

> As with any ore-processing operation, uranium milling produces large quantities of waste rock. Uranium mill wastes, *or tailings*, are usually stored in an impoundment located on the mill site.[30]

Further, EPA's guidance on work practices includes a discussion of potential work practice procedures for controlling radon emissions from milling operations that result in tailings. These practices include the use of "earthen covers" to be applied to tailings to reduce potential fugitive emissions such as radon:

> Earth covers which consist of layered soil approximately 3 meters deep are frequently used on waste piles, reclaimed lands, or inactive surface mining areas to reduce both particulate and radon emissions.[31]

However, the use of an earthen cover to retard radon emissions from an evaporation ponds rather than a mill tailings pile/impoundment is unnecessary because the water in the pond retards such emissions, and EPA's recognition that, when the pond is no longer actively used, it will be dried and covered.

EPA's background document for its Subpart W work practice standards contains additional evidence to support the conclusion that such standards do not apply to evaporation ponds. When describing what is encompassed by the term "tailings," EPA states:

> Tailings include the barren crushed ore material plus process solutions. These tailings consist of mixtures of sands and slimes (coarse and fine tailings). *Evaporation ponds used to contain excess liquid from tailings impoundments also contain suspended…tailings….*[32]

This statement appears to support the fact that the term "tailings" is intended to apply to the materials in a site's active mill tailings impoundments and not to fluids in impoundments used solely as evaporation ponds, as evaporation ponds are considered a separate point of analysis from mill tailings impoundments. EPA's

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[30] United States Environmental Protection Agency, *Radionuclides: Background Information Document for Final Rules*, Volume I at 4-29 (October, 1984).

[31] United States Environmental Protection Agency, *Final Rule for Radon-222 Emissions from Licensed Uranium Mill Tailings: Background Information Document* at 7-2 to 7-3 (August, 1986).

[32] *Id.* at 3-19. In addition, the statement following this quote further demonstrates that EPA considered fluids in evaporation ponds to not be a radon source term: "*If exposed,* these solids are assumed to emit radon-222 at the same specific flux as tailings impoundments." The low nature of tailings covered by water is also noted by EPA in Volume I of its Background Information Document on *Radionuclides*: "When tailings impoundment areas are almost completely covered by water, radionuclide emissions will be low."

Response to Comments also includes evidence that the work practice standards were not intended to apply to evaporation ponds due to their minimal radon emissions:

> Recent technical assessments of radon emission rates from tailings indicate that radon emissions from tailings covered with less than one meter of water, or merely saturated with water, are about 2% of emissions from dry tailings. *Tailings covered with more than one meter of water are estimated to have a zero emissions rate. The Agency believes this calculated difference between 0% and 2% is negligible. The Agency used an emission rate of zero for all tailings covered with water or saturated with water in estimating radon emissions.*[33]

Additionally, as Method 115, paragraph 2.1.3 states, "radon flux measurements shall be made within each region on the pile, *except for those areas covered with water*." Paragraph 2.1.3(a) also states, "*Water covered area*--no measurements required as radon flux assumed to be *zero*."[34]

Finally, significantly, EPA also discusses the relatively small amount of radon potentially emitted from on-site impoundments at *in situ* uranium recovery (ISR) sites: "A small amount of radon is released from the waste impoundments use to store contaminated liquids from the operation." Further, EPA's Background Information Document on *Radionuclides* states regarding ISR projects: "The radioactive emissions from this source are small compared to the other sources."[35] These statements are bolstered by EPA's response to comments on its final NESHAP for underground uranium mines rule:

> The Agency has not ignored the risks from surface and <u>in situ</u> uranium mining…Standards were not proposed for either of these technologies as the maximum ground level air concentrations of radon emitted from these activities are significantly lower than those which result from underground mining.[36]

Thus, the records in the Subpart T, Subpart W, and Subpart B proceedings and EPA's Method 115 rationale and proceedings suggest strongly that evaporation

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[33] United States Environmental Protection Agency, *Final Rule for Radon-222 Emissions from Licensed Uranium Mill Tailings: Response to Comments* at 11 (October, 1984).

[34] Emphasis added. *See also* Method 115, Paragraph 2.1.6 *Radon Flux Measurement*…The radon collector is placed *on the surface* of the pile area to be measured and allowed to collect radon for a time period of 24 hours. The detailed measurement procedure provided in Appendix A of EPA 520/5-85-0029(1) shall be used to measure the radon flux on the uranium mill tailings except the *surface of tailings* shall not be penetrated by the lip of the radon detector as directed in the procedure, rather the collector shall be carefully positioned *on a flat surface* with soil or tailings used to seal the edge.

[35] *See* United States Environmental Protection Agency, *Radionuclides, Background Information Document for Final Rules*, Volume II, p. 5-2 (October, 1984).

[36] United States Environmental Protection Agency, *Radionuclides: Response to Comments for Final Rules*, Volume I at 87 (October, 1984).

ponds at conventional uranium milling facilities, much less those at ISR facilities do not warrant the application of work practice standards to control radon emissions.

D. Conclusions

Therefore, based on the foregoing discussion, it appears that EPA's 40 CFR Part 61, Subpart W work practice standards do not apply to evaporation ponds at uranium recovery facilities.

PR 30,36,39,40,51,70, and 150
(75FR43865)

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November 29, 2010

United States Nuclear Regulatory Commission
Attn: Office of the Secretary, Rulemakings and Adjudications Staff
Washington, DC 20555-0001

RE: National Mining Association's Comments on Docket No. NRC-2010-0075 Regarding Proposed Rule for Licenses, Certifications, and Approvals for Material Licensees

Dear Sir or Madam:

By this letter, the National Mining Association (NMA) hereby submits its comments on the United States Nuclear Regulatory Commission's (NRC) Proposed Rule published in the Federal Register on July 27, 2010. *See* 75 Fed. Reg. 43865 (July 27, 2010). Initially, the comment period for the Proposed Rule expired on September 27, 2010. However, due to requests from several interested stakeholders, including NMA and the Nuclear Energy Institute (NEI), the comment period was extended to November 29, 2010.

NMA is the national trade association representing the producers of most of America's coal, metals, including uranium, industrial and agricultural minerals; the manufactures of mining and mineral processing machinery, equipment and supplies; and engineering, transportation, financial and other businesses that serve the mining industry. NMA's uranium recovery members include current conventional and/or in situ leach uranium recovery (ISR) licensees, as well as potential future conventional and/or ISR license applicants.

The following comments of the Proposed Rule will be divided into two (2) sections: (1) Introduction and Background; and (2) Comments.

I. INTRODUCTION AND BACKGROUND

With the re-emergence of the nuclear power industry, all stages of the commercial nuclear fuel cycle are experiencing a resurgence; but this resurgence may be threatened by global economic issues and domestic regulatory inefficiencies. As a result, there is a need for prompt, efficient licensing actions for new domestic sources of uranium production that avoid unnecessary and burdensome delays. The resurgence has prompted, uranium recovery companies to seek regulatory approval from agencies such as the United States Nuclear Regulatory Commission (NRC) and its Agreement States for new uranium recovery project sites, the vast

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majority of which will be uranium recovery using the in situ recovery (ISR) technique. Where uranium deposits are ISR-amenable, this technique is the lowest-impact, most environmentally protective, technologically cost-efficient form of uranium recovery. As such, the ISR technique has become the predominant form of uranium recovery in the United States.

Traditionally, ISR projects are developed in a "phased" manner involving a variety of project-specific steps, including pre-licensing exploration and site development and post-licensing site construction, production, and ultimately final site decommissioning and decontamination (D&D) including groundwater restoration. At the completion of the developmental stages, ISR project sites typically have two types of facilities: (1) subsurface facilities in the form of wellfields sequentially developed over an identified underground uranium ore body(ies) and (2) surface facilities including, but not limited to, a central processing facility with ion-exchange columns, yellowcake drying and packaging circuits, and storage pads and various other structures and infrastructure including offices, laboratories, storage warehouses, roads and power lines. The development of the subsurface and surface facilities at ISR project sites can be regulated by a number of overlapping regulatory regimes depending on the geographic location of the proposed site (i.e., State in which it is located) and the ownership status of the land (lands supervised by Bureau of Land Management (BLM), United States Forest Service (USFS), States, Native American Tribes, private entities, etc.) on which ISR operations are to occur.

Currently, the construction activities related to development of ISR projects is governed, in part, by 10 CFR § 40.32(e). NRC promulgated this regulation in 1980 as a component of the uranium recovery regulations developed in response to the enactment of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) and its definition of 11e.(2) byproduct material. Specifically, § 40.32(e) was promulgated to address the need for environmental review of potentially significant and long-lasting environmental impacts from construction activities at *conventional uranium mills* and the potential "irrevocable and irretrievable" commitments associated with long-term, low level radioactive waste disposal at uranium mill tailings facilities, including their eventual transfer to the United States Department of Energy (DOE) or the resident State for mandatory long-term surveillance and monitoring in perpetuity as a general licensee of NRC. Consistent with (1) Congressional intent in enacting UMTRCA to protect public health and safety from the potential impacts of *uranium and thorium mill tailings* and the facilities at which such tailings are generated, managed, and stored, (2) the 1980 Generic Environmental Impact Statement on Uranium Milling (NUREG-0706) scope, analyses and conclusions, and (3) the administrative record associated with the promulgation of 40.32(e), it is apparent that NRC intended to apply Part 40.32(e)'s pre-licensing site construction requirements *only* to conventional uranium mills with attendant 11e.(2) byproduct material disposal facilities and not to ISR facilities. As the newly released GEIS for ISR Facilities entitled *Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities* (NUREG-1910) demonstrates, the potential public and worker health and safety or environmental impacts associated with the construction of ISR facilities are short-term and minimal, at worst and, at best, essentially non-existent.

Given the fact that ISR facilities pose little potential threat of significant and long-lasting environmental impacts and no "irrevocable and irretrievable" resource commitments NMA

suggested in the attached White Paper (that has previously been submitted to NRC),that 10 CFR § 40.32(e) should be applied to ISR facilities using a "three-tiered" model framework similar to that employed by NRC Staff for power reactor sites when determining whether pre-licensing site construction activities at such sites should be permitted. Further, NMA's White Paper reasoned that given the emerging need for short and long-term domestic uranium production and the low risk associated with ISR operations, NRC should use its "discretion" to allow maximum flexibility for pre-licensing site construction decisions. Such flexibility would better enable ISR projects to advance quickly to active uranium recovery operations after a license is granted, result in savings of millions of dollars of financial resources and encourage of financial investment in such domestic uranium production. Additionally, NMA emphasized that a "flexible" risk-informed NRC policy on pre-licensing site construction activities merely provides such operators with the "option" of engaging in such activities based on their internal assessment of whether site-specific circumstances dictate that such activities make good sense.

Based on these generic issues, NMA prepared the attached White Paper outlining the legal and regulatory issues associated with the language and interpretation of the provisions of 10 CFR § 40.32(e), as well as a detailed accounting and analysis of the administrative rulemaking record for Part 40.32(e). This White Paper concludes that the limitations on pre-licensing site construction imposed by Part 40.32(e) are directly applicable only to conventional uranium recovery facilities due to the potential irreversible and irretrievable impacts associated with the construction of uranium mill tailings impoundments and the long-term requirements for containment and management of 11e.(2) byproduct material in the form of mill tailings.

Given the inapplicability of § 40.32(e) the White Paper specifically recommended that NRC Staff develop a three-tiered approach to pre-licensing site construction encompassing all required ISR site construction activities, including installation of wellfields with associated monitoring well networks and construction of central processing plants. The White Paper proposed that this three-tiered approach follow the conceptual approach designed by NRC Staff in creating the limited work authorization (LWA) program for nuclear power reactors.

After providing NRC Staff and the Commission with a detailed briefing on the substance of the White Paper, NMA submitted the White Paper for NRC Staff's consideration in an effort to develop *an LWA-like approach* to pre-licensing site construction for ISR sites in the same manner that NRC Staff has copied 10 CFR § 50.59's performance-based licensing requirements to Part 40 uranium recovery facilities even though Part 40 contains no Part 50.59-like regulatory provisions. After reviewing the White Paper, NRC Staff issued a legal memorandum stating that the NMA recommendations would not be permissible under the current regulatory scheme because ISR operations constitute "milling" and, therefore, fall under the scope of Part 40.32(e), including its express limitations. However, NRC Staff did state that ISR license applicants can submit an application under 10 CFR § 40.14 for a specific exemption from NRC's 10 CFR Part 40 licensing requirements. Since this pronouncement, at least one NMA member (Lost Creek, LLC) has successfully applied for and received a specific exemption for limited pre-licensing site construction.

Given that it is not Commission policy to regulate by exemption, NRC Staff has initiated this rulemaking to harmonize the definitions of "construction" and "commencement of

construction" so that NRC license applicants, including those applying for licenses to construct and operate ISR projects, can have clarity as to what pre-licensing site construction activities are permissible at proposed project sites. As will be shown in the comments below, with respect to Part 40 licensees, it is NMA's position that NRC Staff's legal/regulatory position on this Proposed Rule is significantly flawed in that it is inconsistent with current law and Commission precedent and the Part 40.32(e) administrative rulemaking record which, as interpreted by NRC Staff in its RIS and Proposed Rule, relies on *post hoc rationalization* that is at odds with the Part 40.32(e) administrative rulemaking record which essentially never mentions ISR facilities.

II. GENERAL COMMENTS

1. As a general proposition, NRC Staff's legal position respecting pre-licensing site construction is that the current version of 10 CFR Part 40.32(e) permits only "site exploration" activities (i.e., "roads necessary for site exploration, borings to determine foundation conditions, or other preconstruction monitoring or testing to establish background information related to the suitability of the site or the protection of environmental values") at proposed ISR facilities but does not permit "non-safety or non-security related site preparation activities" (i.e., s "clearing land, site grading and erosion control, and construction of main access roadways, non-security related guardhouses, utilities, parking lots, or administrative buildings not used to process, handle or store classified information."). *See* SECY-10-0018 at 1. Based on this legal position, NRC Staff's determined that no facility used to conduct licensed operations, including wells, central processing plants (e.g., foundations, internal equipment, and external structures), and other administrative facilities (e.g., laboratories, offices, storage sheds, etc.) may be constructed under the current Part 40.32(e) without a specific exemption granted by the Commission.

Based on the Commission's determination that ISR operations are essentially "milling underground" (*see* United States Nuclear Regulatory Commission, SRM-SECY-99-0013, *Recommendations on Ways to Improve the Efficiency of NRC Regulation at In Situ Leach Uranium Recovery Facilities*, NRC Staff concludes that anything beyond site exploration in Part 40.32(e) is not permitted without a license or a specific exemption. In support of this decision, NRC Staff notes:

> "the NRC amended its regulations in Parts 30, 40, 70, and 150 to require that an environmental review be completed by the NRC prior to commencement of construction of a mill which produces byproduct material."

75 Fed. Reg., 43865, 43866 (July 27, 2010).

NRC also notes that, "in reaching this decision:

> [M]illing results in the production of large quantities of byproduct material as tailings per year. When construction of a mill commences, nearly irrevocable commitments are made *regarding tailings disposal*. Given that each mill tailings pile constitutes a *low-level waste burial site containing long-lived radioactive materials*, the Commission believes that prudence requires that specific methods of tailings disposal, mill decontamination,

site reclamation, surety arrangements, and arrangements to allow for transfer of site and tailings ownership be worked out and approved before a license is granted."

Id. at 43866-43867, *quoting* 45 Fed. Reg. 65521, 65529 (October 3, 1980) (emphasis added).

NRC Staff's simplistic reliance on the definition of "milling" ignores the entirety of NRC's Part 40.32(e) rulemaking record and the intent of the Commission in that rulemaking which differentiates between conventional uranium mills with mill tailings, as noted above, and ISR facilities which do not involve low-level waste burial sites containing long-lived radioactive materials and which are released for "unrestricted use" in their entirety. When it was finalizing NUREG-0706,[1] NRC sought to develop amendments to 10 CFR Parts 40 and 150 (for Agreement States) to reflect the Congressional mandates set forth in UMTRCA for the management of *uranium mill tailings*. On August 24, 1979, NRC published both effective and proposed rules in the Federal Register "to implement the requirements of UMTRCA and the conclusions reached in the draft GEIS on uranium milling."[2] More specifically, as stated in the Final Rule for these amendments:

> "The amendments to Part 40 and 150 take into account the conclusions reached in a final generic environmental impact statement on uranium milling [NUREG-0706] and the requirements mandated in the Uranium Mill Tailings Radiation Control Act of 1978, as amended, public comments received on a draft generic environmental impact statement on uranium milling, and public comments received on proposed rules published in the Federal Register."[3]

The need for these regulations was described in the Final Rule's response to comments:

> "A number of commenters took the position that there is no great sense of urgency for regulations on uranium mill tailings management and mill operations. However, each year new mills are proposed and *many millions of tons of tailings are generated at existing mills*. As new mills are constructed and more tailings are generated, the options for dealing with tailings disposal become fewer. It is critically important that the siting and design criteria of the regulations be implemented for new facilities so that mistakes of the past are not repeated."[4]

The Final Rule thus promulgated 10 CFR § 40.32(e) to deal directly with the extent to which a proposed conventional uranium mill project site could be developed and constructed pursuant to these "siting and design criteria" prior to the issuance of a uranium milling license. Part 40.32(e) imposed a requirement on NRC to make "a positive finding on an applicant's proposed plans as meeting the requirements and objectives in Appendix A *prior to*

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[1] United States Nuclear Regulatory Commission, NUREG-0706, *Generic Environmental Impact Statement on Uranium Milling*, (1980).
[2] 45 Fed. Reg. 65521 (October 3, 1980).
[3] *Id.*
[4] *Id.* (emphasis added).

commencement of construction of a mill which produces byproduct material [i.e., uranium mill tailings]."[5] As a result, Part 40.32(e) states:

> "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 Commission determines *will significantly affect the quality of the environment*, the Director, Office of Federal and State Materials and Environmental Management Programs or his designee, before commencement of construction of the plant or facility in which the activity will be conducted, 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."[6]

Based on this requirement, the Commission concluded in the regulation that "[c]ommencement of construction prior to this conclusion is grounds for denial of a license to possess and use of source and byproduct material in the plant or facility."[7] Therefore, "the denial of applications for licenses where construction is started before the appropriate environmental appraisals are completed and documented" is required.[8]

However, it is crystal-clear from NRC's accompanying explanatory language that this requirement is to be imposed only on a conventional "mill which produces byproduct material" as tailings, where it states:

> "Construction activities are likely to result in significant and long lasting environmental impacts, the propriety of which cannot be ascertained until these environmental appraisals are completed and documented."[9]

Moreover, NRC adds that:

> "The Commission also notes in this regard that milling results in the production of large quantities of byproduct material as tailings each year. When construction of a mill begins, *including its tailings disposal area*, irrevocable commitments are made regarding tailings disposal."[10]

Finally, NRC concludes that:

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[5] 45 Fed. Reg. at 65521.

[6] 10 CFR § 40.32(e). (emphasis added). This rule's current language incorporates amendments and administrative revisions added in 1984, 1992, and 2008; however, the substance of the regulation has not changed since its finalization in 1980.

[7] *Id.*

[8] 45 Fed. Reg. at 65521.

[9] *Id.*

[10] *Id.*

> "Given that each mill tailings pile constitutes a low-level waste burial site containing long lived radioactive materials, the Commission believes that prudence requires that specific methods of tailings disposal, mill decontamination, site reclamation, surety arrangements, and arrangements to allow for transfer of site and tailings ownership be worked out and approved before a license is granted."[11]

NRC's description of "milling" in the context of the Final Rule is entirely consistent with NUREG-0706 and the Congressional mandate articulated in UMTRCA. The primary goal of UMTRCA is the safe management and disposal of *uranium mill tailings*, including short-term management in accordance with EPA and NRC regulatory requirements and long-term management in accordance with Section 83's requirements for transfer of all 11e.(2) byproduct material to a mandatory long-term custodian for perpetual long-term surveillance and monitoring.[12]

This description of "milling" is, however, entirely inconsistent with the generic construction parameters for ISR facilities for a number of reasons. First, as stated above by NRC in NUREG-0706 and discussed in NRC's recently released NUREG-1910, ISR facilities do not generate large quantities of uranium mill tailings and do not require (and indeed, currently, are not permitted to have on-site 11e.(2) disposal facilities) *any* tailings disposal areas for the operation of the facility or the closure of the site after cessation of operations and groundwater restoration. Initially, ISR-generated 11e.(2) byproduct material management pursuant to 10 CFR Part 40, Appendix A, Criterion 2 requires the disposal of such materials at licensed 11e.(2) disposal facilities, including existing conventional uranium milling facilities. Liquid wastes classified as 11e.(2) byproduct material at such facilities can be disposed of using a Class I UIC deep-disposal well, if available, or by the use of evaporation ponds for liquid disposal with the resulting 11e.(2) sediment ultimately transported to a licensed 11e.(2) disposal facility for disposal. In either case, ISR facilities do not require tailings management facilities with potentially significant environmental impacts that could be considered an "irrevocable and irretrievable resource commitment" in the form of a "low-level waste burial site" as contemplated by NRC when promulgating the current Part 40.32(e) requirements.

With respect to the threat of significant long-lasting environmental impacts and "irrevocable and irretrievable resource commitments," title transfer requirements for 11e.(2) byproduct material under Section 83 of the AEA do not apply to ISR facilities.[13] Conventional uranium milling facilities typically require tailings management facilities that are conservatively

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[11] *Id.*

[12] It is important to note that NRC likened the potential "irrevocable and/or irretrievable commitments" associated with conventional uranium milling facilities to those presented by facilities "in which source materials are possessed and used for the production of uranium hexafluoride and commercial waste disposal by land burial" and amended Part 40.32(e) to include such facilities. Once again, these facilities present potential significant impacts that are more similar to *conventional uranium milling facilities* and not at all similar to ISR facilities.

[13] *See* 10 CFR Part 40.4 (depleted underground ore bodies resulting from ISR operations are not considered 11e.(2) byproduct material).

designed surface impoundments with liner and leachate collection and detection systems to ensure that no leakage of 11e.(2) byproduct material occurs and that require a licensee to disturb large portions (i.e., 40-80 acres) of a proposed site. Further, these impoundments also serve as the future repository for other materials at the site including, but not limited to, parts of the mill itself, windblown tailings, and other discrete 11e.(2) surface wastes and groundwater corrective action residuals. However, while conventional uranium milling facilities are specifically designed to control and manage these materials and for eventual transfer to a mandatory long-term custodian, ISR facilities are released for *unrestricted use* after completion of operations, site D&D, including groundwater restoration and, therefore, do not contain any residual, long-lived radioactive materials above NRC-mandated regulatory levels.[14] Thus, since ISR facilities do not require the tailings management and disposal facilities required by conventional uranium milling facilities for operations and post-operational long-term control of 11e.(2) byproduct material on-site, NRC's promulgation of Part 40.32(e) was not intended to apply to ISR facilities.

The potential impacts associated with construction activities at ISR sites already have been assessed in the ISR GEIS and have been found to pose "low" levels of potential impacts. For example, the ISR GEIS states with respect to land use impacts:

> "Ecological, historical, and cultural resources could be affected, but would be protected by careful planning and surveying to help identify resources and avoid or mitigate impacts. For all land use impacts except ecological, historical and cultural resources, the potential impacts would be SMALL."[15]

In addition, along with these minimal potential impacts, the construction of surface and subsurface facilities at ISR sites are largely, if not completely, standardized and pose essentially the same potential impacts at every ISR site. As a result, the programmatic assessment of the construction of these facilities should provide the necessary viable regulatory bases for all proposed pre-licensing site construction activities. Additionally, the amount of land area that potentially could be disturbed as a result of pre-licensing site construction activities generally is much less than the ten (10) percent of a proposed site which NRC Staff notes is the amount of a proposed site that would be disturbed as a result of *all* ISR operations, *including wellfields*.[16] As a matter of fact, the construction of an ISR project's surface facilities generally results in a disturbance of a minimal portion of the total site area. Thus, the potential for significant or long-term impacts from pre-licensing site construction at ISR facilities is negligible. Indeed, there is no potential for any potential adverse radiological impacts from such pre-licensing construction activities as no AEA-licensed material is produced, possessed or used at the site prior to issuance of an NRC license.

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[14] In addition, the aquifer in the recovery zone at an ISR site must be an "exempted" aquifer under EPA regulations which mandates that such aquifer cannot now nor ever in the future serve as a source of public drinking water. Thus, so long as the recovery zone aquifer is restored in accordance with applicable regulatory requirements, then such aquifer will also be returned to its status prior to ISR operations.

[15] NUREG-1910 at xxxviii. It is important to note that NMA's comments on NUREG-1910 stated that ecological, historical, and cultural resource impacts should not be analyzed in the land use impact section of its analysis. However, in either scenario, land use impacts were found to be "SMALL."

[16] *See* NUREG-1910 at xl.

Further, NRC also considered financial assurance arrangements,[17] including the availability of funds for long-term surveillance and monitoring after transfer of the site to the mandatory long-term custodian, when promulgating Part 40.32(e). In addition to the lack of a need for funds for title to transfer at ISR sites, the largest portion of financial assurance associated with ISR facilities is groundwater restoration. However, groundwater restoration is not necessary until an ISR operator commences and then completes active uranium recovery operations that generate source material in a given wellfield pursuant to an NRC license and has no relationship to pre-licensing site construction of ISR surface or subsurface facilities, including wellfields. As a result, ISR sites do not represent the same types of potential impacts related to financial assurance as the long-term commitment of resources contemplated for conventional uranium milling facilities by NRC in the Part 40.32(e) rulemaking.

Finally, in many cases, ISR operators may have additional financial assurance in place to address any pre-licensing site construction, since they may require additional permits from other regulatory entities such as States, BLM, and USFS. These regulatory entities frequently require some form of environmental review such as an environmental assessment (EA) and a financial assurance mechanism for a variety of structures and facilities such as office buildings, roads, storage warehouses, and wells. For example, the Wyoming Department of Environmental Quality (WDEQ) currently requires ISR operators to obtain a State Permit to Mine, which is accompanied by a financial assurance requirement for all activities on lands in the State, including the drilling of wells.[18] BLM has a similar financial assurance requirement pursuant to its regulations for obtaining an approved Plan of Operations for ISR site activities on BLM lands.[19] Thus, if a license is not granted, there still will be no significant adverse environmental impacts from pre-license wellfields, monitor well networks or UIC-permitted deep disposal wells, much less *any* potential adverse radiological impacts from AEA materials of which there will have been none.

2. NMA also believes that the Proposed Rule and NRC Staff's current interpretation of Part 40.32(e)'s provisions are inconsistent with existing Commission precedent regarding its jurisdiction pursuant to the AEA and the National Environmental Policy Act (NEPA). NRC Staff's current legal position is that pre-licensing site construction activities that have a *reasonable nexus* to public health and safety will not be permitted in the absence of a license or a specific exemption. The Proposed Rule reflects this position with a recognition that the definition of construction, as revised, will permit specific types of activities defined as outside the scope of construction because the AEA does not authorize NRC to require an applicant to obtain the Commission's permission prior to undertaking site preparation activities "that do not implicate radiological health and safety or the common defense and security." This is reflected in the Commission's October 9, 2007 rule for LWAs which recognized that, as stated above, the AEA does not authorize the Commission to require an applicant to obtain permission to conduct

[17] *See* 10 CFR Part 40, Appendix A, Criteria 9 & 10.

[18] As a practical matter, NRC has no authority over wellfields prior to the injection of lixiviant pursuant to an AEA uranium recovery license; prior to beginning active uranium recovery operations, all ISR site wells (injection, production, monitoring) are nothing more than water wells with a State (or other agency) bond in place to assure that such wells are reclaimed.

[19] *See* 43 CFR § 3809 *et seq.*

site preparation activities "that do not implicate radiological health and safety or common defense and security considerations." *See* 75 Fed. Reg. at 43866.

Taking into account the comments discussed in Item II(1) above and the Commission's current responsibilities under the AEA, NEPA, and its risk-informed, performance-based regulatory approach, NRC Staff's legal position on Part 40.32(e)'s applicability to ISR operations is not sustainable. Currently, as stated by NRC Staff, its NEPA obligations and responsibilities arise only when NRC undertakes a "Federal" action. *See* 75 Fed. Reg. at 43867. Accordingly, NRC Staff determined that certain items excluded from the definition of "construction" in the LWA program which "do not have a reasonable nexus to radiological health and safety or the common defense and security...were 'non-Federal actions." SECY-10-0018 at 4. Further, NRC states that "because these site preparation activities lacked a reasonable radiological nexus to radiological health and safety or common defense and security, and did not require NRC approval or oversight, these activities were non-Federal activities within the context of NEPA (they were not an environmental effect of the federal action being reviewed)." *Id.* As such, NRC determined that the "effects of these non-Federal activities would only be considered in the agency's environmental review to that extent necessary to establish an environmental baseline against which the incremental effect of the NRC's subsequent major Federal action (i.e., issuance of a license) would be measured." *Id. citing* 72 Fed. Reg. 57416, 57247 (October 9, 2007). This approach projected over the entire fuel cycle, NRC believes, will "provide for a more efficient and effective licensing process." *Id.*

However, NMA argues that that this approach is far too narrowly interpreted in the context of ISR facilities which results in significant inconsistencies with Commission precedent and policy. As a preliminary matter, the AEA charges the Commission with the responsibility of protecting public health and safety from *significant* risks to radiological health and safety and the common defense and security and not just any risk thereto.[20] As has been stated by NMA on several occasions, uranium recovery facilities (including conventional uranium mills), as compared with nuclear power reactors (for which the LWA program was created), are the lowest risk components of the nuclear fuel cycle by orders of magnitude. Further, ISR facilities pose even lower potential risks due to the fact that they carry with them even fewer potentially significant radiological risks to public and worker health and safety. For example, as stated above, ISR facilities do not create conventional uranium mill tailings and create only small amounts of 11e.(2) byproduct material for off-site disposal. Accordingly, ISR facilities are released for unrestricted use at the conclusion of operations, groundwater restoration, and surface reclamation and *no 11e.(2) byproduct material is left on-site* above NRC regulatory limits (e.g., 10 CFR Part 40, Appendix A, Criterion 6). But rather than acknowledge these differences in potential risk levels and long-term resource commitments between conventional uranium mills and ISR facilities, NRC Staff instead chooses to rely on its unsubstantiated conclusion that ISR operations are "milling" operations and, thus, are subject to the same stringent pre-licensing site construction requirements as those prescribed for conventional uranium mills in 1980. To make matters worse, NRC Staff's fundamental basis for this position is to consistently cite to language from the Part 40.32(e) administrative rulemaking record regarding milling facilities generating significant quantities of mill tailings and the *irrevocable commitments and irretrievable impacts*

[20] *See e.g., Industrial Union Department, AFL-CIO v. American Petroleum Institute*, 448 U.S. 607 (1980); *see also Natural Resources Defense Council, Inc. v. U.S. EPA*, 824 F.2d 1146 (July 28, 1987).

of utilizing disposal facilities (impoundments or piles) for the resulting tailings and other 11e.(2) byproduct material that essentially constitute low level waste disposal facilities. *See* 75 Fed. Reg. at 43867. This position, on the facts, is incorrect and arbitrary.

3. The Proposed Rule perpetuates the conclusion that a NEPA review is necessary prior to any construction of facilities as if NEPA has some jurisdictional significance in addition to the AEA's jurisdictional grant. Indeed, the Proposed Rule states:

> "Currently, 10 CFR § 40.32(e) *prohibits* an applicant for a license...to possess and use source material, or for any other activity requiring NRC authorization from commencing construction of *the plant or facility* in which the activity will be conducted before NRC's decision to issue the proposed license...Similar *prohibitions* on construction exist with respect to 10 CFR Parts 30, 36 and 70."

75 Fed. Reg. at 43,865-43,866 (emphasis added).

Such a statement contradicts legal precedent. As stated in *NRDC v. EPA*,

> "NEPA, as a procedural device, does not work broadening of the agency's substantive powers. Whatever action the agency chooses to take must, of course, be within its province in the first instance."

822 F.2d 104 (D.C. Cir. 1987).

Similarly, in *NFS,* interpreting 10 CFR §§ 51.101(a) and 70.23, the Commission decided that since no statute or regulation required any NRC permit to begin construction activities, the authority to *halt or prohibit* such activities would be questionable.[21] The Commission reasoned that the above-noted regulatory provisions only "*contemplate* that construction...should not begin until NRC has completed its environmental review."[22] The Commission read Part 70.23 as *discouraging* rather than *prohibiting* construction prior to the completion of NRC's NEPA review of proposed activities involving highly radioactive special nuclear materials. Thus, NFS was permitted to construct three new facilities on its site to produce low-enriched uranium (LEU) oxide, receive and store LEU nitrate, down-blend HEU to LEU, and convert LEU nitrate to LEU oxide as the agency had no AEA authority to license construction in the first place. In other words, while the AEA and NRC regulations require a license to conduct operations involving AEA materials, neither statute nor regulations prevents the applicant from beginning construction of project buildings and facilities at its own risk prior to issuance of a license. It is difficult to understand how the RIS and the Proposed Rule could be published in light of the aforementioned *NFS* decision. It appears that the mechanism to do so could be the so-called "reasonable nexus" to health and safety and common defense and security cited in both documents. NMA is aware that NRC Staff have ruled that complete wellfield packages (i.e., wellfields and monitor well networks), deep disposal wells, and the central processing plant (CPP) have such a "reasonable nexus to health and safety and common defense and security.

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[21] *See Nuclear Fuel Services, Inc.* (Erwin, Tennessee), CLI-03-03, 57 NRC 239, 246 *citing* AEA § 185, 42 U.S.C. § 2235 (construction permits for production and utilization facilities).

[22] *Id.* (footnotes omitted).

However, it seems obvious in light of the *NFS* decision that if there can be no "reasonable nexus" until licensed activities begin, then it is patently obvious that there can be no such "reasonable nexus" with pre-licensing site construction of installation wellfields, monitor well networks, and deep disposal wells, etc until a license is granted (i.e., lixiviant is injected, source material is recovered from wellfields, and 11e.(2) byproduct material is generated).

4. Based on the comments in Item II(3) above, NMA argues that NRC Staff's current interpretation of Part 40.32(e), as well as the revised language in the Proposed Rule, omits a substantial amount of ISR site construction activities from the list of activities permitted prior to receiving a license. The following list discusses all potential ISR site construction activities that have *no* "reasonable nexus" to radiological health and safety much less the common defense and security:

a. **Wellfields**

NMA believes that the installation of injection, production/extraction, and monitor well networks does not have a reasonable nexus to radiological health and safety or the common defense and security. The installation of ISR wells typically are directed by the State Engineer's Office and specific requirements for construction and maintenance are required. Prior to the commencement of licensed ISR operations, each of these wells could just as easily serve as private drinking (although it is unlikely an injection or production/extraction well could serve as a drinking water well due the elevated radionuclide levels), industrial, irrigation or stock watering well. It is the subsequent injection of lixiviant that makes the use of these wells have a reasonable nexus to radiological health and safety. Thus, the installation of these wells alone cannot be deemed to have a reasonable nexus to public health and safety.

Further, there are no irrevocable commitments or irretrievable impacts associated with installation of a complete wellfield, including monitor well network, because all a license applicant would be required to do in the event of failing to get a license would be to plug and abandon each installed well in accordance with State Engineer's office requirements. Even though NRC likely cannot enforce this requirement pre-license issuance, the State regulatory agencies certainly can. Indeed, as stated above, these wells are fully bonded with State agencies, BLM, USFS, and the like; so, there is no threat of wells going unplugged in the event an NRC license is not obtained.

Moreover, deep disposal wells permitted under the Safe Drinking Water Act (SDWA) by EPA or "primacy" States follow the same analysis above. Deep disposal wells carry no reasonable nexus to public health and safety until production bleed or restoration fluid (both 11e.(2) byproduct material) are put into the well for final disposition. Thus, these wells are no different from injection, production/extraction or monitor wells and even after operations during an ISR project's lifecycle do not result in irrevocable impacts and irretrievable commitment of resources.

b. **Administrative and Other Buildings and Site Roads and Infrastructure**

NMA also believes that the construction of the administrative and other buildings and site roads and associated infrastructure do not have a reasonable nexus to public health and safety and, thus, should not be prohibited under the current Part 40.32(e), thus negating the need for a rulemaking. Construction of office buildings, warehouses, and other administrative buildings will require a concrete slab or foundation; but, the size and scope of the construction of such facilities as compared to power reactor construction activities is negligible. Installation of power lines and site roads also does not require significant scope of construction. Given that none of these buildings will handle AEA materials *until the ISR process is licensed,* such activities have no "reasonable nexus" to public health and safety much less the common defense and security. If a license were denied, such structures would not require any D&D of AEA materials, because no licensed operations would have taken place. Thus, NRC should allow pre-licensing construction of such facilities because their potential environmental impacts will be limited in scope and can easily be redressed in the event an NRC license is not issued.

c. **Central Processing Plant**

NMA also believes that the construction of the foundation and outer shell of the CPP building does not have a reasonable nexus to public health and safety and, thus, should not be prohibited by the current Part 40.32(e). Similar to the buildings discussed in Item II(3)(c), the foundation and outer shell of the CPP will only require the laying of a foundation and the erection of a simple outer structure. Indeed, storing the equipment in the CPP pending installation also has no "reasonable nexus" to health and safety much less the common defense and security. Thus, NRC should allow pre-licensing construction of such facilities because their potential environmental impacts will be limited in scope and can easily be redressed in the event an NRC license is not issued.

5. CONCLUSION

In conclusion, the *NFS* decision makes clear that NRC has no AEA jurisdiction under 10 CFR Part 40.32(e) to *prohibit* pre-licensing site construction of ISR facilities and buildings as stated in the Proposed Rule. Such activities have no "reasonable nexus" to health and safety or the common defense and security until after the license is issued. If an ISR license applicant undertakes pre-license site construction of the types of facilities discussed above, NRC still has the flexibility to deny a license that is lacking appropriate health and safety or environmental safeguards or to impose site-specific license conditions regarding any such facilities, therefore, the license applicant/licensee constructs such facilities at their own risk. In any event, construction of such facilities and buildings pose no significant potential adverse environmental risks for the reasons noted above even if NRC had jurisdiction to prohibit their construction pre-license issuance. Finally, NMA finds that NRC Staff's failure to mention (much less discuss or attempt to distinguish) the Commission's decision in *NFS* in either its RIS or the Proposed Rule is a critical omission in this rulemaking.

NMA appreciates the opportunity to provide these comments on the proposed rule. If you have any questions regarding this submission, please contact me at (202)463-2627 or ksweeney@nma.org.

Sincerely,

Katie Sweeney