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**Sent:** Thursday, May 08, 2008 4:46 PM  
**To:** Secy  
**Cc:** M Pelizza  
**Subject:** FW: Comments on Decommissioning Planning; Proposed Rule 73 Fed.Reg. 3812 (Jan. 22, 2008)  
**Attachments:** Secretary NRC 5-8-08.pdf

Please find the attached comments to the Decommissioning Planning Rule, 73 Fed.Reg. 3812 (Jan, 22, 2008) RIN 3150-AH45 filed on behalf of the Uranium Producers of America.

**From:** Carol Tombelaine  
**Sent:** Thursday, May 08, 2008 2:29 PM  
**To:** Jon J. Indall  
**Subject:**

DOCKETED  
USNRC

May 8, 2008 (4:50pm)

OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

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Template = SECY-067

SECY-02



# URANIUM PRODUCERS OF AMERICA

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May 8, 2008

VIA ELECTRONIC MAIL (secy@nrc.gov)

Secretary  
Attn: Rulemakings and Adjudication Staff  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

**Re: Decommissioning Planning; Proposed Rule**  
**73 Fed. Reg. 3812 (Jan. 22, 2008)**  
**RIN 3150-AH45**

Dear Secretary:

The Uranium Producers of America ("UPA") is submitting these comments regarding the NRC's proposed rule addressing decommissioning planning. These comments also address aspects of the draft guidance associated with the rulemaking proposed in January 2008. The UPA is a group of domestic uranium companies whose mission is to promote the viability of the domestic uranium industry. Members are: Uranium One, Cameco Resources, Strathmore Resources, U.S. Energy Corp., Denison Mines (USA) Corp., Laramide Resources Ltd., Mestena Uranium LLC, Uranium Resources, Inc., Energy Fuels Resources Group, Powertech (USA) Inc., Neutron Energy, Inc., Western Uranium Corp., Uranium Energy Corp. UR-Energy USA Inc., UREX Energy Corp., Integrated Production Resources and Uranerz Energy Corp.

UPA suggests that the proposed rule is written too broadly in that it fails to properly account for the different activities and varying risks associated with different categories of NRC licensees. In particular, the rule does not adequately account for the type of operations or low radiological risks associated with facilities at the front end of the fuel cycle — that is, Part 40 licensees such as uranium mills, UF6 conversion facilities, and solution mining facilities. We believe the uranium recovery program was developed as a result of a statutory mandate resulting from the enactment of the Uranium Mill Tailings Radiation Control Act of 1978, 42 U.S.C. §§ 7901-7942, and this program was specifically created to regulate conventional mills and *in situ* recovery operations.

The uranium recovery program works well and decommissioning issues for non-part 40 licensees should not overlap with the part 40 licensee regulation. These comments also address the portion of the rulemaking that would result in new site characterization and monitoring. If, as the NRC estimates, only a small number of materials licensees would need to perform additional site surveys, then a more efficient, and less-burdensome approach should be used. UPA also includes comments on the need to consider remediation prior to cessation of operations and on financial assurance for long-term surveillance and monitoring.

#### Definition of Residual Radioactivity

The proposed rule would require licensees to identify and address “residual radioactivity” both during operations and in anticipation of decommissioning.<sup>1</sup> Use of this broad definition is an overly-conservative measure for Part 40 facilities that handle only natural uranium ores and U3O8. Unlike enrichment facilities, fuel fabrication facilities, and power reactors, Part 40 facilities handle only source material that has not been enriched. Most Part 40 licenses do not contain restrictions on the release of uranium in solid form to the environment. The existence of natural uranium in the near-surface soils is an expected condition that is nearly impossible to prevent due to mining and ore dust.

Moreover, for certain Part 40 licensees (*e.g.*, in situ recovery facilities), the proposed rule and associated guidance fails to address the unique regulatory and process-related conditions that are present at such facilities. For example, there is no discussion of how the definition of residual radioactivity applies to in situ mining units. Given the relatively low radiological risks associated with source material at these facilities, it is not always necessary to fully contain the material. In fact, most Part 40 licenses acknowledge that some release of natural uranium, ore, and yellowcake dust is likely to occur, if not impossible to prevent.

In issuing a license, the NRC would have previously determined the licensed activities to be protective of the public health and safety and the environment. Yet, the requirements in the proposed rule to address residual radioactivity — during operations pursuant to the proposed §§ 20.1501(a) and 20.1406(c) and as an input to decommissioning cost estimates under proposed § 40.36(d) — would result in new operational restrictions well-beyond those imposed by an existing Part 40 license. A broadly-applicable rulemaking that fails to distinguish between the types of licenses and the relative risks of

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<sup>1</sup> “Residual radioactivity” means “radioactivity in structures, materials, soils, groundwater, and other media at a site resulting from activities under the licensee’s control. This includes radioactivity from all licensed and unlicensed sources used by the licensee, but excludes background radiation. It also includes radioactive materials remaining at the site as a result of routine or accidental releases of radioactive material at the site and previous burials at the site, even if those burials were made in accordance with the provisions of 10 CFR part 20.” 10 CFR § 20.1003.

contamination is no substitute for the detailed technical reviews and reasonable assurance determinations that preceded issuance of each Part 40 license. While use of a broad definition of residual radioactivity may be useful with respect to certain licensees, application of such a definition to Part 40 licensees is unrealistic and inconsistent with current, licensed practices which fully protect the public health and safety.

#### Site Characterization Surveys and Monitoring

The guidance on site characterization and monitoring would result in unnecessary and counterproductive changes to current licensee programs. The proposed rule and associated guidance would have the unintended consequences of requiring new and extensive characterization and remediation efforts, without regard to the degree of actual health and safety impact. The proposed regulations would also require the evaluation during operation of subsurface contamination based on projected decommissioning exposure scenarios, even though no foreseeable operating exposure limits would be exceeded.

The draft guidance suggests that licensees may need to construct new means of confining materials or to install new leak detection equipment, particularly where portions of systems cannot be visually inspected. Draft Survey and Monitoring Guidance, at 12-13. Such costly retrofits are unnecessary. Existing Part 40 facilities have survey, monitoring, and leak detection programs. *See* 10 CFR Part 40, Appendix A, Criteria 5 and 7; *see also*, 10 CFR § 20.1101 (radiation protection programs). These programs, which would have been reviewed and approved by the NRC during licensing, are more than adequate to assess decommissioning obligations. Indeed, the statements of consideration for the proposed rule and the regulatory analysis recognize that these programs are functioning as intended.<sup>2</sup>

The proposed rule would benefit from a clear statement that existing licensees programs satisfy the proposed requirements. This determination should be made affirmatively and without qualification. If additional information is developed to suggest a need for enhancements in surveying and monitoring, then NRC already has sufficient tools at its disposal to address any concerns. The NRC can identify issues through its inspection and oversight programs and require additional action through license conditions, as part of licensing reviews, or through orders. There simply is no demonstrated need for additional rules of guidance in this area. Rather, the proposed rule and draft guidance unnecessarily complicate activities that the NRC acknowledges has not resulted in significant problems.

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<sup>2</sup> *See* 73 Fed. Reg. at 3821 (“NRC staff concludes that the monitoring and survey processes and related reports prepared at these facilities likely would contain sufficient information to satisfy the proposed §§ 20.1406(c) and 20.1501 requirements.”); *see also* “Regulatory Analysis for Proposed Rulemaking – Decommissioning Planning; Draft for Comment,” at 15-16 (concluding that uranium mills, UF<sub>6</sub> conversion facilities, and solution mining facilities should not be affected by the proposed rulemaking).

The type of site characterization contemplated by the proposed rule and associated guidance would be a complex undertaking and would be well beyond what is necessary to properly characterize a site for decommissioning purposes. According to one cost estimate prepared for a Part 40 facility, setting up the initial near-surface soil characterization and installing the necessary monitoring equipment would cost between \$30,000 and \$50,000 for a site with a smaller footprint. This cost would include obtaining the necessary samples and conducting the associated laboratory work. Additionally, requiring maintenance and ongoing monitoring would result in annual expenditures of approximately \$10,000/year. Extrapolated to encompass the range of Part 40 licenses, these costs exceed the values presented in Table 5-3 of the Regulatory Analysis. As a result, the overall cost/benefit analysis is flawed.

Yet, despite the high costs, the characterization is unlikely to reduce the already-low radiological risk associated with the natural uranium at Part 40 facilities, or reduce the already-low risk of contamination of groundwater from natural uranium. This is because natural uranium ore and U3O8 are not highly soluble and therefore have a low potential to cause groundwater contamination during the period of operation. For dry processes and solid material, the risk of groundwater contamination is therefore quite low. Further, at solution mining sites, the groundwater already contains high levels of radionuclides, rendering these provisions superfluous.

The monitoring decision logic path in the guidance appears to apply to any unplanned release of significance with respect to decommissioning costs. However, it could be inferred that the NRC's objective was to limit the new survey and monitoring requirements to unplanned releases from fluid processes. Given the low risk of groundwater contamination from dry processes and the properties of uranium, this would be a risk-informed approach. To the extent that any new survey and monitoring requirements are necessary beyond those already in place, the NRC should focus them on fluid processes.

The NRC also notes in the statements of consideration for the proposed rule (73 Fed. Reg. at 3815) that licensees with subsurface radioactivity with no ground water implications may rely on a minimal, routine monitoring program, which is described in the guidance. However, the "routine" monitoring program described in the guidance would require a more complex and expensive program than is presently necessary to adequately characterize contamination or support decommissioning. The monitoring program described in Section 3.2.2 of the Draft Survey and Monitoring Guidance would require, in effect, all licensees to develop three-dimensional flow and transport models *even where no subsurface contamination has been identified*. The level of detail and level of effort that is apparently expected under the draft guidance far exceeds that which is necessary to properly identify and address potential contamination.

## Remediation During Operations Is Not Warranted

Against the background of the low risk of significant soil or groundwater contamination from natural uranium in solid form, as well as the high costs associated with the implementation of the requirements contemplated by the proposed rule and draft guidance, it makes little sense to require remediation during operation of the site. In the guidance, the NRC encourages licensees to perform cost-effectiveness analyses of prompt versus delayed clean up of residual radioactivity at the site. *See* Draft Survey and Monitoring Guidance, at 30. However, the broad definition of residual radioactivity would result in near constant cost-effectiveness evaluations by Part 40 licensees. The nature of the radioactive material at such facilities (natural uranium ore and U<sub>3</sub>O<sub>8</sub> “dust” from drums and pallets) means that there will regularly be new residual radioactivity at a site — whether from normal operations or spills. The expectation of ongoing cost-effectiveness evaluations for all residual radioactivity at Part 40 facilities is unrealistic and inconsistent with risk-informed regulation.

And, with a strong likelihood that additional residual radioactivity will occur as part of normal operations, it makes little sense to remediate soils, only to have to do it again and again. This would create a huge volume of soil with only slight contamination. This would be wasteful of resources, and wasteful of already-limited low-level waste disposal capacity. It will nearly always be more cost-effective to wait until a site has ceased operations to dispose of contaminated soil or conduct any remediation. This is especially true given the nature of residual radioactivity at Part 40 facilities. Moreover, the dust and other materials stirred up during decommissioning could lead to greater exposures for site personnel, thus obviating much of the already-small benefit of requiring site cleanup while operations are ongoing. The prospect of “continual decommissioning” may also be contrary to the principles of ALARA embodied elsewhere in 10 CFR Part 20.

The guidance on deciding when to conduct prompt cleanup or delayed cleanup of residual radioactivity also fails to recognize the unique issues associated with certain Part 40 facilities. The guidance suggests using EPA screening values that are based on the use of ground water as a drinking water source. Draft Survey and Monitoring Guidance, at 33. However, not all groundwater is suitable for drinking even before introduction of residual radioactivity. And, this is clearly an inappropriate application of the screening values for solution mining facilities, where the an aquifer cannot be a drinking water source.

Moreover, the rule fails to distinguish between residual radioactivity resulting from process spills, leaks, or upsets, and residual radioactivity that was permitted under previous regulatory approaches. Controlling or limiting the release of radioactivity is the primary objective of licensed operations, and practical restrictions on public exposures are expected. However, intervention to address residual radioactivity that was previously permitted requires a different approach. In such cases, no general solutions are available; a case-by-case analysis will be necessary. This is exactly what has taken place at the existing legacy sites. To the extent that the proposed rule seeks to require intervention to address residual radioactivity resulting from past, permissible activities, the rule is

unlikely to have any impact on reducing the cost or complexity of decommissioning. Ultimately, the NRC's licensing and oversight programs are adequate to reduce introduction of residual radioactivity from current practices, but a different approach is needed to determine when to intervene to address residual activity from operations that were permitted under a previous regulatory system. The decommissioning rules should appropriately distinguish between practices and interventions.

The proposed rule and draft guidance are attempting to apply a "one size fits all" approach to "residual radioactivity" at all NRC-licensed facilities without regard to the varying processes, radionuclides, and risks at different categories of licensees. Uranium mills, conversion facilities, and solution mining facilities have unique attributes that preclude — or render unnecessary — application of the specific principles described in Section 4 of the Draft Survey and Monitoring Guidance. The proposed rule and associated guidance is impracticable and unwieldy as written, and should be revised to better reflect the circumstances at Part 40 facilities.

#### Financial Assurance

The NRC proposes a further change to 10 CFR § 20.1403(c)(1) to include a new requirement that the initial amount of the trust fund established for long-term care and maintenance be based on a 1 percent annual real rate of return on investment. In the statements of consideration, the NRC correctly notes that a similar provision is currently contained in 10 CFR Part 40, Appendix A. Criterion 10 provides that if a site-specific evaluation shows that a sum greater than the minimum amount specified in the rule is necessary for long-term surveillance following decontamination and decommissioning of a uranium mill site, the total amount to cover the cost of long-term surveillance must be that amount that would yield interest in an amount sufficient to cover the annual costs of site surveillance, assuming a 1 percent annual real rate of interest.

However, the proposed 10 CFR § 20.1403(c)(1) requires that the long-term surveillance and monitoring funds be placed into a trust, segregated from the licensee's assets and outside the licensee's administrative control. As a result, the trust funds would be managed to the standard of care required by State or Federal law or one or more State or Federal regulatory agencies with jurisdiction over the trust funds, or, to the standard of care of that a prudent investor would use in the same circumstances. In light of these new restrictions on the handling and segregation of long-term funds, the adequacy of the trust funds should be assessed based on an assumed annual *2 percent real rate of return* on investment. This would bring the treatment of long-term surveillance and monitoring funds into line with the other NRC regulatory provisions,<sup>3</sup> such as 10 CFR

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<sup>3</sup> The NRC previously evaluated and established a sound regulatory basis for assuming a 2% real rate of return under such investment restrictions. See "Financial Assurance Requirements for Decommissioning Nuclear Power Reactors," 63 Fed. Reg. 50465, 50476-77 (September 22, 1998).

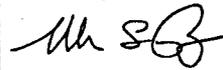
50.75(e)(1)(ii), which permit credit for projected earnings using up to a 2 percent annual real rate of return.<sup>4</sup>

### Conclusion

On balance, the NRC's ability to prevent future legacy sites would be best enhanced through improved inspection and oversight of existing requirements, including reviews of environmental monitoring data, regular decommissioning cost estimates, adequate funding for decommissioning, and recordkeeping to facilitate decommissioning. The rule, as proposed, seems to be an over-broad response to a narrow problem. If the NRC has concerns regarding the potential for "legacy sites" for only five to six licensees, then the more efficient path would be to impose site-specific and license-specific conditions on the limited set of facilities rather than impose regulations on all licensees with uncertain costs and even more uncertain benefits. Given the limited scope of the problem, as defined by the NRC, it does not make sense to introduce a new layer of NRC review and approval of survey and monitoring programs outside of licensing reviews.

The final rule should be revised to adequately account for the types of operations and low radiological risks associated with Part 40 licensees such as uranium mills, UF6 conversion facilities, and ISR facilities.

Sincerely,



Mark Pelizza  
President,  
Uranium Producers of America

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<sup>4</sup> The NRC attempts to distinguish long-term surveillance and monitoring funds from reactor decommissioning funds on the basis that there is no longer a "licensee" after license termination. This is a distinction without a difference. In the case of a shuttered reactor, the licensee may not have access to additional revenue because it will not be generating power.

Received: from mail1.nrc.gov (148.184.176.41) by TWMS01.nrc.gov  
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MIME-Version: 1.0

Content-Type: multipart/mixed;

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Subject: FW: Comments on Decommissioning Planning; Proposed Rule 73 Fed.Reg. 3812 (Jan.  
22, 2008)

Date: Thu, 8 May 2008 14:46:02 -0600

Message-ID: <A744A3A85B00CC44830F33D2AECFA8681C3691@mail2.cmtisantafe.com>

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