

# PUBLIC SUBMISSION

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## General Comment

Comments from URENCO USA on proposed rule making for Low-Level Radioactive Waste, 80 Fed. Reg. 16081 (March 26, 2015)

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## Attachments

URENCO USA Comments of 10 CFR 61 Proposed Rule Making

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**Subj: Comments of URENCO USA on NRC “Low-Level Radioactive Waste Disposal; Proposed Rule” (RIN 3150-AI92; Docket ID NRC-2011-0012), 80 Fed. Reg. 16081 (March 26, 2015)**

On March 26, 2015, the Nuclear Regulatory Commission published a proposed rule to amend its regulations in 10 C.F.R. Part 61 governing low level radioactive waste (LLRW) disposal facilities, to require new and revised site-specific technical analyses and to permit the development of site-specific criteria for LLRW acceptance based on the results of these analyses. The proposed rule would affect LLRW disposal licensees or applicants that are regulated by the NRC or the Agreement States. Importantly, the proposed rule would also significantly affect uranium enrichment facility licensees such as URENCO USA (UUSA), which is fully responsible for the management and disposal of its depleted uranium (DU) waste in a LLRW disposal facility.

UUSA, the only operating commercial enrichment facility in the United States, is concerned that the proposed rule would result in new waste acceptance criteria and other restrictions that would make it more difficult for enrichment facilities to dispose of significant quantities of DU waste, which in turn, for example, could have impacts for onsite DU storage under the UUSA license. In UUSA’s view, the NRC should:

- 1) Clarify the proposed new “minimization” requirements under Sections 61.41 and 61.42 (and any other relevant provisions) by adding objective criteria similar to those used for implementing the ALARA principle under Part 20. Alternatively, given the inherent difficulty of implementing such minimization requirements over the extremely long time horizons addressed by the rule, the NRC should consider dropping the minimization requirements and utilize only the prescribed dose limits.
- 2) Perform a backfitting analysis that quantifies the impacts and safety benefits of the proposed new waste acceptance requirements for affected generators of LLRW, such as enrichment facilities, as required by 10 C.F.R. 70.76.
- 3) Rather than delay resolution of the critical issue of the waste classification related to DU, pursue an integrated rulemaking that resolves that issue in a coordinated fashion in conjunction with the changes proposed in the present rulemaking.

UUSA is not opposed to the NRC’s present rulemaking, and appreciates the NRC staff’s significant efforts with respect to addressing complicated LLRW disposal issues. However, UUSA believes that, as a matter of sound regulatory policy, the NRC should evaluate the impacts the rulemaking could have on the overall regulated community, including generators of LLRW, and not just disposal facilities.

## UUSA's Interest

The NRC's Part 61 rulemaking came about as a result of the licensing of the UUSA facility. During initial facility licensing, the Commission directed the NRC staff to evaluate the disposal of significant quantities of DU waste generated by uranium enrichment facilities. While the staff's original rulemaking efforts were subsequently expanded and bifurcated into the present rulemaking and a separate waste classification rulemaking, they both originated with the issues raised in the UUSA initial licensing proceeding regarding the potential for disposal of large quantities of DU waste from uranium enrichment facilities.<sup>1</sup>

The UUSA facility, located near Eunice, New Mexico, is the only operating commercial enrichment facility in the United States today. UUSA is in the process of expanding the capacity of the facility from the original nominal capacity of some 3 million separative work units (SWU) to over 5 million SWU. If the Part 61 rulemaking results in the imposition of more stringent criteria for disposing of DU waste in LLRW disposal facilities or otherwise restricts the number of LLRW disposal facilities that are able to accept DU waste in significant quantities, then UUSA's disposal options could decrease and its related costs could significantly increase, possibly forcing UUSA to store significantly more quantities of DU waste onsite and/or for longer periods. The disposal issue is further complicated by the Part 61 waste reclassification issue that could potentially result in some existing LLRW disposal facilities being unable to accept DU waste.

These outcomes could have significant adverse financial impacts on UUSA. Given the soft market conditions for uranium fuel following the Fukushima accident, any increase in operational or LLRW disposal costs could potentially create a challenge to continued future operations and adversely affect any need for further capacity expansion of the UUSA facility.

Based on UUSA's contact with several disposal facility operators across the United States, we understand that increased costs of new requirements resulting from the rulemaking will be passed on to generators, like UUSA, on a dollar-for-dollar basis. The NRC's current cost-benefit analysis of the proposed rule, as discussed in the Regulatory Analysis, shows increased costs to disposal facility licensees.<sup>2</sup> Thus, there can be no doubt that the pass-through of such costs will have a direct and substantive impact on generators like UUSA.

The UUSA facility is critical for economic, energy security, and national security/nonproliferation reasons. Uranium enrichment is necessary for the production of fuel for U.S. commercial nuclear power plants. The demand for uranium enrichment services is expected to remain relatively strong in the United States and worldwide, particularly with the continued increased growth of nuclear

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<sup>1</sup> The waste classification tables in Part 61 specify criteria for classifying LLRW for land disposal at a near-surface facility. The original development of Part 61 did evaluate depleted uranium, but not in the quantities generated at uranium enrichment facilities. See, e.g., NUREG-0945, Vol 1, "Final Environmental Impact Statement on 10 CFR Part 61 Licensing Requirements for Land Disposal of Radioactive Waste: Summary and Main Report" at S-21 (in the discussion of "Isotopes Considered for Waste Classification Purposes," the NRC noted that in the draft environmental impact statement, a total of 23 different moderately or long-lived radionuclides were considered in the analysis, including DU).

<sup>2</sup> *Draft Regulatory Analysis for Proposed Rule: Low-Level Radioactive Waste Disposal Low-Level Radioactive Waste Disposal (10 CFR Part 61)* (Feb. 2015) at iv, 23.

energy around the globe. For these reasons, Congress has recognized the strategic importance of U.S. domestic uranium enrichment capability.<sup>3</sup>

In terms of long-term U.S. energy security, the Energy Information Administration's annual reports on uranium marketing show that the bulk of enrichment supply (generally over 70%) for U.S. nuclear power plants is foreign-based – including suppliers in Russia, China and France that are typically subsidized by their governments and would not be subject to the differential costs resulting from new requirements imposed by the present rulemaking. In this environment, discouraging the expansion of U.S.-based commercial enrichment services, by imposing new LLRW disposal requirements and costs not borne by most foreign providers, could significantly challenge the availability of long-term domestic enrichment services to U.S.-based utilities. This result could present a further challenge to the U.S. nuclear industry at a time when many merchant nuclear generating plants in competitive markets are facing economic stress despite the significant environmental and economic benefits nuclear energy produces for the country.<sup>4</sup>

### **UUSA's History with the Part 61 Rulemaking**

For several years, the NRC has been undertaking an effort to amend its Part 61 regulations to account for the disposal of significant quantities of DU waste from commercial and Department of Energy uranium enrichment operations. The NRC has been approaching the Part 61 rulemaking from two angles. First, during the UUSA initial licensing proceeding, the Commission directed the staff to consider, outside the UUSA case, whether Part 61 should be amended after the staff evaluated the quantities of depleted uranium at issue in the waste stream from uranium enrichment facilities. Specifically, the Commission explained:

The Commission is aware that in creating the § 61.55 waste classification tables, the NRC considered depleted uranium, but apparently examined only specific kinds of depleted uranium waste streams – “the types of uranium-bearing waste being typically disposed of by NRC licensees” at the time. The NRC concluded that those waste streams posed an insufficient hazard to warrant establishing a concentration limit for depleted uranium in the waste classification tables. Perhaps the same conclusion would have been drawn had the Part 61 rulemaking explicitly analyzed the uranium enrichment waste stream. But as Part 61's [Final Environmental Impact Statement] indicates, no such analysis was done. Therefore, the Commission directs the NRC staff, outside of this adjudication, to consider whether the quantities of depleted uranium at issue in the waste stream from uranium enrichment

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<sup>3</sup> Congress has characterized uranium enrichment as a “strategically important domestic industry of vital national interest,” “essential to the national security and energy security of the United States,” and “necessary to avoid dependence on imports.” S. Rep. No. 101-60, 101st Congress, 1st Session 8, 43 (1989); Energy Policy Act of 1992, 42 U.S.C. Section 2296b-6. National security and defense interests require assurance that the nuclear energy industry in the United States does not become unduly dependent on foreign sources of uranium or uranium enrichment services (S. Rep. No. 102-72, 102nd Congress 1st Session 144-45 (1991)), and domestically produced enriched uranium may also further non-proliferation goals. *Ibid.*

<sup>4</sup> See *The Nuclear Industry's Contribution to the U.S. Economy*, the Brattle Group (July 2015) (estimating that the U.S. nuclear industry contributes some \$60 billion annually to GDP and lowers average annual CO2 emissions by 573 million tons).

facilities warrant amending section 61.55(a)(6) or the section 61.55(a) waste classification tables.<sup>5</sup>

Second, in a Staff Requirements Memorandum (SRM-SECY-08-0147), dated March 18, 2009, the Commission directed the staff to pursue a limited scope rulemaking to specify a requirement for a site-specific analysis and associated technical requirements for unique waste streams including the disposal of so-called “large quantities” of DU waste. Specifically, the Commission’s SRM stated:

Previously, in the adjudicatory proceeding for the [UUSA] license application, the Commission determined that depleted uranium is properly classified as low-level radioactive waste. Although the Commission stated that a literal reading of 10 CFR 61.55(a)(6) would render depleted uranium a Class A waste, it recognized that the analysis supporting this section did not address the disposal of large quantities of depleted uranium.

The proposed rule is the result of this rulemaking effort that grew out of the UUSA licensing proceeding. In the proposed rule, the NRC explains (with emphasis added):

In pursuing this limited rulemaking, the NRC is not proposing to alter the waste classification scheme. However, for unique waste streams including, but not limited to, significant quantities of depleted uranium, there may be a need *to impose additional criteria on its disposal at a specific facility or deny such disposal based on unique site characteristics*. Those restrictions would be determined through a site-specific analysis, which satisfies the requirements developed through the rulemaking process.<sup>6</sup>

Thus, the Part 61 rulemaking is intimately linked with the operation of uranium enrichment facilities, and the disposal of the DU waste generated at these facilities.

## Comments on Proposed Rule

***Comment 1: The proposed “minimization” requirements for the protective assurance and performance periods have not been adequately justified.***

The proposed rule would impose ongoing dose “minimization” requirements that could apply throughout the life cycle of a disposal facility. Sections 61.41(b) and 61.42(b) (and perhaps other sections) would provide that for the “protective assurance period,” which is between 1,000 and 10,000 years following closure of a LLRW disposal facility, the annual dose to the public or an inadvertent intruder from the facility shall be minimized. More specifically, these provisions would require that the annual dose shall be below 5 mSv (500 mrem) “*or a level that is supported as*

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<sup>5</sup> See *Louisiana Energy Services* (National Enrichment Facility), CLI-05-20, “Commission Memorandum and Order” (Oct. 19, 2005) at 17 (citations omitted).

<sup>6</sup> NRC Website, “Low-Level Radioactive Waste Disposal (Site-Specific Analysis Rulemaking)” (last updated June 5, 2015), available at <http://www.nrc.gov/about-nrc/regulatory/rulemaking/potential-rulemaking/uw-streams.html>

*reasonably achievable based on technological and economic considerations.*" (Emphasis added.) The NRC has termed this approach a "minimization analysis." Similarly, proposed Sections 61.41(c) and 61.42(c) require efforts to "minimize" releases to the general environment and exposures to any inadvertent intruder during the "performance period" (the timeframe after the 10,000-year protective assurance period).

The proposed new minimization concept raises concerns for UUSA as a generator of DU waste. The proposed rule does not provide any substantive discussion of the technical or regulatory basis for the minimization requirements. As a result, unless the NRC carefully explains and limits the new minimization requirements with objective criteria, it will create uncertainty and a moving target for affected licensees and LLRW generators.

***a. Lack of basis for new minimization standard***

It appears that the minimization analysis concept was first introduced into the rulemaking in a February 12, 2014 Staff Requirements Memorandum (SRM), where the Commission approved publication of the proposed rule and draft guidance subject to certain conditions. The 2014 SRM directed the addition of a protective assurance period analysis that "should strive to minimize radiation dose with the goal of keeping doses below a 500 mrem/yr analytical threshold. The *radiation doses should be reduced to a level that is reasonably achievable based on technological and economic considerations.*" (Emphasis added.) The Commission vote sheets for the SRM do not provide a source for this language, although two Commissioners suggested that "as low as reasonably achievable" (ALARA) principles should apply to the protective assurance period analysis. This appears to be the origin of the proposed new minimization requirements, although there is no further discussion of the concept in the rulemaking record.

Neither the proposed rule nor the NRC's Regulatory Analysis for the rulemaking provides any technical or cost-benefit justification for the new minimization requirements. Similarly, the NRC's *Draft Guidance for Conducting Technical Analyses for Low-Level Radioactive Waste Disposal* (released with the proposed rule) does not provide any meaningful detail on this subject. The most in-depth discussion can be found in the Draft Guidance, which states:

These requirements to minimize releases and exposures are intended to be conceptually similar to aspects of the ALARA requirement found in 10 CFR Part 20, which includes the use of optimization, feasibility analyses, and traditional cost-benefit analyses . . . The minimization analysis is conceptually similar to ALARA, but it is not identical.<sup>7</sup>

To provide regulatory certainty, the NRC, at a minimum, should develop a technical and regulatory basis to support any new minimization standards and clarify the proposed new requirements in any final rule. The language of the proposed rule is fraught with subjective terms, such as "should be reduced," "reasonably" achievable, and "technological and economic considerations." Without clarification of these subjective concepts, there will be uncertainty about how to comply with the

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<sup>7</sup> NUREG-2175, *Guidance for Conducting Technical Analyses for 10 CFR Part 61*, Draft Report for Comment (Mar. 2015) at 6-11.

standards over the extremely long time horizons covered by the protective assurance and performance periods.

If the NRC intends to retain ongoing minimization requirements in the final rule, it should add objective criteria to the proposed language of Sections 61.41 and 61.42 to keep the minimization requirements from being overly subjective. As an example, the definition of ALARA in 10 C.F.R. Section 20.1003 contains certain objective limitations (emphasis added):

*ALARA (acronym for “as low as is reasonably achievable”) means making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest.*

In addition, 10 C.F.R. Section 20.1101(b) states (emphasis added):

*The licensee shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).<sup>8</sup>*

Thus the ALARA principle is defined by reference to objective standards of practicality and cost-benefit criteria, as well as being linked to the specific radiation protection requirements contained in Part 20 and nationally and internationally recognized standards. In contrast, the new minimization analysis requirement in proposed Sections 61.41(b) and 61.42(b) provides that the annual dose to the public or an inadvertent intruder shall be below 5 mSv (500 mrem) “or a level that is supported as reasonably achievable based on technological and economic considerations.” With such potentially broad standards, it would be very difficult for licensees, generators, Agreement States, and the NRC to determine how to apply the new requirements, especially for the long-term time horizons for the protective assurance and performance periods. In fact, the ongoing minimization concept will be very difficult to implement for multiple Agreement States that may be using different regulatory approaches.

Accordingly, if the NRC retains the minimization requirements in the final rule, UUSA urges the NRC to clarify the language of the proposed new minimization requirements in proposed Sections 61.41 and 61.42 by adding objective criteria similar to those used in the well-established ALARA principle. The NRC should consider publishing the revised rule text for comment by stakeholders before finalizing the rule in order to ensure that the new requirements will be workable in practice. In any final rule, the NRC should also provide a full explanation of the new standards in the Statement of

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<sup>8</sup> Presumably, the reference to “sound radiation protection principles” includes the well recognized standards provided by the International Commission on Radiation Protection (ICRP) and the National Council on Radiation Protection (NCRP).

Considerations so that licensees, LLRW generators, and Agreement States have a clear understanding of the intent of the new provisions.<sup>9</sup>

Alternatively, the NRC should consider dropping the proposed minimization concept from the final rule in view of the practical difficulties that will be created for implementing such a subjective requirement over thousands of years. Instead, the NRC could rely on the specific dose limits set forth in proposed Sections 61.41 and 61.42, which would provide objective criteria for licensees, generators, and Agreement States to meet.

In any event, if any ongoing minimization requirement is retained in the final rule, the NRC should give serious consideration to adding a backfitting protection provision to Part 61. The Commission adopted backfit rules for Part 50 and Part 70 as a matter of good regulatory policy, to ensure that the costs and benefits of proposed new requirements would be thoroughly analyzed before being imposed on affected licensees. The same policy holds true for LLRW disposal facilities licensed under Part 61. As the limited number of LLRW disposal facilities age, it will be increasingly important for the licensees, as well as the LLRW generators that depend on the disposal facilities, to have protection against the imposition of new regulatory requirements or positions that have not been properly justified. This is particularly true since an ongoing minimization standard could be a source of new regulatory positions imposed by the NRC or Agreement States.

#### ***b. Legal precedent on similar standards***

In considering a minimization requirement for Part 61, the NRC should be mindful that, in some contexts, a “minimization” standard has been problematic. The basic problem is that a minimization standard can establish a moving target, since developments in technology and even the concept of what is “reasonably achievable” can change over time and lead to differences in opinion.

Such an approach can create considerable uncertainty for the regulated community. As the Supreme Court discussed in *Entergy Corp. v. Riverkeeper, Inc.*, 556 U.S. 208 (2009), the Environmental Protection Agency (EPA) for some three decades made determinations on a case-by-case basis about the “best available technology” for power plant cooling water intake structures for purposes of “minimizing” adverse environmental impacts as required under the Clean Water Act.

As illustrated by the *Entergy* case, EPA’s best available technology (BAT) standard has created debates over the extent to which cost could be taken into account in determining the BAT and how far a power plant would have to go in *minimizing* – as distinct from *reducing* -- impacts. In the *Entergy* case, the Supreme Court upheld the EPA’s use of cost-benefit analysis to determine what technology is the BAT. In addition, the Court discussed the meaning of the Clean Water Act provision requiring use of the BAT “for minimizing adverse environmental impact.”<sup>10</sup> The Supreme

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<sup>9</sup> If the NRC does not clarify the new ongoing minimization requirements by incorporating objective criteria, the problem with subjectivity and uncertainty could be compounded for LLRW disposal facilities in Agreement States if the states were to seek to impose more specific restrictions or limits in the interest of “minimizing” releases or exposures.

<sup>10</sup> 33 U.S.C. 1326(b).

Court focused on the word “minimize” and concluded that “‘minimize’ is a term that admits of degree and is not necessarily used to refer exclusively to the ‘greatest possible reduction.’”<sup>11</sup>

In line with the *Entergy* case, if the NRC were to retain a minimization concept in the final rule, it should clarify that the analysis of “technological and economic considerations” as set forth in proposed Sections 61.41 and 61.42 should be based on cost-benefit determinations, so that not every new and conceivably better technology must be adopted for reducing dose, but only a technology that is determined to be cost-justified because it would produce a *substantial* safety benefit and impose costs that are commensurate with the safety benefit. This would be consistent with the ALARA principle under Part 20. Further, based on the *Entergy* case, the NRC should clarify in the final rule that any “minimization” requirement is intended to be understood in relative terms, considering the costs and benefits to public health and safety, and is not intended to demand the greatest possible reduction of dose regardless of costs.

***Comment 2: The NRC should perform a backfitting analysis to quantify the impacts and safety benefits of the proposed new requirements.***

The proposed rule would require new and revised site-specific technical analyses that would be used to develop site-specific performance criteria for LLRW acceptance. In particular, these analyses would be used to establish site-specific Waste Acceptance Criteria (WAC), which generators and shippers of LLRW would be required to meet. The NRC nevertheless concluded that a backfit analysis is not required for the proposed rule, simply stating that the “requirements in this proposed rule do not involve any provisions that would impose backfits on nuclear power plant licensees licensed under 10 CFR Part 50 or 52 or fuel cycle licensees licensed under 10 CFR Part 70.”<sup>12</sup>

Respectfully, UUSA disagrees and believes that the rulemaking should be treated as a backfit for enrichment facilities like UUSA and a backfitting analysis should be performed in accordance with the standards of 10 C.F.R. 70.76(a)(3). As a matter of sound regulatory policy, the NRC should perform a rigorous cost-benefit analysis so that it fully understands the impacts of this important rulemaking on all affected licensees, including uranium enrichment facilities that must dispose of significant quantities of DU waste.

***a. The rule would have a significant impact on enrichment facilities.***

The proposed rule would result in the imposition of new WAC that generators of LLRW will be required to meet, including uranium enrichment facility licensees. The statement in the “Backfitting” section of the proposed rule that the new provisions would not impose backfits on reactor or fuel cycle licensees is merely conclusory, and does not articulate a rational explanation for why the proposed rule would not result in the imposition of backfits.<sup>13</sup> Given that UUSA is one of the main

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<sup>11</sup> 556 U.S. at 219.

<sup>12</sup> 80 Fed. Reg. at 16116.

<sup>13</sup> In contrast to the proposed rule here, in other cases the NRC has articulated a logical and specific explanation to justify why a proposed change does not constitute a backfit. See, e.g., *Proposed Revisions to Site Characteristics and Site Parameters*, 80 Fed. Reg. 30285, 30286-87 (May 27, 2015) (explaining why proposed revisions to review standards for site characteristics did not represent a backfit for applicants and future applicants). If the NRC has

generators of DU, and the fact that the rulemaking largely originated from the UUSA initial licensing proceeding, it is apparent that the proposed rule changes would result in new requirements that have a significant impact on enrichment facility licensees like UUSA.

In concluding that the proposed rule would not impose backfits on reactors or fuel cycle facilities, the NRC appears to construe the rule narrowly as affecting only LLRW disposal facilities. In fact, the new requirements of the proposed rule can have a “domino” impact on tails management and disposal procedures and operational activities at waste generators like UUSA. While the LLRW disposal facility licensees would be required to perform new site-specific analyses in the first instance, the resulting site-specific WAC and other restrictions would be imposed on generators and shippers of LLRW. Thus a significant part of the burden of the new requirements would actually fall squarely on generators like UUSA. In addition, UUSA has been informed that the economic costs incurred by a disposal facility for complying with the new site-specific analysis requirements would be passed on to generators like UUSA on a dollar-for-dollar basis.

On its face, the proposed rulemaking clearly indicates that it is aimed at addressing the disposal of large quantities of DU waste from enrichment facilities. As the NRC states, the central focus of the rulemaking is to “ensure that LLRW streams that are significantly different from those considered during the development of the current regulations (*i.e.*, depleted uranium and other unanalyzed waste streams) can be disposed of safely and meet the performance objectives for land disposal of LLRW.”<sup>14</sup>

Despite the central focus of the rulemaking, the NRC has not analyzed the cost and other impacts of the proposed rule on affected generators of DU waste. As a matter of sound regulatory policy, UUSA believes the NRC should prepare a “systematic and documented analysis” in accordance with Section 70.76 to analyze the impacts of the proposed rule on fuel cycle and other affected licensees. The Commission recently recognized the importance of performing such a “systematic and documented analysis” as required by Section 70.76 in order to ensure that new requirements are properly justified under the NRC’s backfitting standards.<sup>15</sup>

***b. The proposed rule meets the definition of “backfitting” under 10 C.F.R. 70.76.***

While the new site-specific analysis requirements of the proposed rule would be imposed directly on disposal facility licensees, we believe the rule also constitutes a backfit for enrichment facility licensees under the definition of “backfitting” in 10 C.F.R. 70.76. Specifically, under 10 C.F.R. 70.76(a)(1), “backfitting” is defined to include “the modification of, or addition to, systems, structures, or components of a facility” or changes to “the procedures or organization required to operate a facility,” any of which “may result from a new or amended provision in the Commission rules.” The definition is broadly worded to include any new or modified regulation that has the effect of causing such changes for Part 70 licensees.

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developed an internal analysis of why the proposed rule does not involve any backfitting, the agency should make the analysis available to the public for comment as part of the rulemaking.

<sup>14</sup> 80 Fed. Reg. at 16082.

<sup>15</sup> See Commission Voting Record, dated June 18, 2015, on SECY-15-0045, *Issuance of Generic Letter 2015-01, Treatment of Natural Phenomena Hazards in Fuel Cycle Facilities* (comments by Commissioner Svinicki and Commissioner Ostendorff on backfitting implications of the proposed generic letter).

Significantly, NRC precedent shows that a backfit can result not just from a rulemaking that amends Part 70 itself, but by any “new or amended provision in the Commission rules.” In previous rulemakings with wide ranging impacts, the NRC has looked at how the new requirement would burden different types of licensees. The NRC has recognized that changes in, or new staff positions related to, other parts of the NRC regulations that affect Part 70 licensees can also be covered by the Part 70 backfitting rule. In connection with guidance for a recent rulemaking involving new Part 71 quality assurance requirements for transportation of radioactive materials, the NRC articulated the standard for determining whether a change under one Part of the regulations (such as Part 71) is a backfit for facilities licensed under another Part (such as Part 50 or 70) with backfitting protection. The NRC stated that the backfit rule will apply “where the activity regulated under other parts without backfitting or issue finality protections [e.g., Part 71] is an inextricable part of the regulated activity subject to backfitting or issue finality [e.g., Parts 50 and 70].”<sup>16</sup>

Clearly, with UUSA generating DU waste that needs to be disposed of in the LLRW disposal facilities and the impacts that changes to DU disposal criteria could have directly on the UUSA facility and license, the activities regulated under Part 61 are an “inextricable part” of a uranium enrichment facility’s activities regulated under Part 70. In this regard, the Part 61 disposal facilities would be required to develop new WAC based on the site-specific analysis in the first instance.<sup>17</sup> The new requirements of the rule would then flow down as the disposal facilities would impose the new WAC and related restrictions on shippers and generators, such as UUSA, who would be required to meet the new WAC in order to dispose of their DU waste.

Due to the “domino” impact of the new requirements, the proposed rule would likely result in changes to facilities, procedures and operations of uranium enrichment plants, and thus would constitute a backfit within the meaning of 10 C.F.R. 70.76. Fundamentally, if the Part 61 amendments restrict the ability to dispose of DU waste in a LLRW disposal facility, then the rule could jeopardize the viability of commercial disposal paths for DU waste from uranium enrichment facilities. In any event, the new requirements of the proposed rule could result in the following types of changes at the UUSA facility:

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<sup>16</sup> *Establishing Quality Assurance Programs for Packaging Used in Transport of Radioactive Material*, 78 Fed. Reg. 29016, 29017 (May 16, 2013) (emphasis added). The NRC also recognized this principle, for example, in a rulemaking updating Part 26 fitness-for-duty requirements, where the NRC explained that a backfitting analysis was performed as required by Section 70.76 (as the rule applies to formula quantity strategic special nuclear material licensees who are subject to Part 26 requirements) and Section 50.109 (as applied to reactor licensees). *Fitness for Duty Programs; Final Rule*, 73 Fed. Reg. 16966, 17172 (Mar. 31, 2008).

<sup>17</sup> The proposed rule contains a number of new or amended NRC requirements and positions for Part 61 facilities. These include the new minimization analysis provisions in Sections 61.41(b) and 61.42(b) and the new defense-in-depth analyses to demonstrate that the disposal site and design meet the performance objectives. As noted by the NRC’s Office of General Counsel in a backfitting presentation during the NRC’s annual Regulatory Information Conference, in order to be a backfit, a staff’s “changed position” must either be a “new position” or a position that is “different from a previously applicable Staff position.” See G. Mizuno, NRC Office of General Counsel, “Backfitting: ‘Changed’ versus ‘New’ Guidance: A Presentation for the 2011 RIC NRC” (Mar. 20, 2011) at 6. The absence of a backfitting provision in Part 61 provides the NRC with the opportunity to avoid doing a cost-benefit analysis of the rule’s impacts on LLRW disposal facilities that sound regulatory policy would dictate is necessary. For this reason, if the final rule retains such provisions as ongoing minimization requirements, we recommend that the Commission include a backfit rule provision in Part 61.

- Possible amendments to the materials limits and DU cylinder storage limits contained in the UUSA facility license. See License Conditions 6 (materials limits), 21 (limiting onsite cylinder storage to a capped amount), and 22 (limiting onsite storage of any one DU cylinder to 25 years). The rule could require license amendments to account for any need to expand capacity at existing storage space or constructing new storage facilities onsite.
- Changes to UUSA's tails management and disposal procedures and operational activities, as well as changes to the design of the facility to account for any additional onsite storage of DU.
- Changes to UUSA's financial assurance for decommissioning and decommissioning planning because the cost estimate for DU disposal may increase and to account for any new restrictions on DU disposal in LLRW disposal facilities. See License Condition 16(d), requiring updated decommissioning cost estimates and revised funding instruments for DU disposition on an annual basis to reflect projections for DU (note that the DU disposal cost estimate is contingent upon the DOE disposal path, which can only be used if DU is considered to be low level waste).

During the UUSA licensing proceeding, many of these issues were heavily contested, including the cost of depleted uranium disposal and onsite storage of depleted uranium. In fact, the UUSA license includes a specific condition setting onsite DU cylinder storage limits, both in terms of amount and duration. These potential impacts are squarely of the type contemplated under the definition of backfitting in 10 C.F.R. 70.76. Therefore, the proposed new or modified requirements of Part 61 would constitute a backfit for uranium enrichment facility licensees, and a backfitting analysis meeting the cost-benefit standards of Section 70.76(a)(3) should be performed.

***c. The NRC's Regulatory Analysis is insufficient to justify the proposed rule.***

Under 10 C.F.R. 70.76(a)(2), the NRC must prepare a "systematic and documented analysis" to show that a proposed backfit will produce a "substantial increase" in the overall protection of public health and safety and that the direct and indirect costs are justified in view of the increased protection. As explained below, while the NRC prepared a Regulatory Analysis for the present rulemaking, that analysis does not meet the NRC's standards of the backfit rule.

As part of the Regulatory Analysis, the NRC performed a cost-benefit analysis that addressed only the four affected disposal facilities and relevant agreement states.<sup>18</sup> Thus, the Regulatory Analysis does not address the impacts on large segments of the affected industry, such as Part 50 and 70 licensees that generate LLRW, even though the focus of the rulemaking is on disposal of large quantities of DU waste from enrichment facilities.

Further, the NRC acknowledges that the Regulatory Analysis did not quantify the safety or risk benefits of the proposed rule, but only considered the safety benefits in a "qualitative fashion."<sup>19</sup> The

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<sup>18</sup> See Proposed Rule, 80 Fed. Reg. at 16082.

<sup>19</sup> *Id.*

Regulatory Analysis concluded that “[s]everal of the proposed amendments would increase operational flexibility for the licensees,” but found that “this benefit for the licensees is difficult to quantify.”<sup>20</sup>

Notably, the NRC’s discussion of the qualitative benefits does not include a showing of any significant safety improvements. Without a showing of a substantial increase in safety from the proposed new requirements, the added costs resulting from the rule cannot be justified. A purely *qualitative* analysis of the safety benefits is simply inadequate for a rulemaking of this magnitude.

Congress has cautioned the NRC against relying on qualitative factors to justify backfits. In a Letter from Representative Upton and a number of other members of the House Committee on Energy and Commerce to then Chairman Macfarlane, dated September 19, 2014, the Committee questioned the NRC’s reliance on qualitative factors as the sole basis to justify imposing new requirements and noted the importance of cost-benefit analyses to help ensure that regulatory changes yield safety benefits commensurate with the costs. The present rulemaking falls well within the scope of Congress’ criticism because it does not analyze how any increased safety benefits would be commensurate with the costs of the rulemaking.

Indeed, a recent Supreme Court decision expressly addresses the importance of an agency evaluating costs when it adopts regulations. In *Michigan v. Environmental Protection Agency*, 576 U.S. \_\_\_\_ (June 29, 2015), the Court found it unreasonable for the EPA to refuse to consider cost when determining whether the agency should regulate power plant emissions of mercury and other hazardous air pollutants. In its decision, the Court notes:

Agencies have long treated cost as a centrally relevant factor when deciding whether to regulate. Consideration of cost reflects the understanding that reasonable regulation ordinarily requires paying attention to the advantages and the disadvantages of agency decisions. It also reflects the reality that “too much wasteful expenditure devoted to one problem may well mean considerably fewer resources available to deal effectively with other (perhaps more serious) problems.” *Entergy Corp. v. Riverkeeper, Inc.*, 556 U. S. 208, 233 (2009) (BREYER, J., concurring in part and dissenting in part).

*Id.*, slip op., at 7.

Any agency action, the Court further explains, must “rest ‘on a consideration of the relevant factors,’ which includes costs. *Id.*, slip op., at 5 (citation omitted). In making this evaluation, an agency should be mindful that “‘costs’ includes more than the expense of complying with regulations; any disadvantages could be termed a cost.” *Id.*, slip op., at 7. “No regulation is ‘appropriate,’” the Court explains, “if it does significantly more harm than good.” *Id.*

Similarly, the NRC’s proceeding with the Part 61 rulemaking without fully considering the impacts on affected segments of the industry runs counter to the agency’s policy initiative to reduce the

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<sup>20</sup> Draft Regulatory Analysis for Proposed Rule: Low-Level Radioactive Waste Disposal Low-Level Radioactive Waste Disposal (10 CFR Part 61) (Feb. 2015) at 20, and 23, “Table 4-4 Summary of Benefits and Costs.”

“Cumulative Effects of Regulation” (CER). The NRC has characterized its CER efforts broadly as developing “tools that will allow the agency to consider more completely the overall impacts of multiple rules, orders, generic communications, advisories, and other regulatory actions on licensees and their ability to focus effectively on items of greatest import.”<sup>21</sup> The NRC has focused much of its CER improvements to date on the rulemaking process, including ways to enhance stakeholder input and provide more accurate cost-benefit analyses to justify new rules, particularly with respect to improving the accuracy of estimates of licensee implementation costs for new regulatory requirements.<sup>22</sup> If the NRC were to ignore the impact of the proposed rule on affected generators of LLRW, the NRC would effectively be avoiding its own CER policy.

In sum, UUSA recommends that the Commission perform a backfitting analysis of the rulemaking as related to affected uranium enrichment facilities, which are the focus of the proposed rule.

***Comment 3: The NRC should take an integrated approach to the Part 61 rulemaking by resolving the waste classification issue related to DU in conjunction with the present rulemaking.***

The NRC undertook the present rulemaking, in large part, to determine the appropriate disposal path for large quantities of DU that are generated at domestic uranium enrichment facilities. The outcome of any Part 61 rulemaking could affect whether such facilities, including UUSA, have a viable commercial disposal path for DU.

Two important aspects of Part 61 influence the commercial disposal path for DU: (1) the Part 61 performance objectives applicable to any form of land disposal of LLRW, and (2) the Part 61 waste classification scheme, which establishes the type of waste that can be disposed of in a near surface disposal facility.<sup>23</sup> While the Commission is undertaking a significant revision to Part 61 to regulate disposal of DU waste, it has elected—seemingly without any reasoned basis—to take a “two-step” approach and address any waste classification rulemaking separately from the present rulemaking focused on the performance objectives. The NRC’s plan for the future waste classification rulemaking would include risk-informing the Section 61.55 waste classification tables.

The NRC has not articulated a clear basis for proceeding in this two-step manner. In approving the Staff’s request to cease work on a comprehensive rulemaking to revise Part 61 that would also cover the waste classification issue, the Commission simply noted that it would improve “efficiency.”<sup>24</sup> The NRC should not move forward with one rulemaking on the performance criteria for waste disposal facilities under Part 61 and a separate rulemaking that will address the waste classification structure for DU waste under Part 61 because these criteria are intrinsically intertwined. As the NRC has noted, the waste classification tables and the site-specific waste acceptance criteria are designed to establish two “gates” for the disposal of LLRW – a generator can use either gate to determine if disposal of its waste is acceptable.

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<sup>21</sup> SECY-12-0137 at 1 (Mar. 2013).

<sup>22</sup> See SECY-12-0137 and COMSECY-14-0014.

<sup>23</sup> See, e.g., *Louisiana Energy Services* (National Enrichment Facility), CLI-05-05, “Commission Memorandum and Order” (providing description of Part 61 and its relevance to disposal of DU from the UUSA facility).

<sup>24</sup> See SECY-13-0001 at 1; and Commissioners’ Staff Requirements Memorandum, dated March 26, 2013.

Notably, the waste classification issue establishes when a certain type of low level waste (such as Class A, B, C or Greater than Class C) can be disposed of in a certain type of facility, and the performance objectives apply to all methods of disposal, regardless of the type of facility. If the NRC engages in lengthy and unpredictable separate rulemakings involving these two gates, then there will be significant regulatory uncertainty. Both aspects of the contemplated Part 61 revisions clearly interrelate and arose from the same UUSA initial licensing proceeding. Because the two aspects are closely related, a subsequent rulemaking on the waste classification framework could undermine or at least substantively change how the current Part 61 rulemaking is to be implemented. A change to the waste classification of DU, for example, could require longer storage of DU or result in the removal of DU waste already disposed of in certain LLRW facilities. In any event, if the NRC proceeds with both rulemakings separately, licensees will likely be required to modify their procedures and facilities twice to implement each new rule.

Another reason to address the waste classification issue in conjunction with the site-specific criteria for LLRW acceptance is that the waste classification for DU is a matter that should be determined at the federal level by the NRC to ensure consistency nationwide in accordance with the NRC's "Policy Statement on Adequacy and Compatibility of Agreement State Programs."<sup>25</sup> As a matter of fairness to all stakeholders, the NRC should not "kick the can down the road" by failing to resolve the waste classification issue for DU now. Rather, the NRC should resolve the issue now either as part of a risk-informed re-examination in the present rulemaking or by determining that the waste classification issue no longer needs consideration and the waste classification Tables do not need to be revised.<sup>26</sup>

As a matter of good regulatory policy, an agency should evaluate significant revisions to a regulatory scheme in a single rulemaking so that it can fully evaluate and understand the impact that all the contemplated revisions to the rule could have on the regulated community and other stakeholders such as Agreement States. In these types of circumstances, the courts have discouraged agencies from taking a piecemeal—or "one step at a time"—approach to adopting revisions to regulations. As a general matter, an agency should take an integrated approach to rulemakings so that the full extent of the rulemaking efforts can be evaluated holistically. See, e.g., *Nat'l Ass'n of Broadcasters v. FCC*, 740 F.2d 1190, 1211 (D.C. Cir. 1984) (quoting *ITT World Communications, Inc. v. FCC*, 725 F.2d 732 at 754 (D.C.Cir.1984)), where the D.C. Circuit made clear that an agency must provide a reasonable rationale for proceeding one step at a time so that it is not "oblivious to the problems it was postponing or to their likely resolution."

Here, there is no pressing need to move forward with the present near-term rulemaking on performance criteria for disposal of DU when the resolution of a critical issue – the waste classification of DU – has been deferred. A better approach for all stakeholders would be to address both of these important issues in a single integrated rulemaking.

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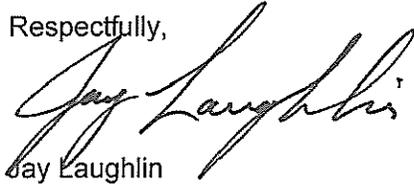
<sup>25</sup> 62 Fed. Reg. 46517 (Sept. 3, 1997).

<sup>26</sup> As discussed above, if the final rule retains the proposed ongoing minimization requirements, we believe the Commission should include a backfit rule provision in the revised Part 61. Such a provision would allow affected licensees to seek relief from overly restrictive new requirements or regulatory staff positions implementing the Part 61 requirements that are not well justified. In areas where an Agreement State may seek to deviate from or go beyond the NRC's requirements, backfitting protection may provide a regulatory mechanism to allow licensees to resolve the issue so that it does not become a political (state vs. federal) issue.

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UUSA appreciates the efforts of the NRC and the opportunity to comment on this important rulemaking. If you have any questions on these comments, please contact Amy Johnson at 575-394-6203 or Amy.Johnson@URENCO.com.

Respectfully,

A handwritten signature in black ink that reads "Jay Laughlin". The signature is written in a cursive style with a large, sweeping initial "J".

Jay Laughlin  
URENCO USA Chief Nuclear Officer and Head of Operations