

**UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION**

**BEFORE THE COMMISSION**

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In the Matter of	)	
United States Enrichment Corporation	)	Docket No. 70-7004
	)	
(American Centrifuge Plant)	)	
	)	
	)	

**USEC INC. BRIEF ON THE PROPER  
CLASSIFICATION OF DEPLETED URANIUM TAILS**

**I. INTRODUCTION**

On August 23, 2004, USEC Inc. (USEC) submitted an application to construct and operate its American Centrifuge Plant (ACP) in Piketon Ohio. On October 7, 2004, the Nuclear Regulatory Commission (Commission) issued its “Notice of Receipt of Application for License; Notice of Availability of Applicant’s Environmental Report; Notice of Consideration of Issuance of License; and Notice of Hearing and Commission Order,” CLI-04-30 (CLI-04-30). In CLI-04-30 the Commission stated that it was “considering matters of law applicable to disposition of tails which may be dispositive of matters arising in a USEC proceeding,” and referenced in particular its August 18, 2004 Memorandum and Order in the *Louisiana Energy Services, L.P.* (National Enrichment Facility) proceeding (CLI-04-25). CLI-04-30, slip op. at 15.

In the Commission’s August 18, 2004 Memorandum and Order, the Commission stated, among other things, that the intervenors in the *Louisiana Energy Services (LES)* proceeding contended that LES “does not have a ‘plausible strategy’ to dispose of” depleted uranium tails. CLI-04-25, slip op. at 4. Citing its hearing notice in the *LES*

proceeding, the Commission set forth what it believed was “one [such] possible ‘plausible strategy’” as follows:

[U]nless LES demonstrates a use for the uranium in the depleted tails as a potential resource, the depleted tails may be considered “waste”.... [I]f additionally, “such waste meets the definition of ‘waste’ in 10 C.F.R. 61.2, the depleted tails are to be considered low-level radioactive waste within the meaning of 10 C.F.R. part 61,” in which case “an approach by LES to transfer to DOE for disposal by DOE of LES[’s] depleted tails pursuant to Section 3113 of the USEC Privatization Act constitutes a ‘plausible strategy’ for dispositioning the LES depleted tails.”

*Id.* at 4 (citations omitted). (Emphasis added.) The Commission accepted for review, as a “novel legal or policy question” whether depleted uranium tails are properly classified as low-level radioactive waste (LLW). *Id.* at 4-5.

As discussed below, USEC strongly believes that, with respect to any depleted uranium tails generated during the operation of USEC’s ACP that are not used as a resource and are to be disposed of, such depleted uranium tails clearly are LLW, and that the transfer of such depleted uranium to the U.S. Department of Energy (DOE) pursuant to Section 3113 of the USEC Privatization Act is clearly a “plausible strategy” for the disposition of this material.

Furthermore, in order to conclude that depleted uranium tails are LLW, the Commission need not either: (1) reference 10 CFR Part 61 in general; or (2) find that the tails meet the definition of “Waste” set forth in 10 CFR § 61.2. The materials defined as “Waste” in 10 CFR Part 61 are clearly a subset of the materials defined as LLW by statute. Since depleted uranium tails clearly meet the statutory definition of LLW in the USEC Privatization Act as well as the definition in NRC regulations, no further

determination under 10 CFR Part 61 is necessary. The bases for USEC’s views are set forth below.

## **II. ARGUMENT**

The fundamental purpose of the Commission’s inquiry into the appropriate classification of depleted uranium tails is to determine if USEC has a “plausible strategy” for the disposition of this material upon which it can rely in evaluating USEC’s Application. Passage of the USEC Privatization Act established such a plausible strategy by virtue of its direction to DOE to accept for disposal depleted uranium tails, so long as they are ultimately determined to be LLW. In particular, Section 3113(a) of the USEC Privatization Act states:

The Secretary, at the request of the generator, shall accept for disposal ... depleted uranium if it were ultimately determined to be low-level radioactive waste....

42 U.S.C. § 2297h-11(2000).

Thus, the issue presently before the Commission is a straightforward one – do depleted uranium tails satisfy the statutory definition of LLW in the USEC Privatization Act? If so, USEC’s reliance on DOE disposal of such tails pursuant to DOE’s responsibilities under Section 3113 represents a plausible disposition strategy. In short, the matter before the Commission is one of statutory interpretation of the USEC Privatization Act.

### **A. In The Absence Of A Beneficial Use, Depleted Uranium Tails That Are To Be Disposed Of Meet The Statutory Definition Of Low-Level Radioactive Waste**

Section 3102(6) of the USEC Privatization Act defines LLW as having “the meaning given such term in section 2(9) of the Low-Level Radioactive Waste Policy

Act” (LLRWPA). 42 U.S.C. § 2297h(6) (2000). Section 2(9) of the LLRWPA defines LLW as follows:

radioactive material that –

(A) is not high-level radioactive waste, spent nuclear fuel, or [11e.(2)] byproduct material... and

(B) the Nuclear Regulatory Commission, consistent with existing law and in accordance with paragraph (A), classifies as low-level radioactive waste.

42 U.S.C. § 2021b(9) (2000). It is manifestly clear that depleted uranium tails do not constitute high-level waste,<sup>1</sup> spent nuclear fuel,<sup>2</sup> or 11e.(2) byproduct material.<sup>3</sup> Thus, so long as the NRC classifies depleted uranium tails as LLW consistent with existing law and in accordance with these definitions, then such tails are LLW under the USEC Privatization Act and transfer to DOE under Section 3113 represents a plausible disposition strategy.<sup>4</sup>

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<sup>1</sup> The term “high-level radioactive waste” means – (A) the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations; and (B) other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation. 42 U.S.C. § 10101(12) (2000).

<sup>2</sup> The term “spent nuclear fuel” means fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing. 42 U.S.C. § 10101(23) (2000).

<sup>3</sup> The term 11e.(2) “byproduct material” means ... (2) 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. § 2014e. (2) (2000).

<sup>4</sup> It is worth noting that DOE has already acknowledged that if depleted uranium tails are not beneficially used, they may require “disposition[ing] as low-level radioactive waste” and that studies performed for DOE have concluded that depleted uranium tails to be transferred from DOE’s planned tails conversion facilities either to the Nevada Test Site or Envirocare “would likely meet each site’s waste acceptance criteria.” *See* Final Environmental Impact Statement for Construction and Operation of a Depleted Uranium Hexafluoride Conversion Facility at the Portsmouth, Ohio, Site (DOE/EIS-0360, June 2004) at Section 1.6.2.4; *See also Id.* at Section S.2.3.4, and Table 2.2-2. Further, DOE’s EIS acknowledges and considers that additional depleted uranium may be transferred to DOE under Section 161(v) of the Atomic Energy Act or Section 3113 of the Privatization Act (*See Id.* at Section 2.2.7).

There is no existing law that would preclude the Commission from classifying depleted uranium tails as LLW. Thus, the Commission may do so explicitly in the course of its consideration of this issue and thereby fully satisfy the statutory standard. Alternatively, since depleted uranium tails already clearly meet the definition of LLW set forth in the Commission's existing regulations (*see* Section II. B. below), the Commission may simply rely on that definition to meet the statutory standard.

Thus, depleted uranium tails clearly meet the statutory definition of LLW in the USEC Privatization Act. As a result, the NRC need not even consider 10 CFR Part 61 (its regulations governing "Licensing Requirements for Land Disposal of Radioactive Waste"), in making its determination with respect to depleted uranium tails. The matter can be resolved simply and directly on the basis of a straightforward statutory interpretation of the USEC Privatization Act and the related statutory provisions discussed above.

**B. In the Absence of a Beneficial Use, Depleted Uranium Tails That Are To Be Disposed Of Meet the 10 CFR Part 61 Definition Of Low-Level Radioactive Waste**

Nevertheless, even if the Commission chose to apply the definitional provisions of 10 CFR Part 61 in making its determination, it remains clear that depleted uranium tails, if not used as a resource, would be LLW. It is on this particular issue where USEC believes there is an aspect of both the Commission's Hearing Notice in the LES proceeding and CLI-04-25 which requires additional attention.

As stated earlier, CLI-04-25 cites the LES Hearing Notice and states, in part,

[I]f ... "such waste meets the definition of 'waste' in 10 C.F.R. 61.2, the depleted tails are ... low-level radioactive waste within the meaning of 10 C.F.R. part 61"....

CLI-04-25, slip op. at 4. As discussed below, such tails do not need to meet the 10 CFR 61.2 definition of “Waste” to be considered LLW. Indeed, the inclusion of the reference to the definition of “Waste” adds an inappropriate requirement that the depleted uranium be acceptable for disposal in a land disposal facility.

10 CFR § 61.2 defines “Waste” as:

those low-level radioactive wastes ... that are acceptable  
for disposal in a land disposal facility.

It is clear from this definition alone that the term “Waste” as used in CFR Part 61 is, in fact, a subset of the larger category of LLW. Thus, materials may not meet the definition of “Waste” – because they are not acceptable for disposal in a land disposal facility – but nevertheless may properly be classified as LLW.<sup>5</sup>

The reason for the distinction between “Waste” and LLW is clear from a reading of Part 61. Those regulations were written to prescribe licensing requirements for “Land Disposal of Radioactive Waste,” primarily in “near-surface disposal facilities.” 10 CFR §§ 61.1 and 61.7. A “land disposal facility” is defined in Section 61.2 to exclude a geologic repository. A “near-surface disposal facility” is defined in Section 61.2 as a land disposal facility involving disposal in the upper 30 meters of the earth’s surface. The definition of “Waste” was established in order to define the types of materials suitable for land disposal. It was not promulgated to represent a comprehensive definition of LLW.<sup>6</sup>

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<sup>5</sup> While depleted uranium tails generated at USEC’s ACP will undoubtedly meet the definition of “Waste” contained in 10 CFR Part 61, and in fact would be classified as Class A Waste, it is not necessary to make such a determination to decide that depleted uranium tails would be LLW.

<sup>6</sup> For example, although “greater than class C waste” is not suitable for land disposal under Part 61, it nevertheless meets the definition of LLW. Under the LLRWPA, which defines LLW for purposes of Section 3113 of the Privatization Act, the federal government is legally responsible for the disposal of any waste classified as greater than class C waste. 42 USC § 2021c(b)(1)(D)(2000).

Furthermore, acceptability for disposal in a land disposal facility is a criterion for acceptance of waste at a facility licensed under Part 61, but it is not a criterion for determining if a waste is LLW or if, more importantly, DOE is responsible for its disposition under Section 3113 of the USEC Privatization Act.<sup>7</sup> The Section 61.2 definition of “Waste” goes on to state:

For the purposes of this definition, low-level waste has the same meaning as in the Low-Level Waste Policy Act, that is, radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in Section 11e.(2) of the Atomic Energy Act (uranium or thorium tailings and waste).

10 CFR § 61.2.<sup>8</sup> This portion of the definition makes even clearer both that “Waste” is only a subset of LLW, and that depleted uranium tails are properly classified as LLW in the absence of a beneficial use.

Based on the above, the Section 61.2 definition of “Waste” is not relevant in determining whether depleted uranium tails are LLW, and under the applicable statutory definitions, such tails clearly constitute LLW so long as no beneficial use has been identified.

### **III. CONCLUSION**

The Commission should conclude that, in the absence of a beneficial use, depleted uranium tails that are to be disposed of are LLW and consequently, transfer of such depleted uranium to DOE pursuant to Section 3113 of the USEC Privatization Act is

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<sup>7</sup> Part 61 applies to “all persons” in the United States but the DOE is explicitly excluded from the definition of a “person.” 10 CFR §§ 61.1 and 61.2.

<sup>8</sup> The Section 61.2 definition of LLW, unlike the definition in the LLRWPA, refers to “transuranic waste.” This is most likely as a result of the fact that the original Low-Level Radioactive Waste Policy Act of 1980, prior to its amendment in 1985, included this term in the definition of materials that are not LLW. *See* 42 U.S.C. § 2021b(2) (1980). Depleted uranium tails do not constitute transuranic waste. *See* 42 U.S.C. § 2014ee. (2000).

clearly a “plausible strategy” for the disposition of this material. Furthermore, the Commission should reach that conclusion by reference to the relevant statutory definitions in the USEC Privatization Act and the LLRWPA. There is no need to draw on 10 CFR Part 61 to reach this conclusion, because Part 61 was promulgated to establish NRC licensing requirements for commercial land disposal of radioactive waste, and not to establish requirements governing DOE disposal of LLW pursuant to Section 3113 of the USEC Privatization Act.

Even if the Commission does refer to Part 61, it is clear that depleted uranium tails satisfy the regulatory definition of LLW, and that there is no need to demonstrate that such tails meet the definition of “Waste” in 10 CFR § 61.2.

Respectfully submitted,

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Donald J. Silverman, Esq.  
Morgan, Lewis & Bockius, LLP  
1111 Pennsylvania Avenue, N.W.  
Washington, DC 20005  
Phone: (202) 739-5502  
E-mail: dsilverman@morganlewis.com

Dennis J. Scott, Esq.  
Assistant General Counsel  
USEC Inc.  
6903 Rockledge Drive  
Bethesda, MD 20817  
Phone: (301) 564-3352  
E-mail: scotttd@usec.com

Counsel for USEC Inc.

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