Department of Energy
Washington, DC 20585
August 15, 1997

RCRA Information Center
Office of Solid Waste (5305G)
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Docket Number F-97-2P4P-FFFFF

Dear Sir or Madam:

Re: 62 FR 26041, "Land Disposal Restrictions Phase IV: Second Supplemental Proposal on Treatment Standards for Metal Wastes and Mineral Processing Wastes, Mineral Processing and Bevill Exclusion Issues, and the Use of Hazardous Waste as Fill"

On May 12, 1997, the Environmental Protection Agency (EPA) published a Supplemental Proposed Rule regarding revision of the universal treatment standards (UTS) for twelve metal constituents and corresponding revisions to the waste-specific land disposal restrictions (LDR) treatment standards for nonwastewater forms of characteristic metal wastes, mineral processing wastes, and other metal-bearing wastes. The Supplemental Proposed Rule also: (1) requested comment on several specific options concerning the regulation of secondary materials from mineral processing and the regulation of materials being co-processed in Bevill-exempt mining units; (2) presented new information on threats to human health and the environment from Bevill mining and mineral processing wastes and requested comment on whether such wastes, which are currently excluded from federal hazardous waste regulations, warrant regulatory controls; (3) proposed an exclusion from the definition of solid waste for certain materials reused by wood preserving operations; (4) proposed regulations clarifying the standards used by EPA for deciding whether to grant variances from LDR treatment standards; and (5) proposed regulations to implement a prohibition on the use of most hazardous wastes as fill material.

The Department of Energy (DOE) appreciates the opportunity to provide comments on the May 12, 1997 Supplemental Proposed Rule (hereinafter referred to as the Phase IV second supplemental proposal). The enclosed comments combine the viewpoints and concerns identified by DOE field organizations and program offices. This consolidated DOE response to the Phase IV second supplemental proposal focuses on several issues raised in the LDR Phase IV rulemaking series [consisting of the initial LDR Phase IV proposed rule (60 FR 43654, August 22, 1995), the Phase IV first supplemental proposal (61 FR 2338, January 25, 1996), a notice of data availability on Phase IV issues (61 FR 21418, May 10, 1996), and the Phase IV second supplemental proposal] that are of particular concern to the Department.

DOE reiterates its support for EPA's proposal in the initial Phase IV proposed rule to allow characteristic metal mixed wastes that have undergone stabilization prior to the effective date of the Phase IV final rule, to comply at disposal with the LDR metal treatment standards that were in effect at the time the wastes were stabilized (notwithstanding that actual disposal may occur after the effective date of the Phase IV final rule). The enclosed comments also respond to information provided in the second supplemental proposal (62 FR 26063) concerning the protective capability of vitrification technology. Furthermore, DOE comments support a number of EPA's contemplated regulatory amendments regarding revised treatment standards for characteristic metal wastes, clarification of treatment variance rules, and banning use of prohibited hazardous waste as fill material. Finally, a number of comments and suggestions are provided relative to the proposed regulatory language presented in the second supplemental proposal.

The enclosed comments have been divided into two sections: general and specific. The general comment addresses a broad concern. The specific comments relate directly to potential regulatory approaches and issues raised in particular sections of the Phase IV second supplemental proposal. For clarity, each specific comment is preceded by a reference to the section of the second supplemental proposal to which it applies and a brief description in bold-face type of the issue within that section to which DOE's comment is directed.

Sincerely,

Raymond F. Pelletier
Director
Office of Environmental Policy
and Assistance

Enclosure

cc: M. Petruska, EPA, OSW, Waste Treatment Branch
S. Slotnick, EPA, OSW, Waste Treatment Branch

UNITED STATES DEPARTMENT OF ENERGY

COMMENTS ON

LAND DISPOSAL RESTRICTIONS PHASE IV: SECOND SUPPLEMENTAL PROPOSAL

SUPPLEMENTAL PROPOSED RULE
(62 FR 26041; May 12, 1997)

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UNITED STATES DEPARTMENT OF ENERGY
Comments on LAND DISPOSAL RESTRICTIONS PHASE IV: SECOND SUPPLEMENTAL PROPOSAL

Supplemental Proposed Rule (62 FR 26041; May 12, 1997)

GENERAL COMMENTS

1. DOE reiterates its support for EPA's proposal in the initial Phase IV proposed rule to allow characteristic metal mixed wastes, that have undergone stabilization prior to the effective date of the Phase IV final rule, to comply at disposal with the land disposal restriction (LDR) metal standards that were in effect at the time the wastes were stabilized, notwithstanding that actual disposal may occur after the effective date of the Phase IV final rule.

In the preamble to the initial LDR Phase IV proposed rule, the U.S. Environmental Protection Agency (EPA) discussed its intention to allow characteristic metal mixed wastes (i.e., radioactive wastes that exhibit the characteristic of toxicity for one or more metals) that have undergone stabilization prior to the effective date of the Phase IV final rule, to comply at disposal with the LDR metal standards that were in effect at the time the waste was stabilized [60 FR 43654, 43683; Aug. 22, 1995]. EPA acknowledged that there is a good possibility that when these previously treated characteristic metal mixed wastes are disposed, the Phase IV final rule will be in effect and the metal portion of such wastes will be subject to revised, potentially more stringent, treatment standard levels. Even so, EPA stated its belief that the prior stabilization of such wastes achieves the statutory minimized threat standard, and to require re-treatment would not minimize threat, but could increase it. DOE recognizes that EPA has not revisited this aspect of the Phase IV proposed rule in the Phase IV second supplemental notice because no new information has become available prompting the Agency to modify or augment its earlier proposal. Nevertheless, DOE considers this issue to be very important and wants to take this opportunity to again support EPA's August 1995 proposal and to restate some of the Department's concerns.

a. As was stated in DOE's comments in response to the initial Phase IV proposed rule,[1] requiring re-treatment of previously stabilized wastes that are in storage awaiting development of disposal capacity, simply because a revision to the LDR treatment standards becomes effective before the stored wastes can be disposed, makes sense only if the benefits associated with re-treatment outweigh both the risks to workers and the costs. DOE agrees with EPA's conclusion in the case of previously stabilized characteristic metal mixed wastes, that the hazards from added worker radiation exposure associated with re-treatment would probably offset any gain in protection of human health and the environment that could result from compliance with the Phase IV final metal treatment standards.

b. Because stabilization is only one possible type of treatment that could be performed on characteristic metal mixed wastes to achieve compliance with LDR treatment standards,

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[1] DOE Comments, Land Disposal Restrictions -- Phase IV: Issues Associated with Clean Water Act Treatment Equivalency, and Treatment Standards for Wood Preserving Wastes and Toxicity Characteristic Metal Wastes, Specific Comment V.D.3, Item 1, pp. 33 - 35 (Nov. 20, 1995).

DOE recommends that EPA broaden the final Phase IV compliance exception to cover previously treated, stored, characteristic metal mixed wastes that comply with the LDR treatment standards applicable at the time of treatment, regardless of the treatment method used to achieve compliance (e.g., stabilization, macroencapsulation of non-debris wastes).

c. DOE is particularly concerned that the final Phase IV compliance exception for previously treated characteristic metal mixed wastes be appropriately codified. Therefore, DOE suggested the following possible regulatory language in its comments in response to the Phase IV proposed rule,[2] and continues to advocate that this or similar language be added to 40 CFR 268.30(d) [as proposed at 60 FR 43654, 43694; Aug. 22, 1995].

> §268.30 Waste specific prohibitions -- wood preserving wastes, and characteristic wastes that fail the toxicity characteristic.
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> * * * * *
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> (d) The requirements of paragraphs (a) and (b) of this section do not apply if:
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> * * * * *
>
> (5) The wastes are radioactive wastes mixed with or containing D004 - D011 wastes, which have been treated to meet Subpart D treatment standards in effect prior to [insert effective date of Phase IV regulations (including any applicable national capacity variance) for radioactive wastes mixed with D004 - D011]. Such wastes must have been treated prior to [insert effective date of Phase IV regulations (including any applicable national capacity variance) for radioactive wastes mixed with D004 - D011] to be excluded from application of paragraph (b).

d. Finally, in future proposals of LDR treatment standards (whether such proposals address listed or characteristic wastes), DOE urges EPA to consider including, if appropriate, compliance exceptions for affected mixed wastes similar to the one put forth in the initial Phase IV proposed rule. Such compliance exceptions would preclude re-treatment to meet revised LDR treatment standards of affected mixed wastes that have been treated before the effective date of a revised standard to meet the applicable standards at the time of treatment, and are in storage awaiting development of disposal capacity. In 1995 and early 1996, DOE signed 31 compliance orders (pursuant to the Federal Facility Compliance Act) with EPA or States that require compliance with approved Site Treatment Plans (STPs). The approved STPs provide overall schedules for achieving compliance with LDR storage and treatment requirements for mixed waste at each site. As a result, DOE is moving forward with actions (e.g., appropriate NEPA reviews and RCRA permitting activities) to support treatment of thousands of cubic meters of mixed waste to meet the LDR treatment

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[2] DOE Comments, Land Disposal Restrictions -- Phase IV: Issues Associated with Clean Water Act Treatment Equivalency, and Treatment Standards for Wood Preserving Wastes and Toxicity Characteristic Metal Wastes, Specific Comment V.D.3, Item 1, p. 34 (Nov. 20, 1995).

standards applicable at the time of treatment. Once treated, the wastes will be stored (potentially for an extended period) until suitable mixed waste disposal capacity becomes available. If EPA revises otherwise applicable LDR treatment standards during the period that such wastes are in storage, DOE could be required to re-treat the stored wastes before disposal, unless EPA also adopts an exception. For the same reasons that justify granting an exception from revised LDR treatment standards for previously treated characteristic metal mixed wastes (see item a., above), EPA should consider incorporating similar exceptions into future rulemakings (where appropriate and where revised standards are more stringent). Such exceptions would allow previously treated mixed waste affected by a revised LDR treatment standard to comply with the standard that was in effect at the time the waste was treated rather than the revised standard because the hazards from added worker radiation exposure associated with re-treatment would probably offset any gain in protection of human health and the environment that could result from compliance with the revised standard.

SPECIFIC COMMENTS

III. Revised Treatment Standards for Twelve Metal Constituents in Nonwastewater Forms of TC Metal and Other Wastes

III.D. Proposal of Revised Treatment Standards for Metal Constituents in TC Metal and Other Metal-bearing Wastes

III.D.4. Proposed Revision of UTS for Selenium

1. <u>p. 26046, col. 1</u> -- EPA proposes to establish both the LDR treatment standard for D010 nonwastewaters (i.e., waste exhibiting the toxicity characteristic for selenium) and the universal treatment standard (UTS) for nonwastewater forms of selenium at 5.7 mg/l. The Agency notes that "since the [LDR] treatment standard for selenium is above its characteristic level, selenium would not be recognized as an UHC [(underlying hazardous constituent)]."

DOE supports EPA's revised proposal to establish 5.7 mg/l as measured by the Toxicity Characteristic Leaching Procedure (TCLP) as both the LDR treatment standard for D010 nonwastewaters and the UTS for selenium in nonwastewaters. DOE also agrees that it would be inappropriate for selenium to be considered an underlying hazardous constituent (UHC) if the concentration defining it as such is greater than the concentration defining the toxicity characteristic for selenium. DOE notes, however, that while EPA is proposing corresponding changes to the tables of treatment standards and UTS in 40 CFR Part 268, no change to the definition of UHC [40 CFR 268.2(i)] is proposed. Notwithstanding, EPA has proposed that the selenium entry on the table of universal treatment standards [40 CFR 268.48(a)] be marked with footnote 5 (see p. 26082). In the existing UTS table, the entries for vanadium, zinc and fluoride are already marked with footnote 5. Footnote 5 states, "These constituents are not 'underlying hazardous constituents' in characteristic wastes, according to the definition at §268.2(i)." Consistently, the existing 40 CFR 268.2(i) defines an UHC as follows:

> [A]ny constituent listed in §268.48, Table UTS—Universal Treatment Standards, except fluoride, vanadium, and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standards.

Therefore, for completeness, if the final rule adopts 5.7 mg/l TCLP as the UTS for selenium, DOE suggests that EPA modify the regulatory definition of UHC in 40 CFR 268.2(i) to exclude selenium as follows [redline text indicates addition]:

> [A]ny constituent listed in §268.48, Table UTS—Universal Treatment Standards, except fluoride, selenium, vanadium, and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standards.

III.D.6. Proposed Revision of UTS for Silver

1. <u>p. 26046, col. 3</u> -- EPA states its belief that silver wastes are generally recycled due to their economic value. As a result, the Agency speculates that there may be little or no land disposal of silver wastes, hence little or no impact from applying a new treatment standard. EPA is seeking information on quantities of silver nonwastewaters that would be affected by LDR treatment standards.

Many DOE sites generate, or have stored inventories of mixed wastes assigned the D011 waste code, among other codes. Data reported in the 1995 DOE Mixed Waste Inventory Report, as revised by updated information submitted to the states during 1996, indicate that approximately 41,350 cubic meters of nonwastewater D011 mixed wastes (in the form of mixed low level wastes and mixed transuranic wastes) were stored at 25 DOE sites as of December 1996. Additional nonwastewater D011 mixed wastes are projected to be generated at 20 of these sites during the coming 5 years. If practicable, DOE may use metal removal/recovery technologies to manage some nonwastewater D011 mixed waste streams. However, due to the radioactive nature of nonwastewater D011 mixed waste streams, DOE is treating or plans to treat most such streams using macroencapsulation, stabilization, vitrification, or incineration technologies. Treatment residues from these technologies that meet LDR treatment standards will be land disposed as appropriate when capacity becomes available.

VII. Proposal to Amend Treatment Variance Rules

VII.B. Clarified Regulatory Language

1. <u>p. 26059, col. 3 - p. 26060, col. 1</u> -- EPA proposes to revise 40 CFR 268.44(a) and (h) to clarify that there are two separate and independent tests for approving treatment variances under the LDR program, as follows: (1) the waste cannot be treated to the specified levels or by the methods established in the rules as the applicable LDR treatment standard; and (2) while treatment of the waste to the specified levels or by the methods established in the rules as the applicable LDR treatment standard may be feasible, doing so is nevertheless not appropriate. However, the Agency is not proposing detailed regulatory criteria for approving variances based on the second test (i.e., the "inappropriate" test). EPA requests comment on whether a future rulemaking should further define regulatory criteria for use in approving variances based on the "inappropriate" test.

a. DOE supports EPA's proposal that 40 CFR 268.44(a) and (h) be amended to clarify that two separate and independent tests are available for evaluating approval of LDR treatment variances. DOE believes it is not necessary, however, to further define regulatory criteria for evaluating variance requests based on the "inappropriate" test. Instead, DOE favors giving responsible regulatory agencies discretion to consider site- and waste-specific circumstances, as appropriate, in evaluating variance requests. Additional comments and suggestions regarding the specific proposed revisions to the regulatory language for 40 CFR 268.44(a) and (h) are provided below under the heading "Proposed Regulatory Language," items 5 (p. 15) and 6 (p. 16).

b. In General Comment 1 (p. 1), DOE discusses its support for EPA's proposal in the initial Phase IV proposed rule to allow characteristic metal mixed wastes, that have undergone stabilization prior to the effective date of the Phase IV final rule, to comply at disposal with the LDR metal standards that were in effect at the time the wastes were stabilized. However, if EPA decides for some reason not to grant such an exception, DOE believes a treatment variance based on the "inappropriate" test might be fitting for situations such as the previously stabilized mixed wastes located at the Department's West Valley Demonstration Project (WVDP).[3] Therefore, should EPA decide against the exception, DOE requests that the Agency consider mentioning the WVDP situation in the preamble to the final revised 40 CFR 268.44 as an example of circumstances that should qualify for an LDR treatment variance based on the "inappropriate" test.

VIII. Ban on Use of Prohibited Hazardous Waste as Fill Material

VIII.F. Other Clarifications

1. <u>p. 26063, cols. 2 & 3</u> -- In response to a previously received comment expressing the opinion that the proposed ban (on use of prohibited hazardous waste as fill material) should not apply to vitrified material, EPA contends that vitrification technology cannot be presumed *a priori* to protect human health and the environment because it does not reduce total metal concentrations in treatment residues and may not destroy organics.

Without addressing whether or not vitrified materials should be used as fill, DOE would like to respond to the information provided on page 26063 of the second supplemental proposal regarding the protective capability of vitrification technology. [NOTE: In regard to the proposed Hazardous Waste Identification Rule (HWIR), DOE has submitted technical data in support of a proposal for a conditional exclusion from RCRA Subtitle C for vitrified mixed waste.[4] As proposed by the

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[3] As discussed in the preamble to the initial LDR Phase IV proposed rule [60 <u>FR</u> 43654, 43683, col. 3], and in DOE's comments submitted in response [Specific Comment V.D.3, item 1.b, p. 33 (Nov. 20, 1995)], approximately 21,000 drums being stored at the WVDP contain formerly characteristic metal mixed wastes that have been stabilized to meet currently applicable LDR treatment standards. Continued storage of such drums in accordance with the WVDP Site Treatment Plan is expected until approved disposal capacity becomes available. However, at the present time it appears that disposal capacity is unlikely to be approved before the final LDR Phase IV rule becomes effective. Therefore, unless EPA adopts an exception or grants a variance, the final LDR Phase IV rule, if promulgated as proposed, would mandate re-treatment of the previously stabilized wastes at WVDP because it would impose revised treatment standards for characteristic metal wastes that would be more stringent than existing standards. DOE is concerned that re-treatment of the previously stabilized wastes would create hazards to workers from added radiation exposure, and would be expensive compared with any gain in protection of human health and the environment resulting from compliance with the revised LDR treatment standards.

[4] Letter to Director of EPA's Office of Solid Waste (October 20, 1995) [forwarding supplemental data regarding immobilized mixed waste debris (Enclosure 1), and a technical data package supporting the position that vitrified waste should be granted an exclusion from RCRA Subtitle C based on waste form stability and performance (Enclosure 2)]; Attachment B to DOE Comments, Hazardous Waste

Department, such an exclusion would apply provided: (1) the waste is treated by a vitrification process subject to performance criteria and regulatory control, (2) the vitrified mixed waste forms are managed in radioactive waste disposal or storage facilities that conform to controls and conditions put forth pursuant to the Atomic Energy Act, and (3) it is demonstrated to EPA or the authorized State that pre-defined process control program requirements and product performance characteristics are met.]

While it is true that vitrification does not reduce total metal concentrations in treated wastes, it is also true that no technology is capable of destroying metals in wastes. Metals are elements which cannot be destroyed by chemical or physical treatment technologies. For this reason, protection of human health and the environment can only be achieved by technologies that convert metals into chemical or physical forms that make the metals unavailable or immobile. Hence, the true measure of the success of a metals stabilization process is not the degree to which it reduces total metal concentrations, but the degree to which it reduces the mobility of metals, with waste loading taken into account. A stabilization process that successfully immobilizes the metal constituents while maximizing the concentration of metals in the final waste form may actually be preferable. Analyzing the total metal content of the final waste form from a stabilization process indicates nothing about the mobility of the metals present, which is what would determine their availability to affect persons or the environment.

The data and information previously submitted by DOE to EPA (as mentioned above and referenced in footnote 4) demonstrates that a well designed and well operated vitrification unit is capable of producing a waste form that chemically combines metals, at the atomic level, into the structure of the glass. The durability of waste glass can be measured by the Product Consistency Test, ASTM-C1285-94. Using this test, the durability of waste glasses produced by vitrification has been demonstrated to be similar to the durability of ancient glasses (thousands of years) and basaltic geologic formations (millions of years). Vitrification technology is currently considered one of the best technologies for immobilization of metals.

Regarding the ability of organics to survive the vitrification process, it is DOE's position that a well-designed, well-operated vitrification system either thermally destroys organics or captures them in an off-gas system. Organics simply do not survive within the vitrified waste form because exposure to the temperature in the melter (i.e., in excess of 1000 degrees C) for times of a few seconds to a few minutes destroys such constituents. In the EPA Handbook, *Vitrification Technologies for Treatment of Hazardous and Radioactive Waste, EPA/625/R-92/002* (May 1992), EPA concludes that organics, both as contaminants and non-contaminants, are primarily thermally destroyed during vitrification [see page 4-9 of the EPA Handbook]. This destruction occurs via pyrolysis in the melt pool and combustion in the melter plenum or in the secondary combustion chamber, if one is present. EPA further indicates that conditions in the plenum or combustion chamber may be controlled to maximize the combustion of escaping organic product and the production of the desired off-gases. Any organics still existing after pyrolysis and

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Management System: Identification and Listing of Hazardous Waste: Hazardous Waste Identification Rule (HWIR) (April 19, 1996) [supplementing Enclosure 2 to DOE's October 20, 1995 letter]; and other supplemental data and information made available in the context of ongoing DOE/EPA/State discussions pertaining to DOE's proposal for a conditional exclusion from RCRA Subtitle C for vitrified mixed waste.

combustion are removed to the off-gas system. The EPA Handbook includes a table (Table 4-3) that reports the total destruction removal efficiency (DRE) for certain organic contaminants treated in an in-situ vitrification (ISV) system. The DREs for all constituents ranged from 99.99% to 99.99999%. This occurred in spite of the fact that an in-situ vitrification system typically cannot control the off-gas as well as an ex-situ system. A second table (Table 4-4) shows a compilation of demonstrated organic destruction efficiencies (DEs) for vitrification systems (without the benefit of an off-gas removal system). The DEs for all of the RCRA-regulated organics were 99.99%, or better. [Note: For the convenience of the readers, copies of the page and tables from the EPA Handbook that are referenced above, are provided in Attachment A.]

2. <u>p. 26063, col. 3</u> -- In response to comments received on the original proposal to ban the use of hazardous waste as fill material [60 <u>FR</u> 11702, 11732; March 2, 1995], EPA states that the prohibition would apply only to situations where recycling is involved. Thus, EPA concludes that in situations where prohibited wastes are land disposed and an incidental effect of the disposal is to fill in depressions (as in remediation situations where treated soils are returned to the ground and raise a gradient), the prohibition would not apply.

DOE supports EPA's conclusion that it is not necessary to prohibit use of hazardous waste as fill material in heavily regulated remediation situations. However, DOE is concerned that the proposed regulatory language implementing the prohibition (see p. 26072) would not specifically exclude land placement of hazardous remediation wastes from the scope of the prohibition on use of hazardous waste as fill material. Therefore, in item 2 under "Comments on Proposed Regulatory Language" (p. 10) below, DOE suggests specific regulatory language that would exclude placement of remediation wastes within RCRA corrective action management units (CAMUs) and CERCLA on-site areas from the scope of the prohibition.

IX. Capacity Determination

IX.C. Phase IV Mineral Processing and TC Metal Wastes Injected Into Underground Injection Control (UIC) Class I Wells

1. <u>p. 26064, col. 3</u> -- EPA indicates that comments were requested in the proposed supplemental rule (61 <u>FR</u> 2338; January 25, 1996) in regard to capacity determinations, generation, characteristics, and management of newly identified mineral processing and TC metals waste (D004 - D011) at Class I injection well facilities. However, no specific applicable comments on potentially affected Class I facilities were received. Therefore, the Agency is again requesting this information and additionally asks that it include mixed radioactive waste.

No DOE activities have plans to utilize underground injection control Class I facilities for on-site management of hazardous or mixed wastes.

COMMENTS ON PROPOSED REGULATORY LANGUAGE

1. <u>p. 26070, col. 3</u> -- EPA proposes to amend 40 CFR 261.3 ("Definition of hazardous waste") by revising paragraph (a)(2)(iii) to read as follows:

> **(iii) It is a mixture of a solid waste and a hazardous waste that is listed in subpart D of this part solely because it exhibits one or more of the characteristics of hazardous waste identified in subpart C of this part. (However, nonwastewater mixtures are still subject to the requirements of part 268 of this chapter, even if they no longer exhibit a characteristic at the point of land disposal.)**

DOE notes that EPA proposed the same amended language for 40 CFR 261.3(a)(2)(iii) in the LDR Phase IV first supplemental proposal.[5] In the preamble to the first supplemental proposal, EPA explained that the purpose of the amendment is to prevent mixing of hazardous wastes with Bevill-exempt wastes as a means to circumvent hazardous waste regulation. EPA further stated that the Agency wants all of the normal Subtitle C consequences to apply when hazardous wastes are disposed with, stored with, mixed with, or otherwise combined with Bevill-exempt solid wastes.[6]

In response to the first supplemental proposal,[7] DOE observed that the existing regulatory language in 40 CFR 261.3(a)(2)(iii) contains a clause (which is unrelated to the Bevill exemption) added in 1981.[8] The existing text of 40 CFR 261.3(a)(2)(iii) is quoted below with the clause in question italicized.

> (iii) It is a mixture of a solid waste and a hazardous waste that is listed in subpart D of this part solely because it exhibits one or more of the characteristics of hazardous waste identified in subpart C of this part, *unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part*, or unless the solid waste is excluded from regulation under §261.4(b)(7) and the resultant mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part for which the hazardous waste listed in subpart D of this part was listed. (However, nonwastewater mixtures are still subject to the requirements of part 268 of this chapter, even if they no longer exhibit a characteristic at the point of land disposal).

DOE questioned whether EPA intended to eliminate the italicized clause, and expressed its belief that EPA had probably inadvertently proposed to delete more from the existing mixture rule than

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5 61 <u>FR</u> 2338, 2372 (Jan. 25, 1996).

6 61 <u>FR</u> 2338, 2352 (Jan. 25, 1996).

7 DOE Comments, LDR -- Supplemental Proposal to Phase IV, Specific Comment II.D.2, item 1, pp. 4 - 5 (Mar. 22, 1996).

8 See 46 <u>FR</u> 56588 (Nov. 17, 1981).

was intended. DOE requested that if EPA did fully intend to eliminate the clause, the Agency clarify the basis for the proposal. Notwithstanding, the LDR Phase IV second supplemental proposal does not contain the requested clarification, and the same amended language for 40 CFR 261.3(a)(2)(iii) is again proposed.

DOE still maintains that it would be misleading to delete the clause in question (which is unrelated to mixing hazardous waste with Bevill-exempt wastes) as part of a revision justified only as necessary to prevent the mixing of hazardous waste with Bevill-exempt wastes. Therefore, DOE again requests that, if EPA fully intends to eliminate the clause in question, the Agency provide a basis for the elimination.

2. <u>p. 26072, cols. 1 & 2</u> -- EPA proposes to amend 40 CFR 266.20(b) by redesignating the existing paragraph (b) as (b)(1), and adding a new paragraph (b)(2). The language for the new paragraph (b)(2) would state that prohibited waste may be used as a fill material only if the Regional Administrator or State Director first makes a prescribed site-specific finding.

a. DOE suggests that EPA consider adopting the following regulatory language amendments for the purpose of implementing the ban on use of prohibited hazardous waste as fill rather than the amendments to section 266.20(b) proposed on p. 26072.

(1) A new paragraph 40 CFR 266.20(d) should be added that reads as follows:

> (d) Use of prohibited hazardous wastes (including wastes that exhibit a hazardous characteristic at the point of generation but that no longer exhibit a hazardous characteristic at the point of use constituting disposal) as fill material is not covered by the exemption in paragraph (b) of this section. Hence, prohibited hazardous wastes used as fill material remain subject to regulation in accordance with this subpart. "Use as fill material" means the man-made addition of the material to land in a manner and location such that the added material occupies significant man-made and naturally occurring depressions (for example, ditches, gullies, channels, holes, ruts, and trenches), thereby filling or leveling the land (as is sometimes accomplished with natural soil or sand), whether or not the addition of the material was intended to occupy depressions, thereby filling or leveling the land.

(2) A new paragraph 40 CFR 266.23(c) should be added to 40 CFR 266.23 ["Standards applicable to *users* of materials that are used in a manner that constitutes disposal." (emphasis added)] that reads as follows:

> (c)(i) Prohibited hazardous wastes (including wastes that exhibit a hazardous characteristic at the point of generation but that no longer exhibit a hazardous characteristic at the

point of use constituting disposal) may be used as fill material [as defined by 40 CFR 266.20(d)] only if: the fill area is a regulated unit [as defined by 40 CFR 264.90(a)(2)]; the fill area is located within a corrective action management unit [as defined by 40 CFR 260.10]; the fill area is located within the boundaries of a CERCLA on-site area [as defined by 40 CFR 300.400(e)(1)]; or the Regional Administrator or State Director first finds, on a site-specific basis, to a reasonable degree of certainty, that the fill material will be used in a manner which protects human health and the environment and which minimizes short-term and long-term threats posed by the use of the waste as fill, considering the following factors:
(A) The long term uncertainties associated with land disposal;
(B) The goal of managing hazardous waste in an appropriate manner in the first instance;
(C) The persistence, toxicity, mobility and propensity to bioaccumulate of such hazardous waste and their hazardous constituents;
(D) All pathways of exposure to hazardous constituents to which human or environmental receptors could reasonably be exposed; and,
(E) Other factors relating to protectiveness of human health and the environment, as appropriate.
(ii) In circumstances where the Regional Administrator or State Director makes the requisite finding under subsection (c)(i) of this section, users of the fill material are not required to comply with 40 CFR 266.23(a).

DOE believes that incorporating the changes suggested above, in place of the proposed regulatory language presented in the second supplemental proposal, would be appropriate for the following reasons:

- Subpart C, "Recyclable Materials Used in a Manner Constituting Disposal," of 40 CFR part 266 contains four sections: 266.20, "Applicability;" 266.21, "Standards applicable to generators and transporters of materials used in a manner that constitute disposal;" 266.22, "Standards applicable to storers of materials that are to be used in a manner that constitutes disposal who are not the ultimate users;" and 266.23, "Standards applicable to users of materials that are used in a manner that constitutes disposal." Based on its title, DOE interprets the purpose of section 266.20, "Applicability," as being to delineate the universe of recyclable materials that are subject to (or exempted from) the standards contained in sections 266.21, 266.22 and 266.23. As such, DOE believes the purpose of section 266.20 would not be served by expanding the section to include the new paragraph 266.20(b)(2)

(stating that prohibited waste may be used as a fill material only if the Regional Administrator or State Director first makes the prescribed site-specific finding). DOE contends that the content of proposed paragraph 266.20(b)(2) does not contribute to delineating the universe of recyclable materials subject to sections 266.21, 266.22 and 266.23. It does not alter the scope of 40 CFR 266.20(a),[9] which seems to clearly encompass prohibited hazardous waste being legitimately applied to or placed on the land through use as fill material. It also does not indicate whether prohibited hazardous waste being legitimately used as fill material would constitute a product of the type described as exempt from regulation by existing 40 CFR 266.20(b). Instead, the content of proposed paragraph 266.20(b)(2) places restrictions on those persons who intend to legitimately recycle prohibited hazardous waste in a manner constituting disposal by using it as fill material (i.e., it sets a standard that users of this specific category of recyclable materials used in a manner constituting disposal must meet). Failure of a user to comply with the standard (i.e., failure to obtain the prescribed approval) would not remove the recyclable material from the jurisdiction of 40 CFR part 266, subpart C. Such failure would just subject the user to the requirements of 40 CFR 266.23(a).[10] Therefore, DOE concludes that because the content of proposed paragraph 266.20(b)(2) does not contribute to delineating the universe of recyclable materials subject to sections 266.21, 266.22 and 266.23, but instead sets a standard for users, a more appropriate location for such content would be within a new paragraph (c) under 40 CFR 266.23, "Standards applicable to users of materials that are used in a manner that constitutes disposal."

- Notwithstanding the Department's conclusion that the content proposed by EPA for inclusion in a new paragraph 266.20(b)(2) should not be located in 40 CFR 266.20, DOE believes section 266.20 <u>should</u> be modified. DOE suggests that section 266.20 be changed to clearly state that prohibited hazardous waste, even though legitimately recycled by being used as fill material, would never be exempt from RCRA subtitle C regulation as a "product" pursuant to existing 40 CFR 266.20(b). To accomplish this purpose, DOE suggests adding a new paragraph 266.20(d). A new paragraph (d) is suggested, rather than an expansion of existing paragraph (b), for consistency with the form of the existing regulatory language in 40 CFR 266.20. The existing language contains a clear statement in separate paragraph 266.20(c) (rather than in a subparagraph of 266.20(b)) that anti-skid/deicing uses of slags generated by high temperature metals recovery (HTMR) processing of hazardous wastes K061, K062, and F006 are not exempt from RCRA subtitle C regulation as "products." DOE perceives the separate paragraph 266.20(c) as accomplishing the same purpose with respect to anti-skid/deicing uses of HTMR slags as the

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9 40 CFR 266.20(a) states: "The regulations of this subpart apply to recyclable materials that are applied to or placed on the land: (1) Without mixing with any other substance(s); or (2) After mixing or combination with any other substance(s). These materials will be referred to throughout this subpart as 'materials used in a manner that constitutes disposal.'"

10 40 CFR 266.23(a) requires users of recyclable materials used in a manner constituting disposal to comply with the provisions of subparts A through N of parts 124, 264, 265, 268, and 270 of 40 CFR.

Department believes needs to be accomplished with respect to fill uses of prohibited hazardous waste. Therefore, the Department is suggesting that a separate paragraph 266.20(d) be included for the purpose of stating that prohibited hazardous waste being used as fill material does not fall within the "product" exemption in 40 CFR 266.20(b).

b. Within the regulatory language that DOE advances in item a., above, the Department is suggesting two substantive additions to the language proposed by EPA. First, for completeness, DOE suggests including a cross-reference to 40 CFR 264.90(a)(2), which defines "regulated unit." The cross-reference would appear in section 266.23(c)(i) of DOE's suggested language. Second, DOE suggests expanding the exceptions to the ban on use as fill material [which would appear in section 266.23(c)(i) of DOE's suggested language] to include situations where a fill area would be located within a corrective action management unit (CAMU) as defined by 40 CFR 260.10, or a CERCLA on-site area as defined by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). EPA's proposed regulatory language delineating exceptions to the ban does not address such situations. However, DOE believes the suggested expansion would be consistent with EPA's statement on p. 26063 (col. 3) of the preamble that "the rule would not apply to situations where prohibited wastes are land disposed and an incidental effect of the disposal is to fill in depressions (as in remediation situations where treated soils are returned to the ground and raise a gradient)."

c. If EPA decides not to adopt the alternative regulatory language suggested in item a., above, DOE believes that the language proposed in the second supplemental proposal on p. 26072 would require conforming regulatory changes that the Agency has not proposed. For example, the cross-reference to 40 CFR 266.20(b) in the last sentence of existing 40 CFR 266.23(a) would probably require change to 40 CFR 266.20(b)(1). Similarly, the cross-reference to 266.20(b) in existing 40 CFR 266.20(c) [referring to anti-skid/deicing uses of slags, which are generated from high temperature metals recovery (HTMR) processing of hazardous waste K061, K062, and F006] would probably require change to 40 CFR 266.20(b)(1).

3. <u>p. 26072, col. 2</u> -- EPA proposes to add 40 CFR 268.32. Proposed section 268.32(a) indicates that "Effective August 11, 1997…" certain specified wastes are prohibited from land disposal; proposed section 268.32(b) indicates that "Effective May 12, 1999…" soil and debris contaminated with certain specified waste are prohibited from land disposal; and proposed section 268.32(c) indicates that "Between May 12, 1997 and May 12, 1999…" certain radioactive mixed waste can continue to be land disposed provided certain conditions are met.

DOE believes the dates identified in proposed sections 268.32(a), 268.32(b) and 268.32(c) on p. 26072 were inserted inadvertently, and requests that EPA verify that: (1) "August 11, 1997" in proposed section 268.32(a) should be "[insert date 90 days from date of publication of the final rule];" (2) "May 12, 1999" in proposed section 268.32(b) should be "[insert date 2 years from date of publication of the final rule];" (3) "May 12, 1997" in proposed section 268.32(c) should be "[insert date of publication of the final rule];" and (4) "May 12, 1999" in proposed section 268.32(c) should be "[insert date 2 years from date of publication of the final rule]."

4. <u>p. 26073, cols. 2 & 3</u> -- EPA proposes to add paragraph (h) to 40 CFR 268.40, to read as follows:

> **(h) The hazardous wastes included in the "Treatment Standards for Hazardous Wastes" table are prohibited from use as a fill material, as defined at *§266.20(b) of this Part*, unless and until the placement of the waste or waste residue is demonstrated and determined to be protective of human health and the environment as set out in *§266.20(b) of this Part, or the fill area is a regulated unit* [italics added].**

If EPA decides to change 40 CFR 266.20 and 40 CFR 266.23 in the manner suggested by item 2.a., under "Comments on Regulatory Language" above (p. 10), DOE suggests that the following conforming changes be made to the language that EPA is proposing for 40 CFR 268.40(h) (quoted above). Specifically, DOE suggests changing the italicized phrases as follows (in order of appearance):

a. Change "§266.20(b) of this Part" to "§266.20(d) of this Part."

b. Change "§266.20(b) of this Part" to "§266.23(c)(i) of this Part."

c. Change "or the fill area is a regulated unit" to "the fill area is a regulated unit [as defined by 40 CFR 264.90(a)(2)], the fill area is located within a corrective action management unit [as defined by 40 CFR 260.10], or the fill area is located within the boundaries of a CERCLA on-site area [as defined by 40 CFR 300.400(e)(1)]."

5. <u>p. 26081, cols. 1 - 3</u> -- EPA proposes to revise 40 CFR 268.44(a) to read as follows:

> **(a) EPA may grant a treatability variance if:**
>
> **(1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner must demonstrate that because the physical or chemical properties of the waste differs significantly from waste analyzed in developing the treatment standard, the waste cannot be so treated; or**
>
> **(2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible.**

DOE notes that whereas the existing 40 CFR 268.44(a) clearly states that generators and treatment facilities must file petitions with the Administrator before the Agency will consider granting a variance from an applicable LDR treatment standard, the newly proposed language for 40 CFR 268.44(a) does not clearly indicate this. Also, as proposed, the language of section 268.44(a)

would provide no guidance on the content of a petition seeking a variance on the basis that an existing applicable treatment standard is not appropriate. Accordingly, and to improve consistency of language between this subsection and other subsections of 40 CFR 268.44, DOE suggests the following modifications to the proposed language for 40 CFR 268.44(a) [redline indicates addition; strikeout indicates deletion]:

> (a) Based on a petition filed by a generator or treatment facility, the Administrator ~~EPA~~ may grant a ~~treatability~~ variance from an applicable treatment standard if: (1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard; ~~To show that this is the case, the petitioner must demonstrate that because the physical or chemical properties of the waste differs significantly from waste analyzed in developing the treatment standard, the waste cannot be so treated;~~ or (2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible. Petitions requesting a waste-specific variance under paragraph (a)(1) must demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated as the standard requires. Petitions requesting a waste-specific variance under paragraph (a)(2) should describe any site- and waste-specific circumstances justifying the variance.

6. <u>p. 26081, col. 3 - p. 26082, col. 2</u> -- EPA proposes to revise 40 CFR 268.44(h) to read as follows:

> **(h) EPA may grant a treatability variance if:**
>
> **(1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner must demonstrate that because the physical or chemical properties of the waste differs significantly from waste analyzed in developing the treatment standard, the waste cannot be so treated; or**
>
> **(2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible.**

DOE notes that the above-quoted proposed language for 40 CFR 268.44(h) is identical to the language EPA is proposing for 40 CFR 268.44(a). For the reasons described below, DOE questions whether identical language would be appropriate.

- The existing 40 CFR 268.44(h) specifically addresses the situation where a variance from the treatment standard is requested for a waste stream generated under conditions *specific to only one site* (i.e., is site-specific). In contrast, existing 40 CFR 268.44(a) addresses the

situation where a variance from the treatment standard is requested for a waste stream that may be generated at multiple sites (i.e., is waste-specific). Significantly, the existing regulations distinguish these situations by requiring that the petition for a waste-specific variance with general applicability [40 CFR 268.44(a)] be filed with the EPA Administrator according to the administrative procedural requirements in 40 CFR 260.20 ("Rulemaking Petitions") (i.e., the variance procedure is a rulemaking that amends the treatment standards) [*see* 40 CFR 268.44(b)], while the petition for a site-specific variance [40 CFR 268.44(h)] is simply filed with the Administrator or his delegated representative, with no designated administrative procedural requirements for filing or review (i.e., the variance procedure is nonrulemaking) [*see* 40 CFR 268.44(i)]. [*see also* 53 FR 31138, 31199-31200 (Aug. 17, 1988), discussing the justification for nonrulemaking procedures for site-specific variances from LDR treatment standards].

- DOE believes that if the language of sections 268.44(a) and 268.44(h) were made identical and did not indicate to whom petitions should be filed, the site-specific nature of section 268.44(h) would be lost and the procedural distinction between waste-specific and site-specific treatment standard variances (i.e., rulemaking procedures vs. nonrulemaking procedures) would become unclear. Furthermore, the preamble does not explain why EPA proposes doing this.

Assuming that EPA did not intend to eliminate either the site-specific nature of the treatment standard variance or the nonrulemaking procedures of 40 CFR 268.44(h), and for consistency with the language suggested by the preceding comment regarding 40 CFR 268.44(a), DOE suggests the following modifications to the proposed language for 40 CFR 268.44(h) [redline indicates addition; strikeout indicates deletion]:

> (h) Based on a petition filed by a generator or treatment facility, the Administrator, or his delegated representative, ~~EPA~~ may grant a ~~treatability~~ variance from an applicable treatment standard for a waste generated under conditions specific to only one site if:
> (1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard; or ~~To show that this is the case, the petitioner must demonstrate that because the physical or chemical properties of the waste differs significantly from waste analyzed in developing the treatment standard, the waste cannot be so treated;~~
> (2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible. Petitions requesting a site-specific variance under paragraph (h)(1) must demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated as the standard requires. Petitions requesting a site-specific variance under paragraph (h)(2) should describe any site- and waste-specific circumstances justifying the variance.

If EPA decides that the site-specific nature of the treatment standard variance in 40 CFR 268.44(h) should indeed be eliminated, DOE requests that the Agency explain the elimination in the preamble to the final rule. Also, if EPA decides that the regulatory language of sections 268.44(a) and

268.44(h) should be identical as proposed, DOE requests that EPA consider whether regulatory language is needed to differentiate the circumstances that would trigger filing a petition under 40 CFR 268.44(a) (which must be processed as a petition for rulemaking) from the circumstances that would allow filing a petition under 40 CFR 268.44(h) (which would be processed as a nonrulemaking request). DOE believes that if sections 268.44(a) and 268.44(h) are the same and no other regulatory language is added to distinguish when each applies, potential petitioners will be unable to determine whether they must file under 268.44(a), or may file under 268.44(h).