

US EPA ARCHIVE DOCUMENT

RESPONSE TO COMMENTS DOCUMENT

Land Disposal Restrictions-- Phase IV:
Final Rule Promulgating Treatment Standards for
Metal Wastes and Mineral Processing Wastes;
Mineral Processing Secondary Materials and
Bevill Exclusion Wastes; Treatment Standards for
Hazardous Soils, and Exclusion of
Recycled Wood Preserving Wastes

Volume 3
First Supplemental Proposed Rule Comments

U.S. Environmental Protection Agency
Office of Solid Waste
401 M Street, S.W.
Washington, D.C. 20460

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COMMENT

- In Part Three, Section II of the supplemental proposed rule, EPA discusses State authority primarily as it relates to Part One of the notice which pertains to mineral processing issues. DOE does not believe that State authority with respect to the "Other RCRA Issues," covered under Part Two of the proposed rule, has been adequately addressed. Specifically, clarification should be provided as to whether the exclusions of processed scrap metal and shredded circuit boards are considered by the Agency to be less stringent than current Federal regulations, and whether authorized states would be required to modify their programs to adopt requirements equivalent to the provisions contained in the proposed rule with respect to scrap metal and circuit boards. 2. In Part Three, Section II of the supplemental proposed rule, EPA discusses State authority primarily as it relates to Part One of the notice which pertains to mineral processing issues. DOE does not believe that State authority with respect to the "Other RCRA Issues," covered under Part Two of the proposed rule, has been adequately addressed. Specifically, clarification should be provided as to whether the exclusions of processed scrap metal and shredded circuit boards are considered by the Agency to be less stringent than current Federal regulations, and whether authorized states would be required to modify their programs to adopt requirement equivalent to the provisions contained in the proposed rule with respect to scrap metal and circuit boards.

(U.S. Department of Energy, 006)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- Streamlined Authorization MDEQ strongly supports EPA's proposal for expedited authorization of Phase IV program elements. MDEQ suggests that EPA expand this expedited authorization concept to most other program elements as well. MDEQ agrees with EPA's evaluation that EPA need only ascertain that a State has the requisite legal authority and resources to implement a program and that detailed review is unnecessary. Such an approach would bring to a close the seemingly endless process of application, comments and revisions that plague the authorization process. Please refer to the MDEQ,s earlier comments regarding the appropriateness of citing 40 CFR 267. EPA should provide a better description or model of the public participation it considers necessary in developing regulations for land-based mineral processing units.

(Montana Dept. of Environment, 023)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization

Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- Section IV of these comments addresses the unprecedented, illegal, and inappropriate state authorization procedures the Agency proposed for implementing the exemption conditions applicable to the recycling of mineral processing wastes. As discussed in Section IV, the proposal abandons the fundamental principle that authorized state program requirements should be no less stringent than their federal counterparts and is structured so that neither EPA nor the public can evaluate whether a state program applies its requirements in a manner protective of human health and the environment and consistent with federal law.

(Friends of the Earth, EDF, 041)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- Under the guise of a "streamlined" state authorization process, EPA has proposed state authorization requirements related to mineral processing wastes that are both unlawful and unwise. As explained in this portion of the comments, EPA's approach fails to satisfy the provisions of Sections 3006 and 3009 of RCRA, and forsakes the oversight of state program requirements needed to ensure protection of human health and the environment on a nationwide basis. Section 3006 of RCRA requires EPA to make express findings that all three of the conditions specified in statute have been met before a state can be authorized to administer the RCRA program in lieu of EPA.

Those three conditions are that the program is equivalent to the federal program, consistent with the federal and other state programs, and provides for adequate enforcement. The equivalency determination under Section 3006 is further bounded by Section 3009 of RCRA, which prohibits a state from imposing requirements less stringent than those promulgated by EPA under Subtitle C of RCRA. Under EPA's proposal, states must demonstrate their mineral processing waste requirements have six components, including design and operating conditions on units covered by this Rulemaking, groundwater protection criteria, and groundwater monitoring. However, in none of these areas (or the other three elements) do the proposed rules require that the state program requirements provide equivalent or greater protection than the federal rules proposed by the Agency. For example, under EPA's proposal, a state must demonstrate it can impose design standards on exempt units as a condition of obtaining the exemption, but the design requirements may be substantially weaker than the requirements EPA promulgated under

option 2. Similarly, a state may impose groundwater monitoring, but the frequency of monitoring, the constituents monitored, and the location of the point of compliance may be less stringent than the federal rules proposed in option 1.

In addition, the groundwater protection criteria may provide less protection of human health and the environment than the comparable federal requirements. - Therefore, notwithstanding the plethora of weaknesses in the proposed federal rules, the proposed state authorization scheme contemplates a process whereby states may impose less stringent requirements than those deemed necessary by EPA to protect human health and the environment. This approach is completely without precedent under Subtitle C of RCRA, in large part because it blatantly violates Sections 3006 and 3009 of RCRA. Even with respect to Option 3, EPA will be unable to ensure state program requirements provide equivalent or better protection than the federal program, and are consistent with the federal and other state programs. As EPA acknowledges in the case of option 3, it is necessary to evaluate how the state will apply its authorities to individual cases. Yet under the proposed authorization requirements, state authorization applications will only contain information on program authorities, not how those authorities have been or will be employed.

Moreover, EPA will limit its review of the application to whether a state has the necessary authority, and not whether EPA does not intend to conduct the evaluation necessary to ensure site-specific determinations under option 3 are protective of human health and the environment, equivalent to and no less stringent than the federal program, and consistent with the federal and other state programs. It is also unclear whether in a state authorization proceeding EPA would regard as germane comments from the public on the application of state requirements to individual sites. Ironically, EPA justifies the "streamlined" authorization approach because "states are familiar" with the kind of issues raised by this Rulemaking and have existing programs that could be evaluated in this context. Therefore, conducting the evaluation of how a state would apply its authorities is both timely and appropriate. Moreover, even if a state lacked an extensive history of making decisions resembling the site specific determination in the instant Rulemaking, EPA can certainly request the state to articulate whether and under what circumstances a state would entertain such site-specific applications, and the conditions the state would apply under those circumstances.

EPA's mandate under RCRA to ensure a baseline level of protection nationally requires such a demonstration before inappropriate site-specific decisions are rendered, particularly where EPA's authority to override authorized state decisions may be limited. With respect to enforcement, the proposed authorization procedures lack any qualitative review of a state program's enforcement resources, policies, record or capability. EPA justifies this approach based upon the information already provided in previous RCRA authorization applications, but in this case EPA anticipates some or all states may be relying upon non RCRA authorities, in whole or in part, to satisfy the state authorization

requirements . To date, it is highly unlikely the Agency has previously reviewed the adequacy of a state's enforcement program under these non-RCRA authorities. Therefore, under the proposed authorization procedures, EPA has no factual or valid basis for rendering the enforcement finding for the non RCRA authorities required under Section 3006 of RCRA. Based upon the enforcement record of some states under their non-RCRA authorities, this is a matter of grave concern.

In brief, some states do not enforce their non-RCRA requirements effectively unless there are mechanisms for providing active EPA review and oversight or citizen intervention. Accordingly, it is imperative that adequate enforcement becomes an important element of EPA's authorization review insofar as non-RCRA authorities form the basis of a state's authorization application. For example, Arizona's historical enforcement record using non-RCRA authorities is grossly inadequate. Documented noncompliance for several hundred wastewater treatment plants, and chemical contamination exceeding applicable limits for 10% of the facilities with groundwater/aquifer protection permits, prompted the Sierra Club to file suit against the Arizona Department of Environmental Quality seeking agency enforcement of its own requirements and permits. More recently, years of delay by Arizona to revise its water quality standards in a manner consistent with federal law prompted a federal court to order EPA to finish the job and promulgate federal standards that would apply instead of the state standards. Significantly, one the principal deficiencies in the state standards was an exemption for mining related impoundments, the same units at issue in the instant Rulemaking. The Court found that Arizona's failure to take appropriate action resulted in substantial adverse environmental impacts to Arizona's lakes caused by mining operations. The Court ordered EPA to promulgate the federal standards notwithstanding EPA's pledge that the Agency (and not the state) would protect Arizona's waters from exempt mining activities.

This case conclusively demonstrates the importance of baseline, enforceable federal standards; and the need for active federal and public review and oversight of a state's program requirements, particularly for mining activities in states where the industry is politically powerful. Even if the proposed state authorization procedures were lawful, they are flawed as a matter of policy. As EPA noted when it first proposed the concept, a streamlined process is appropriate only where the regulatory changes are "minor in nature" and do not involve major changes in regulatory approach . In the instant Rulemaking, the proposed exemption for mineral processing land-based units is a matter of first impression in the RCRA program, involving substantial and complex decisions regarding the nature and extent of recycling in such units, and the appropriate means of ensuring such units do not become part of the waste management problem.

These changes are neither "minor in nature" nor "a routine part of the RCRA program" . Moreover, when EPA first proposed the concept of streamlined authorization, the Agency still required that state program requirements be no less stringent than the

promulgated federal requirements. In the instant Rulemaking, EPA unlawfully abandoned that fundamental principle.

(Friends of the Earth, EDF, 041)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- Cyprus Amax supports the concept of allowing authorized states or EPA Regions to make site-specific determinations of unit status; however, the proposed rule is unlawfully vague with respect to the parameters and procedures that would be used to make such determinations. As an alternative to the prescriptive groundwater monitoring and design and operating requirements set forth in the proposed "conditional exclusion," EPA is considering allowing authorized states and EPA Regions to make site-specific determinations that land-based units are operating as process units, and not waste disposal units. 61 Fed. Reg. 2346. Cyprus Amax strongly supports the need for authorized states to make site-specific determinations of unit status that take into account non-RCRA state authorities. One good example of such authority is the APP program in Arizona. The proposed rule, however, is unlawfully vague with respect to the parameters and procedures that would be used to make such determinations. Although EPA has sketched out some of the criteria that it would use in determining whether to authorize state programs, it has not provided sufficient guidance concerning how site-specific determinations would be made, nor does it specify whether and how such decisions could be appealed, and by whom. Instead, the Agency cites a nonexistent "environmental performance standard" at 40 C.F.R. REWRITE 267. 10 as the source of "the factors typically to be considered ... in making site specific determinations." EPA should have provided notice and opportunity for comment on how it envisions site specific determinations of unit status would be made, including the factors to be considered, how the decision making process would be initiated and carried through to completion, and what types of appeal rights would be provided in the case of an adverse decision. The site-specific determination process should not incorporate or require any sort of "multi-pathway" modeling or analysis, given the speculative and inaccurate aspects of EPA's current models. Instead, site specific unit determinations of unit status must use relevant portions of existing regulatory programs (@, state aquifer protection and mining programs).

(Cyprus Amax Minerals Comp, 046)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization

Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- Safety-Kleen supports the Agency's intent to streamline the state authorization process. Safety-Kleen looks forward to the more streamlined state authorization procedures that are to be presented in the upcoming proposed Hazardous Waste Identification Rule (HWIR) addressing Contaminated Media. Safety-Kleen conducts transport, storage, and/or treatment operations in 50 states and one U.S. territory, so we deal with the full array of state RCRA programs. One of the significant problems we face on a daily basis is identifying which requirements have been adopted by states, and when they receive authorization to implement the changed RCRA regulations. When state authorization lags far behind Federal rule promulgation, we encounter problems with duplicative (and sometimes contradictory) permitting, inspection, and enforcement. We also understand the frustrations of some states when efforts at obtaining state authorization take precedence over activities that have more immediate environmental protection consequences.

We support the Agency's intent to streamline the state authorization process to the extent possible. Even with the anticipated streamlining of the state authorization programs, Safety-Kleen understands that major rulemakings (such as this proposed LDR rule) may have a significant lag between Federal promulgation and state authorization. This becomes particularly problematic when the revised regulations are not promulgated as HSWA rules (immediately effective in all states). The EPA has indicated that most of this proposed Supplemental Phase IV LDR regulation is considered to be a non-HSWA Rulemaking.

Safety-Kleen disagrees, because the Rulemaking affects newly listed wastes and it makes changes to the LDR regulations, both of which should be considered to be HSWA rulemakings. Therefore, the EPA would be justified in determining that this is a HSWA Rulemaking.

(Safety-Kleen Corp., 047)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- RSR supports EPA 's proposed streamlined State authorization approach advanced in the rule. EPA 's rationale for this approach is sound and will help to ensure that badly needed revisions to the RCRA regulatory program are expeditiously adopted

by RCRA-authorized States. RSR urges EPA, however, to review fully States' program requirements used to manage the materials at issue in this Rulemaking.

(RSR Corporation, 054)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- RSR supports the proposed streamlined State Authorization Procedures but believes EPA should fully evaluate States' case-by-case determinations of Primary Metal Facilities Units. RSR supports EPA 's proposed streamlined State authorization approach. EPA 's rationale for the streamlined authorization approach is sound and the proposed revisions will help to ensure that badly needed revisions to the RCRA regulatory program are expeditiously adopted by States. Under the current authorization procedures, all revisions to authorized State hazardous waste programs -- including minor changes -- are potentially subject to the same level of scrutiny by EPA.

RSR believes that the preparation, review, and processing of these program revisions represent a significant resource commitment on the part of EPA and the States. These commitments force many States to decline not to adopt regulatory changes to the RCRA program that EPA has promulgated. For example, in many States EPA is still implementing regulations promulgated pursuant to the Hazardous and Solid Waste Amendments of 1984. The streamlined authorization approach recognizes that RCRA-authorized States have demonstrated the competency to implement and enforce the RCRA regulatory program. Currently, 49 states and territories have received final authorization (as defined in 40 C.F.R. Section 270.2) for the "base" RCRA program. EPA has never withdrawn a State 's authorization for the RCRA program, demonstrating that States have exercised their authority over the RCRA program in a manner that is acceptable to EPA. Many States also have over a decade of experience in promulgating and implementing hazardous waste regulations. States that are authorized for the base RCRA program and portions of the LDR program are familiar with the type of rule changes as well as the requisite legal requirements needed to implement rule revisions. EPA should build upon the competency and experience States have demonstrated, and EPA 's trust in these States, to allow rapid and streamlined authorization of RCRA regulatory revisions. RSR 's experience with three RCRA-authorized States (California, Indiana, New York) demonstrates the need for a streamlined authorization process. On countless occasions over the past 12 years, EPA regulations were adopted in these and other States only after a delay of years, largely due to resource constraints. Other important revisions have yet to be adopted at the State level, RSR believes that little benefit is achieved if RCRA reforms are not rapidly

adopted by RCRA-authorized States. RSR disagrees with one aspect of the proposed streamlined authorization procedures. EPA has proposed that States would be authorized to make case-by-case determinations for units at primary metal facilities that are used to manage the materials at issue in this rule. EPA states that it believes the addition of a few units does not significantly expand the State program, and that "another detailed evaluation by EPA is not warranted under such circumstances. RSR disagrees and believes that EPA should fully evaluate how these units will be addressed under States' RCRA regulatory programs. The management of the materials at issue goes to the very heart of the debate as to whether these materials have contributed to the waste disposal problem.

Moreover, the land placement of materials in these units is a prime focus of RCRA. EPA's generally applicable conditions for these units are intended to ensure that the units do not allow significant releases of the materials managed in them, thereby helping to ensure that the materials do not contribute to the very types of disposal problems Congress sought to address in RCRA. EPA's evaluation of the authorized State should go beyond ascertaining only that the State has the requisite legal authorities and resources to control the land-based units, and should fully evaluate the States, programs for these units to ensure that they are properly designed, constructed, and maintained.

(RSR Corporation, 054)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- NMA Supports An Expedited, Performance-Based Approach For State Program Authorization In the supplemental Phase IV proposal, EPA repropose and expands upon the expedited approach to state authorization that it proposed in the August 1995 Phase IV proposal. 61 Fed. Reg. at 2365-66. See also 60 Fed. Reg. 43,654, 43,687 (Aug. 22, 1995). The Agency claims that it will "give great weight to statements and legal certification submitted by the State[s]" in granting authorization. 61 Fed. Reg. at 2365. To this end, EPA proposes "to evaluate a limited number of specific criteria" aimed at ensuring that states have in place the "key requirements" for implementing the proposed revised definition of solid waste. *Id.* NMA supports an expedited approach for state program authorization. As discussed below, however, the criteria identified by EPA in the proposed rule are overly prescriptive. Rather than imposing detailed criteria on the states to obtain authorization, the Agency should instead use a more performance-based approach, thereby allowing the states flexibility to demonstrate that their programs meet or exceed federal requirements. B. EPA's Proposed Requirements For State Authorization Are Overly Prescriptive EPA sets forth three broad requirements that it would impose on states seeking authorization to implement the proposed regulations

governing the status of land-based units in the mineral processing industry. First, EPA takes the position that state programs "must demonstrate that [they] can distinguish land-based units receiving mineral processing residuals from those units operating as waste disposal units." 61 Fed. Reg. at 2365. It is unclear precisely what such a showing would entail, however. Although EPA points to the "environmental performance standard set forth at 40 C.F.R. § 267.10," *id.*, no such provision currently exists in the Agency's rules, nor has regulatory language been proposed in the instant Rulemaking. Instead, EPA has provided only a narrative description of a number of alternative potential requirements for the "conditional exclusion" from the definition of solid waste for mineral processing materials managed in land-based production units. *Id.* at 2341-48. That narrative suggests a complicated, prescriptive regulatory regime upon which the "performance standard" for state authorization would be based. Second, EPA asserts that states must have legal authority to: impose preventative measures, including design and operating conditions; establish groundwater protection criteria; require groundwater monitoring; and detect and remediate releases of hazardous constituents from the unit to groundwater, should such a release occur. EPA proposes that such state authority need not exist solely under RCRA, and explicitly declares that, for instance, general aquifer protection authority would be sufficient for state authorization purposes. 61 Fed. Reg. at 2365-66. NMA agrees that non-RCRA state legal authorities should suffice to support state authorization to make determinations regarding the regulatory status of land-based units. Existing state groundwater protection regimes, in concert with state clean water and solid/hazardous waste regimes, provide the necessary level of protection against potential risks to human health and the environment attributable to releases of pollutants or contaminants from land-based units to groundwater. An additional layer of federal regulation in this context is neither necessary or desirable. Finally, EPA declares that state programs must provide for public participation in site-specific determinations that land-based units qualify as "process units" within the scope of the "conditional exclusion." 61 Fed. Reg. at 2366. The Agency sets forth a number of examples of the type of "public participation" requirements it envisions would be appropriate in this context. Contrary to EPA's proposal, NMA's view is that states should be accorded the right to determine how best to factor public participation into site-specific determinations for mineral processing units. State programs already have in place public participation requirements, and through experience have determined what needs to be done to ensure that the public is informed of, and able to participate in, regulatory decisions, including site-specific determinations. It is neither necessary nor appropriate (particularly given the current movement in Washington towards devolving authority to the states and ending unfunded mandates) for EPA to subject state regulatory agencies to additional, prescriptive, public participation requirements for process unit determinations at mineral processing facilities.

(National Mining Association, 058)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization

Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- We also agree with EPA's proposal for expedited authorization for States to implement these rules. It would simplify the process and would be cost-effective. We would also like to see the concept embodied in this proposal applied to capacity determinations.

(U.S. Department of Interior, 074)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- Site Specific Determinations from an Authorized State or By an EPA Region. We believe that this proposal is also appropriate and should be adopted. Site specific conditions are the best factors to consider in the determination of how to meet compliance standards and protect human health and the environment.

(U.S. Department of Interior, 074)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

COMMENT

- Incorporation Into State Law The Agency asserts that the proposed regulatory revisions for scrap metal and circuit boards have not been issued under the Hazardous and Solid Waste Amendments (HSWA), and as non-HSWA provisions it will not take effect in States until the State is authorized for those requirements. See 61 Fed. Reg. at 2365. We believe that the Agency should consider ways to include the proposal, as modified by the suggestions contained in these comments, to fall under HSWA so that the rule may become immediately effective in all states. In the absence of this approach, regulated entities impacted by the rule could face an unwieldy patchwork of state requirements as states engage in the lengthy process of revising their- waste rules and/or authorizing legislation and EPA reviews and approves the changes. This process would likely take several years and would significantly delay the realization of the: environmental benefits that will be derived from this rule. At minimum, the Agency should consider ways of providing incentives to states to ensure the prompt adoption of these regulatory revisions.

Our concern in this regard is illustrated by our ongoing participation in efforts to promote state adoption of the so-called Universal Waste Rule, 40 C.F.R. Part, 273, in order to facilitate a voluntary industry program for the collection and recycling of nickel-cadmium batteries. Several states have succeeded in amending their hazardous waste statute or regulations to conform with the Universal Waste Rule, and other states have issued letters explaining that they will not initiate an enforcement action against entities involved with the recycling batteries in accordance with the rule. Progress in this regard has been slow, however, because of limited state resources and the need for states to address other pressing environmental concerns, many of which are the subject of statutory or judicial mandates. We are concerned that simply allowing states to exercise their discretion in deciding whether to conform their regulations to this proposal, without providing any additional incentive to do so, will result in unnecessary delay in state adoption of these important revisions. EPA should consider ways to promulgate this proposal under HSWA or to devise appropriate incentives to encourage states to adopt these revisions in a prompt manner.

(Electronics Industries As, 083)

RESPONSE

The U.S. EPA appreciates the above comment regarding State Authorization Streamlining. The U. S. EPA will respond to this comment in the upcoming Final HWIR Media Rule.

DCN PH4A058
COMMENTS NATIONAL MINING ASSOCIATION
RESPONDER AC
SUBJECT BERY
SUBJNUM 058
COMMENT

4. The UTS for Beryllium is Unachievable and Must be Modified EPA's proposal to transfer the UTS for beryllium to mineral processing wastes perpetuates the Agency's errors in setting that standard. For example, the administrative record for the beryllium UTS fails to demonstrate that treatment of beryllium even occurs with respect to the single waste stream (K061) which was considered by EPA in establishing the standard, much less that such treatment can be achieved "universally." The background documents for the 1994 UTS rulemaking which present and summarize the HTMR performance data considered by EPA do not contain any data which compare leachable beryllium concentrations before and after HTMR processing. Thus, it appears that the reduction in beryllium mobility as a result of HTMR was not even evaluated, let alone statistically confirmed.

HTMR apparently does not even reduce the concentration of beryllium in treatment residues. Rather, the very limited data indicate that total beryllium concentration in the treated K061 is higher than in the untreated waste. In the only data set accepted by EPA which compares beryllium concentrations of both untreated and treated samples, the beryllium concentration in each treated sample exceeded the beryllium concentration in each corresponding untreated sample. See Table 1-12, Final Data Document for Characterization and Performance of High Temperature Metals Recovery Treatment and Stabilization for Metal Bearing Nonwastewaters.

RESPONSE

The Agency acknowledges the commenter's concerns. In response to public comment on the beryllium treatment standard proposed in the second supplemental proposed rule, the Agency conducted a review of the data set used to calculate the proposed standard. As a result, the Agency agrees with the commenters that the performance data used to calculate the proposed standard (0.02 mg/l) does not adequately account for the difficulty in treating even relatively high concentrations of beryllium wastes. The Agency believes that the proposed UTS for beryllium must be revised to reflect a more difficult-to-treat, high-concentration beryllium waste in order to account for waste variability in particular. The Agency received stabilization data from the commenter consisting of seven data points from the treatment of D008 rotary filter sludge with cement kiln dust (CKD). These data show that beryllium concentrations (mg/L TCLP) in the untreated waste were as follows: 95, 32, 49, 54, 97, 52. After treatment, the beryllium concentrations (mg/L TCLP) were: 0.58, less than 0.05, 0.31, 0.07, 0.06, less than 0.05, and 0.2. Upon examination, the Agency determined that this waste stream reflects a difficult to treat

beryllium waste and should be used in the calculation of the treatment standard. (The use of this data also addresses a major concern of some of the commenters which was that while the standard was acceptable, it would or may not be appropriate with higher levels of beryllium in the waste stream.) The Agency believes that the data used in the Second Supplemental is not representative of a "difficult to treat" beryllium-containing waste in that the untreated waste concentrations were from two to four orders of magnitude less than the untreated waste concentrations (mg/L TCLP) in the data submitted by the commenter. The Agency believes that this data is more appropriate for the beryllium UTS and addresses the concerns raised by the commenter. For additional information on the data reviewed, see the Background Document for Metal Wastes in the Docket for this rule. As such, the Agency is today promulgating a revised UTS for beryllium nonwastewaters of 1.22 mg/l based on this newly acquired data. All the data available to the Agency indicates that this standard can be met by industry.

DCN PH4A059
 COMMENTER Brush Wellman, Inc.
 RESPONDER AC
 SUBJECT BERY
 SUBJNUM 059
 COMMENT

INTRODUCTION

Brush Wellman Inc. ("Brush Wellman") submits these comments on EPA's proposal regarding revising the universal treatment standard for beryllium and the adoption of the universal treatment standards as the land disposal treatment standards for toxicity characteristic metal wastes. 60 Fed. Reg. 43654 (August 22, 1995).

As the only fully integrated domestic producer of beryllium, beryllium alloys and beryllia (beryllium oxide ceramic), Brush Wellman is uniquely qualified to comment on proposed regulation of beryllium-containing materials. Brush Wellman has been in the forefront of the efforts to study the human health and environmental effects of beryllium and is a leader in developing sound management practices to ensure a safe work place and compliance with federal, state and local environmental standards.

These comments are one of a series of comments being submitted by Brush Wellman Inc. ("Brush Wellman") on EPA's proposed rulemaking relative to waste management in the mining industry, 61 Federal Register 2337 (January 25, 1996). In order to facilitate their review by EPA staff members, these comments are being submitted in separate segments. These comments address

the description of beryllium extraction operations in EPA's Identification and Description of Mineral Processing Sectors and Waste Streams (December 1995) ("Report"). Additional comments on the Report are contained in Brush Wellman's comments with respect to the application of the Bevill Exclusion to wastes generated at Brush Wellman's Delta, Utah mill. Brush Wellman Inc. operates the only beryllium extraction mill in the United States. Hence, Brush Wellman believes that the information with respect to beryllium extraction operations as set forth in the Report applies exclusively to its mill, which is located in Delta, Utah, or to its manufacturing plant in Elmore, Ohio. At the Delta mill, Brush Wellman extracts beryllium values from ore to produce beryllium hydroxide which is shipped to Brush Wellman's Elmore, Ohio facility. At Elmore, beryllium hydroxide is processed into three forms -- beryllium alloys, principally beryllium copper; beryllium oxide or beryllia ceramic; and metallic beryllium. These Brush Wellman engineered materials each possess unique technical properties which make them the cost-effective choice for many challenging uses. Beryllium-containing alloys are selected for their unique combination of properties which include electrical and thermal conductivity, strength, hardness, corrosion resistance, fatigue resistance and formability. Beryllia ceramic is specified for its electrical insulating properties and its unusual ability to conduct heat. Metallic beryllium offers light weight, high strength and stiffness, specialized nuclear properties and the ability to dissipate heat rapidly.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN	PH4A059
COMMENTS	Brush Wellman, Inc.
RESPONDER	AC
SUBJECT	BERY
SUBJNUM	059
COMMENT	III. IF THE REPORT IS TO BE REVISED FOR ANY REASON, NUMEROUS

CHANGES ARE REQUIRED IN THE BERYLLIUM SECTION If EPA chooses to revise the report for any reason, such as to support a final rulemaking, it should be revised to correct errors and update information. Attached hereto is a copy of the beryllium section of the report which has been edited to correct some errors and to provide some updated information. Because of the belief that the Report is not worth reissuing and because of the shortness of time within which to comment on this rulemaking, Brush Wellman has not undertaken a comprehensive update and correction of the Report. However, set forth below are an identification of some needed revisions. These and other revisions are noted in the marked-up version of the beryllium section of the Report which is attached to these comments.

B. Generalized Process Description

1. Typical Production Processes The mine is not located in Delta. The mill is located about 10 miles north of Delta and the mine is located about 50 miles west of the mill. The mill treats bertrandite and beryl ore using a counter-current leaching process.

Exhibit 2 There are no public drinking water wells within a 5-mile radius of the Delta mill.

Exhibit 3 Page 2: Eliminate the evaporation ponds and uranium extraction portion of the flowsheet. Sump water in the solvent extraction area is recycled back to solvent extraction instead of routing to raffinate discard as shown. Barren filtrate is recycled to the bertrandite thickeners and it not discarded to the tailings pond as shown. Carbon dioxide from the beryllium carbonate hydrolysis is recycled to the beryllium carbonate hydrolysis step.

Part 2 Production of Beryllium Hydroxide from Beryllium Sulfate 3rd Para: The barren filtrate streams from the two filtration operations are recycled to the bertrandite thickeners and are not discharged directly to tailings as described. The description of the uranium process should be removed because this mill Process has been eliminated.

Bertrandite Ore Process This section should be revised to conform to EPA's March 15, 1990 decision as to the application of the Bevill Exclusion to these wastes.

Beryl Ore Process This section should be revised to conform to the EPA's March 15, 1990 decision as to the application of the Bevill Exclusion to these wastes.

Spent Raffinate It is not true that raffinate may contain treatable concentrations of beryllium. [The commenter submitted line edits to the beryllium section of the Identification Document, including corrections and supplemental information for the process description, exhibits, and flow

diagrams.]

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A060
COMMENTS COMMENTER Brush Wellman, Inc.
RESPONDER AC
SUBJECT BERY
SUBJNUM 060
COMMENT I. INTRODUCTION These comments are one of a series of comments being submitted by Brush Wellman Inc. ("Brush Wellman") on EPA's proposed rulemaking relative to waste management in the mining industry, 61 Federal Register 2337 (January 25, 1996). In order to facilitate their review by EPA staff members, these comments are being submitted in separate segments. These comments address the issue of the application of the Bevill Exclusion to the beryllium extraction wastes generated. Brush Wellman mines bertrandite ore and extracts beryllium values from this ore and imported beryl ore at Delta. This facility is the only beryllium extraction facility in the United States. Hence, Brush Wellman is uniquely knowledgeable about this segment of the mining industry and uniquely interested in its regulation by EPA. In addition to its interest in how the proposal would impact the Delta facility, Brush Wellman is also interested in all aspects of the environmental regulation of beryllium. Many mining segments share this interest because beryllium is a naturally occurring substance commonly found in ores.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A060
COMENTER Brush Wellman, Inc.
RESPONDER AC
SUBJECT BERY
SUBJNUM 060

COMMENT In the uranium production industry, a mill using an acid leach flowsheet is very similar to the Brush Wellman mill. In both cases, the ground ore is leached with dilute sulfuric acid, followed by solvent extraction of the leach solution., In both cases, the solvent extraction circuits consist of: loading, stripping, and recycling of the organic liquid to the loading step. The mineral bearing strip solution in both cases is treated to precipitate a chemical compound form of the mineral value. In the case of the uranium industry, this precipitate is called, "yellowcake", but it is comparable to the beryllium hydroxide precipitate product for the Brush Wellman mill. For the uranium mill operations, the EPA has determined that the beneficiation/mineral processing line occurs following the production of yellowcake and prior the subsequent conversion and purification. Again, there are significant similarities between the uranium industry flowsheet and the Brush Wellman mill operation where the final product, beryllium hydroxide is produced from the strip solution by chemical precipitation. However, the EPA did not place the beneficiation/mineral processing line in the same place for both flowsheets, choosing to place the line before leaching for Brush Wellman, instead of

following the beryllium hydroxide precipitation. For the reason stated above, the line for the Brush Wellman operation should be relocated. For information purposes, it should be noted that solvent extraction, as practiced at Delta consists of the following integrated steps, which include stripping and acid conversion: 1. Leach solution from the bertrandite and beryl CCD circuits is combined in a surge tank. It is then pumped to another tank where sulfuric acid is added. The solution is then pumped to a filter which is pre-coated with diatomaceous earth. The clarified filtrate solution from the filter (called extraction feed) is pumped to another surge tank before being pumped to the solvent extraction circuit. The filter cake from the filter is continuously scraped off, repulped with fresh water and pumped to the leach output where it is recycled to the CCD circuit for beryllium recovery. 2. Extraction feed solution is pumped from the surge tank to the solvent extraction circuit. Solvent extraction is a closed-loop circuit consisting of three steps: Loading, stripping, and acid conversion. The loading step of solvent extraction consists of ten pairs of mixer and settler tanks. The extraction feed is mixed with a kerosene-based organic liquid in each mixer tank. The mixture is then allowed to separate by gravity in each settler tank with the organic liquid floating to the top of the aqueous liquid. This is done sequentially through all ten mixer/settler pairs with the aqueous liquid moving down-current from the first extraction mixer tank to the last settling tank while the organic liquid moves up-current from the last mixer tank to the first settling tank. The aqueous liquid leaving the end of the loading step of the solvent extraction circuit has had the beryllium extracted from it and is a wastewater known as raffinate. Raffinate is pumped to a surge tank where any residual organic liquid is allowed to separate before the raffinate is pumped to the water collection tank where it is combined with other wastewater streams. Water from the water collection tank is pumped to the tailings disposal tank and then to the tailings pond. None of the raffinate is recycled. 3. The organic liquid reporting out of the loading step of the solvent extraction circuit is called loaded organic. It is Pumped to a surge tank and then to two pairs of mixer/settler tanks which comprise the stripping step of the solvent extraction circuit. The loaded organic is contacted with an aqueous ammonium carbonate solution in the strip circuit in the mixer tanks and allowed to separate in the settler tanks. The ammonium carbonate solution strips the

beryllium and aluminum, iron, and uranium from the loaded organic. This ammonium-beryllium carbonate solution is then pumped to a surge tank before being introduced into the iron hydrolysis step. The organic liquid reporting from the stripping step is called stripped organic. 4. The stripped organic has a basic pH from the strippings step and must be converted to an acid pH for reuse in the loading step of the solvent extraction circuit. This is done in the acid conversion step of the solvent extraction circuit. In this step, the stripped organic is treated in two pairs of mixer/settler tanks by contacting it with an aqueous sulfuric acid solution. The acidified, or converted, organic is pumped to two surge tanks prior to being recycled to the loading step of the solvent extraction circuit. The aqueous liquid from the acid conversion step is a wastewater called converted aqueous feed (CAF) and its pumped to the raffinate surge tank for discard. None of the CAF is recycled. There are a number of inaccurate statements in the 1995 Report regarding the solvent extraction circuit. These include: 1. The "Spent Raffinate" description in the report indicates that raffinate contains "treatable quantities of beryllium, other metal impurities, total suspended solids and low levels of organics . . ." Raffinate, reporting from the raffinate surge tank, does not contain treatable (recoverable) concentrations of beryllium. 2. The same section of the report indicates that raffinate may be partially recycled. This is not the case, no raffinate is recycled. 3. The "Acid Conversion Stream" description indicates that CAF consists of stripped organic liquid that is not recycled to the solvent extraction circuit. This is not accurate, CAF is the aqueous wastewater from the acid conversion step of the solvent extraction circuit and should contain minimal organic liquid. All of the converted organic liquid is recycled to the loading step of the solvent extraction circuit.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A060
COMMENTS COMMENTER Brush Wellman, Inc.
RESPONDER AC
SUBJECT BERY
SUBJNUM 060
COMMENT Commenter submitted copies of (1) a memorandum from a Nov. 30, 1989 meeting, (2) a letter from Bob Tonetti, (3) process flow diagrams, (4) a State of Utah letter on the Bevill exclusions for the Brush Wellman beryllium extraction process, (5) process steps and Bevill applicability in 1990 and 1995.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A061
COMMENTS COMMENTER Brush Wellman, Inc.
RESPONDER AC
SUBJECT BERY
SUBJNUM 061

COMMENT I. INTRODUCTION These comments are one of a series of comments submitted by Brush Wellman Inc. ("Brush Wellman") on EPA's proposed rulemaking relative to waste management in the mining industry, 61 Federal Register 2337 (January 25, 1996). In order to facilitate their review by EPA staff members, these comments are being submitted in separate segments. These comments address certain technical and financial information with respect to beryllium extraction appearing in the Regulatory Impact Analysis of the Supplemental Proposed Rule Applying Phase IV Land Disposal Restrictions to Newly Identified Mineral Processing Wastes (December 1995) ("RIA").

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A061
COMMENTS BRUSH WELLMAN, INC.
RESPONDER AC
SUBJECT BERY
SUBJNUM 061
COMMENT Brush Wellman operates the only beryllium extraction mill in the United States. Hence, Brush Wellman believes that the technical and financial information with respect to beryllium extraction as set forth in the Regulatory Impact Analysis applies exclusively to its mill, which is located in Delta, Utah. At the Delta mill, Brush Wellman extracts beryllium values from ore to produce beryllium hydroxide which is shipped to Brush Wellman's Elmore, Ohio facility. At Elmore, beryllium hydroxide is processed into three forms -- beryllium alloys, principally beryllium copper; beryllium oxide or beryllia ceramic; and metallic beryllium. These Brush Wellman engineered materials each possess unique technical properties which make them the cost-effective choice for many challenging uses. Beryllium-containing alloys are selected for their unique combination of properties which include electrical and thermal conductivity, strength, hardness, corrosion resistance, fatigue resistance and formability. Beryllia ceramic is specified for its electrical insulating properties and its unusual ability to conduct heat. Metallic beryllium offers light weight, high strength and stiffness, specialized nuclear properties and the ability to dissipate heat rapidly.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A061
COMMENTS BRUSH Wellman, Inc.
RESPONDER AC
SUBJECT BERY
SUBJNUM 061

COMMENT II. THE BASIS FOR CHARACTERIZATION OF THE BERYLLIUM
EXTRACTION WASTE STREAMS IS UNCLEAR AND VARIOUS STATEMENTS ARE
INCORRECT

Exhibits 2-1 and 2-2 of the Report lists waste streams for the beryllium sector under the category of "Potential Hazardous Waste Streams". We have compared the analytical results that are listed in these exhibits with the laboratory reports for the 1989 EPA-ICF sampling and there are the following significant discrepancies: 1) The EPA is listing the EP Toxicity data from the 1989 analytical results as TCLP data in the report exhibits. The two analytical procedures are not equivalent and the data from EP Toxicity analyses should not be reported as TCLP data. 2) Many of the analytical results in the 1989 data were reported at the detection limits. These data have been listed in the exhibits of the EPA report at 50% of the 1989 values with the exception of the TCLP data for raffinate which is listed in the exhibits the same as the 1989 reported values. This was apparently done to show that raffinate may be TCLP toxic for selenium. However, the 1989 data reported selenium at a detection limit of 1.0 mg/l. The EPA has been inconsistent in its interpretation of the 1989 data with an apparent bias to show that raffinate is a toxic hazardous waste. 3) The 1989 data report indicated that the detection limit for selenium in the raffinate sample was too high, at 100 times the MCL. Comparison of the total metals and TCLP data in the two exhibits of the EPA report also show that the listed TCLP values are typically higher than the listed total values. These data problems invalidate the use of these data to characterize raffinate as a hazardous waste. Exhibit 3-5, Potentially Hazardous Mineral

Processing Waste Streams by Commodity Sector in the RIA lists four wastes from Delta including: barren filtrate, bertrandite thickener slurry, beryl thickener slurry, and spent raffinate. The RIA does not indicate the basis of listing these particular waste streams in this table. However, the EPA-ICF waste characterization data from the 1989 sampling and analyses indicate that barren filtrate, bertrandite slurry, and beryl thickener slurry did not fail any EP Toxicity characteristic or corrosivity. ICF Incorporated, Brush Wellman Mineral Processing Waste Sampling Visit -- Trip Report, August 1989. Therefore, listing these wastes in Exhibit 3-5 is alone not consistent with the EPA's own data. The 1989 data for raffinate indicate that alone exhibited the hazardous characteristic corrosivity (pH = 1.38). Exhibit 3-8, Final Mineral Processing Waste Stream Database - Baseline Analysis also includes inaccuracies in the TC metals, RCRA characteristics, and current recycling practices fields. 1. The TC metals field shows that barren filtrate and raffinate exhibit TC toxicity for selenium. The EPA ICF 1989 waste characterization data for both of these wastes indicates that this is not true. 2. The RCRA Characteristics field indicates that bertrandite thickener slurry, beryl thickener slurry, and raffinate all exhibit the characteristic of corrosivity. The EPA-ICF 1989 data do not support this conclusion for the bertrandite and beryl thickener slurries and Brush Wellman data obtained since 1989 show that both of these waste streams have pH values greater than 2.0. 3. The Current Recycle field indicates that barren filtrate and raffinate are recycled. This is not true, both waste streams are discarded.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A061
 COMMENTER Brush Wellman, Inc.
 RESPONDER AC
 SUBJECT BERY
 SUBJNUM 061
 COMMENT III. EPA'S ASSUMPTION THAT SEVERAL WASTES ARE PARTIALLY

RECYCLED IS INCORRECT The Current Recycle column on Table 3-8 of the RIA incorrectly indicates that certain wastes are recycled. EPA has assumed that the following percentages of the wastes are recycled and do not have to be treated as hazardous wastes: Raffinate 33%, Beryl Thickener Slurry 33%, Bertrandite Thickener Slurry 33%, Barren Filtrate 50% None of these wastes are recycled at the Delta mill.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A061
 COMMENTER Brush Wellman, Inc.
 RESPONDER AC
 SUBJECT BERY
 SUBJNUM 061
 COMMENT IV. WASTE ESTIMATES IN THE RIA VARY SOMEWHAT FROM WASTES

ACTUALLY GENERATED IN 1995 The tonnage of waste at the Delta Mill varies, of course, from year to year. The waste tonnage used by EPA in the RIA differ from 1995 actual tonnages as follows:

Wastestream	EPA Estimate	1995 Actual
Barren Filtrate	88,000	55,000
Bertrandite Thickener Slurry	370,000	376,000
Beryl Thickener Slurry	3,000	1,000
Raffinate	380,000	367,000

RESPONSE

For EPA’s response on this issue, see the “Comments and Responses Document for Issues Related to Mineral Processing Wastes,” in the RCRA docket for today’s rulemaking.

DCN PH4A061
COMMENTS BRUSH WELLMAN, INC.
RESPONDER AC
SUBJECT BERY
SUBJNUM 061

COMMENT V. THE RIA'S ESTIMATES OF THE QUANTITY OF WASTES TREATED BY DIFFERENT METHODS ARE INCORRECT In the RIA the EPA indicated

that certain wastes in the beryllium sector would need to be neutralized. It assumes that a sludge would be developed by the neutralization that would need to be dewatered prior to stabilization with cement and on-site disposal in a lined landfill. It is very difficult to correlate how the EPA's general assumptions on these treatment concepts apply to the individual Delta mill waste streams. However, the waste tonnage determined by the EPA for the beryllium sector as a whole is as follows:

Neutralized Waste 223,500 TPY

Dewatered Waste 33,525 TPY

Stabilized Waste 16,529 TPY

Waste Disposed 27,920 TPY

If one assumes, as EPA has, that the raffinate is hazardous waste by the characteristics of corrosivity and TC toxicity, Brush Wellman would have to neutralize all the raffinate to a pH of 7 followed by removal and dewatering of the treatment sludge. This sludge would have a dry weight equal to

about 11% of the original weight of raffinate treated. The sludge would then be stabilized with cement and conveyed to a lined, on-site storage facility for disposal. A very preliminary estimate of the treatment of only the raffinate stream, prepared by Brush Wellman's consultant, JBR Consultants, are as follows:
 Raffinate to be neutralized. Neutralized sludge to be dewatered (30% solids)
 Dewatered sludge to be stabilized (dry weight)
 Final waste to be disposed with 50% cement 367,000 TPY 121,110 TPY
 40,370 TPY 60,555 TPY While these estimates are very preliminary, but they indicate that the EPA estimates for the potential scale of the waste treatment and handling impacts of their proposed rules are significantly underestimated.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A063
 COMMENTER Brush Wellman, Inc.
 RESPONDER AC
 SUBJECT BERY
 SUBJNUM 063

COMMENT II. EPA SHOULD NOT APPLY THE CURRENT OR PROPOSED UTS FOR BERYLLIUM

A. EPA Lacks the Data to Show that its UTS Technology Reduces Beryllium in Wastes. The application of the UTS standards for beryllium to the mineral processing wastes would replicate the Agency's flaws in setting the UTS standards themselves. EPA has established a universal treatment standard of 0.014 mg/l TCLP for beryllium in non-wastewaters. 59 Federal Register 47982 (September 19, 1994). In that rulemaking EPA identified high temperature metal recovery ("HTMR") as the best demonstrated available technology ("BDAT"). 59 Federal Register at 47997-99. In a subsequent rule, EPA proposed to revise the beryllium standard for non-wastewaters to 0.04 mg/l TCLP. 60 Federal Register 43654, 43683 (August 22, 1995). In the preamble to the proposed revision EPA cites the receipt of additional

data showing that the HTMR cannot consistently achieve the current UTS. However, even the proposal is flawed. The administrative record for the beryllium UTS fails to demonstrate even that treatment of beryllium occurs with respect to the single waste stream (K061) which was considered by EPA in promulgating the standard, much less that such treatment can be achieved "universally." The background documents which present and summarize the HTMR performance data considered by the Agency do not contain any data which compare TCLP beryllium concentrations for samples before and after HTMR processing. Thus, it appears that the reduction in mobility of beryllium as a result of HTMR was not even evaluated, let alone statistically confirmed. Indeed, HTMR apparently does not even reduce the concentration of beryllium in the treatment residues. Rather, the very limited data indicate that the total beryllium concentration in the treated K061 is higher than in the untreated waste. In the only data set accepted by EPA which compares beryllium concentrations of both untreated and treated samples, the beryllium concentration in each treated sample exceeded the beryllium concentration in each corresponding untreated sample. See Table 1-12, Final Data Document for Characterization and Performance of High Temperature Metals Recovery Treatment and Stabilization for Metal-Bearing Nonwastewaters (EPA July 1994). The premise underlying EPA's reliance upon treatment data relating to a single type of waste stream in promulgating a universal treatment standard applicable to all regulated hazardous wastes is that HTMR is a matrix independent process. According to EPA, the chemical and physical composition of the waste stream being introduced in the process do not have any material impact upon the achievability of any of the treatment standards. While EPA may believe that it had sufficient data to conclude that HTMR is matrix independent with respect to recovery and treatment of zinc, this premise was not demonstrated to be true with respect to other metals such as beryllium through evaluation of any treatment data available to EPA. Moreover, EPA's own statements acknowledge the extreme variability in HTMR processes depending on a variety of factors, including input composition. For example, on page 5-8 of the Final BDAT Background Document (Addendum) for All Nonwastewater Forms of K061 issued in July 1992, EPA states: Hence, the metal distribution in the HTMR process is highly depending upon parameters such as the operating temperature of the heat zones, the composition of metals and other elements in the feed, zone

residence times, flow rates, oxidation/reduction conditions, and mixing. . . . Based on these factors, the Agency concludes that all metal-bearing materials (nonhazardous as well as hazardous) placed into HTMR processes could affect the ultimate composition and leachability of metals from HTMR nonwastewater residues. In sum, Brush Wellman has serious doubts about the adequacy of the data reviewed by the Agency and the Agency's reliance upon data from a single waste stream in promulgating a treatment standard to be applied universally. With its proposed expansion of the application of the universal treatment standards to mineral processing wastes, EPA has greatly increased the universe of wastes which will be required to achieve the BDAT-based standards. However, Brush Wellman is concerned that EPA's reliance solely upon previously existing data relating to a single waste stream (as least as far as beryllium is concerned) accompanied by the Agency's failure to develop and consider treatment data from different waste streams with significantly different chemical and physical compositions constitutes an inadequate technical basis for imposing such a significant change upon the regulated community. While the universal treatment standard for beryllium was derived from just to K061 wastes, EPA proposes to apply it to any hazardous mineral processing waste which contains beryllium. Brush Wellman believes it is inappropriate to take a treatment standard which was derived solely from treatment data for a single low-beryllium waste stream and apply such a standard to many diverse waste streams which may contain significantly higher concentrations of beryllium. EPA suggests that stabilization is an alternative treatment technology that is available for use by generators of toxicity characteristic metal wastes to meet the universal treatment standards. Indeed, EPA's background document evaluating available capacity for treating these wastes focuses solely on stabilization capacity and does not present any information regarding commercial capacity for HTMR. Brush Wellman is not aware of a commercial HTMR process which is available to treat beryllium-containing mineral processing wastes in large quantities. It is not reasonable for the Agency to promulgate a BDAT-based standard based on one technology and expect compliance based on use of a different technology which has not been thoroughly evaluated for performance and capacity. Brush Wellman is not aware of any data in the administrative record which demonstrate that the universal treatment standard for beryllium is attainable through stabilization of mineral

processing wastes or any other type of beryllium-bearing wastes.

RESPONSE

The Agency provided several opportunities for the commenters to submit additional data on the treatability of beryllium using stabilization and HTMR technologies in the Phase IV original proposal (60 FR 43654, August 22, 1995), the first supplemental Phase IV proposal (61 FR 2338, January 25, 1996), and the most recently proposed Phase IV second supplemental proposal (62 FR 26041, May 12, 1997). Since no information was provided by the commenters, the Agency collected its own performance data (based on grab samples) from commercial HTMR and stabilization facilities. EPA calculated the treatment standards based on both HTMR and stabilization and selected the highest standard (less stringent) for each metal to establish the UTS and allow for process variability and detection limit difficulties. Based on these data, EPA re-proposed a beryllium treatment standard of 0.018 mg/l TCLP (actually, 0.02 mg/l due to rounding) in the second supplemental proposed rule (62 FR 26045, May 12, 1997).

In response to the second supplemental proposal several commenters stated that the beryllium stabilization performance data used by the Agency was quite limited and reflected the treatment of wastes having a very low beryllium content. Furthermore, commenters questioned whether the proposed standard of 0.02 mg/l TCLP could be met by conventional stabilization techniques in the case of higher beryllium content wastes. Other commenters stated that they could not support the treatment standards because EPA has not demonstrated that existing commercial technologies were capable of achieving the proposed standards or that technologies were otherwise available.

In response to the comments received on the beryllium treatment standard, the Agency conducted a review of the data set used to calculate the proposed standard. The review indicated that, consistent with the commenter's concerns, the data used by the Agency to calculate the standard was based on wastes containing low concentrations of beryllium (between 0.0050 and 0.5 mg/l TCLP). As a result, the Agency agrees with the commenters that the performance data used to calculate the proposed standard (0.02 mg/l) does not adequately account for the difficulty in treating relatively high concentrations of beryllium wastes. The Agency believes that the proposed UTS for beryllium must be revised to reflect a more difficult-to-treat, high-concentration beryllium waste.

In response to public comment on the beryllium treatment standard proposed in the second supplemental proposed rule, the Agency conducted a review of the data set used to calculate the proposed standard. As a result, the Agency agrees with the commenters that the performance data used to calculate the proposed standard (0.02 mg/l) does not adequately account for the difficulty in treating relatively high concentrations of beryllium wastes. The Agency believes that the proposed UTS for beryllium must be revised to reflect a more difficult-to-treat, high-concentration beryllium waste. The Agency received stabilization data

from Brush Wellman, Inc., consisting of seven data points from the treatment of D008 (lead-containing) rotary filter sludge with cement kiln dust (CKD). These data show that beryllium concentrations in the untreated waste were as follows (mg/L TCLP): 95, 32, 49, 54, 97, 52. After treatment, the beryllium concentrations (mg/L TCLP) were: 0.58, less than 0.05, 0.31, 0.07, 0.06, less than 0.05, and 0.2. Upon examination, the Agency determined that this waste stream reflects a difficult to treat beryllium waste and should be used in the calculation of the treatment standard. (The use of this data also addresses a major concern of this commenter and another commenter, which was that while the standard was acceptable, it would not or may not be appropriate with higher levels of beryllium in the waste stream.) The Agency believes that the data used in the Second Supplemental was not representative of a “difficult to treat” beryllium-containing waste in that the untreated waste concentrations were from two to four orders of magnitude less than the untreated waste concentrations (mg/L TCLP) in the data submitted by Brush Wellman (0.016, less than 0.5, 0.008, less than 0.0050). The Agency has determined that the data used to calculate the UTS for beryllium-containing nonwastewaters was inadequate and not reflective of a difficult to treat beryllium waste. As such, that data has been removed from the UTS data set used in the Second Supplemental proposal and replaced with the seven data points collected by Brush Wellman. The Agency believes that this data is more appropriate for the beryllium UTS and addresses the concerns raised by the commenters. See the Background Document for Metal Wastes in the Docket for this rule). As such, the Agency is today promulgating a revised UTS for beryllium nonwastewaters of 1.22 mg/l based on this newly acquired data.

With respect to the commenters concern on transferring treatment standards from K061 wastes, the Agency notes that the beryllium treatment standards promulgated in today’s rule are no longer based on K061 performance data and are based on newly collected performance data from high-beryllium containing wastes. The Agency also would like to note that if a particular waste possesses unique properties making it more difficult to treat than the waste on which the standards are based, the affected party may petition the Agency for a treatability variance as per 40 CFR 268.44 on a case-by-case basis.

DCN PH4A063
COMMENTS BRUSH Wellman, Inc.
RESPONDER AC
SUBJECT BERY
SUBJNUM 063

COMMENT B. The UTS for beryllium must be revised to ensure that treatment is not required beyond the point at which beryllium-containing wastes cease to pose an unreasonable risk to human health and the environment. Several facts demonstrate that both the current and proposed beryllium UTSs are less than that necessary to protect human health and the environment. 1. Benchmark Values in the Storm Water Multi-Sector General Permit for Industrial Activities Just recently, EPA established .13 mg/l as the concentration level for beryllium in stormwater "that if below, a facility represents little potential for water quality concern." 60 Fed. Real 50803, 50825 (September 29, 1995). In light of this determination by EPA, the universal treatment standard for beryllium should not be less than .13 mg/l. In fact, applying its rationale in the stormwater rule, the Agency should set the universal treatment standard for beryllium should be substantially higher. As explained by EPA in the preamble to the rule establishing the Storm Water Multi-Sector General Permit for Individual Activities, "benchmark" concentrations were being established for pollutants against which stormwater monitoring data were to be compared. Benchmarks are values "which EPA has used to determine if a stormwater discharge from any given facility merits further monitoring to insure that the facility has been successful in implementing a stormwater pollution prevention plan." Id. at 50824. EPA's rationale in setting benchmark values demonstrates why 0.04 mg/l is less than that necessary to protect human health and the environment: The "benchmarks" are the pollutant concentrations above which EPA determined represents a level of concern. The level of concern is a concentration at which a stormwater discharge could potentially impair, or contribute to impairing, water quality or affect human health from ingestion of water or fish. The benchmarks are also viewed by EPA as a level, that, if below, a facility represents little potential for water quality concern. Id. at 50824-25. If stormwater runoff, which can potentially enter a receiving stream in large volumes at 0.13 mg/l, is not a level of concern, leachate in

much smaller volumes should not be a concern at a lower level. Indeed, the tremendous difference in potential volumes between stormwater discharges and leachate point to the fact that the level of concern should be much higher for leachate than for stormwater. 2. Drinking Water Standard The proposed universal treatment standard for beryllium is ten times the drinking water standard for beryllium of 0.004 mg/l, expressed as a maximum contaminant level (MCL). Considering the impact of a dilution factor of only ten times the MCL, one must conclude that the universal treatment standard for beryllium is very conservative with respect to protection of human health and the environment. When this conservative assumption is combined with the conservative nature of the drinking water standard for beryllium (and the erroneous computation of that MCL, as demonstrated in the following section), the result is a universal treatment standard value that is beyond the point at which there is no threat to human health.

RESPONSE

The Agency recognizes the concerns raised by the commenter, however, EPA under the statutory requirements of the RCRA Sec. 3004(m) is legally obligated to establish treatment standards using the best demonstrated available technology (BDAT) for RCRA hazardous wastes. The Agency considers all the factors under Sec. 3004(m) when determining technology-based treatment standards and sets the standards at levels that minimize threats to human health and the environment. In addition, the Agency notes that the beryllium treatment standard of 0.04 mg/l TCLP proposed in the Phase IV original proposal (60 FR 43683, August 22, 1995) was based on composite data. Recognizing that the use of composite data was not consistent with the BDAT methodology, the Agency re-calculated the treatment standard for beryllium based on available performance data from HTMR, using grab samples, and re-proposed a treatment standard of 0.018 mg/l TCLP (actually, 0.02 mg/l due to rounding) in the second supplemental proposed rule (62 FR 26045, May 12, 1997). The Agency made the data and the methodology used to calculate this new standard available to the public as part of the second supplemental proposal and provided sufficient time for the commenters to review the data and submit comments.

The Agency acknowledges the commenters concerns. In response to public comment on the beryllium treatment standard proposed in the second supplemental proposed rule, the Agency conducted a review of the data set used to calculate the proposed standard. As a result, the Agency agrees with the commenters that the performance data used to calculate the proposed standard (0.02 mg/l) does not adequately account for the difficulty in treating even relatively high concentrations of beryllium wastes. The Agency believes that the proposed UTS for beryllium must be revised to reflect a more difficult-to-treat, high-concentration beryllium waste in order to account for waste variability in particular. The Agency received stabilization data from the

commenter consisting of seven data points from the treatment of D008 rotary filter sludge with cement kiln dust (CKD). These data show that beryllium concentrations (mg/L TCLP) in the untreated waste were as follows: 95, 32, 49, 54, 97, 52. After treatment, the beryllium concentrations (mg/L TCLP) were: 0.58, less than 0.05, 0.31, 0.07, 0.06, less than 0.05, and 0.2. Upon examination, the Agency determined that this waste stream reflects a difficult to treat beryllium waste and should be used in the calculation of the treatment standard. (The use of this data also addresses a major concern of some of the commenters which was that while the standard was acceptable, it would or may not be appropriate with higher levels of beryllium in the waste stream.) The Agency believes that the data used in the Second Supplemental is not representative of a "difficult to treat" beryllium-containing waste in that the untreated waste concentrations were from two to four orders of magnitude less than the untreated waste concentrations (mg/L TCLP) in the data submitted by the commenter. The Agency believes that this data is more appropriate for the beryllium UTS and addresses the concerns raised by the commenter. For additional information on the data reviewed, see the Background Document for Metal Wastes in the Docket for this rule. As such, the Agency is today promulgating a revised UTS for beryllium nonwastewaters of 1.22 mg/l based on this newly acquired data.] All the data available to the Agency indicates that this standard can be met by industry.

DCN PH4A063
 COMMENTER Brush Wellman, Inc.
 RESPONDER AC
 SUBJECT BERY
 SUBJNUM 063

COMMENT III. EPA SHOULD NOT APPLY THE MCL FOR BERYLLIUM, WHICH IS OVERLY conservative. AS A GROUNDWATER PROTECTION STANDARD EPA proposes to apply the MCL as a groundwater protection standard for processing units containing secondary materials. 61 Federal Register at 2372. The current MCL for beryllium is .004 mg/l. The current MCL for beryllium of .004 mg/l is overly conservative. In computing the .004 mg/l drinking water standard, EPA applied an uncertainty factor of ten on top of all the other safety factors that are typically in every calculation of a drinking water standard. 57 Fed. Real 31776, 31785 (July 17, 1992). The overly-conservative nature of the .004 mg/l standard is further demonstrated by the studies of Dr. Kenneth Morgareidge and his collaborators. These studies exposed animals to levels of beryllium that were considerably higher than that used by the Schroeder and Mitchener study on which the MCL is based. These studies establish a higher NOAEL than 0.5 mg/kg/day dose used by Schroeder and Mitchener. This higher NOAEL should be used by EPA in evaluating the risk to human health when

ingesting beryllium. Morgareidge et al. examined the incidence of tumor rates among rats exposed to beryllium in food at levels of 0, 5, 50 and 500 ppm. Like Schroeder and Mitchener, Morgareidge et al. found no differences in tumor rates between exposed and unexposed animals. Morgareidge et al.'s results for males are graphed in Figure A, and tests for statistical significance of differences in tumor rates among different exposure groups are given in Figure B. The corresponding graph and tests of significance for females are given in Figures C and D. Among the male rats, the incidence of tumors declined with increasing levels of beryllium after 5 ppm. Among females the pattern was not as consistent. Tumor rates among the 5 ppm group were higher than rates among the 50 and 500 ppm groups, but the 500 ppm group had slightly higher rates than the 50 ppm group. In any event, none of these differences were statistically significant. Morgareidge also considered a host of toxicologic endpoints and found no observable effects at any dose level. Figure E is a calculation of a reference dose for beryllium using the Morgareidge data in lieu of the Schroeder and Mitchener data. The result is an MCL of 1.6 mg/l. This standard, in turn, would result in a universal treatment standard which minimized threat of 16 mg/l TCLP after taking into account EPA's dilution factor of 10.

RESPONSE

The Agency notes to the commenter that the Land Disposal Restriction (LDR) program is based on the premise that regulated constituents are to be treated using the Best Demonstrated Available Technology (BDAT) to minimize threats to human health and the environment, because of the absence of certainty as to levels at which threats are minimized. The Agency considers all the factors under Sec. 3004(m) when determining technology-based treatment standards and sets the standards at levels that minimize threats to human health and the environment. In addition, the Agency notes that the beryllium treatment standard of 0.04 mg/l TCLP proposed in the Phase IV original proposal (60 FR 43683, August 22, 1995) was based on composite data. Recognizing that the use of composite data was not consistent with the BDAT methodology, the Agency recalculated the treatment standard for beryllium based on available performance data from HTMR, using grab samples, and re-proposed a treatment standard of 0.018 mg/l TCLP (actually, 0.02 mg/l due to rounding) in the second supplemental proposed rule (62 FR 26045, May 12, 1997). The Agency made the data and the methodology used to calculate this new standard available to the public as part of the second supplemental proposal and provided sufficient time for the commenters to review the data and submit comments.

In response to public comment on the beryllium treatment standard proposed in the

second supplemental proposed rule, the Agency conducted a review of the data set used to calculate the proposed standard. As a result, the Agency agrees with the commenters that the performance data used to calculate the proposed standard (0.02 mg/l) does not adequately account for the difficulty in treating relatively high concentrations of beryllium wastes. The Agency believes that the proposed UTS for beryllium must be revised to reflect a more difficult-to-treat, high-concentration beryllium waste. Therefore, the Agency collected additional treatment performance data on high beryllium containing wastes (from Brush Wellman, Inc.) and re-calculated the BDAT treatment standard for beryllium (for additional information on the data reviewed, see the Background Document for Beryllium Wastes in the Docket for this rule). As such, the Agency is today promulgating a revised UTS for beryllium nonwastewaters of 1.22 mg/l based on this newly acquired data.

DCN PH4A063
COMMENTS BRUSH Wellman, Inc.
RESPONDER AC
SUBJECT BERY
SUBJNUM 063

COMMENT [The commenter attaches their 1994 comments on the Proposed EPA multi-sector storm water general permit that discusses the toxicity of Beryllium.] Attached as Attachments B and C are the Morgareidge reports of the rat study. Also attached as Attachment D is the report of another study (Gallo et al. 1976) in which Morgareidge participated. This report study, a chronic feeding study using dogs and reporting a maximum tolerated dose of between 50 and 500 ppm, further supports the conclusion that the .004 mg/l standard is overly conservative. [The commenter includes several data references related to the Morgareidge rat study: dose-response charts for males and females; Comparison charts of response rates among animals exposed to various levels of beryllium for males and females; and a table of Reference Dose, drinking water equivalent level, and maximum contamination level goal calculations.]

RESPONSE

The Agency recognizes the concerns raised by the commenter, however, EPA under the statutory requirements of the RCRA Sec. 3004(m) is legally obligated to establish treatment standards using the best demonstrated available technology (BDAT). The Agency considers all the factors under Sec. 3004(m) when determining technology-based treatment standards and sets the standards at levels that minimize threats to human health and the environment. In addition, the Agency notes that the beryllium treatment standard of 0.04 mg/l TCLP proposed in the Phase IV original proposal (60 FR 43683, August 22, 1995) was based on composite data. Recognizing that the use of composite data was not consistent with the BDAT methodology, the Agency re-calculated the treatment standard for beryllium based on available performance data from HTMR, using grab samples, and re-proposed a treatment standard of 0.018 mg/l TCLP (actually, 0.02 mg/l due to rounding) in the second supplemental proposed rule (62 FR 26045, May 12, 1997). The Agency made the data and the methodology used to calculate this new standard available to the public as part of the second supplemental proposal and provided sufficient time for the commenters to review the data and submit comments.

In response to public comment on the beryllium treatment standard proposed in the second supplemental proposed rule, the Agency conducted a review of the data set used to calculate the proposed standard. As a result, the Agency agrees with the commenters that the performance data used to calculate the proposed standard (0.02 mg/l) does not adequately account for the difficulty in treating relatively high concentrations of beryllium wastes. The Agency believes that the proposed UTS for beryllium must be revised to reflect a more difficult-to-treat, high-concentration beryllium waste. Therefore, the Agency collected additional treatment performance data on high beryllium containing wastes (from Brush Wellman, Inc.) and re-calculated the BDAT treatment standard for beryllium (for additional information on the data reviewed, see the Background Document for Beryllium Wastes in the Docket for this rule). As such, the Agency is today promulgating a revised UTS for beryllium nonwastewaters of 1.22 mg/l based on this newly acquired data.

DCN PH4A064
COMMENTS Utah Mining Association
RESPONDER AC
SUBJECT BERY
SUBJNUM 064
COMMENT In addition, the Utah Mining Association references below the following specific comments on the SLDR prepared by Brush Wellman and concerning their beryllium facility near Delta, Utah: Brush Wellman's greatest concern with the above referenced proposed rulemaking -and the supporting documents is that the EPA has significantly redefined the applicability of the Beville Amendment to the Brush Wellman, Delta mill wastestreams. The proposed changes would cause the beneficiation/mineral processing line to be drawn much earlier in the production flowsheet than was previously determined by the EPA. This would cause almost all mill production wastestreams to be regulated as mineral processing wastes. The EPA has not shown why these proposed changes are justified. In addition, the EPA's estimates of the potential impacts of these proposed changes on the Brush Wellman operations have been significantly underestimated. The December 1995 EPA report entitled, "Identification and Description of Mineral Processing Sectors and Waste Streams", contains a number of significant errors, including: 1) The EPA has indicated that the beneficiation/mineral processing line occurs in the bertrandite and beryl extraction operations where the ores are contacted with the sulfuric acid leaching reagent. The stated reason for this is that this is the step where a "chemical substitution reaction occurs". This assertion by the EPA is not consistent with the September 1, 1989 final regulations on mining waste where acid leaching is clearly indicated to be a beneficiation step. It is also not in concert with a written regulatory determination written to Brush Wellman on March 15, 1990 by Robert Tonetti, Acting Deputy Director, EPA Waste Management Division in which the EPA clarified that all

production steps employed at the Delta mill upstream of iron hydrolysis were considered to be beneficiation activities. Finally, the EPA's proposed beneficiation/mineral processing line is not consistent with a regulatory determination written to Brush Wellman by the Utah Division of Solid and Hazardous Waste in which they also indicated that all production steps upstream of iron hydrolysis are beneficiation activities. 2) The beryllium sector description indicates that bertrandite thickener slurry may be hazardous because of a toxicity characteristic. However, this conclusion is not supported by the EPA's own data which shows that this wastestream does not exhibit any hazardous characteristic. 3) The EPA's conclusion that all Brush Wellman production steps downstream of the acid leaching are mineral processing is incorrect and not consistent with the inclusion of bertrandite thickener slurry in the September 1, 1989 final rule as a beneficiation waste. 4) The conclusion that the beryl thickener slurry has a pH of 2 and, "therefore . . . exhibits the hazardous characteristic of toxicity", is a gross misinterpretation of the EPA hazardous waste regulations on characteristics of hazardous wastes. Because a waste has a low pH does not automatically mean that it will exhibit a toxicity characteristic. The EPA's own data on this particular wastestream proves this fact in that there are no TC metals above the regulatory levels. 5) Spent raffinate is described as exhibiting the hazardous waste characteristics of corrosivity and TC metals toxicity for selenium. The EPA 1989 data does not support the selenium toxicity conclusion. 6) Barren filtrate is described as exhibiting the hazardous waste characteristic of TC metals toxicity for selenium. The EPA 1989 data shows that this waste stream did not exhibit any such characteristic. 7) The description of the recycling of the various wastestreams at the Brush Wellman Delta mill are incorrect. None of the subject wastestreams are recycled. In general, there are so many significant errors in this support document that its relevance to the proposed LDR regulations is questionable at best. The support document should not be used as a part of the rulemaking, nor should it be used as a guideline.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A003
COMMENTS The Ferroalloys Association
RESPONDER AC
SUBJECT CHRM
SUBJNUM 03
COMMENT

The Ferroalloys Association wishes to respond to the above proposed rule which appeared in the Federal Register on January 25, 1996. We are very much in favor of your proposal to revoke the listings for and not to relist emission control dust and sludge from ferrochromium-silicon production (K090) and from ferrochromium production (K091). If these wastes exhibit the characteristic of a hazardous waste via the TCLP test, they would fall into the group referred to as "newly identified" hazardous wastes, i.e. D007 and would be covered by these proposed rules for safe recycling and exclusion as a solid waste.

At the present time, there is only one generator of D007. It is our understanding that they treat the material by slurring with water, adding ferrous sulphate to reduce the soluble chromium in the TCLP extract to less than 1.0 mg/l (which is well below the UTS of 5.0 mg/l) prior to placement in a surface impoundment where some stabilization eventually occurs. This company is presently regulated under Subtitle C as a generator of a characteristic hazardous waste. They generate approximately 2500 tons of this electrostatic precipitator dust per year with one of their two furnaces presently operating. They have no Part "B" RCRA permit because the treatment is done in a 90 day accumulation tank.

In addition, there is the potential of recycling current generation into a briquetting facility for fine chromite ores as it has a pozzolanic characteristic which makes it an excellent binder. This would add value to the ore, reduce treatment and disposal costs, improve metal recovery, and further reduce dust generation in the smelting process. This process represents the best known treatment for chromium wastes, i.e. a high temperature metal recovery (HTMR) process. In this case, the amount of chromium oxide in the dust is relatively low, in the area of 5-6% as Cr_2O_3 compared with 35-45% in the virgin ores. Chromium is recoverable although the major value is due to the presence of other minerals.

We agree with the application of universal treatment standards (UTS) to these newly identified hazardous wastes prior to land disposal as well as the requirements to show that: *recycling is actually occurring; *the material serves a legitimate function in the process; * no waste disposal is involved; * the material is not being stored speculatively; * the suggested one-time notification; and * storage and treatment be done only in process tanks as opposed to land-based facilities which would still be allowed under certain conditions. Finally, we also concur that "land placement of wastes and prevention of resulting harms" should be a prime focus of the proposed rules.

RESPONSE

[The Agency thanks the commenter's support for the Phase IV rule.]

DCN PH4A081
 COMMENTER OxyChem
 RESPONDER AC
 SUBJECT CHRM
 SUBJNUM 081

COMMENT Outside laboratory data on one of our mineral processing wastes is as follows: TCLP Values w/ Stabilization Prop. NWW Std (mql) Chromium(total) 0.86

0.410 0.265 0.065 1.85 0.105 Vanadium
 0.23 0.945 0.520 0.075 0.080 0.095 Initial
 pH(su) 11.0 11.0 10.8 10.2 11.0
 Final pH(su) 6.0 6.0 6.2 5.4

6.3 This data indicates that additional time will be required to conduct optimization studies and process modifications. 4.1.1.4

3) The Synthetic Precipitation Leaching Procedure (SPLP) should be allowed on a case-by-case basis. a) As stated by EPA, co-disposal of mineral processing wastes in municipal landfills is theoretically possible. However, this is very unlikely if wastes; are managed on-site. All wastes going offsite should continue to be evaluated via the TCLP test. Mineral processing residues managed on-site should be allowed to use the SPLP provided approval is received from an authorized state solid waste agency. 4.5 SPLP data for the above waste stream is as follows: SPLP Values w/ Stabilization mg/l

Chromium(total) 0.465 0.640 0.220
 0.225 0.310 Vanadium 0.275 0.325
 0.200 0.070 0.200 Initial pH (su) 11.0
 10.9 10.8 9.9 10.8 Final pH (su)
 10.8 10.8 10.6 9.8 10.7

SPLP Values w/o Stabilization mg/l Chromium(total) 0.470
 0.240 0.220 0.570 0.155 Vanadium
 0.075 0.050 0.035 0.030 0.025 Initial
 pH (su) 9.3 9.0 9.2 9.0
 9.0 Final pH (su) 9.3 9.0 9.0

8.8 8.8 TCLP Values w/o Stabilization mg/l Chromium(total) Range: 3.0 to 10.0 (34 1992 data points) Vanadium

No Data Available b) OxyChem's data indicates stabilization with cement fines can cause the solubility of metals to increase. This is confirmed by established textbook solubility data for heavy metals, including chromium and vanadium. Data from our disposal impoundment taken from the period prior to stabilization indicated average chromium levels of 0.010 mg/l.

Since stabilization with cement fines, average chromium levels have increased to 0.120 mg/l. In addition, recent cement fines analyses indicate vanadium levels of 78 ppm and 93 ppm. Reducing cement fines addition would result in measurable benefits to the environment by reducing available metals levels and producing a more neutral pH.

RESPONSE

The commenter has provided the Agency with some stabilization treatment data. These data consist of six data points for chromium and six data points for vanadium. The data show that stabilization could achieve the following: 0.86, 0.410, 0.265, 0.065, 1.85, and 0.105 mg/L TCLP. The Agency is unable to thoroughly evaluate the data for several reasons: 1) no information on treatment was provided; 2) no information was provided on the untreated waste. The results however show that of the six data points, 4 could meet the final treatment standard for chromium nonwastewaters. The Agency believes, in the absence of any additional data or information from the commenter, that the standard can be achieved by the commenter. There has been no indication made by the commenter that they have explored an exhaustive number of stabilization “recipes” or failed to get even close to the treatment standard. The results of the vanadium treatment are not germane to this rulemaking in that vanadium is not regulated as an underlying hazardous constituent in characteristic waste, it is only regulated in P119 or P120.

For a response to the mineral processing component of this comment the reader is referred to the “Comments and Response Document on Issue Related to Mineral Processing Wastes,” in the RCRA docket for today’s rulemaking.

**HWIR COMMENTS TO THE 1ST SUPPLEMENTAL PHASE IV PROPOSAL,
JANUARY 25, 1996**

DCN PH4A030

COMMENTER Chemical Waste Management

RESPONDER SS

SUBJECT HWIR

SUBJNUM 030

COMMENT On behalf of Chemical Waste Management, Inc. I am writing to

highlight the potential impact of "contingent management" methods under the proposed Hazardous Waste Identification rule for process wastes (60 Fed. Reg. at 66,344, Dec. 21, 1995) on a series of other upcoming proposed and final Agency rules. Specifically, these are: Phase II I and IV Land Disposal Restrictions (LDR); and supplemental Phase IV LDR proposal for mining wastes. The central concern is that the contingent management provisions under the proposed HWIR will undercut the demand for performance-based treatment capacity that is driven by the Phase III and IV LDR rules for a number of newly identified wastes (e.g. carbamates, K088. etc.). Thus, if the Agency moves forward under its current schedule for finalizing Phase III and IV LDRs (Feb '96 and June '96, respectively) the HWIR rule, when finished in December of 1996, could cancel or greatly diminish the need for treatment capacity by allowing contingent management options. Consequently, companies that invest capital to permit, construct, and operate waste treatment capacity for Phase III and IV LDR wastes could face immediate losses when the HWIR rules are finalized during the second half of 1996 and risk-based approaches counteract the previously established technology-based standards. CWM does not believe it to be in the best interest of the EPA or the regulated community to create a situation that would result in the promulgation of final hazardous waste management methods only to replace them a few months later with a completely different approach. Therefore, CWM suggests that the Agency coordinate the implementation of final treatment standards for newly identified wastes with the HWIR process waste rule. This approach will ensure that the implications of contingent management, performance-based treatment standards, and risk-based exit levels are fully understood and implemented in a consistent manner that is not unduly disruptive to business. This recommendation is not without precedent. Recently the Agency

proposed standards for mineral processing wastes that strikes a balance between LDR requirements and the need to regulate in ways that encourage recycling. This approach will lift many regulatory obstacles and ensure the proper management of discarded materials. In addition, this rule would clarify the distinctions between excluded recycling and waste management. Clearly, EPA was contemplating expected reform in the Definition of Solid Waste rulemaking scheduled for this year. By comparison, the process waste rule would provide risk-based exit levels for listed hazardous wastes to exit the Subtitle C management requirements and enter Subtitle D or other approved state programs. Contingent management is one of the options offered by the Agency in its HWIR proposal that would provide opportunities to safely manage certain hazardous wastes as non-hazardous if certain criteria are met to ensure adequate risk reduction. CWM urges the Agency to explore ways in which the newly identified wastes under the Phase III and IV LDRs can be aligned with the HWIR process to prevent disruption to the regulated community. If you have any questions or would like to discuss this matter further, please call me at (708)218-1612.

RESPONSE

EPA agrees with the commenter on the importance of close coordination on the decision-making and scheduling of the LDR rules and the Hazardous Waste Identification Rule (HWIR) for process wastes. Since the comment was submitted to EPA, two events have occurred which prevent the coordination problems the commenter foresaw. First, the sections of the Phase IV original proposal on August 22, 1995 pertaining to equivalent treatment for decharacterized wastewaters in surface impoundments (controls of leaks, sludges, and air emissions) were removed from this rule due to the Land Disposal Flexibility Act of 1996. That Act reinstated the exemption from the dilution prohibition for these wastes and required EPA to conduct a study to determine if regulation is necessary. Second, the timetable on the HWIR rule has been extended well beyond the required promulgation date of the Phase IV final rule, which removes concern about implementation problems. The new treatment standards in the Phase IV final rule will go into effect well before the complex work on the HWIR rule is complete. The HWIR provisions are being developed in conjunction with the Land Disposal Restrictions rules.

DCN PH4A070
COMMENTS FMC Corporation
RESPONDER SS
SUBJECT HWIR
SUBJNUM 070
COMMENT III. The Agency Should Finalize HWIR Before The Phase IV LDR

And Phase IV Supplemental Rules Become Effective, And Should promulgate The Phase IV LDR And Phase IV Supplemental Rules With A Common Effective Date. EPA has proposed three separate RCRA Subtitle C hazardous waste regulations that are closely interrelated. Indeed, these four regulations are so closely interrelated that if they are not promulgated in the proper order, significant compliance problems and confusion will result. The three rules are the Phase IV LDR, Phase IV Supplemental and the Hazardous Waste Identification Rule ("HWIR") - process waste LDR rules. In Phase IV, EPA is considering whether to impose: additional requirements on the same surface impoundments addressed in Phase III 8 with respect to potential leaks, air emissions, and sludges. 9 In the Phase IV Supplemental rule, EPA will address LDRs for mineral processing wastes. Finally, in the HWIR rule, EPA will establish risk-based concentration levels for many hazardous constituents, below which levels wastes will no longer be subject to regulation as hazardous wastes, including the LDRS. FMC believes that if these rules are promulgated without regard to interrelationships, the resulting disruption of the regulated community will be severe, and unnecessary. As explained in detail below, the HWIR rule could make significant changes in the LDR program, nullifying the substantial capital expenditures that will be necessary to comply with Phase IV LDR regulations. Thus, EPA should establish a single effective date for the Phase IV LDR and Phase IV Supplemental rules, which should be after the HWIR rule is finalized. The Agency possesses ample authority to take such steps.

a. EPA Should Not Set An Effective Date For Phases IV LDR Or Phase IV Supplemental Until After The HWIR Regulations Are Finalized. FMC strongly believes that EPA should not establish effective dates for any additional LDR regulations until after the HWIR regulation is finalized, especially if EPA chooses Option 2 or Option 3 in the Phase IV LDR rule. If the final HWIR rules resemble the versions that EPA has proposed, it will have a significant effect on the LDR program, and will render significant parts of the upcoming LDR rules moot. EPA has long recognized that the existing Subtitle C regulations are overly broad, covering many wastes that present no significant threat to human health or the environment. The regulated industry has been seeking a correction to this over-inclusiveness for years. The HWIR regulation is the first real attempt by the Agency to address this problem. Since the changes brought about by HWIR may occur in a matter of months,

it makes no sense to go forward with complex LDR rules at this time. To the extent EPA's schedule is dictated by court orders, EPA should take steps to have those orders modified.¹ First, it is clear that significant disruptions to regulated industry could result if the Phase IV LDR and Phase IV Supplemental regulations are made effective before the HWIR rule is finalized. The Phase IV LDR and Phase IV Supplemental regulations will cause the expenditure of vast sums to add, replace or modify existing treatment systems. Many of these expenditures could be in vain if the HWIR rule sets exit levels above the current UTS levels (particularly if the HWIR levels can be met before placement in surface impoundments).² Because the HWIR levels will be risk-based, modifications to existing systems or over design of new systems to achieve more stringent standards will be wasteful by definition because they will not be necessary to address any environmental risk. Indeed, the "exit" levels chosen under HWIR could determine the most cost-effective method of achieving the LDR treatment standard (which presumably will be, in many cases, the same as the exit level). If the exit level is different from the prior LDR treatment standard, the most effective treatment method could be different as well. If companies have already modified their treatment processes or are adding new units to achieve the lower level, the result is, again, needless expenditures and efforts. There would be similar disruptions if the Phase IV Supplemental rule were to be made effective before the HWIR rule is finalized. Assuming that EPA will decide that wastes exiting the hazardous waste system under HWIR are no longer subject to the LDR, companies may decide, based on the Phase IV Supplemental rule, to treat mineral processing wastes to meet LDRs (possibly including capital investment for new or modified treatment systems), only to discover later that under HWIR, some or all of their mineral processing wastes, if treated or managed in a particular manner, are no longer considered hazardous and do not require treatment under the LDR. As with the disruptions discussed above, this could impose substantial needless costs on the mining industry. In addition to the capital costs described above, if EPA sets effective dates for Phase IV LDR and Phase IV Supplemental before the HWIR rule is finalized, many companies, including FMC, will be forced to apply for case-by-case capacity variances and extensions in order to comply with the new requirements. The preparation of such applications is costly in both money and time. Additionally, the preparation of these

applications require significant lead times and thus companies, such as FMC, would need to incur the application costs well in advance of the promulgation of the final HWIR rule. All of those costs could be wasted if the HWIR significantly changes the universe of wastes subject to LDR requirements, or significantly changes the applicable LDR treatment standards. The money and personnel time that would be so wasted could more effectively be used for waste minimization and pollution control efforts -- efforts that could have a real impact on risks, as opposed to efforts to meet standards that may soon disappear because they are not necessary to address real risks. Finally, FMC's comments and plans regarding leaks from CWA surface impoundments are predicated on the current UTS levels. Significant changes in these levels will result in a major disruption within the regulated community. FMC believes that EPA should at the least delay the whole Phase IV LDR rulemaking including Phase IV Supplemental (if Option 2 is chosen and leak controls are imposed) until after promulgation of HWIR in order to allow time to evaluate the impact level of the revised UTS standards. In addition, FMC believes it would be more prudent of EPA to extend the Phase IV LDR comment period with respect to leak controls until after the HWIR levels are finalized. Alternatively, EPA should consider reproposing Phase IV LDR if the HWIR rule makes significant changes to UTS levels. This problem is even further exacerbated by the expected lag of the adoption of the HWIR rule standards by delegated states. Because HWIR is not a HWSA rulemaking, the states will need to adopt the revised HWIR levels to supercede the existing UTS levels found in 40 C.F.R. _268.43. In sum, HWIR should be finalized before the Phase IV LDR and Phase IV Supplemental rules become effective, especially if EPA imposes leak control measures to set forth in the Phase IV LDR proposal. Such an approach would reduce the universe of hazardous wastes subject to the Phase IV LDR and Phase IV Supplemental LDR rules, and avoid forcing companies to treat their decharacterized wastewaters or mineral processing wastes to meet LDR standards that will be superceded or revised only months later.

RESPONSE

EPA agrees with the commenter on the importance of close coordination on the decision-making and scheduling of the LDR rules and the Hazardous Waste Identification Rule (HWIR) for process wastes. Since the comment was submitted to EPA, two events have occurred which

prevent the particular coordination problems the commenter foresaw. First, the sections of the Phase IV original proposal on August 22, 1995 pertaining to equivalent treatment for decharacterized wastewaters in surface impoundments (controls of leaks, sludges, and air emissions) were removed from this rule due to the Land Disposal Flexibility Act of 1996. That Act reinstated the exemption from the dilution prohibition for these wastes and required EPA to conduct a study to determine if regulation is necessary. Second, the timetable on the HWIR rule has been extended well beyond the required promulgation date of the Phase IV final rule, which removes concern about implementation problems. The new treatment standards in the Phase IV final rule will go into effect well before the complex work on the HWIR rule is complete. The HWIR provisions are being developed in conjunction with the Land Disposal Restrictions rules.

DCN PH4A069
COMMENTS COMMENTER Unocal Molycorp.
RESPONDER AC
SUBJECT METL
SUBJNUM 069

COMMENT Our comments are confined to the portion of the background document which pertains to molybdenum: 1. page 507, Exhibit 3 - the production of low carbon ferromolybdenum does not require a furnace, only a sand bed 2. page 508, second paragraph, last sentence: - Typically, beneficiation wastes are earthen in character, whereas mineral processing wastes are derived from melting or chemical changes. and · second-last paragraph: - Based on the review of the process, there are no mineral processing operations involved in the production of either ammonium molybdate or pure molybdic oxide. are in contradiction 3. page 508, fourth paragraph, first sentence: - should read 'molybdenum disulfide" instead of molybdic sulfate 4. page 508, last paragraph: - should make clear that the reference to furnace is restricted to high carbon ferromolybdenum production 5. page 510, headings for second and fourth paragraphs: - we do not believe there is a difference between roaster gas blowdown solids and flue dust 6. page 510, third paragraph: - we have never detected mercury in molybdic oxide refining waste at our facility in Washington, Pennsylvania; therefore we disagree with EPA's statement that this waste may exhibit the characteristics of toxicity for mercury 7. page 510, fourth paragraph, last sentence: this waste is not recycled. - we recycle flue dust at our facility in Washington 8. page 510, last paragraph, first sentence: - the word generated should be changed to "collected" 9. page 511, second paragraph: - this section should be expanded to reflect the fact that some of the wastes listed herein are regulated under RCRA and some are regulated under TSCA By way of historical background, Molycorp has owned and operated a metallurgical products plant at Washington, Pennsylvania since 1920. Molybdenum roasting, which converts molybdenum disulfide to molybdenum oxide, was started in 1922 and continued into 1991 when processing of this material was suspended. The plant also produced ferrocolumbium and other ferroalloys. Ferromolybdenum production by electric furnace reduction was discontinued in 1975. The single multiple hearth roasting furnace facility at Washington was expanded with a second furnace addition in 1936, which increased the molybdenum roasting capacity to 10 million pounds per year. In 1978, the older unit was replaced with a new

20 million pound per year unit with state of the art environmental controls, including a sulfuric acid plant. Currently, the 20-acre facility at Washington is in an extended-standby mode with purchasing and reselling of alloys, and plant maintenance being the principal site activities. The Questa mine, also owned and operated by Molycorp in northern New Mexico, has been the source of molybdenum disulfide for the Washington plant.

RESPONSE

For EPA's response on this issue, see the "Comments and Responses Document for Issues Related to Mineral Processing Wastes," in the RCRA docket for today's rulemaking.

DCN PH4A008
COMMENTS Arizona Public Service Co
RESPONDER RC
SUBJECT MGP
SUBJNUM 008

COMMENT

Arizona Public Service Company ("APS") submits the following comments in response to the US Environmental Protection Agency's proposed rulemaking for Land Disposal Restrictions--Supplemental Proposal to Phase IV: Clarification of Bevill Exclusion for Mining Wastes, Changes to the Definition of Solid Wastes, Treatment Standards for Characteristic Mineral Processing Wastes, and Associated Issues; Proposed Rule (61 Fed. Reg. 2338 January, 25, 1996) (the "Supplemental Proposal"). APS is the largest electric utility in Arizona, serving more than 700,000, customers throughout the state. In order to serve its large customer base, APS operates a number of large power plants, including two coal-fired plants and has a significant interest in a third coal fired plant. These plants generate substantial volumes of fossil fuel combustion wastes in the course of operations. As permitted under the Bevill Amendment (42 USC 6921(b)(3)(A)(I)), APS disposes of fly ash, bottom ash and other high and low volume fossil fuel combustion-related wastes in on-site disposal facilities. Additionally, APS is currently managing several Manufactured Gas Plant ("MGP") remediation sites. Accordingly, APS is keenly interested in EPA's proposed rule and wishes to respond to a number of EPA's requests for comment on particular aspects of the proposal. 14.0 APS is a member of the Edison Electric Institute ("EEI"), a national association of investor-owned electric power and light utility companies. EEI is a member of the Utility Solid Waste Activities Group ("USWAG") who is also submitting extensive comments on the proposed rule. As a member of EEI, APS strongly endorses and affirms the USWAG Comments and therefore will limit its comments to issues of particular importance to APS.

RESPONSE

The Agency thanks the commenter for responding to EPA's proposal.

DCN PH4A011
COMMENTS NY State Dept. of Environ
RESPONDER RC
SUBJECT MGP
SUBJNUM

COMMENT

Manufactured Gas Plant (MGP) Wastes On page 2360 of the January 25, 1996 Federal Register, EPA notes that MGP wastes are mineral processing wastes, although somewhat anomalously classified. The anomaly becomes more pronounced once it is understood that MGP wastes-are almost exclusively encountered in remediation situations at former MGP sites and not as newly generated wastes. Most commonly, this Department encounters MGP wastes mixed with soil. When such material is found to be hazardous, it is normally through failing the TCLP for benzene. It should also be noted that it is common practice to decharacterize MGP-contaminated soils by mixing them with activated carbon sawdust, and other soil. We would like EPA to clarify if LDRs when applicable, would be violated by the staging of such contaminated soils in waste piles, subsequent to decharacterization, noting that this is presently a common practice.

RESPONSE

The Agency recognizes that it is a common practice to decharacterize MGP soils by mixing them with activated carbon, sawdust, and other soil. As noted in EPA's MGP site remediation strategy (Memorandum, dated April 26, 1993, entitled "Remediation of Historic MGP Sites," from Sylvia Lowrance, Director, Office of Solid Waste, to EPA Regional Waste Management Division Directors), decharacterization can be accomplished in of 90-day tanks, containers, or containment buildings covered by 40 CFR Section 262.34(a). Waste may be treated in such units during the 90-day accumulation period without a permit, and if the waste thereafter no longer exhibits a hazardous characteristic, any further management of the waste would not be subject to Subtitle C regulations, with the possible exception of LDR standards.

Regarding the application of the land disposal restrictions to staging of decharacterized MGP soil. As the Agency has noted in the 1996 HWIR-Media proposal, land disposal restrictions attach at the point that any given waste (or contaminated media) is generated and continue to apply until threats to human health and the environment are minimized. Therefore, in the case of contaminated media that is considered hazardous at its point of generation, e.g., because it exhibits a characteristic of hazardous waste, the LDRs have attached and LDR treatment

standards must be met prior to land disposal. Under current regulations, placement of waste in a waste pile is considered a form of land disposal. Note that there are a number of types of RCRA units which are not land disposal units. For example, materials could be staged in a corrective action management unit without triggering a duty to first comply with LDRs. Similarly, contaminated soils that are never “generated” for purposes of the land disposal restrictions are not subject to LDRs. For example, if contaminated soils were decharacterized in situ, within an area of contamination, and then staged in that same area of contamination, LDRs would generally not be triggered. This issue of LDR applicability to contaminated soils is discussed in detail in the preamble to today’s final rule.

DCN PH4A016
COMMENTS Public Service Electric &
RESPONDER RC
SUBJECT MGP
SUBJNUM 016

COMMENT

PSE&G provides energy services to approximately 5.5 million residents in the state of New Jersey and is the third largest combined electric and gas energy provider in the United States. PSE&G's Interest In The Proposed Rulemaking Historically, PSE&G has contributed comments on most RCRA-related rulemakings through organizations to which we have been a member. As a practical matter, while our focus is on reducing hazardous wastes and promoting recycling through up-front planning and procurement, PSE&G recognizes the importance of commenting on the Land Disposal Restrictions (LDR's), a fundamental element of RCRA.

RESPONSE

The Agency thanks the commenter for responding to EPA's proposal.

DCN PH4A016
COMMENTS Public Service Electric &
RESPONDER RC
SUBJECT MGP
SUBJNUM 016

COMMENT

In addition, this rulemaking addresses several issues of importance to PSE&G. As an initial point, the rulemaking proposes a number of changes to the RCRA program that PSE&G supports. Secondly, the proposed rulemaking seeks to apply LDR's on soils resulting from the remediation of historic manufactured gas plant (MGP) sites. This issue is a concern to PSE&G in that imposition of LDR's on MGP waste soils imposes restrictive treatment approaches without additional treatment standards offering equivalent environmental benefit. MGP Remediation Wastes LDR's and the Hazardous Waste Identification Rule PSE&G is concerned with the Agency's efforts to impose LDR's on MGP remediation wastes without looking at the Hazardous Waste Identification Rule (HWIR) media rulemaking and its impact on contaminated media. PSE&G's understanding is that, among many items, HWIR is addressing contaminated media resulting from remediation activities. Our MGP wastes, which result from remediation of historic coal gasification manufacturing processes, some of which date back to the turn of the century, are in fact contaminated media, and almost exclusively soil. As such, these soils, some of which may exhibit a toxicity characteristic, differ dramatically from the process wastes for which LDR's were developed. Furthermore, the administrative requirements of the LDR process will not promote the remediation of MGP sites and will do nothing to expedite the remediation process. PSE&G urges the Agency to consider first the HWIR process for the management of contaminated media prior to the imposition of LDR's and defer the imposition of LDR's on MGP

soils at a minimum, until the HWIR media rulemaking process is complete. Alternative Treatment Standards PSE&G also encourages the Agency to consider alternative treatment standards for MGP remediation wastes. Treatment of MGP remediation wastes by any single technology to meet a technology-based Universal Treatment Standard (UTS) is both impractical and inappropriate. As was noted previously, MGP remediation wastes, most of which are soils which are derived from historic activities, are found to be non-homogeneous. As such, they are not amenable to any single treatment technology. Furthermore, some technologies, while not treating the residual's to meet and LDR, may in fact treat the sod significantly enough to ensure its safer management throughout on-site management and transportation. Lastly, PSE&G is concerned the imposition of LDR's and the treatment of MGP wastes to meet a UTS, will not benefit the environment and may in fact be a disincentive to voluntary remediation initiatives, which are already costly and extensive in their scope. PSE&G recommends the Agency take one of three approaches to insuring the proper management of MGP remediation wastes in lieu of treatment to meet a UTS. These are: 1. Examine closely the HWIR media rulemaking for opportunities to enhance the treatment of MGP remediation wastes; or 2. Consider numerical alternatives to the UTS as put forth in the LDR Phase 11 proposal {(58 Fed. Reg. 48092) (September 14, 1993)}. Such an approach would be consistent with EPA's later acknowledgment that treatment standards for generated wastes are not appropriate for contaminated media and thus contaminated media are presumptively eligible for a site treatability variance. {(59 Fed.Reg. 47980, 47985-86)(September 19, 1994)} Using numerical alternatives by rule would promote efficiency in the remediation process by obviating the need to obtain a variance for each site. Given the high degree of variability likely to be found in MGP remediation waste, PSE&G encourages the Agency to adopt the most flexible alternative under the Phase II proposal, that being the higher of ten times the UTS or a 90% concentration reduction. Such a standard is not only protective of human health and the environment, but presents the most options for wastes just above the concentration threshold; or 3. Establish specified technologies as alternative treatment standards. In this regard, PSE&G recognizes as has EPA, that "The technology-based soil standards should not be based exclusively on incineration ...innovative technologies are particularly appropriate to treat large volumes of low and

moderately contaminated soils." (58 Fed.Reg. 48124) PSE&G supports the use of flexible and cost effective MGP waste management technologies with a variety of beneficial uses. For example, thermal treatment technologies such as thermal desorption and combustion as alternative treatment standards would preclude the need for analysis of the treatment residual with a numerical standard as the treatment method is specified as the standard. (40 C.F.R.268.40 (a)(3)). Such technologies, when established as treatment standards, would promote recycling of MGP wastes for its intrinsic fuel values, something that would not be permitted if LDR's were established. In addition, PSE&G supports the designation of certain recycling technologies and their application as alternative treatment standards.

Recycling of MGP wastes into usable materials such as asphalt, brick or concrete, as a substitute for virgin raw materials in these products, would actually promote the remediation of MGP sites and conserve valuable resources. Temporary Storage of MGP Remediation Wastes - Qualification for No Migration Variance PSE&G recognizes that imposition of LDR's to MGP remediation wastes could pose unnecessary restriction on the ability to manage site excavated soils, due to the prohibition on the storage of waste in land based units that have not received a "no migration variance" 40 C.F.R..268.1(c)(2). In remediating MGP sites, which are highly variable in size, there is frequent need to temporarily stage the excavated soils for management, including sampling and analysis. Such temporary staging, for practical reasons, is managed by placing the soils in bermed, lined areas, which are covered preclude the migration of contaminants off site. Temporary staging may also be required if the soil is decharacterized on site prior to another treatment technology at an off-site location. PSE&G, from practical experience, recognizes the flexibility of various management scenarios is important at MGP sites. We believe that temporary storage (i.e., less than 60 days) of MGP soils in bermed, lined areas, and covered, represents an adequate storage practice for preventing the migration of hazardous constituents. We believe mandatory storage of MGP soils in a tank or container, or construction of concrete slabs for soil staging, would unnecessarily add to the cost of a remediation which may be a limiting factor in a cost-effective remediation strategy. If EPA continues in its intention to impose LDR's on MGP soils, PSE&G requests the Agency to consider the added burden of the LDR storage requirements on the quantity of soils managed and

issue guidance that supports the temporary staging of MGP soils in bermed, lined units qualifies for a "no migration variance".

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for soils, including soils contaminated with MGP wastes. The soil-specific standards adopt the approach advocated by the commenter: the higher of 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard. EPA believes these standards are achievable. The supporting data for these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil also can be treated via combustion to satisfy the soil-specific treatment standards if an owner/operator desires. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

With respect to the issue of specified methods (e.g., recycling) as treatment standards rather than numerical concentration values, the Agency considers practices such as using hazardous wastes in asphalt, bricks, or cement that is placed on the ground to be use constituting disposal. Such activities are regulated by 40 CFR part 266.20, which states that recyclable materials are not subject to regulation only if they have undergone a chemical reaction in the course of producing products so as to become inseparable by physical means, and the products meet the LDRs for each hazardous constituent present in the final product. Given that the end disposition of the material is completely uncontrolled, the Agency believes that the treatment standards reflecting performance of the most aggressive treatment technologies are needed to assure that threats posed by land disposal of the wastes is minimized. Also, EPA does not see the same incentive to promote this end result as it does with other types of remediation remedies. For these reasons, the contaminated soils would remain subject to the UTS, not the soil-specific treatment standards, if the end disposition is to be a use constituting disposal. Therefore, EPA believes that it would be inappropriate to designate such practices as treatment standards, since to do so would remove the assurance provided by numerical treatment standards that treatment reflecting best demonstrated available technology has taken place.

Regarding the application of the land disposal restrictions to staging piles, as the Agency has noted in the 1996 HWIR-Media proposal, land disposal restrictions attach at the point that any given waste (or contaminated media) is generated and continue to apply until threats to human health and the environment are minimized. Therefore, in the case of contaminated media that is considered hazardous at its point of generation, e.g., because it exhibits a characteristic of hazardous waste, the LDRs have attached and LDR treatment standards must be met prior to land disposal. Under current regulations, placement of waste in a waste pile is considered a form of land disposal. Note that there are a number of types of RCRA units which are not land disposal units. For example, materials could be staged in a corrective action management unit without

triggering a duty to first comply with LDRs. Similarly, contaminated soils that are never “generated” for purposes of the land disposal restrictions are not subject to LDRs. For example, if contaminated soils were decharacterized in situ, within an area of contamination, and then staged in that same area of contamination, LDRs would generally not be triggered. This issue of LDR applicability to contaminated soils is discussed in detail in the preamble to today’s final rule.

DCN PH4A026
COMMENTS Jersey Central Power and
RESPONDER RC
SUBJECT MGP
SUBJNUM 026

COMMENT

The following comments on the subject proposed regulation are submitted by Jersey Central Power & Light Company (JCP&L). JCP&L is a subsidiary of the General Public Utilities Corporation, an investor-owned electric utility headquartered in Parsippany, New Jersey. JCP&L serves an area which encompasses approximately 43% of the State of New Jersey, with an estimated population of two million people. JCP&L is currently involved in various phases of investigation/remediation of 18 former manufactured gas plant (MGP) sites located throughout the State of New Jersey. JCP&L is committed to complying with all environmental laws and regulations, and as a corporate policy, to comment on proposed regulations, legislation, and policies that could affect our ongoing environmental compliance and remediation activities.

EPA SHOULD DEFER IMPOSING THE LDRs ON MGP REMEDIATION WASTES PENDING COMPLETION OF THE HWIR REMEDIATION WASTES RULEMAKING

JCP&L strongly urges the EPA to defer imposition of the RCRA and disposal restrictions (LDRs) on MGP remediation wastes until the Hazardous Waste Identification Rule (HWIR), which will address the regulation of contaminated media, is completed. The EPA has acknowledged in the HWIR media rulemaking discussions that RCRA hazardous waste regulations, including the LDRs, are often inappropriate when applied to contaminated media generated during a remediation. This acknowledgment is clearly applicable to MGP remediation wastes, and to apply LDRs to MGP remediation wastes prior to the conclusion of the HWIR contaminated media rulemaking is counterproductive and unnecessary. 2.2.1 EPA

SHOULD CLARIFY THAT ITS PROPOSED NEW INTERPRETATION OF THE BEVILL COPROCESSING EXEMPTION APPLIES ONLY TO WASTES MANAGED IN

LAND BASED MINERAL PROCESSING UNITS

A commonly used remediation strategy for MGP sites is the decharacterization of MGP remediation wastes which exhibit a hazardous characteristic, followed by combustion of the coal and MGP waste mixture in a coal fired utility boiler. This strategy was developed jointly by an EPA work group and the Edison Electric Institute, which JCP&L is a member. At 61 Fed. Reg. 2351, the EPA proposes to limit the Bevill exclusion for exempt mineral processing and beneficiation UNITS that co-process hazardous waste to UNITS that process at least 50 percent normal raw materials; and in which the hazardous waste is being legitimately recycled. JCP&L requests that the EPA confirm that this proposed reinterpretation does not apply to the combustion of MGP waste with coal in electric utility boilers and that residuals from such co-combustion remains subject to the Bevill exclusion as long as the boiler is burning at least 50 percent coal. As written, the proposed rule does not provide a clear statement on this issue and, as a result, a misinterpretation could occur.

EPA SHOULD DEVELOP ALTERNATIVE TREATMENT STANDARDS FOR MGP REMEDIATION WASTES

JCP&L believes that a requirement to meet the Universal Treatment Standards (UTS) for all MGP remediation wastes would add significantly to the cost of managing MGP wastes without any significant gain in environmental protection. The increased cost that imposition of LDRs to MGP remediation wastes will be a significant disincentive to conducting voluntary cleanups of contaminated MGP sites. JCP&L believes that the EPA has failed to consider the heterogeneity of MGP remediation wastes, the majority of which is in the form of contaminated soil. To alleviate this problem JCP&L requests the EPA to defer imposition of the LDRs on MGP remediation wastes pending completion of the HWIR contaminated media rulemaking, or establish specified recycling and combustion technologies as alternative treatment standards. JCP&L requests that EPA specify thermal treatment in a utility boiler or thermal desorption unit, and recycling in asphalt, brick or cement manufacture as alternative treatment standards for MGP remediation waste. These treatment options have been shown to be effective on MGP remediation wastes and in their designation as alternative

treatment standards will remove some of the impediments to remediation which will otherwise result from the imposition of LDRs on MGP remediation wastes.

EPA SHOULD ESTABLISH THAT CURRENT PRACTICES FOR THE SHORT TERM STORAGE OF MGP REMEDIATION WASTES MEET THE EPA'S NO MIGRATION STANDARD

Typical short term temporary storage of MGP remediation wastes at a remediation site is accomplished by placing the remediation wastes in a bermed area (berm made of soil or lumber, typical) which is covered with a 6 mil plastic liner. The remediation wastes are then placed in the bermed area and covered with plastic. This proves to be an effective methodology which prevents the migration of hazardous constituents from the excavated materials and is cost effective. JCP&L requests that EPA provide a determination that the practices currently in use for the short term temporary storage of MGP remediation wastes would be acceptable and would readily qualify for a no migration variance. In conclusion, JCP&L urges the EPA to fully evaluate our comments on the subject proposed rulemaking. In addition, JCP&L fully endorses the comments on this proposal provided to the EPA by the Utility Solid Waste Activity Group (USWAG) and the Edison Electric Institute (EEI).

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for hazardous contaminated soils, including MGP soils. The soil-specific standards were initially proposed in 1993 and re-proposed in the April 29, 1996 HWIR media rule (so that this final rule does reflect the HWIR media effort, as requested by the commenter). The soil-specific treatment standards require 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard, whichever is higher. EPA believes these standards are achievable. The supporting data for these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil can be treated via combustion to satisfy today's soil-specific treatment standards. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. EPA believes these soil standards will remove the disincentives cited by the commenter. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

The Agency's 1993 interpretative memorandum on MGP site remediations remains unaffected by today's rule. The memorandum excludes from RCRA jurisdiction the ash that results from burning MGP remediation wastes along with coal in utility boilers. These residuals are considered to be covered by the Bevill Amendment because they result primarily from the combustion of coal. As discussed in the memorandum, prior to burning MGP remediation waste, the waste must be rendered non-hazardous before it leaves the generation site. The waste may be decharacterized in 90-day tanks, containers, or containment buildings covered by 40 CFR Section 262.34(a). Waste may be treated in such units during the 90-day accumulation period without a permit, and if the waste thereafter no longer exhibits a hazardous characteristic, any further management if the waste would not be subject to Subtitle C regulations, with the possible exception of LDR standards.

With respect to the issue of specified methods (e.g., recycling) as treatment standards rather than numerical concentration values, the Agency considers practices such as using hazardous wastes in asphalt, bricks, or cement that is placed on the ground to be use constituting disposal. Such activities are regulated by 40 CFR part 266.20, which states that recyclable materials are not subject to regulation only if they have undergone a chemical reaction in the course of producing products so as to become inseparable by physical means, and the products meet the LDRs for each hazardous constituent present in the final product. Given that the end disposition of the material is completely uncontrolled, the Agency believes that the treatment standards reflecting performance of the most aggressive treatment technologies are needed in order to assure that threats posed by land disposal of the wastes is minimized. Also, EPA does not see the same incentive to promote this end result as it does with other types of remediation remedies. For these reasons, the contaminated soils would remain subject to the UTS, not the soil-specific treatment standards, if the end disposition is to be a use constituting disposal. Therefore, EPA believes that it would be inappropriate to designate such practices as treatment standards, since to do so would remove the assurance provided by numerical treatment standards that treatment reflecting best demonstrated available technology has taken place.

Regarding the application of the land disposal restrictions to staging of decharacterized MGP soil. As the Agency has noted in the 1996 HWIR-Media proposal, land disposal restrictions attach at the point that any given waste (or contaminated media) is generated and continue to apply until threats to human health and the environment are minimized. Therefore, in the case of contaminated media that is considered hazardous at its point of generation, e.g., because it exhibits a characteristic of hazardous waste, the LDRs have attached and LDR treatment standards must be met prior to land disposal. Under current regulations, placement of waste in a waste pile is considered a form of land disposal. Note that there are a number of types of RCRA units which are not land disposal units. For example, materials could be staged in a corrective action management unit without triggering a duty to first comply with LDRs. Similarly, contaminated soils that are never "generated" for purposes of the land disposal restrictions are not subject to LDRs. For example, if contaminated soils were decharacterized in situ, within an area of contamination, and then staged in that same area of contamination, LDRs would generally not be triggered. This issue of LDR applicability to contaminated soils is discussed in detail in the

preamble to today's final rule.

DCN PH4A028
COMMENTS Commenter South Carolina Electric &
RESPONDER RC
SUBJECT MGP
SUBJNUM 028

COMMENT

South Carolina Electric & Gas Company (SCE&G) appreciates this opportunity to provide comments on the Environmental Protection Agency's proposed rule concerning land disposal restrictions. SCE&G is the principal subsidiary of SCANA Corporation, an energy-based holding company with 12 direct wholly owned subsidiaries engaged in electric and natural gas utility operations and other energy related businesses. SCE&G provides electric and natural gas service in the central and southern parts of South Carolina. The company's generating facilities include six fossil plants, six hydroelectric plants including one pumped storage, one nuclear plant, and 17 internal combustion (natural gas) turbines. The company provides electric service to approximately 484,000 customers in a service area that extends into 24 of South Carolina's 46 counties and covers more than 15,000 square miles in the central, southern and southwestern portions of the state. SCE&G respectfully submits the following comments in response to EPA's request for comments on its supplemental proposal to the Phase IV Rule relative to Land Disposal Restrictions. Our comments result from the potential adverse impact of EPA's proposed rulemaking on the remediation of former Manufactured Gas Plant (MGP) sites. EPA should clarify that its proposed new interpretation of the Beville co-processing exemption applies only to wastes managed in land based mineral processing units. In order for utilities, such as ourselves, to make use of the remediation strategy developed jointly by an EPA work group and Edison Electric Institute (EEI), the EPA must make clear that this proposed new interpretation is not intended to apply to the combustion of MGP waste with coal in electric utility boilers and that the

residuals from such co-combustion remain subject to the Bevill exclusion as long as the boiler is burning at least 50 percent coal. Typically, the actual concentration of coal in the co-burning process is about 95 percent or more. EPA should develop alternative treatment standards for MGP remediation wastes. Although EPA believes that MGP remediation wastes could be treated to achieve Universal Treatment Standards (UTS) for the contained organic hazardous constituents, it is the electric utility industry's experience that different technologies are more appropriate for certain sites either because of the nature or volume of the waste, or the site's location. Nonetheless, these other technologies may minimize the potential threat of the waste even though the residuals may not achieve the technology-based UTS for all constituents of concern. Therefore, UTS requirements for all MGP remediation wastes would add significantly to the cost of managing the waste without any significant gain in environmental protection. Additionally, this increased cost would be a disincentive to voluntary cleanup actions, and would impede the redevelopment of sites under programs such as the Brownfields Initiative. To avoid these problems, EPA is urged to either: 1. Defer imposition of the LDR's on MGP remediation wastes pending completion of the HWIR media rulemaking as requested above; 2. Establish specified recycling and combustion technologies as alternative treatment standards (preferred alternative as discussed below). EPA should promulgate recycling in asphalt, brick, or cement manufacture, combustion, and thermal desorption as alternative treatment standards for MGP remediation wastes. These technologies have been used by a number of utilities with well-documented success. Establishing these technologies as alternative treatment standards would allow the recycling of material or fuel values in the MGP remediation wastes in ways that would not otherwise be permissible under the LDRS. Moreover, the Agency's Superfund Office is considering identifying these technologies as presumptive strategies for MGP sites. It would be counterproductive for the Agency's RCRA Office to erect barriers to the use of these environmentally sound technologies by imposing treatment standards on MGP remediation wastes. EPA should establish that current practices for the short term storage of MGP remediation wastes meet the Agency's no migration standard. Because of the quantity of contaminated material generated during a remediation, it is often impractical to store this material in a tank or container. Therefore, application of LDR's

would create severe barriers to the remediation of contaminated MGP sites by prohibiting the storage of wastes in land based units that have not received a no migration variance. Additionally, current practices by utilities at MGP sites should satisfy the standard for a no migration variance without requiring separate submittals from each site. 2.2.1 EPA should clarify that its proposed new interpretation of the Bevill co-processing exemption applies only to wastes managed in land based mineral processing units. In order for utilities, such as ourselves, to make use of the remediation strategy developed jointly by an EPA work group and Edison Electric Institute (EEI), the EPA must make clear that this proposed new interpretation is not intended to apply to the combustion of MGP waste with coal in electric utility boilers and that the residuals from such co-combustion remain subject to the Bevill exclusion as long as the boiler is burning at least 50 percent coal. Typically, the actual concentration of coal in the co-burning process is about 95 percent or more.

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for hazardous contaminated soils, including MGP soils. The soil specific standards were initially proposed in 1993 and repropoed in the April 29, 1996 HWIR media rule (so that this final rule does reflect the HWIR media effort, as requested by the commenter). The soil-specific treatment standards require 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard. The Agency believes these standards are achievable. The supporting data for these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil can (as the commenter requested) be treated via combustion to satisfy today's soil-specific treatment standards. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. This should remove the disincentives referred to in the comment. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

The Agency's 1993 interpretative memorandum on MGP site remediations remains unaffected by today's rule. The memorandum excludes from RCRA jurisdiction the ash that results from burning MGP remediation wastes along with coal in utility boilers. These residuals are considered to be covered by the Bevill Amendment because they result primarily from the combustion of coal. As discussed in the memorandum, prior to burning MGP remediation waste, the waste must be rendered non-hazardous before it leaves the generation site. The waste may be decharacterized in 90-day tanks, containers, or containment buildings covered by 40 CFR Section

262.34(a). Waste may be treated in such units during the 90-day accumulation period without a permit, and if the waste thereafter no longer exhibits a hazardous characteristic, any further management of the waste would not be subject to Subtitle C regulations, with the possible exception of LDR standards.

With respect to the issue of specified methods (e.g., recycling) as treatment standards rather than numerical concentration values, the Agency considers practices such as using hazardous wastes in asphalt, bricks, or cement that is placed on the ground to be use constituting disposal. Such activities are regulated by 40 CFR part 266.20, which states that recyclable materials are not subject to regulation only if they have undergone a chemical reaction in the course of producing products so as to become inseparable by physical means, and the products meet the LDRs for each hazardous constituent present in the final product. Given that the end disposition of the material is completely uncontrolled, the Agency believes that the treatment standards reflecting performance of the most aggressive treatment technologies are needed in order to assure that threats posed by land disposal of the wastes is minimized. Also, EPA does not see the same incentive to promote this end result as it does with other types of remediation remedies. For these reasons, the contaminated soils would remain subject to the UTS, not the soil-specific treatment standards, if the end disposition is to be a use constituting disposal. Therefore, EPA believes that it would be inappropriate to designate such practices as treatment standards, since to do so would remove the assurance provided by numerical treatment standards that treatment reflecting best demonstrated available technology has taken place.

The commenter did not submit any data to support its request for a no migration variance. Furthermore with regard to the application of the land disposal restrictions to staging of decharacterized MGP soil. As the Agency has noted in the 1996 HWIR-Media proposal, land disposal restrictions attach at the point that any given waste (or contaminated media) is generated and continue to apply until threats to human health and the environment are minimized. Therefore, in the case of contaminated media that is considered hazardous at its point of generation, e.g., because it exhibits a characteristic of hazardous waste, the LDRs have attached and LDR treatment standards must be met prior to land disposal. Under current regulations, placement of waste in a waste pile is considered a form of land disposal. Note that there are a number of types of RCRA units which are not land disposal units. For example, materials could be staged in a corrective action management unit without triggering a duty to first comply with LDRs. Similarly, contaminated soils that are never “generated” for purposes of the land disposal restrictions are not subject to LDRs. For example, if contaminated soils were decharacterized in situ, within an area of contamination, and then staged in that same area of contamination, LDRs would generally not be triggered. This issue of LDR applicability to contaminated soils is discussed in detail in the preamble to today’s final rule.

DCN PH4A050

COMMENTER New Jersey Natural Gas Co
RESPONDER RC
SUBJECT MGP
SUBJNUM 050

COMMENT

We represent New Jersey Natural Gas Company ("NJNG") and on behalf of NJNG, we are submitting the following comments with respect to the Supplemental Phase IV Proposal. 1. Deferral of LDR Regulation of MGP Wastes Pending HWIR NJNG recommends that the Environmental Protection Agency ("EPA") postpone the imposition of the land disposal restrictions ("LDR") on manufactured gas plant ("MGP") remedial wastes until completion of the rulemaking under the proposed Hazardous Waste Identification Rule ("HWIR") listed at 40 CFR Parts 260, 261, 266 and 268. Coverage under that rule may exclude MGP wastes from Resource Conservation and Recovery Act ("RCRA") Subtitle C regulation and, thus, make moot the imposition of the LDRs on MGP wastes at this time. Further imposition of the LDRs and MGP wastes prior to the completion of the HWIR contaminated media rulemaking is likely to lead to inconsistencies and result in a waste of the EPA's and the public's resources, both human and financial. Therefore, imposition of the LDRS on MGP wastes should be deferred. 1. 2. LDR Treatment Standards for MGP Wastes In the absence of a deferral of the imposition of the LDRs on MGP wastes, NJNG recommends the development of alternate treatment standards for such wastes. The proposed rule requires that MGP wastes that exhibit a hazardous characteristic as generated meet the LDR treatment standards prior to land disposal even if the wastes are rendered non-hazardous. The proposed rule requires that MGP wastes meet the Universal Treatment Standards ("UTS"), listed at 40 CFR part 268.48, for every constituent present in the waste as generated. The rules, as proposed, may restrict the remedial treatment of MGP wastes' organic constituents solely to combustion. The rules cannot be considered practical if they result in eliminating or even limiting the viability of alternatives other than combustion. The availability of alternatives and the resulting competition are major factors in lower overall costs of treatment. In this regard, NJNG proposes that the EPA: A) define, in consultation with utility representatives, a treatability group of characteristic wastes defined as "Manufactured Gas Plant Wastes"

and specify certain technologies as alternative treatment standards; and B) develop alternative numerical standards for contaminated soil.

A. Technologies As Alternative Treatment Standards The technologies specified as alternative treatment standards should include, but not only utility boilers or incineration, but should also include the following: I) recycling through asphalt, cement, or brick production; and ii) thermal desorption. Two points are worth noting in regard to this proposal. First, the de-characterized MGP waste processed in utility boilers is already currently recycled in various ways and, thus, this proposal does not represent a departure from current practice. Second, thermal desorption if properly operated can achieve numerical standards and should be recognized as a viable treatment option. Given the limited number of combustion sites, a combustion-only standard would increase not only cost, but the additional transportation and handling would result in a substantial increase in risk.

B. Alternative Soil Standard With regard to the development of an alternative soil standard, it clearly would be best if the EPA postponed any rulemaking until the conclusion of the HWIR rules which are being specifically developed to address the issue of contaminated media. The EPA has previously acknowledged that treatment standards applicable to "as generated" wastes are not generally appropriate for contaminated soil. Although the EPA has indicated that MGP soils could be dealt with by treatability variances on a site-by-site basis, this will produce an undue burden on individual companies and retard the remediation of the sites. The EPA should develop, in consultation with utility representatives, an alternative soil standard for MGP wastes and, thus, enhance the expedience with which such sites are remediated. There also needs to be a recognition by the EPA that treatment should not be required for the natural background levels in soils of metals and NJNG urges the EPA to insure that reasonable and cost effective methods are allowed to determine such background levels. Among the methods which should be recognized are literature values, offsite sampling in the area of the site, and a previous background investigation by another party in the same area. These approaches would be consistent with New Jersey's proposed amendments to the technical requirements for site remediation, NJAC 7:26E, set forth at 28 N.J.R. 1098 et seq.

C. Alternative Treatment Standards NJNG believes that the development of the above alternative treatment standards is justified for at least three reasons. First, the

enormous costs resulting from the incineration of large volumes of soil is disproportionate and is completely unjustified based upon the modest level of risk reduction which might result. Further, the financial burden which such a requirement would impose would present an economic disincentive and would discourage, rather than encourage, the active remediation of MGP sites. This is contrary to previous initiatives promulgated by the EPA, such as Brownfields and presumptive remedies, which were designed to provide incentives, flexibility and timeliness for companies remediating sites. Second, the suggested technologies are currently being considered as presumptive strategies for MGP sites by the EPA's Superfund Office. Third, as noted above, although the EPA has recognized that contaminated soils frequently cannot meet the treatment standards established for other materials which came under regulation by the same waste treatment rules and is willing to issue treatability variances, such a case-by-case approach is extremely burdensome both for the EPA and the public.

3. Capacity Variance Even if the EPA determines that there is adequate treatment capacity for the volume of waste that would require additional treatment to meet LDR treatment standards, such capacity would not necessarily be available in many geographic areas and transportation costs could be significant. Treatment costs would, therefore, be increased not only as a result of the absence of alternative methods of treatment, but also the increased cost of transportation and handling. The EPA should, therefore, delay the effective date of the LDR requirements for MGP waste for at least an initial two years in order to allow for both a general increase in capacity and the availability of capacity in geographic areas currently lacking such capacity. This would lessen the increased cost otherwise associated with the imposition of the LDR requirements for MGP waste.

4. Temporary Storage of MGP Waste It is NJNG's understanding the EPA does not seek to prevent or unduly restrict the temporary storage on-site of MGP waste during site remediation. However, "land disposal" has been defined to include the storage of waste in waste piles and such storage is prohibited unless the waste meets LDR treatment standards. 40 CFR Section ~268.2(c). This requirement could present a significant problem for the management of excavated MGP waste generated during the remediation of such sites, which frequently are in large quantities, since storage in tanks, containers or containment buildings is impractical.

5. Multiple Shipments of

Waste Multiple shipments of waste from a single site to the same receiving facility should require only a single notification.

This would avoid additional unnecessary paper work and cost, while not presenting any additional public risk. 11.1.1.2.1 6.

Regulatory Impact Even though it may be difficult to presently quantify the additional costs entailed, the imposition of the LDRs on MGP wastes, in particular a combustion-only standard, will clearly increase the costs of remediating MGP sites. It has been NJNG's own experience that thermal treatment such as utility co-boiling and thermal desorption are generally forty to sixty percent more expensive than disposal in hazardous waste landfills. NJNG is not aware of any documentation that any significant increased costs, let alone increased costs of that magnitude, is justified by a potential reduction in risk to the public since such a reduction in risk would be either minor or nonexistent. NJNG suggests that the EPA uniformly enforce waste handling practices for contaminated soil under this Rule regardless of the size or type of the ultimate waste disposal/recycling facility.

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for hazardous contaminated soils, including MGP soils. The soil-specific standards were initially proposed in 1993 and re-proposed in the April 29, 1996 HWIR media rule (so that this final rule does reflect the HWIR media effort, as requested by the commenter). The soil-specific treatment standards require 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard, whichever is higher. EPA believes these standards are achievable. The supporting data for these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil can (as the commenter requested) be treated via combustion to satisfy today's soil-specific treatment standards. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. EPA believes these soil standards will remove the disincentives referred to by the commenter. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

The Agency's 1993 interpretative memorandum on MGP site remediations remains unaffected by today's rule. The memorandum excludes from RCRA jurisdiction the ash that results from burning MGP remediation wastes along with coal in utility boilers. These residuals are considered to be covered by the Beville Amendment because they result primarily from the combustion of coal. As discussed in the memorandum, prior to burning MGP remediation waste, the waste must be rendered non-hazardous before it leaves the generation site. The waste may be

decharacterized in 90-day tanks, containers, or containment buildings covered by 40 CFR Section 262.34(a). Waste may be treated in such units during the 90-day accumulation period without a permit, and if the waste thereafter no longer exhibits a hazardous characteristic, any further management of the waste would not be subject to Subtitle C regulations, with the possible exception of LDR standards.

With respect to the issue of specified methods (e.g., recycling) as treatment standards rather than numerical concentration values, the Agency considers practices such as using hazardous wastes in asphalt, bricks, or cement that is placed on the ground to be use constituting disposal. Such activities are regulated by 40 CFR part 266.20, which states that recyclable materials are not subject to regulation only if they have undergone a chemical reaction in the course of producing products so as to become inseparable by physical means, and the products meet the LDRs for each hazardous constituent present in the final product. Given that the end disposition of the material is completely uncontrolled, the Agency believes that the treatment standards reflecting performance of the most aggressive treatment technologies are needed in order to assure that threats posed by land disposal of the wastes is minimized. Also, EPA does not see the same incentive to promote this end result as it does with other types of remediation remedies. For these reasons, the contaminated soils would remain subject to the UTS, not the soil-specific treatment standards, if the end disposition is to be a use constituting disposal. Therefore, EPA believes that it would be inappropriate to designate such practices as treatment standards, since to do so would remove the assurance provided by numerical treatment standards that treatment reflecting best demonstrated available technology has taken place.

Regarding the application of the land disposal restrictions to staging of decharacterized MGP soil. As the Agency has noted in the 1996 HWIR-Media proposal, land disposal restrictions attach at the point that any given waste (or contaminated media) is generated and continue to apply until threats to human health and the environment are minimized. Therefore, in the case of contaminated media that is considered hazardous at its point of generation, e.g., because it exhibits a characteristic of hazardous waste, the LDRs have attached and LDR treatment standards must be met prior to land disposal. Under current regulations, placement of waste in a waste pile is considered a form of land disposal. Note that there are a number of types of RCRA units which are not land disposal units. For example, materials could be staged in a corrective action management unit without triggering a duty to first comply with LDRs. Similarly, contaminated soils that are never “generated” for purposes of the land disposal restrictions are not subject to LDRs. For example, if contaminated soils were decharacterized in situ, within an area of contamination, and then staged in that same area of contamination, LDRs would generally not be triggered. This issue of LDR applicability to contaminated soils is discussed in detail in the preamble to today’s final rule

Finally, for response to the commenter's capacity issue see the capacity section of the response to comments document.

DCN PH4A050
COMMENTS New Jersey Natural Gas Co
RESPONDER RC
SUBJECT MGP
SUBJNUM 050

COMMENT

We represent New Jersey Natural Gas Company ("NJNG") and on behalf of NJNG, we are submitting the following comments with respect to the Supplemental Phase IV Proposal. 1. Deferral of LDR Regulation of MGP Wastes Pending HWIR NJNG recommends that the Environmental Protection Agency ("EPA") postpone the imposition of the land disposal restrictions ("LDR") on manufactured gas plant ("MGP") remedial wastes until completion of the rulemaking under the proposed Hazardous Waste Identification Rule ("HWIR") listed at 40 CFR Parts 260, 261, 266 and 268. Coverage under that rule may exclude MGP wastes from Resource Conservation and Recovery Act ("RCRA") Subtitle C regulation and, thus, make moot the imposition of the LDRs on MGP wastes at this time. Further imposition of the LDRs and MGP wastes prior to the completion of the HWIR contaminated media rulemaking is likely to lead to inconsistencies and result in a waste of the EPA's and the public's resources, both human and financial. Therefore, imposition of the LDRS on MGP wastes should be deferred.

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for hazardous contaminated soils, including MGP soils. The soil-specific standards were initially proposed in 1993 and re-proposed in the April 29, 1996 HWIR media rule (so that this final rule does reflect the HWIR media effort, as requested by the commenter). The soil-specific treatment standards require 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard, whichever is higher. EPA believes these standards are achievable. The supporting data for these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil can be treated via combustion to satisfy today's soil-specific treatment standards. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. EPA believes these soil standards will remove the disincentives cited by the commenter. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

DCN PH4A051
COMMENTS Commenter South Jersey Gas Company
RESPONDER RC
SUBJECT MGP
SUBJNUM 051

COMMENT

We represent South Jersey Gas Company ("SJG") and on behalf of SJG, we are submitting the following comments with respect to the Supplemental Phase IV Proposal. 5.2.9 1. Deferral of LDR Regulation of MGP Wastes Pending HWIR SJG recommends that the Environmental Protection Agency ("EPA") postpone the imposition of the land disposal restrictions ("LDR") on manufactured gas plant ("MGP") remedial wastes until completion of the rulemaking under the proposed Hazardous Waste Identification Rule ("HWIR") listed at 40 CFR Parts 260, 261, 266 and 268. Coverage under that rule may exclude MGP wastes from Resource Conservation and Recovery Act ("RCRA") Subtitle C regulation and, thus, make moot the imposition of the LDRs on MGP wastes at this time. Further imposition of the LDRs and MGP wastes prior to the completion of the HWIR contaminated media rulemaking is likely to lead to inconsistencies and result in a waste of the EPA's and the public's resources, both human and financial. Therefore, imposition of the LDRs on MGP wastes should be deferred. 1. Deferral of LDR Regulation of MGP Wastes Pending HWIR SJG recommends that the Environmental Protection Agency ("EPA") postpone the imposition of the land disposal restrictions ("LDR") on manufactured gas plant ("MGP") remedial wastes until completion of the rulemaking under the proposed Hazardous Waste Identification Rule ("HWIR") listed at 40 CFR Parts 260, 261, 266 and 268. Coverage under that rule may exclude MGP wastes from Resource Conservation and Recovery Act ("RCRA") Subtitle C regulation and, thus, make moot the imposition of the LDRs on MGP wastes at this time. Further imposition of the LDRs and MGP wastes prior to the completion of the HWIR contaminated media rulemaking is likely to lead to inconsistencies and result in a waste of the EPA's and the public's resources, both human and financial. Therefore, imposition of the LDRs on MGP wastes should be deferred. 2. LDR Treatment Standards for MGP Wastes In the absence of a deferral of the imposition of the LDRs on MGP wastes, SJG recommends the development of alternate treatment standards for such wastes. The proposed rule requires that MGP

wastes that exhibit a hazardous characteristic as generated meet the LDR treatment standards prior to land disposal even if the wastes are rendered non-hazardous. The proposed rule requires that MGP wastes meet the Universal Treatment Standards ("UTS"), listed at 40 CFR part 268.48, for every constituent present in the waste as generated. The rules, as proposed, may restrict the remedial treatment of MGP wastes' organic constituents solely to combustion. The rules cannot be considered practical if they result in eliminating or even limiting the viability of alternatives other than combustion. The availability of alternatives and the resulting competition are major factors in lower overall costs of treatment. In this regard, SJG proposes that the EPA: A) define, in consultation with industry representatives, a treatability group of characteristic wastes defined as "Manufactured Gas Plant Wastes" and specify certain technologies as alternative treatment standards; and B) develop alternative numerical standards for contaminated soil.

A. Technologies As Alternative Treatment Standards The technologies specified as alternative treatment standards should include, but not necessarily be limited to, the following: I) recycling through asphalt, cement, or brick production; and ii) thermal desorption. Two points are worth noting in regard to this proposal. First, the de-characterized MGP waste processed in utility boilers is already currently recycled in various ways and, thus, this proposal does not represent a departure from current practice. Second, thermal desorption if properly operated can achieve numerical standards and should be recognized as a viable treatment option. Given the limited number of combustion sites, a combustion-only standard would increase not only cost, but the additional transportation and handling would result in a substantial increase in risk.

B. Alternative Soil Standard With regard to the development of an alternative soil standard, it clearly would be best if the EPA postponed any rulemaking until the conclusion of the HWIR rules which are being specifically developed to address the issue of contaminated media. The EPA has previously acknowledged that treatment standards applicable to "as generated" wastes are not generally appropriate for contaminated soil. Although the EPA has indicated that MGP soils could be dealt with by treatability variances on a site-by-site basis, this will produce an undue burden on individual companies and retard the remediation of the sites. The EPA should develop, in consultation with industry representatives, an alternative soil standard for MGP wastes

and, thus, enhance the expedience with which such sites are remediated. C. Alternative Treatment Standards SJG believes that the development of the above alternative treatment standards is justified for at least three reasons. First, the enormous costs resulting from the incineration of large volumes of soil is disproportionate and is completely unjustified based upon the modest level of risk reduction which might result. Further, the financial burden which such a requirement would impose would present an economic disincentive and would discourage, rather than encourage, the active remediation of MGP sites. Second, the suggested technologies are in the process of consideration as presumptive strategies for MGP sites by the EPA's Superfund Office. Third, as noted above, although the EPA has recognized that contaminated soils frequently cannot meet the treatment standards established for other materials which came under regulation by the same waste treatment rules and is willing to issue treatability variances, such a case-by-case approach is extremely burdensome both for the EPA and the public.

6.1.6 3. Capacity Variance Even if the EPA determines that there is adequate treatment capacity for the volume of waste that would require additional treatment to meet LDR treatment standards, such capacity would not necessarily be available in many geographic areas and transportation costs could be significant. Treatment costs would, therefore, be increased not only as a result of the absence of alternative methods of treatment, but also the increased cost of transportation and handling. The EPA should, therefore, delay the effective date of the LDR requirements for MGP waste for at least an initial two years in order to allow for both a general increase in capacity and the availability of capacity in geographic areas currently lacking such capacity. This would lessen the increased cost otherwise associated with the imposition of the LDR requirements for MGP waste.

11.1.1.2.1 4. Regulatory Impact Even though it may be difficult to presently quantify the additional costs entailed, the imposition of the LDRs on MGP wastes, in particular a combustion-only standard, will clearly increase the costs of remediating MGP sites. Such additional costs are not justified by a potential reduction in risk to the public since such a reduction in risk would be either minor or nonexistent.

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for hazardous contaminated soils, including MGP soils. The soil-specific standards were initially proposed in 1993 and re-proposed in the April 29, 1996 HWIR media rule (so that this final rule does reflect the HWIR media effort, as requested by the commenter). The soil-specific treatment standards require 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard, whichever is higher. EPA believes these standards are achievable. The supporting data for these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). These non-combustion technologies are capable of treating soils contaminated with hard-to-treat organic hazardous constituents, such as dioxins and furans, polychlorinated biphenyls, and polynuclear aromatics to today's soil-specific levels. EPA notes that organics in soil can be treated via combustion to satisfy today's soil-specific treatment standards. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. EPA believes these soil standards will remove the disincentives cited by the commenter. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

With respect to the issue of specified methods (e.g., recycling) as treatment standards rather than numerical concentration values, the Agency considers practices such as using hazardous wastes in asphalt, bricks, or cement that is placed on the ground to be use constituting disposal. Such activities are regulated by 40 CFR part 266.20, which states that recyclable materials are not subject to regulation only if they have undergone a chemical reaction in the course of producing products so as to become inseparable by physical means, and the products meet the LDRs for each hazardous constituent present in the final product. Given that the end disposition of the material is completely uncontrolled, the Agency believes that the treatment standards reflecting performance of the most aggressive treatment technologies are needed in order to assure that threats posed by land disposal of the wastes is minimized. Also, EPA does not see the same incentive to promote this end result as it does with other types of remediation remedies. For these reasons, the contaminated soils would remain subject to the UTS, not the soil-specific treatment standards, if the end disposition is to be a use constituting disposal. Therefore, EPA believes that it would be inappropriate to designate such practices as treatment standards, since to do so would remove the assurance provided by numerical treatment standards that treatment reflecting best demonstrated available technology has taken place.

Finally, for response to the commenter's capacity issue see the capacity section of the response to comments document.

DCN PH4A056
COMMENTS Utility Solid Waste Activ
RESPONDER RC

SUBJECT MGP
SUBJNUM 056

COMMENT

Second, this proposal would impose the LDRs on wastes generated during the management of historic manufactured gas plant ("MGP") sites. USWAG is concerned that the application of the LDRs to these wastes, without taking into account the special difficulties associated with remediation wastes, will substantially impede the ability of utilities to manage and redevelop sites containing these wastes.

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for hazardous contaminated soils, including MGP soils. The soil-specific standards were initially proposed in 1993 and repropose in the April 29, 1996 HWIR media rule (so that this final rule reflects the HWIR media effort). The soil-specific treatment standards require 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard, whichever is higher. EPA believes these standards are achievable. The data supporting these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil can be treated via combustion to satisfy today's soil-specific treatment standards. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. EPA believes these soil standards will remove the disincentives referred to in the comment. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

DCN PH4A056
COMMENTS Utility Solid Waste Activ
RESPONDER RC
SUBJECT MGP

SUBJNUM 056

COMMENT

111. EPA SHOULD DEFER IMPOSITION OF THE LDRS ON MGP REMEDIATION WASTES PENDING RESOLUTION OF THE HWIR MEDIA RULEMAKING.

Unlike the other mineral processing wastes addressed by this proposal, MGP remediation wastes are not being generated by an ongoing industrial process, but are instead generated entirely from the remediation of historic sites. As a result, most of the MGP remediation wastes that would become subject to the LDRs under this proposal are contaminated media, particularly contaminated soil. However, the Agency is comprehensively addressing the regulation of contaminated media in the recently proposed Hazardous Waste Identification Rule ("HWIR"), and, because most MGP remediation wastes are contaminated media, they may qualify for the special management options for contaminated media proposed in that rulemaking. Therefore, the LDR standard for MGP remediation wastes proposed in this rulemaking may soon be superseded. It would be a waste of time and resources for both the Agency and the electric utility industry to develop LDR standards for MGP remediation wastes when these standards are likely to be superseded by HWIR. Accordingly, USWAG urges the Agency to defer imposition of the LDRs on MGP remediation wastes until it completes the HWIR media rulemaking. In undertaking the HWIR media rulemaking the Agency acknowledged that the RCRA hazardous waste regulations, including the LDR S, are often inappropriate when applied to contaminated media generated during a remediation due both to the nature of the waste and to the circumstances of the remedial process itself. E.g., 58 Fed. Reg. 8658, 8660 (Feb. 16, 1993) ("EPA has found that Subtitle C requirements when applied to remediation wastes, can act as a disincentive to more protective remedies, and can limit the flexibility of a regulatory decision maker in choosing the most practicable remedy at a specific site.") This reasoning is clearly applicable to MGP remediation wastes. While a small percentage of MGP remediation wastes exhibit the toxicity characteristic, because these wastes are primarily contaminated soil they differ substantially in form from the process wastes upon which the LDR treatment standards are based. Imposing process waste LDR treatment standards on MGP remediation

wastes, along with the administrative requirements associated with the LDRS, will increase the cost of remediation without significantly enhancing environmental protection. The net effect will be to discourage voluntary action to address such contaminated sites, which, in turn, will impede the ability of the site to be redeveloped under such programs as the Brownfields initiative. The Agency has recognized the problems caused by Subtitle C regulation of remediation wastes and is attempting to address them through the HWIR process. Imposing the LDRs on MGP remediation wastes will merely exacerbate these problems, and therefore, USWAG urges the Agency to defer imposition of the LDRs on MGP remediation wastes until it completes the HWIR rulemaking.

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for hazardous contaminated soils, including MGP soils. The soil-specific standards were initially proposed in 1993 and repropoed in the April 29, 1996 HWIR media rule (so that this final rule reflects the HWIR media effort). The soil-specific treatment standards require 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard, whichever is higher. EPA believes these standards are achievable. The data supporting these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil can be treated via combustion to satisfy today's soil-specific treatment standards. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. EPA believes these soil standards will remove the impediments cited by the commenter. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

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COMMENTS Utility Solid Waste Activ
RESPONDER RC
SUBJECT MGP
SUBJNUM 056

COMMENT

IV. THE AGENCY SHOULD DEVELOP ALTERNATIVE TREATMENT STANDARDS FOR MGP REMEDIATION WASTES.

Although the co-combustion strategy

for MGP wastes and coal is an attractive and cost-effective option for managing MGP wastes generated at remediation sites, it is not a practical option for all utilities responsible for MGP site management. First, the technical feasibility of this option often depends on boiler design; some coal-burning utilities are not equipped with boilers capable of burning mixtures of coal and coal tar materials. Second, some electric utilities responsible for MGP sites are not coal burning utilities, and these companies cannot avail themselves of the co-combustion strategy. Third, as a practical matter, the gas industry is also unable to employ this strategy unless the gas utility is affiliated with a coal burning electric utility, but even such a corporate relationship cannot always overcome transportation and other technical barriers to co-combustion. There is an emerging commercial service provided by a New York coal burning utility that accepts MGP materials for co-burning from unaffiliated MGP remediation waste generators (including gas utilities), but high transportation costs limit the geographic area from which MGP wastes will be sent to a co-burning power plant. It is evident, therefore, that some MGP wastes will be affected by LDR requirements, and the applicable treatment standards for MGP wastes remain an issue of great concern to utilities. In the preamble to the Supplemental Phase IV proposal, EPA recognizes that the proposed rule would subject MGP remediation wastes to the LDR S, and the Agency states that "EPA sees no reason that these wastes could not be treated to achieve UTS for the contained organic hazardous constituents." 61 Fed. Reg. at 2360. Yet, the Agency has performed no analysis of the treatability of MGP remediation wastes and has not considered MGP remediation wastes in either its capacity analysis or its Regulatory Impact Analysis. (While the Agency's background documents refer to coal gasification wastes, they, in fact, analyze only one aqueous wastestream from a single currently operating coal gasification plant and do not consider the much larger volume of wastes from the remediation of historic MGP sites.) The electric utility industry's experience with the remediation of MGP sites has demonstrated that, while combustion technologies may be appropriate for the management of certain wastes at certain sites, in other circumstances different technologies may be more appropriate, either because of the nature of the waste or the site's location. At these sites, other technologies may "minimize the threat" posed by the waste (when factors such as transportation

risks are included) even though the residuals may not achieve the technology-based UTS for all constituents of concern. In some cases the inability to achieve the UTS results from constituents derived from sources other than the MGP remediation wastes themselves (such as background levels of certain constituents in the soil). The heterogeneity of MGP remediation wastes arises from the fact that they are not being produced in an ongoing industrial process but instead are being generated today solely through the remediation of contaminated sites. As a result, while some of the wastes generated during a remediation are relatively "pure" wastes, (e.g., coal tars), most of the waste generated at a site is in the form of contaminated soil and other environmental media. Accordingly, USWAG believes that a requirement to meet the UTS standards for all MGP remediation wastes would, at least in some cases, add significantly to the cost of managing the waste without any significant gain in environmental protection. Indeed, this increased cost could be a significant disincentive to voluntary action to address contaminated sites, thereby impeding the redevelopment of the site under programs such as the Brownfields initiative. To alleviate these problems, USWAG urges EPA to either: (1) defer imposition of the LDRs on MGP remediation wastes pending completion of the HWIR media rulemaking, as discussed in section III supra; (2) establish alternative numerical standards for MGP remediation wastes as proposed for contaminated soil in the Phase 11 rulemaking and the recently signed HWIR media proposal; or (3) establish specified recycling and combustion technologies as alternative treatment standards.

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for hazardous contaminated soils, including MGP soils. The soil-specific standards were initially proposed in 1993 and re-proposed in the April 29, 1996 HWIR media rule (so that this final rule reflects the HWIR media effort). The soil-specific treatment standards require 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard, whichever is higher. EPA believes these standards are achievable. The data supporting these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil can be treated via combustion to satisfy today's soil-specific treatment standards. See Soil Treatability Analysis Report (April

1998, USEPA) in this docket to today's rule. EPA believes these soil standards will remove the impediments referred to in the comment. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

With respect to the issue of specified methods (e.g., recycling) as treatment standards rather than numerical concentration values, the Agency considers practices such as using hazardous wastes in asphalt, bricks, or cement that is placed on the ground to be use constituting disposal. Such activities are regulated by 40 CFR part 266.20, which states that recyclable materials are not subject to regulation only if they have undergone a chemical reaction in the course of producing products so as to become inseparable by physical means, and the products meet the LDRs for each hazardous constituent present in the final product. Given that the end disposition of the material is completely uncontrolled, the Agency believes that the treatment standards reflecting performance of the most aggressive treatment technologies are needed in order to assure that threats posed by land disposal of the wastes is minimized. Also, EPA does not see the same incentive to promote this end result as it does with other types of remediation remedies. For these reasons, the contaminated soils would remain subject to the UTS, not the soil-specific treatment standards, if the end disposition is to be a use constituting disposal. Therefore, EPA believes that it would be inappropriate to designate such practices as treatment standards, since to do so would remove the assurance provided by numerical treatment standards that treatment reflecting best demonstrated available technology has taken place.

DCN PH4A056
COMMENTS Utility Solid Waste Activ
RESPONDER RC
SUBJECT MGP
SUBJNUM 056

COMMENT

USWAG provided several attachments providing information on MGP remedial waste treatment technologies.

RESPONSE

The Agency has reviewed the information submitted by the commenter for the final Phase IV rule, and thanks the commenter for providing the information.

DCN PH4A056
COMMENTS Utility Solid Waste Activ
RESPONDER RC
SUBJECT MGP
SUBJNUM 056

COMMENT

- A. The Agency Should Develop Alternative Numerical Treatment Standards for MGP Remediation Wastes In the LDR Phase 11 proposal, EPA acknowledged that the treatment standards applicable to "as generated" wastes are generally not appropriate for contaminated soil. 58 Fed. Reg. 48092, 48122-27 (Sept. 14, 1993). EPA, therefore, proposed three alternative methods for establishing treatment standards for hazardous soils: 1) The level at which 90% of the constituents of concern had been treated, with a floor of the UTS and a ceiling of ten times the UTS; 2) Ten times the UTS with no percentage treatment requirement; 3) The higher of the UTS or the 90% treatment level. at 48122-33. The Agency deferred acting on this proposal because of the pendency of the HWIR media rulemaking (as it should defer imposition of the LDRs on MGP waste). 59 Fed. Reg. 47980, 47985-86 (Sept. 19, 1994). However, the Agency has continued to acknowledge that the treatment standards for as generated wastes are generally not appropriate for contaminated media and that such wastes are presumptively eligible for a treatability variance. The same rationale applies to MGP remediation wastes. Those MGP remediation wastes that are hazardous waste are generally hazardous because they exhibit the toxicity characteristic for benzene, the treatment standard for which is based on incineration. However, the Agency has recognized that the incineration of large quantities of contaminated soil is neither environmentally nor economically desirable. 58 Fed. Reg. at 48124 ("the technology-based soil standards thus should not be based exclusively on incineration... Innovative technologies are particularly appropriate to treat the large volumes of low and moderately contaminated soil.") Moreover, the Agency has established a presumption that contaminated soils are eligible for a treatability variance. 59 Fed. Reg. at 47985-86. Therefore, under the Agency's policy, MGP remediation wastes are presumptively eligible for site-by-site treatability variances. Given that there are more than 1500 MGP sites, it

would be an imprudent waste of both EPA's and the utility industry's resources to go through the process of obtaining a variance for each site at which MGP remediation wastes are generated. It would be more efficient for both the Agency and the affected utilities to establish an alternative set of treatment standards by rule that would apply to all MGP sites. Of the three options in the Phase 11 proposal, USWAG believes that the third option (ie., the higher of ten times the UTS or a 90% concentration reduction) is the most appropriate approach because it gives utilities the greatest flexibility. This is also the approach that EPA has taken in the HWIR proposal. By requiring significant reductions in the level of contaminants such a standard provides ample protection of human health and the environment while the alternative ceiling prevents difficulties with wastes that are just above the concentration threshold and may not be able to achieve a 90% reduction.

RESPONSE

In the Phase IV LDR final rule, EPA is promulgating treatment standards for soils, including soils contaminated with MGP wastes. The soil-specific standards adopt the approach advocated by the commenter: the higher of 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard. EPA believes these standards are achievable. The data supporting these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil also can be treated via combustion to satisfy the soil-specific treatment standards if an owner/operator desires. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

COMMENTS Utility Solid Waste Activ

RESPONDER RC

SUBJECT MGP

SUBJNUM 056

COMMENT

B.The Agency Should Specify Treatment Technologies as Alternative Treatment Standards for MGP Remediation Wastes, RCRA authorizes EPA to specify either levels or methods of treatment as the treatment standard for a given waste. RCRA 3004(m), 42 U.S.C. 6924(m). If a treatment method is specified as the standard, treatment of the waste with the method constitutes compliance with the LDRs and there is no need to analyze the treatment residual for compliance with any numerical treatment standard. 40 C.F.R. 268.40(a)(3). EPA has established treatment methods as the treatment standard when it sought to encourage recycling of a particular waste stream or where the performance of a method for a particular waste stream is well established and there is no need to analyze the residuals on a case-by-case basis. See, ea., 55 Fed. Reg. 22520 , 22570 (June 1, 1990) (preference for treatment standards based on recovery); 54 Fed. Reg. 48372 , 48457 (Nov. 22, 1989) (establishing high temperature metals recovery as treatment standard because it furthers statutory goals of recycling and materials recovery). USWAG believes that EPA should establish several technologies as alternative treatment standards for MGP remediation wastes. Establishing these technologies as alternative treatment standards would allow the recycling of material or fuel values in the MGP remediation wastes in ways that would not otherwise be permissible under the LDRs either because the level of hazardous constituents in the recycled products without the use of MGP remediation wastes exceeds the UTS or because analysis of the residues is impracticable. Specifically USWAG requests that the Agency identify recycling in asphalt, brick or cement manufacture as alternative treatment standards and thermal treatment in a utility boiler or thermal desorption unit as additional options. Those methodologies have been proven effective on MGP remediation wastes and their establishment as alternative treatment standards will remove some of the barriers to remediation of these sites otherwise created by imposition of the LDRs on MGP remediation wastes. I , Recycling in Asphalt, Brick, or Cement Manufacture. The

recycling of MGP waste into asphalt, brick or cement is a remediation strategy that has been used by a number of utilities. The soil and other solid material in the MGP remediation wastes substitute for the normal raw material in these products while the organic constituents of concern are either bound up in the product or destroyed in the manufacturing process. These options would be foreclosed if compliance with the UTS is the sole treatment standard either because the products, as produced without the use of MGP remediation wastes, contain hazardous constituents above the UTS, or because testing is impracticable given the nature of the commercial process. Therefore, in order to preserve these valuable treatment options, the Agency should designate them as an alternative treatment standard. Moreover, the Agency's Superfund Office is considering identifying these technologies as presumptive strategies for MGP sites. It would be counterproductive for the Agency's RCRA Office to erect barriers to the use of these environmentally sound technologies by imposing numerical treatment standards on MGP remediation wastes. Asphalt has become the common name for bituminous concrete, a material consisting of sand and aggregate and a liquid hydrocarbon. The liquid hydrocarbon is derived from the distillation of petroleum and consists of such other chemicals as aliphatics, monocyclic aromatic hydrocarbons ("MAHs"), and polycyclic aromatic hydrocarbons ("PAHs").⁰ MGP residuals consisting primarily of MAHs and PAHs can be incorporated into the asphalt production process and can partially replace the liquid hydrocarbons and the aggregate in the mixture.¹ Once this step has occurred, the hydrocarbons and soils will be chemically and physically bound with the asphalt product.² Cold-mix asphalt is typically used as a sub-base for primary and secondary roads and parking lots and is produced by mixing aggregate with an asphalt-water emulsion at ambient temperature. Cold-mix asphalt can be produced at the remediation site.³ Hot-mix asphalt, which is typically used in paving roads, is produced by mixing hot aggregate and melted asphalt at up to 500 °F.⁴ Although hot mix plants are typically fixed locations and MGP materials must be shipped to those plants for incorporation into the production process (although often at closer proximity to MGP sites than other treatment, storage and disposal facilities), portable mixing plants can be located on-site if sufficient volumes of soil to be processed make it cost effective to do so. Production of hot-mix asphalt has been done both on a

laboratory and field-scale basis. The MGP materials are first heated in a thermal desorption unit before mixing with the liquid hydrocarbon. Where strength of the product is the primary specification, soil particle size becomes critical. In such circumstances, soils that are primarily gravel and sand and contain little silts and clay are the primary candidates for recycling. These material requirements are not as strict in the case of cold-mix asphalt. Soil with a broader grain size distribution can be used due to the use of the material or areas requiring less stringent structural specifications. Experience with asphalt product manufactured with MGP residuals has shown that the product strength compares favorably with product using only virgin mixes. Hot-mix asphalt batching using MGP soils has been successfully done by Niagara Mohawk Power Corporation, Wisconsin Power & Light Company, and Duke Power. Niagara Mohawk sent 12,000 tons of contaminated soil to a South Carolina facility that treated the soils in a thermal desorption unit and then incorporated them into hot-mix asphalt. The Wisconsin utility produced 50 tons of hot-mix asphalt that was used as pavement at one of its power plant properties. A partial list of hot-batch asphalt facilities includes: Southeastern Soil Recovery, Payne and Dolan, Soil Safe, Inc., Kedesh, Inc., and Mobile Facilities. Utilities that have successfully recycled MGP soils in cold-mix asphalt production include Southern California Edison Company, PacifiCorp, and Niagara Mohawk Power Corporation. This last company has recently completed an on-site demonstration of the use of MGP soils in cold-mix batching under the oversight of the New York State Department of Environmental Conservation. The report on this demonstration will be made available to the Agency when it is completed. The recycling of MGP residuals into bricks has been demonstrated as an environmentally sound and cost effective remedy for MGP sites that results in the recycling of contaminated soil, the production of an economically viable product that meets ASTM specifications for bricks⁵ and the destruction of MGP constituents due to high temperature firing for three to five days. Bricks are produced from a "mud" consisting of powdered shale, firing clay, sawdust and water. This combination is compressed into brick molds that are first dried and then fired in a kiln at temperatures of between 1600 and 2000 F.⁶ The MGP residuals that can be used effectively in manufacturing brick in lieu of natural materials are purifier box wastes (in lieu of sawdust) that assist in the molding process and contaminated

soil and sediment (in lieu of shale and clay). Niagara Mohawk Power Corporation has successfully used this remediation strategy at its Gloversville, Rome and Harbor Point sites. Emissions tests during the brick manufacturing process using MGP materials showed no detectable BTEX compounds or cyanide in the work areas. The final product met all usual ASTM brick standards for strength, absorption, suction rate, and efflorescence. The finished brick analysis showed no detectable BTEX or PAH compounds and no detectable total cyanide. Sulfur content was less than 0.05 percent.⁷ Richland Molded Brick Company of Richland, Ohio has successfully recycled MGP residuals in the brick manufacturing process. This firm was given a permit for processing MGP materials following testing that was monitored by the Ohio Environmental Protection Agency. MGP residuals that can provide energy, calcium, aluminum, silica or iron to cement processing operations are appropriate materials for combustion in a cement kiln. Purifier box wastes from MGP sites are candidates for this remedy because of their high content of iron and limestone. The high temperatures in cement kilns greater than 2700°F -- are comparable to those in utility boilers and commercial incinerators.⁸ The destruction efficiencies are greater than 99.99 percent. Cement kiln processing is a proven technology that recycles contaminated soil, produces an economically viable product, and destroys the constituents present in MGP residuals. The soil residues become chemically bound to the clinker and are incorporated into the Portland cement. Several USWAG and EEI member companies have successfully employed this strategy, including Niagara Mohawk Power Corporation, Northern States Power Company, Iowa Illinois Gas & Electric Company, and IES Utilities. Cement manufacturers that accept MGP residuals for processing in cement kilns include Giant Resource Recovery Company, Inc. (Harleysville, South Carolina), Heartland Cement Company (Independence, Kansas), Lafarge Corporation (Buffalo, Iowa), and Continental Cement (Hannibal, Missouri). The inclusion of cement kiln combustion as an alternative treatment standard for MGP remediation wastes would make a proven cost-effective remedy available for MGP residues throughout the country where site conditions make excavation and combustion of the residuals the strategy of choice.

2. Thermal Treatment Technology

The Agency should also designate combustion and thermal desorption as alternative treatment standards. Because the hazardous wastes generated at MGP sites are characteristic wastes, they may lawfully be treated in a non-hazardous waste thermal treatment unit after they have been decharacterized. Because the constituents of concern for MGP remediation wastes are primarily organic, these technologies provide an effective and cost effective management method that, at a minimum, achieves the soil treatment standards proposed in Phase 11. Because these technologies have been proven effective in treating MGP remediation wastes, there is no need to impose the burdensome and expensive LDR testing requirements on residues from these processes.

a. Combustion EPA has designated a treatment method of CMBST as a treatment standard or alternative treatment standard for a number of organic-containing hazardous wastes including low TOC ignitable wastes. 40 C.F.R. 268.40. The method includes high temperature combustion in incinerators and boilers and industrial furnaces. Because this technology is well suited to the management of MGP remediation wastes, the Agency should adopt this technology as an alternative treatment standard for MGP remediation wastes. EPA and the electric utility industry have developed a remediation strategy for MGP remediation wastes that is based on the combustion of decharacterized MGP remediation wastes in coal-fired electric utility boilers.

Aft. A. Because such boilers are included within the CMBST standard, adoption of the standard is consistent with this prior determination that combustion in these units is an environmentally sound management method for MGP remediation wastes.⁹ Moreover, adoption of the CMBST standard is consistent with the Agency's determination that combustion is an appropriate management method for MGP remediation wastes, for which the primary constituents of concern are organic. Because the boilers operate at such a high temperature (2500-3000 OF) destruction of the constituents of concern is assured, and the cost of implementation is far below that of commercial incineration. MGP contaminated soils have been successfully co-burned with coal in cyclone, stoker, and pulverized coal-fired boilers.⁰ MidAmerican Energy Company (formerly Midwest Gas) is conducting a series of trial burns of MGP soils from its Waterloo, Iowa, site (an NPL site) in, its pulverized

coal-fired boiler in Sioux City, Iowa. The initial trial burn was overseen by the Iowa Department of Natural Resources, and later trial burns are being overseen by EPA Region VII. Rochester Gas and Electric Company also has successfully burned MGP soils and tar in a pulverized coal-fired boiler. Similar successful combustion has been accomplished by New York State Electric & Gas Corporation in a stoker boiler. Utilities that have successfully employed this strategy at MGP sites using a cyclone boiler include MidAmerican Energy Company (formerly Midwest Gas), which co-processed MGP soils from the Peoples Natural Gas site in Dubuque, Iowa, also an NPL site, Illinois Power Company, Northern States Power Company, Duke Power, and Northern Indiana Public Service Company. The use of utility boilers to comply with LDR standards has the potential to significantly expand the capacity available to manage MGP remediation wastes. For example, New York State Electric and Gas was one of the early coal-fired utilities to implement this strategy for remediating its own MGP sites, and has since been licensed by the State of New York to co-process MGP materials at two coal-burning power generation stations near Binghamton, New York, including MGP residuals sent to those power plants by other companies remediating MGP sites. The MGP materials that have been co-processed with coal include contaminated soils, tars, and purifier wastes. The contaminated soils generally represent approximately 2 to 5 percent of the fuel feed, while tars represent between 1 and 2 percent of the feed, and purifier wastes constitute between 1 and 2 percent of the feed. The waste streams generated by the combustion process include fly ash, bottom ash and off-gas. As noted earlier, EPA's Phase 11 RCRA Beville Amendment study of residues from the combustion of coal and other fossil fuels will examine the environmental impacts, if any, from co-burning nonhazardous remediation wastes with coal, and EPA will make a regulatory determination by April 1998. See 58 Fed. Reg. at 42469. In the meantime, several of the companies identified above have compared the composition of these waste streams when generated from co-processing MGP soils with coal and when generated from burning coal alone and have found no significant change in the composition of the ash when co-processing occurs and that gas concentrations were generally reduced during the co-processing. Similarly, no change was found in the composition of wastewaters generated at a power plant that coprocesses MGP residuals and coal. EPRI has been collaborating with many of these companies to collect and

analyze data on the impacts of the co-burning process, and these data will be furnished to EPA as part of the Phase 11 Bevill study. b. Thermal Desorption EPA should also designate thermal desorption as an alternative treatment standard. The Agency has recognized that thermal desorption is an effective method for managing contaminated soils. EPA's Engineering Bulletin on Thermal Desorption Treatment describes thermal desorption as "an ex situ means to physically separate volatile and some semivolatile contaminants from soil, sediments, sludges, and filter cakes. For wastes containing up to 10% organics or less, thermal desorption can be used alone for site remediation." EPA, Engineering Bulletin: Thermal Desorption Treatment, EPA/540/2-91/008, p.1 (May 1991). The bulletin notes that "[t]hermal desorption has been proven effective in treating contaminated soils, sludges, and various filter cakes." Ibid. Of particular significance is the statement in the Bulletin that thermal desorption is applicable for the separation of organic from several specified waste categories including coal tar wastes. Ibid. This technology has been employed at numerous MGP sites with the approval of EPA Regions and state regulatory authorities. One particular advantage of this technology is that it is often feasible to implement this remedy at the remediation site. EPA itself has identified thermal desorption as a presumptive remedy for CERCLA sites with VOC-contaminated soil. @ EPA Directive No. 9355.0-48FS. Several utilities, including Northwestern Public Service and Southern California Gas Company, have successfully employed thermal desorption at MGP sites. Niagara Mohawk Power Corporation conducted a field demonstration on the use of thermal desorption in remediating MGP sites under the oversight and testing by the EPA SITE program. The EPA SITE Technology Capsule on this demonstration is appended as Attachment B. Utility industry data show that the concentration of volatile organics can be reduced by greater than 99 percent using thermal desorption, leaving residual concentration of less than 10 mg/kg. This treatment technology will also achieve concentration reductions of PAHs of greater than 95 percent, leaving residual concentrations of less than 10 mg/kg, and cyanide concentration reductions of greater than 90 percent. Thus the technology, at a minimum, meets the alternative treatment standards proposed for contaminated soil in the Phase 11 rulemaking, and therefore should be designated as an alternative treatment standard. See section IV.A, supra.

RESPONSE

EPA notes that the commenter evidently does not believe that combustion is not necessarily an inappropriate method of treatment for these soils. Be that it may, today's finalized soil-specific treatment standards are achievable by both non-combustion, i.e., thermal desorption, and combustion technologies. Note, that these soil-specific standards are based, in part, on the performance of thermal desorption. The soil-specific treatment standards require 90% reduction of hazardous constituent concentrations or 10 times the universal treatment standard, whichever is higher. EPA believes these standards are achievable. The data supporting these standards are based on the performance of non-combustion technologies, that include biological treatment, chemical extraction, dechlorination, soil washing, thermal desorption, soil vapor extraction, and stabilization (only for metals). EPA notes that organics in soil also can be treated via combustion to satisfy the soil-specific treatment standards if an owner/operator desires. See Soil Treatability Analysis Report (April 1998, USEPA) in this docket to today's rule. EPA believes these soil standards will remove the disincentives referred to in the comment. These numerical standards provide more flexibility to the regulated community than a specified method treatment standard. This is the case because any technology except impermissible dilution can be used to meet these numerical concentration values. The Agency believes that these soil-specific treatment standards will provide adequate flexibility and encourage cleanup of contaminated sites.

With respect to the issue of specified methods (e.g., recycling in asphalt, brick, and cement) as treatment standards rather than numerical concentration values, the Agency considers practices such as using hazardous wastes in asphalt, bricks, or cement that is placed on the ground to be use constituting disposal. Such activities are regulated by 40 CFR part 266.20, which states that recyclable materials are not subject to regulation only if they have undergone a chemical reaction in the course of producing products so as to become inseparable by physical means, and the products meet the LDRs for each hazardous constituent present in the final product. Given that the end disposition of the material is completely uncontrolled, the Agency believes that the treatment standards reflecting performance of the most aggressive treatment technologies are needed in order to assure that threats posed by land disposal of the wastes is minimized. Also, EPA does not see the same incentive to promote this end result as it does with other types of remediation remedies. For these reasons, the contaminated soils would remain subject to the UTS, not the soil-specific treatment standards, if the end disposition is to be a use constituting disposal. Therefore, EPA believes that it would be inappropriate to designate such practices as treatment standards, since to do so would remove the assurance provided by numerical treatment standards that treatment reflecting best demonstrated available technology has taken place.

The commenter cites that at one brick manufacturing facility the final product analysis met the ASTM brick and standards. This would show that legitimate recycling is occurring (see Marine Shale Processors v. United States EPA 81 F. 3d at 1384). However, since such ASTM specifications do not address permissible concentrations of hazardous constituents, satisfying such brick standards could not be reasonably invoked to show that threats to human health and the environment from land disposal are being minimized. If the commenter is correct and the final

product showed no detectable BTEX or PAH compounds or detectable cyanides then the final product meets the UTS and thus, also the use constituting disposal regulations.

Finally, the Agency's 1993 interpretative memorandum on MGP site remediations remains unaffected by today's rule. The memorandum excludes from RCRA jurisdiction the ash that results from burning MGP remediation wastes along with coal in utility boilers. These residuals are considered to be covered by the Bevill Amendment because they result primarily from the combustion of coal. As discussed in the memorandum, prior to burning MGP remediation waste, the waste must be rendered non-hazardous before it leaves the generation site. The waste may be decharacterized in 90-day tanks, containers, or containment buildings covered by 40 CFR Section 262.34(a). Waste may be treated in such units during the 90-day accumulation period without a permit, and if the waste thereafter no longer exhibits a hazardous characteristic, any further management of the waste would not be subject to Subtitle C regulations, with the possible exception of LDR standards.

MISCELLANEOUS COMMENTS ON THE FIRST SUPPLEMENTAL PHASE IV PROPOSAL, JANUARY 25, 1996

DCN PH4A058
COMMENTS National Mining Association
RESPONDER AC
SUBJECT MSTD
SUBJNUM 058
COMMENT

2. The UTS Must be Revised to Ensure that Treatment is not Required Beyond the Point at which Wastes Containing those Constituents Cease to Pose an Unreasonable Risk to Human Health and the Environment

In the proposed Phase II LDR rule, which resulted in the establishment of the UTS, EPA explained its position concerning the relationship between those standards and its efforts to redefine what constitutes a "hazardous waste" in the Hazardous Waste Identification Rule ("HWIR") then under development. 58 Fed. Reg. at 48,095. EPA reiterated its long-standing position that "its ultimate policy preference is to establish risk-based levels that represent minimize threat levels and so cap the extent of hazardous waste treatment." Id. (55 Fed. Reg. 6640, 6641 (Feb. 26, 1990)). See also 51 Fed. Reg. 1602, 161 1. (Jan. 14, 1986). EPA further noted that an issue under active consideration in the HWIR discussions was the use of risk-based hazardous constituent levels to "cap" BDAT in those instances where technology is capable of achieving treatment levels below what is necessary to protect human health and the environment. 58 Fed. Reg. at 48,095. On December 21, 1995, EPA issued its proposed HWIR rule. 60 Fed. Reg. 66,344. In that proposed rule, the Agency has developed risk-based concentration exit levels for numerous constituents, including many of the metals for which UTS previously have been established. In some cases, the risk-based exit level is greater than (i.e., less stringent than) the existing UTS standard. For example, the calculated HWIR risk-based concentration level for leachable lead in non-wastewaters is 12 parts per million (ppm), which is an order of magnitude greater than the UTS for lead in non-wastewaters of 0.37 ppm, and is even greater than the RCRA characteristic level for leachable lead of 5 ppm. In the final Phase IV rule, EPA must adjust the UTS standards to "cap" them by risk where

the risk-based levels have been determined to be less stringent than the UTS. A risk-based approach to the establishment of LDR treatment standards is necessary to ensure "that EPA [not] promulgate standards requiring treatment for treatment's sake." 51 Fed. Reg. at 161 1. Indeed', as the D.C. Circuit has noted, EPA is not: free ... to require generators to treat their waste beyond the point at which there is no "threat" to human health or the environment. That Congress's concern in adopting ° 3004(m) was with health and the environment would necessarily make it unreasonable for EPA to promulgate treatment standards wholly without regard to whether there might be a threat to man or nature. *Hazardous Waste Treatment Council v. EPA*, 886 F.2d 355, 362 (D.C. Cir. 1989). cert. denied, I I I S. Ct. 139 (1989) ("HWTC III"). In that case, the Court of Appeals remanded to EPA the so-called "LDR framework" rule, 51 Fed. Reg. 40,572 (Nov. 7, 198(i), in which the Agency decided to establish treatment standards for restricted hazardous wastes based on levels that are achievable using BDAT, rather than on risk-based levels that are necessary to protect human health and the environment. The Court held that EPA had failed to adequately explain its choice of BDAT-based treatment standards over risk-based treatment standards. HWTC III, 886 F.2d at 366. EPA has acknowledged that, in light of HWTC III, "[i]t is now established that section 3004(m) does not dictate that treatment standards be either technology-based or risk-based." 55 Fed. Reg. at 6641. The Agency to date has nevertheless declined to establish risk-based treatment standards due to concerns about the alleged inadequacy of existing tools for assessing the risks that may be posed by wastes. *Id.* at 6642. EPA has acknowledged, however, that the problems associated with existing tools are "not insurmountable," and has stated that it will continue to utilize a technology-based approach for establishing treatment standards "until it develops concentration thresholds for determining when wastes are hazardous." *Id.* The HWIR rulemaking represents the culmination of EPA's efforts to address perceived problems with existing risk-assessment tools. That rulemaking will result in the establishment of risk-based thresholds of hazardousness that EPA has long envisioned for use in defining what wastes are hazardous wastes for purposes of RCRA Subtitle C. Those risk-based levels should, at a minimum, be used to "cap" BDAT for purposes of the LDR program in those cases where BDAT can achieve a level of treatment that surpasses the risk-based

threshold.

RESPONSE

EPA finds, for purposes of this rule, that none of the treatment standards are established below levels at which threats to human health and the environment are minimized. See 55 FR at 22652 (June 1, 1990); 51 FR at 21648 (June 13, 1986); 55 FR 11798 (March 29, 1990). This finding stems from the Agency's inability at the present time to establish concentration levels for hazardous constituents which represent levels at which threats to human health and the environment are minimized. Unless the Agency determines nationally applicable risk-based concentration levels that achieve the "minimized threat" requirement for a particular wastestream, the Agency believes that BDAT treatment (as reflected by the UTS levels) fulfills the statutory charge. Technology-based standards have been upheld as a permissible means of implementing RCRA 3004(m) (see *Hazardous Waste Treatment Council v. EPA*, 886 F.2d 345 D.C. Cir. 1989, cert. denied 111S. Ct 139 (1990)). The approach of setting standards below the characteristic level was upheld in *Chemical Waste Management v. EPA* (976 F.2d 2).

The schedule for the HWIR rulemaking is being extended to allow the Agency time to address the substantive technical comments on the risk assessment by the Science Advisory Board and others. Due to the court-order schedule for the Phase IV rule, it was not possible to wait for the HWIR process to be complete before setting treatment standards on the Phase IV wastes.

DCN PH4A070

COMMENTS FMC Corporation

RESPONDER SS

SUBJECT MISC

SUBJNUM 070

COMMENT b. EPA Has Authority Under RCRA To Delay The Effective Dates Of

The Phase IV LDR And Phase IV Supplemental Rules. Subject to court-approved schedules for developing the LDR and HWIR rules (which can, of course, be changed with leave of court),³ EPA has ample authority to establish a common effective date for the Phase IV LDR and Phase IV Supplemental rules, and to delay that effective date until after promulgation of the final HWIR rule. First, the Phase IV LDR rule does not set-new treatment standards or prohibitions which are subject to the immediate effective date under RCRA 3004(h).⁴ RCRA 3004 (h) provides that prohibitions from land disposal shall become effective immediately upon promulgation, and RCRA 3004(m)(2) provides that treatment standards are to become effective "on the same date" as the corresponding prohibition. In the case of the wastes addressed in the Phase IV LDR proposal, EPA has already promulgated the prohibition in the Third Third LDR rule .⁵

Furthermore, EPA has already promulgated currently applicable treatment standards that apply to these wastes.⁶ EPA has stated clearly that treatment standards are currently in place for these wastes, and that the Phase IV LDR rules will merely amend these standards.⁷ Accordingly, it is not possible for the Phase IV regulation to become effective on the same date as the prohibitions to which they will correspond, because those prohibitions occurred in the past. The statute does not say that amendments to treatment standards must be effective immediately, and there is no reason that they should be.⁸ In fact, as noted above, EPA should ensure that the regulations do not become effective until after the HWIR rule is finalized.⁹ Furthermore, the Phase IV LDR rules, if Option 2 is chosen, would not be subject to the LDR timing requirements in 3004 at all, because they would not be LDR rules. RCRA 3004(h) and (m) refer to "prohibitions" and "treatment standards," respectively. The requirements that are contemplated in Option 2 of the Phase IV proposed rule are neither one. The proposed requirements, addressing air emissions, sludges, and leaks from CWA wastewater surface impoundments, would be neither prohibitions from land disposal under RCRA 3004(d) through (g), nor treatment standards pursuant to RCRA 3004(m). If there is any authority in RCRA for such requirements, it does not come from the LDR provisions.⁰ The technical surface impoundment requirements in Option 2 of the Phase IV proposal are clearly not "prohibitions," because, as noted above, the hazardous wastes involved are already prohibited from land disposal. The proposed Option 2 requirements cannot be treatment standards, because they are not "levels" or "methods" of treatment as set out in 3004(m) of RCRA. The Option 2 requirements would not be prohibitions or treatment standards, and thus are not subject to the LDR timing requirements in RCRA 3004.¹ The Phase IV Supplemental rule will be a new prohibition and treatment standard and, as such, is required to be effective within six months of mineral processing wastes being listed or identified.² Because the relevant six month period has already expired, the Agency clearly cannot comply with this requirement. As a result, the Agency should promulgate the rule at a time that makes sense from a policy perspective. In this case, that means that the Agency should issue the Phase IV Supplemental with an effective date after that of the HWIR rule. As noted above, EPA has sufficient authority and discretion to promulgate all three of the rules described above in an order that prevents waste and

confusion. However, it should be added that EPA also has authority to grant National Capacity Variances under RCRA _ 3004(h)(2) for the Phase IV LDR and Phase IV Supplemental rules so that the ultimate effective dates will fall after the effective date of the HWIR.

RESPONSE

EPA agrees with the commenter on the importance of close coordination on the decision-making and scheduling of the LDR rules and the Hazardous Waste Identification Rule (HWIR) for process wastes. Since the comment was submitted to EPA, two events have occurred which prevent the coordination problems the commenter foresaw. First, the sections of the Phase IV original proposal on August 22, 1995 pertaining to equivalent treatment for decharacterized wastewaters in surface impoundments (controls of leaks, sludges, and air emissions) were removed from this rule due to the Land Disposal Flexibility Act of 1996. That Act reinstated the exemption from the dilution prohibition for these wastes and required EPA to conduct a study to determine if regulation is necessary. Second, the timetable on the HWIR rule has been extended well beyond the required promulgation date of the Phase IV final rule, which removes concern about implementation problems. The new treatment standards in the Phase IV final rule will go into effect well before the complex work on the HWIR rule is complete. The HWIR provisions are being developed in conjunction with the Land Disposal Restrictions rules.

DCN PH4A08

COMMENTS Molten Metal Technology

RESPONDER SS

SUBJECT MISC

SUBJNUM 080

COMMENT We also believe there is a need for greater coordination of rulemaking activities to allow cross-fertilization of approaches to encourage waste minimization. For example in light of the Agency's attempts to promote recycling in this proposal and in the petroleum rule, as well as the evolving and growing emphasis on waste minimization in the Agency's recent policy statements, we were surprised that the recent Hazardous Waste Identification Rule (HWIR) proposal contains virtually no mention of recycling, let alone any direct incentives for waste ' minimization. We believe the Agency may be neglecting waste minimization issues in its ongoing rulemaking activities in anticipation of the forthcoming proposal on the Redefinition of Solid Waste. While that will no doubt be a seminal rulemaking, we do not believe that important waste minimization issues can be ignored in the meantime, or that rulemaking obviates the need for strong incentives for waste minimization in other rulemakings. In

comments on a variety of rulemakings over the past three years, MMT has consistently recommended that the Agency take a holistic, multimedia approach to environmental management. This can be best accomplished by close coordination and integration among those working on the various proposals, and working to consistently include incentives for waste minimization in all rulemaking activities.

RESPONSE

EPA agrees with the commenter on the importance of waste minimization, and includes incentives for it in rulemakings whenever possible.

DCN PH4A042
COMENTER Phosphorous Producers Environmental Council
RESPONDER AC
SUBJECT VAND
SUBJNUM 042
COMMENT

These comments are submitted to the United States Environmental Protection Agency by the Phosphorus Producers Environmental Council ("PPEC"). The PPEC consists of four companies: FMC Corporation, Monsanto Corporation, Rhone-Poulenc Basic Chemical Company, and Occidental Chemical Company. Collectively, these companies produce one hundred percent of the elemental phosphorus manufactured in the United States. The PPEC welcomes this opportunity to comment on the "Land Disposal Restrictions--Supplemental Proposal to Phase IV: Clarification of Bevill Exclusion for Mining Wastes, Changes to the Definition of Solid Waste for Mineral Processing Wastes, Treatment Standards for Characteristic Mineral Processing Wastes, and Associated Issues, January 25, 1996."

Per the agency's request, I am submitting an original and two copies, along with a diskette containing a Word Perfect 5.1+ version of the document. Please give me a call if you have any questions.

X. Based upon the plain language of the CFR and proposed LDR rules, the universal treatment standards for zinc and vanadium are inapplicable to waste that is characteristic for cadmium (D006). Generators of characteristic waste are directed by 40 CFR 268.9 to determine the "underlying hazardous constituents." "Underlying hazardous constituents" are defined under 268.2(I), as: a constituent listed in 268.48 (UTS), except 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. Subsection 268.40(e) provides that for characteristic wastes subject to (the 268.40) treatment standards, all underlying hazardous constituents (as defined in 268.2(I)) must meet the universal treatment standards ("UTS") (268.48) prior to land disposal. However, the exclusion of zinc and vanadium is again noted in footnote 5 to the UTS table, stating "vanadium and zinc are not "underlying hazardous constituents" in characteristic wastes, according to the definition at 268.2(I). Based on the plain language, the UTS for zinc and vanadium do not apply to characteristic waste which is otherwise subject to

the UTS. Language in the Phase IV, Part II proposal to amend 268.32(e) has been identified a possible source of ambiguity concerning this conclusion. It provides as follows: To determine whether . . . [mineral processing operations waste] exceeds the applicable treatment standards specified in 268.40, the initial generator must test a sample of the waste . . . If the waste contains constituents (including underlying hazardous constituents in characteristic wastes that have been diluted to remove the characteristic) in excess of the applicable Universal Treatment Standard levels of 268.48, the waste is prohibited from land disposal, and all requirements of this part are applicable . . . (emphasis supplied). It has been suggested that the use of the term "including" could indicate that constituents other than the "underlying hazardous constituents" must meet the UTS. However, as stated in the proposed regulation, the purpose of the provision is to prescribe how to determine whether waste exceeds applicable standards, not to define which standards apply. Thus, the intent of the phrase commencing with "including" is to require that even with respect to diluted waste (which consequently no longer exhibits a characteristic) underlying hazardous constituents must be measured and treated. Zinc and vanadium are not underlying hazardous constituents in characteristic waste.

RESPONSE

The Agency agrees with the commenter that vanadium and zinc are not UHCs in characteristic wastes. Currently, vanadium is regulated in two listed wastes -- P119 and P120, and zinc is regulated in K061 wastes. The Agency will clarify this in the Phase IV final rule.

DCN	PH4A070
COMMENTS	FMC Corporation
RESPONDER	AC
SUBJECT	VAND
SUBJNUM	070
COMMENT	a. EPA Needs To Delete Vanadium And Zinc From The UTS Table
	In 40 C.F.R. 268,48, There is some confusion in the regulated community on the status of Vanadium and Zinc regarding Underlying Hazardous Constituents (UHC's) and the Universal Treatment Standards; (UTS). The regulation ⁵⁷ clearly states that Vanadium and Zinc are not UHC's but in the UTS treatment table ⁵⁸

, both constituents clearly appear. This leads to some confusion with the generating industry, the treatment and disposal industries, as well as the regulating authorities. FMC's interpretation of the regulations is that these two substances are not UHC'S, and that the UTS levels listed for these substances, therefore, do not need to be achieved. EPA should confirm this interpretation in the final Phase IV LDR rulemaking. FMC believes that to correct this problem, the Agency should delete Vanadium and Zinc from the UTS table in the 40 C.F.R. 268.48.

RESPONSE

The Agency agrees with the commenter that vanadium and zinc are not UHCs in characteristic wastes. Currently, vanadium is regulated in two listed wastes -- P119 and P120, and zinc is regulated in K061 wastes. The Agency will clarify this in the Phase IV final rule.

DCN	PH4A084
COMMENTS	Chemical Manufacturers Association
RESPONDER	ACC
SUBJECT	VAND
SUBJNUM	084
COMMENT	EPA needs to delete Vanadium and Zinc from the UTS Table in 40

C.F.R. 268.48 There is some confusion in the regulated community on the status of vanadium and zinc regarding Underlying Hazardous Constituents (UHC's) and the Universal Treatment Standards (UTS). The regulations clearly state that vanadium and zinc are not UHC'S; however, both constituents clearly appear in the UTS treatment table. This leads to some confusion. CMA believes that to correct this problem, the Agency should delete vanadium and zinc from the UTS table in 40 C.F.R. 268.48.

RESPONSE

The Agency agrees with the commenter that vanadium and zinc are not UHCs in characteristic wastes. Currently, vanadium is regulated in two listed wastes -- P119 and P120, and zinc is regulated in K061 wastes. The Agency will clarify this in the Phase IV final rule.

DCN PH4A070
COMMENTS FMC Corporation
RESPONDER AC
SUBJECT ZINC
SUBJNUM 070

COMMENT a. EPA Needs To Delete Vanadium And Zinc From The UTS Table

In 40 C.F.R. 268.48, There is some confusion in the regulated community on the status of Vanadium and Zinc regarding Underlying Hazardous Constituents (UHC's) and the Universal Treatment Standards; (UTS). The regulation⁵⁷ clearly states that Vanadium and Zinc are not UHC's but in the UTS treatment table⁵⁸, both constituents clearly appear. This leads to some confusion with the generating industry, the treatment and disposal industries, as well as the regulating authorities. FMC's interpretation of the regulations is that these two substances are not UHC'S, and that the UTS levels listed for these substances, therefore, do not need to be achieved. EPA should confirm this interpretation in the final Phase IV LDR rulemaking. FMC believes that to correct this problem, the Agency should delete Vanadium and Zinc from the UTS table in the 40 C.F.R. 268.48.

RESPONSE

The Agency agrees with the commenter that vanadium and zinc are not UHCs in characteristic wastes. Currently, vanadium is regulated in two listed wastes -- P119 and P120, and zinc is regulated in K061 wastes. The Agency will clarify this in the Phase IV final rule.

DCN PH4A084
COMMENTS Chemical Manufacturers Association
RESPONDER ACC
SUBJECT ZINC
SUBJNUM 084
COMMENT EPA needs to delete Vanadium and Zinc from the UTS Table in 40 C.F.R. 268.48 There is some confusion in the regulated community on the status of vanadium and zinc regarding Underlying Hazardous Constituents (UHC's) and the Universal Treatment Standards (UTS). The regulations clearly state that vanadium and zinc are not UHC'S; however, both constituents clearly appear in the UTS treatment table. This leads to some confusion. CMA believes that to correct this problem, the Agency should delete vanadium and zinc from the UTS table in 40 C.F.R. 268.48.

RESPONSE

The Agency agrees with the commenter that vanadium and zinc are not UHCs in characteristic wastes. Currently, vanadium is regulated in two listed wastes -- P119 and P120, and zinc is regulated in K061 wastes. The Agency will clarify this in the Phase IV final rule.