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 Issues; Treatment Standards for Hazardous Soils; and Exclusion of Recycled Wood Preserving Wastewaters

Volume 4
First Notice of Data Availability
May 10, 1996

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

April 30, 1998

List of Phase IV Land Disposal Restriction Codes, Description, and Location by Page Number

LEAD1: Lead Treatment Standards 1

LEAD2: Lead Treatment Standards 19

MISC: Miscellaneous Issues 24

SLVR: Silver Treatment Standards 27

WOOD2: Wood Preserving Wastewater Exclusion 40

Index of Commenters and Location of Comment, By Issue

Battery Council Int'l
- LEAD1 . . . . . 10, 12
- MISC 8

Battery Council/ABR
- MISC 24

Chemical Waste Mgmt
- LEAD1 21

Dupont Engineering
- LEAD1 20
- SLVR 38

Eastman Kodak
- SLVR 27

EDF
- MISC 25
- SLVR 35
- WOOD2 40

Env. Technologies Intl
- MISC 24

Env. Technology Council
- LEAD1 . . . . . 13, 16, 18, 19
- LEAD2 19
- SLVR 36
- WOOD2 42

Environmental Technology Council
- LEAD2 23

J. H. Baxter Co.
- WOOD2 43

National Mining Association
- SLVR 30

RSR Corporation
- LEAD1 . . . . . 1, 3, 5, 7

Silver Council
- SLVR 32

DCN PH2A006
COMMENTER RSR Corporation
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 006
COMMENT RSR Corporation and its wholly owned subsidiaries (collectively RSR) are pleased to submit the following comments on the U.S. Environmental Protection Agency's (EPA) Land Disposal Restrictions Phase IV - Issues Associated With Clean Water Act Treatment Equivalency, and Treatment Standards for Wood Preserving Wastes and Toxicity Characteristic Metal Wastes; Notice of Data Availability (Notice) issued by EPA pursuant to the Resource Conservation and Recovery Act (RCRA). /1[FN1: 61 Fed Reg 21418 (May 10, 1996).]
RSR is the nation's largest independent secondary lead recycling company. Through its wholly owned subsidiaries,/2 [FN2: RSR owns and operates subsidiary facilities in California, Indiana, and New York] RSR annually reclaims approximately 26 million lead-acid batteries. Approximately one of every three batteries that are reclaimed in the United States is reclaimed at an RSR facility. RSR also is a member of the Battery Council International (BCI) and supports and incorporates by reference BCI's separately submitted comments on this Notice. The U.S. battery recycling industry has in recent years recycled over 95 percent of the lead available from lead-acid batteries. Over 70 percent of the lead produced in the United States is manufactured by the secondary lead industry and its reclamation of lead-acid batteries and other lead-bearing materials. Aspects of this recycling program and RSR's operations could be affected by the issues EPA requests comment on in this Notice. RSR thus has a substantial interest in this rulemaking. These comments address two issues in the Notice: (1) the data related to the treatment standards proposed in the Phase IV rule for Toxicity Characteristic (TC) metal wastes and, in particular, lead-bearing smelter wastes;/3 [FN3: 61 Fed. Reg. 21419] and (2) the status under the RCRA Land Disposal Restrictions (LDR) of slags generated from the reclamation of lead-acid batteries and other lead-bearing materials by secondary lead smelters. I. RSR Supports BCI's Comments Regarding The Data In The Docket On The Proposed Universal Treatment Standard For D008 Wastes From Secondary Lead Recycling RSR supports BCI's separately submitted comments on this Notice and on the Phase IV proposed rule that the data in the docket and referenced by EPA in the Notice clearly indicate that D008 nonwastewaters (e.g., slags, soils, sludges) generated from secondary lead recycling activities cannot be chemically stabilized to meet the proposed Universal Treatment Standards for D008 wastes./4 [FN 4: See letter from Jack Waggener and Charles West, President and Senior Consultant, Resource Consultants to Jean Beaudoin and Gerald Dubinski, BCI Chairmen of Environmental and Industrial Health Committees (Nov. 20, 1995).] Specifically, these data demonstrate that stabilization treatment of D008 nonwastewaters cannot achieve the proposed treatment standards of 0.37 milligrams per liter (mg/l) or 0.16 mg/l for lead

or selenium, respectively./5 [FN 5: In the Notice, EPA refers to these data as "limited." RSR believes such is not the case. The data contain 276 separate data points for lead in slag and 156 data points for selenium in barium. The data were obtained from seven secondary lead smelters, which represents approximately one third of the secondary lead industry. Moreover, these data were statistically analyzed according to EPA's methodology for establishing LDR treatment standards. (51 Fed. Reg. 40590; Nov. 7, 1986). The data were collected from facilities that have been chemically fixating D008 wastes for years. Clearly, these data are not "limited."] Instead, BCI's comments prove that the data show that based on the 99th confidence interval, stabilization treatment of lead and selenium at secondary lead smelters can achieve only concentration levels of 2.97 mg/l for lead and 2.48 mg/l for selenium.

RESPONSE

To compile further evidence regarding the treatability of TC metal wastes, including D008 wastes, to the UTS, EPA conducted site visits to commercial hazardous waste treatment facilities and collected additional stabilization and HTMR treatment performance data that better represent the diversity of metal wastes than those previously used. The treatment performance data (based on grab samples) represented a wide range of metal-bearing wastes (both listed and characteristic) that the Agency believes represents the most difficult to treat metal-bearing wastes. The types of waste treated included battery slag, mineral processing wastes, baghouse dust, soils, pot solids, recycling by-products, and sludge. These waste streams, which EPA believes would be representative of a characteristic waste with UHCs, contained significant concentrations of multiple metals including: lead and cadmium, barium and lead, and chromium and antimony. The Agency compared the treatment standards based on stabilization and those based on HTMR and selected the highest (less stringent) standard for each metal to establish the UTS. Using this approach the Agency has allowed for process variability, detection limit difficulties, and the fact that some metal wastes may not be suitable for HTMR. The Agency re-proposed a UTS of 5.7 mg/l TCLP for selenium (D010) and 0.75 mg/l TCLP for lead (D008) in the second supplemental proposed rule (62 FR 26045, May 12, 1997), and is finalizing these standards in today’s rulemaking.

The Agency also reviewed the data submitted by BCI/ABR, and found the data to be seriously lacking in form and quality assurance/quality control prerequisites. Specifically, the data submitted to the Agency were: (1) based on composite samples rather than grab samples, the latter being the only type used to develop BDAT treatment standards and the type of data on which both the final standard and compliance with that standard are based; (2) lacking in any quality assurance/quality control documentation; and (3) not accompanied with adequate indication that treatment process was in fact well-designed and operated. Therefore, the Agency was unable to use the data for developing the BDAT treatment standards nor was the Agency able to use the data to determine whether or not battery slag would meet the proposed treatment standards.

The Agency also would like to note that if a particular waste possesses unique properties

that make 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 PH2A006
COMMENTER RSR Corporation
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 006
COMMENT II. Slags Generated From The Reclamation Of Lead-Acid Batteries And Other "Appendix XI" Materials Should Require No Further Treatment Under The LDRs A. RSR Supports The Clarification That Slags Generated From The Reclamation Of Lead-Acid Batteries Require No Further Treatment Under The LDR Program In the Notice EPA clarifies an issue raised with respect to the applicability of the LDRs to slags that are generated from the recycling and reclamation of lead-acid batteries. RSR supports EPA's clarification and believes it is consistent with the relevant LDR regulations and EPA's historical statements on those regulations. The treatment standard for lead-acid batteries is a specified method of technology rather than a concentration-based treatment standard./6 [FN 6: 40 C.F.R. 268.40] Specifically, the specified method of treatment technology for lead-acid batteries is "RLEAD," which is defined as reclamation in a secondary lead smelter./7 [FN 7: 40 C.F.R. 268.40 and 268.42.] As EPA indicated in the "Third Third" rule: "(W)hen EPA specifies a treatment method as the treatment standard, residues resulting from the required treatment method are no longer prohibited from land disposal."/8 [FN 8: 55 Fed. Reg. 22538 (June 1, 1990) (emphasis added). EPA also addressed this issue in a similar fashion in the "Second Third" rule. 54 Fed. Reg. 26625, 26630 (June 23, 1989).] Consequently, once a battery has been smelted, the slags generated from its reclamation have met the LDR treatment requirements and require no further treatment. The proposed D008 treatment standards in the Phase IV rule thus are inapplicable to slags generated from the reclamation of lead-acid batteries. RSR understands that in recent conversations with BCI representatives, EPA has indicated that it may rescind its statement in the Notice that slags generated from the recycling of lead-acid batteries require no further treatment because, according to EPA, that statement is inconsistent with previous Agency statements on the issue. Specifically, in the final "Third Third" rule EPA responded as follows to a comment on the proposed Third Third rule regarding further treatment of slag or matter: "The residuals from the recovery process are a new treatability group (i.e., the residues are not lead acid batteries) and therefore their status as prohibited or non-prohibited is determined at the point the residues are generated."/9[FN 9: 55 Fed. Reg. 22568 (June 1, 1990).]
RSR does not believe that EPA must rescind its statement in the Notice that

slags from lead-acid battery reclamation are not prohibited from land disposal. Slags from the reclamation of lead-acid batteries are not a separate treatability group from lead-acid batteries. Both slags and batteries are nonwastewaters, as that term is defined in 40 C.F.R. 268.2(d). Although EPA in the past has created subcategories of treatability groups (e.g., high zinc K061), it has always done so by rulemaking. EPA has failed to codify by rulemaking a separate treatability subcategory for slag from the recycling of lead-acid batteries and cannot do so now by referring to six-year old preamble language. Moreover, EPA's statement in the NODA is consistent with language in the "Second Third" final rule on this issue./10 [FN 10: 54 Fed. Reg. 26594 (June 23, 1989).] In that rule, EPA promulgated a treatment technology of "Incineration or Carbon Adsorption as a Method of Treatment" for the wastewater forms of K039, P040, P041, P043, P044, P062, P085, P109, P111, U058, and U087./11 [FN 11 Id. at 26630.] [FN 12 Id.] In that rule, EPA responded to comments requesting clarification on the applicability of treatment standards to treatment residuals from these wastes. Commenters asked the Agency to amend the standard to state expressly that the standard does not apply to "derived-from" wastes. EPA agreed that the clarification was necessary. More importantly, EPA stated that "incinerator ashes and residues from the treatment of scrubber waters . . . are considered to meet BDAT for these wastes" and that "incinerator equipment (such as fire brick)" generated from the treatment of these wastes also required no further treatment./12 [FN 11 Id. at 26630.] [FN 12 Id.] Fire brick and incinerator ashes clearly are nonwastewaters, a different treatability group from the wastewaters for which EPA codified the specified method of treatment. Yet, EPA stated that no treatment of the residues is required. This reasoning should hold true for the slags at issue here. If EPA nonetheless decides to rescind the statement in the instant Notice, RSR believes it must do so by rulemaking.

RESPONSE

The Agency acknowledges that, in the NODA, EPA stated that “once the batteries are smelted, the LDR requirements have been satisfied, and therefore the slag resulting from this smelting need not be treated further. The standards proposed under Phase IV (i.e., compliance with UTS) would not apply to this slag, even if the slag exhibits a characteristic of hazardous waste (i.e., contains lead in amounts greater than 5.0 mg/l TCLP).” The Agency’s statement was based on the usual interpretation that “when EPA specifies a treatment method as the treatment standard, residues resulting from the required treatment method are no longer prohibited from land disposal unless EPA should otherwise specify.”

However, after the publication of the NODA, EPA realized that lead slag residues resulting from the smelting of lead acid batteries were previously and appropriately identified as a separate treatability group in the Third Third Final Rule (55 FR 22520, June 1, 1990). Therefore,

the status of the residues as prohibited or non-prohibited is determined at the point the residues are generated. Such residues would indeed require further treatment if they exceeded the TC for lead (5.0 mg/l) as generated. EPA clarified this issue with the representatives of the Battery Council International, both in person and in a letter dated July 31, 1996.

The Agency further believes that this is an appropriate determination. The usual assumption is that when a method of treatment is designated for the waste, use of that method will have minimized threats associated with land disposal of the waste. When the secondary smelting process generates a slag that still exhibits TC -- a level at which the Agency is convinced the waste is obviously hazardous (55 FR at 22651) -- threats posed by land disposal have clearly not been minimized. Further treatment which eliminates the characteristic and further reduces available lead is readily available. Consequently, the Agency's determination that further treatment of TC secondary lead slags is needed before the wastes can be land disposed is a reasonable one. See, e.g., 976 F. 2d at 27, 32 (remanding standards for metal wastes when further reductions in metal levels through treatment could be achieved).

Furthermore, EPA used new data from the treatment of lead slags and revised the lead UTS and proposed the revised standards in the Second Supplemental Proposal on May 12, 1997. The Agency observed high levels of lead in the lead slag, and therefore, believes that potential threats from treated lead wastes (using RLEAD) are clearly not minimized. Therefore, lead slags that exhibit a lead toxicity characteristic (i.e., have lead levels exceeding 5.0 mg/l TCLP) after RLEAD is employed, would have to be treated again for lead and any other underlying hazardous constituents present in the slag residual. See the BDAT background materials in the RCRA docket for today's rule for additional information on the treatment performance data used in determining the revised lead standard.

DCN PH2A006
COMMENTER RSR Corporation
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 006
COMMENT B. The LDR Status Of The Slags Should Not Be Affected By The Recycling Of Low Volumes Of Other Lead-Bearing Materials The Notice requests comment on whether the fact that secondary lead smelters also process lead-bearing materials other than lead-acid batteries should alter the above interpretation. EPA specifically requests comment on whether the LDR status of these slags should be affected by the processing of these other materials. In the Notice, EPA states that it believes the LDR status of the slags should not be affected by the recycling of closely related lead-bearing items. In addition, EPA requests comment on whether the materials listed in Appendix XI to 40 C.F.R. Part 266 can serve the purpose of defining those materials secondary smelters may accept without affecting the LDR status of their

resulting slags. For several reasons, RSR agrees with the Agency that the processing of lead-bearing materials generated by lead-associated industries/13 does not affect the LDR status of the slags generated by RSR's subsidiaries. [FN13: RSR's use of the term "lead-associated industries" is intended to be consistent with EPA's use of that term in 40 C.F.R. Part 266, Appendix XI, i.e., lead smelters, lead-acid battery manufacturers, and lead chemical manufacturers.] First, the lead-bearing materials that RSR's subsidiaries reclaim represent a very small fraction of materials that are reclaimed. Typically, lead-bearing materials other than lead-acid batteries represent less than five percent of the materials reclaimed by RSR's subsidiaries. It makes no sense to subject the slags to further LDR treatment where the other lead-bearing materials that smelters reclaim represent such a small portion of the total feed to the recycling process. Second, EPA recognized in the Boiler and Industrial Furnace (BIF) rulemakings that lead-bearing materials generated by lead-associated industries should be exempt from the BIF standards when processed by secondary lead smelters./14 [FN 14: 40 C.F.R. 266.100(c), 56 Fed. Reg. 42507 (Aug. 27, 1991).] The reasons supporting the BIF exemption are equally valid in this instance. For example, in the BIF rulemakings EPA recognized that these lead-bearing materials are being processed for lead recovery and are not being processed for sham recycling or conventional treatment./15 [FN 15: Id. and 54 Fed. Reg. 43732 (Oct. 26, 1989).] Third, the processing of these lead-bearing materials does not significantly affect the composition of the slag. The constituents in these lead-bearing materials typically are found in lead-acid batteries and the lead in the materials can be reclaimed. Fourth, the lead-bearing materials at issue typically are processed at the same time that lead-acid batteries are reclaimed. Slag generated from the recycling of batteries and other lead-bearing materials and slag generated from the recycling solely of batteries are indistinguishable. Consequently, as a practical matter subjecting the slags to further treatment simply because the smelter processed other lead-bearing materials would mean that virtually all slags would require further treatment. Finally, if EPA requires further treatment of these slags, secondary lead recycling facilities may cease to reclaim other lead-bearing materials. These materials thus would be disposed of thereby violating EPA's waste management hierarchy.

RESPONSE

As noted in the previous response, after the publication of the NODA, EPA realized that lead slag residues resulting from the smelting of lead acid batteries were previously and appropriately identified as a separate treatability group in the Third Third Final Rule (55 FR 22520, June 1, 1990). Therefore, the status of the residues as prohibited or non-prohibited is determined at the point the residues are generated. Such residues would indeed require further

treatment if they exceeded the TC for lead (5.0 mg/l) as generated. EPA clarified this issue with the representatives of the Battery Council International, both in person and in a letter dated July 31, 1996. Therefore, EPA notes that the issue of processing low volumes of lead-bearing materials other than lead-acid batteries in secondary lead smelters becomes irrelevant. Any residue resulting from the lead smelter that exhibits a lead toxicity characteristic (i.e., have lead levels exceeding 5.0 mg/l TCLP), has to be treated again for lead and any other underlying hazardous constituents present in the slag residual.

DCN PH2A006
COMMENTER RSR Corporation
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 006
COMMENT C. RSR Supports The Agency's Use Of Appendix XI EPA requests comment on whether the materials listed in Appendix XI to 40 C.F.R. Part 266 can serve the purpose of defining those materials secondary smelters may accept without affecting the LDR status of their resulting slags. RSR supports this use of Appendix XI. The materials on the list are those that are typically processed by secondary lead smelters. RSR wishes to note, however, that certain of the materials on the list, as well as others that are not on Appendix XI are processed by smelters but are exempt from the definition of solid waste. For example, certain characteristic by-products that are not on Appendix XI are reclaimed by RSR's subsidiaries. These materials are exempt from the definition of solid waste./16 [FN 16: 40 C.F.R. 261.2(c).] RSR wishes EPA to clarify that the use of Appendix XI for the proposed purpose does not imply that secondary lead smelters cannot reclaim these and other RCRA exempt materials without affecting the LDR status of the slag.

RESPONSE

As noted in the previous responses, after the publication of the NODA, EPA realized that lead slag residues resulting from the smelting of lead acid batteries were previously and appropriately identified as a separate treatability group in the Third Third Final Rule (55 FR 22520, June 1, 1990). Therefore, the status of the residues as prohibited or non-prohibited is determined at the point the residues are generated. Such residues would indeed require further treatment if they exceeded the TC for lead (5.0 mg/l) as generated. EPA clarified this issue with the representatives of the Battery Council International, both in person and in a letter dated July 31, 1996. Therefore, EPA notes that, the issue of different types of lead-bearing materials (such as those listed in Appendix XI) other than lead-acid batteries processed in secondary lead smelters becomes irrelevant. Any residue resulting from the lead smelter (irrespective of the type of materials processed) that exhibit a lead toxicity characteristic (i.e., have lead levels exceeding 5.0

mg/l TCLP), has to be treated again for lead and any other underlying hazardous constituents present in the slag residual.

DCN PH2A008
COMMENTER Battery Council Int'l
RESPONDER MC
SUBJECT MISC
SUBJNUM 008
COMMENT The Battery Council International (BCI) and Association of Battery Recyclers (ABR) are pleased to submit these comments in response to the U.S. Environmental Protection Agency's (EPA) Notice of Data Availability (NODA) on the Resource Conservation and Recovery Act (RCRA) Land Disposal Restrictions (LDR) Phase IV proposed rule.1/ [FN 1/ 61 Fed. Reg. 21418 (May 10, 1996).]
BACKGROUND BCI is a non-profit trade association representing commercial entities involved in the manufacture, distribution, sale, and reclamation of lead-acid batteries. BCI's members and associate members include manufacturers and distributors of lead-acid storage batteries for automotive, marine, industrial, stationary, specialty, consumer and commercial uses, and secondary smelters that reclaim or recycle the batteries once they are spent. BCI's membership represents more than 99 percent of the nation's domestic lead-acid battery manufacturing capacity and more than 84 percent of the nation's lead battery recycling or secondary smelting capacity.
ABR is a non-profit national trade association whose members include companies in the lead recycling and manufacturing industries and the lead-chemicals industry. Members of the ABR collectively represent a significant percentage of the lead recycling capacity currently available in the United States. BCI's and ABR's members play an integral role in the recycling of lead-acid batteries. In recent years, over 95 percent of the lead available from lead-acid batteries has been recycled. Aspects of the recycling program would be directly impacted by this proposal.
COMMENTS I. DATA CLEARLY SHOWS THAT THE PROPOSED UNIVERSAL TREATMENT STANDARDS FOR D008 WASTES CANNOT BE MET
Data referenced by EPA in the NODA clearly indicate that D008 nonwastewaters (e.g., slags, soils, sludges) generated from secondary lead smelting activities cannot be chemically stabilized to meet the proposed Universal Treatment Standards of .37 mg/l for lead and .16 mg/l for selenium.2/ [FN 2/ See letters from Jack Waggener and Charles West, President and Senior Consultant, Resource Consultants, to Jean Beaudoin and Gerald Dubinski, BCI Chairmen of Environmental and Industry Relations Committees, and Robert N. Steinwurtzel and Susan J. Panzik, counsel to the Association of Battery Recyclers (Nov. 20, 1995).] The significance of this conclusion was fully described in our previous comments, submitted in November 1995 on the proposed RCRA LDR Phase IV rulemaking. See Tab 1. EPA is incorrect to

characterize this data, in the NODA, as "limited." As noted in our November comments, the data contain 276 separate data points for lead in slag and 156 data points for selenium and barium. These were obtained from seven secondary lead smelters (which represent approximately one third of the secondary lead industry) that have been chemically fixating D008 wastes for years. Moreover, these data were tested with validating EPA-approved quality assurance and control (QA/QC) procedures, and were statistically analyzed according to EPA's methodology for establishing LDR treatment standards. 3/ [FN: 3/ 51 Fed. Reg. 40590 (Nov. 7, 1986).] If the Agency continues to harbor any doubts about the representativeness of this data, we would be pleased to meet with the Agency staff to resolve its questions.4/ [FN 4/ On April 30, 1996, we met with EPA staff to discuss our comments on the proposed LDR Phase IV rule, but the Agency failed to raise any issue concerning the quality or quantity of our data. Moreover, in December, 1995, Resource Consultants Inc. and BCI representatives initiated a meeting with Anita Cummings of EPA to discuss the derivation of EPA's proposed LDR treatment levels and our data. At the time the meeting was held, Ms. Cummings did not raise any concerns over the value or extent of our data.]

RESPONSE

To compile further evidence regarding the treatability of TC metal wastes, including D008 wastes, to the UTS, EPA conducted site visits to commercial hazardous waste treatment facilities and collected additional stabilization and HTMR treatment performance data that better represent the diversity of metal wastes than those previously used. The treatment performance data (based on grab samples) represented a wide range of metal-bearing wastes (both listed and characteristic) that the Agency believes represents the most difficult to treat metal-bearing wastes. The types of waste treated included battery slag, mineral processing wastes, baghouse dust, soils, pot solids, recycling by-products, and sludge. These waste streams, which EPA believes would be representative of a characteristic waste with UHCs, contained significant concentrations of multiple metals including: lead and cadmium, barium and lead, and chromium and antimony. The Agency compared the treatment standards based on stabilization and those based on HTMR and selected the highest (less stringent) standard for each metal to establish the UTS. Using this approach the Agency has allowed for process variability, detection limit difficulties, and the fact that some metal wastes may not be suitable for HTMR. The Agency re-proposed a UTS of 5.7 mg/l TCLP for selenium (D010) and 0.75 mg/l TCLP for lead (D008) in the second supplemental proposed rule (62 FR 26045, May 12, 1997), and is finalizing these standards in today’s rulemaking.

The Agency also reviewed the data submitted by BCI/ABR, and found the data to be seriously lacking in form and quality assurance/quality control prerequisites. Specifically, the data submitted to the Agency were: (1) based on composite samples rather than grab samples, the latter being the only type used to develop BDAT treatment standards; (2) lacking in any quality assurance/quality control documentation; and (3) not accompanied with adequate indication that

treatment process was in fact well designed and operated. A letter was sent by Mr. Michael Petruska, USEPA to Mr. David B. Weinberg, Esq. Battery Council International on July 22, 1996 requesting additional information on BCI's data submittal. (See "Request for Additional Data in support of Previous Submitted Data in Response to Land Disposal Restrictions Phase IV"). No additional information was forthcoming, therefore, the Agency was unable to use the data for developing the BDAT treatment standards.

The Agency also would like to note that if a particular waste possesses unique properties that make 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 PH2A008
COMMENTER Battery Council Int'l
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 008
COMMENT II. SLAG FROM THE SMELTING OF BATTERIES AND OTHER "APPENDIX XI" MATERIALS SHOULD NOT BE SUBJECT TO LDR TREATMENT STANDARDS A. Slag Does Not Require Further Treatment BCI and ABR fully concur with the Agency's recognition, in the NODA, that slags resulting from the smelting of lead-acid batteries do not need to be treated further to meet the LDR requirements (even if they exhibit a characteristic of hazardous waste), because the material is generated from a Best Demonstrated Available Technology (BDAT) process (i. e., RLEAD -- thermal recovery of lead in secondary smelters). This regulatory interpretation is completely consistent with applicable LDR regulations and EPA's and our past interpretations of those regulations. 5/ [FN 5/ 55 Fed. Reg. 22538 (June 1, 1990); 54 Fed. Reg. 26625, 26630 (June 23, 1989); See Tab 2. In a recent, informal conversation, one EPA staff member has suggested that the Agency may rescind this position because it is inconsistent with a previous statement published in the preamble to the LDR Third Third rule (55 Fed. Reg. 22568 (June 1, 1990)). Such an interpretation is both incorrect and only lawfully could be advanced after giving all concerned parties an opportunity to provide formal comments. See National Coalition Against the Misuse of Pesticides v. Thomas, 809 F. 2d 875 (D.C. Cir. 1987) (the District of Columbia Court of Appeals refused to uphold an EPA rule where "the record [was] virtually barren of reasons") and Motor Vehicles Manufacturers Ass'n v. State Farm Mutual Automobile Insurance Co., 463 U.S. 29, 57 (1983) (the United States Supreme Court refused to uphold a Department of Transportation rescission of a prior agency rule where it found

that the "agency [had] failed to supply the requisite 'reasoned analysis.'")]
For instance, EPA explicitly stated in the RCRA LDR "Third Third Rule" that "when EPA specifies a treatment method as the treatment standard, residues resulting from the required treatment method are no longer prohibited from land disposal."6/ [FN 6/ 55 Fed. Reg. 22538 (June 1, 1990). EPA also addressed this issue in a similar fashion in the "Second Third" rule. 54 Fed. Reg. 26625, 26630 (June 23, 1989).] Consequently, once a battery has been smelted, the slags generated from its reclamation have met the LDR treatment requirements and require no further treatment. The proposed D008 treatment standards in the LDR Phase IV thus are inapplicable to slags generated from the reclamation of lead-acid batteries Moreover, as previously stated in our comments submitted to the Agency on the proposed RCRA LDR Phase IV rule, the D008 nonwastewater materials handled by the battery industry are stabilized and disposed appropriately according to EPA regulations. Thus, any risk of placing this material on the land is minimized which of course serves the purposes of LDR treatment standards. 7/ [FN 7/ 60 Fed. Reg. 43654 (August 22, 1995).]

RESPONSE

The Agency acknowledges that, in the NODA, EPA stated that “once the batteries are smelted, the LDR requirements have been satisfied, and therefore the slag resulting from this smelting need not be treated further. The standards proposed under Phase IV (i.e., compliance with UTS) would not apply to this slag, even if the slag exhibits a characteristic of hazardous waste (i.e., contains lead in amounts greater than 5.0 mg/l TCLP).” The Agency’s statement was based on the usual interpretation that “when EPA specifies a treatment method as the treatment standard, residues resulting from the required treatment method are no longer prohibited from land disposal unless EPA should otherwise specify.”

However, after the publication of the NODA, EPA realized that lead slag residues resulting from the smelting of lead acid batteries were previously and appropriately identified as a separate treatability group in the Third Third Final Rule (55 FR 22520, June 1, 1990). The Third Third Rule states that “Other commenters questioned whether the slag or matte from recovery processes would need further treatment and whether these wastes should be placed in monofills. The residuals from the recovery process are a new treatability group (i.e., the residues are not lead acid batteries) and therefore their status as prohibited or non-prohibited is determined at the point the residues are generated.” Such residues would indeed require further treatment if they exceeded the TC for lead (5.0 mg/l) as generated. EPA clarified this issue with the representatives of the Battery Council International, both in person and in a letter dated July 31, 1996.

Furthermore, EPA used new data from the treatment of lead slags and revised the lead UTS and proposed the revised standards in the Second Supplemental Proposal on May 12, 1997. Interested parties had notice and opportunity to comment on this issue after the proposal of the

second supplemental rule.

The Agency observed high levels of lead in the lead slag, and therefore, believes that potential threats from RLEAD residues which exhibit the TC are clearly not minimized --the TC level simply does not minimize threats. 55 FR at 22651; 886 F. 2d at 362-65. Therefore, lead slags that exhibit a lead toxicity characteristic (i.e., have lead levels exceeding 5.0 mg/l TCLP) after RLEAD is employed, would have to be treated such that lead and any other underlying hazardous constituents present in the slag residual met the promulgated UTS levels. See the BDAT background materials in the RCRA docket for today's rule for additional information on the treatment performance data used in determining the revised lead standard.

DCN PH2A008
COMMENTER Battery Council Int'l
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 008
COMMENT B. Appendix XI Materials Do Not Affect the LDR Status of Generated Slags from Secondary Smelters The Agency is correct that the processing in secondary smelters of lead-bearing materials generated or originally produced by "lead-associated industries" does not affect the LDR status of the slags the smelters generate.8/ [FN 8/ As defined in 40 C.F.R. Part 266, Appendix XI, "lead-associated industries" are composed of lead smelters (both primary and secondary), lead-acid battery manufacturers, and lead chemical manufacturers.] These materials, listed in 40 C.F.R. Part 266 Appendix XI ("Appendix XI materials"), are indigenous or "normal feed materials to secondary lead furnaces," and are "burned for recovery of lead," as recognized by the Agency in the Boiler and Industrial Furnace (BIF) rules.9/ [FN 9/ 40 C.F.R. 266.100 (c); 56 Fed. Reg. 42507 (Aug. 27, l99l); 54 Fed. Reg. 43732 (Oct. 26, 1989).] Smelters have been routinely accepting and processing these materials along with used lead-acid batteries for legitimate reclamation of lead, without affecting the composition of the slag generated from the same recovery process. Indeed, all of the slag data referenced by EPA comes from smelters that were processing various "Appendix XI" materials. Thus, the processing of materials does not warrant subjecting slag to further treatment. 10/ [FN 10/ We note, however, and as recognized by the Agency, that there are certain lead-bearing materials not on the Appendix XI list that also readily could be or are processed by smelters. These materials either are not solid wastes when recycled or are exempt from RCRA regulation when recycled. For example, certain characteristics by-products that are not listed on Appendix XI can be reclaimed by secondary smelters. In any event, however, they have no significant impact on slag characteristics. In the final LDR rulemaking, we request that EPA clarify its reference of Appendix XI, confirming that

secondary lead smelters can reclaim Appendix XI and other RCRA exempt materials without affecting the LDR status of the slag.]

Moreover, all lead-bearing materials other than lead-acid batteries represent a very small fraction of materials reclaimed by the secondary smelters -- far less than ten percent. Thus, subjecting the slags to further LDR treatment for materials that are such a small portion of the total feed to the smelting process would be unjustified. Accordingly, for the reasons noted above, BCI supports the Agency's recommendation to use the Appendix XI list as defining those materials secondary smelters may accept without affecting the LDR status of their resulting slags.11/ [FN 11/ 61 Fed. Reg. 21419. We reserve the right, however, to provide further comments suggesting expansion of the Appendix XI list in other contexts, such as the proposed HWIR contaminated-media rule.]

RESPONSE

As noted in the previous responses, after the publication of the NODA, EPA realized that lead slag residues resulting from the smelting of lead acid batteries were previously and appropriately identified as a separate treatability group in the Third Third Final Rule (55 FR 22520, June 1, 1990). Therefore, the status of the residues as prohibited or non-prohibited is determined at the point the residues are generated. Such residues would indeed require further treatment if they exceeded the TC for lead (5.0 mg/l) as generated. EPA clarified this issue with the representatives of the Battery Council International, both in person and in a letter dated July 31, 1996. Therefore, EPA notes that, the issue of different types of lead-bearing materials (such as those listed in Appendix XI) other than lead-acid batteries processed in secondary lead smelters becomes irrelevant. Any residue resulting from the lead smelter (irrespective of the type of materials processed) that exhibit a lead toxicity characteristic (i.e., have lead levels exceeding 5.0 mg/l TCLP), has to be treated again for lead and any other underlying hazardous constituents present in the slag residual.

DCN PH2A014
COMMENTER Env. Technology Council
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 014
COMMENT The Environmental Technology Council (ETC or Council) comments on EPA's Notice of Data Availability for the LDR Phase IV Proposed Rule in the above-referenced docket. 61 Fed. Reg. 21418 (May 10, 1996). I. Description of the Environmental Technology Council The ETC is a national trade association of firms engaged on a commercial basis in the recycling, treatment, and disposal of hazardous and industrial wastes. The Council's member companies

provide high-technology methods for the safe and effective treatment, reclamation and disposal of waste materials; remedial response at uncontrolled waste sites and waste treatment equipment. The Council has been actively involved in every major LDR rulemaking since the inception of this regulatory program. Council members provide incineration and stabilization services that will be directly affected by the LDR Phase IV proposal and the issues raised in the recent NODA.

II. Treatment Standards For Toxicity Characteristic (TC) Metal Wastes A. Lead-Bearing Smelter Wastes 1. EPA "Clarification" of the LDR Standard The Council has reviewed the comments submitted by trade groups for battery recyclers regarding the treatment standards for lead slags and sludges from recycling of lead-acid batteries. In response to EPA's NODA, the Council herewith submits treatability data from member-firms clearly demonstrating that lead battery slags and sludges can be treated by stabilization to the Universal Treatment Standards for lead and underlying metal hazardous constituents. The limited treatment data submitted by the battery recyclers does not reflect optimal stabilization of lead slags and sludges, including proper sizing and preparation of the material and effective use of stabilization additives and reagents. The Council's treatment data are presented and discussed further below.

First, however, the Council must strongly object to EPA's mistaken attempt to "clarify" the applicability of the LDR standards to slags and sludges from smelting of lead acid batteries. 61 FR 21419, col. 3. The LDR standard for lead acid batteries is RLEAD (recovery of lead). 40 CFR 268.42. However, if the slag or sludge produced from battery smelting is itself a characteristic hazardous waste for lead (D008) or any other metal constituent, then the slag or sludge is a new hazardous waste which should be subject to the Universal Treatment Standards for the TC metal constituent(s) and any underlying hazardous constituents in the waste. This general analysis applies in particular to lead battery slag and sludge, as discussed by EPA itself in the Third-Third LDR Final Rule. 55 Fed. Reg. 22520 (June 1, 1990). In that rulemaking, EPA stated: Other commenters questioned whether the slag or matte from recovery processes would need further treatment and whether these wastes should be placed in monofills. The residuals from the recovery process are a new treatability group (i.e. the residues are not lead acid batteries) and therefore their status as prohibited or non-prohibited is determined at the point the residues are generated. Such residues would thus only be prohibited and therefore require further treatment if they exhibit a characteristic. 55 Fed. Reg. at 22568, col. 1. Indeed, the Part 268 regulations require this result. Section 268.9© on "Special rules regarding wastes that exhibit a characteristic" specifically states: In addition to any applicable standards determined from the initial point of generation [i.e., RLEAD for lead acid

batteries], no prohibited waste which exhibits a characteristic under 40 CFR part 261, subpart C [i.e., slag and sludges from smelting of the batteries] may be land disposed unless the waste complies with the treatment standards under subpart D of this part. Thus, if the waste from lead smelting of batteries exhibits a characteristic, the waste must meet the treatment standards under subpart D for the characteristic. No other provision of the regulations changes or overrides 268.9© with respect to characteristic residues from treatment of hazardous wastes.

Indeed, the ETC believes that this approach strongly encourages recovery of lead and discourages "sham" operations. The RLEAD standard was meant to recognize that most lead-acid batteries are subject to lead recovery, and that EPA wanted to encourage this method of recycling. See 55 Fed. Reg. at 22568, col. 1. However, if lead batteries can be processed through a smelter and significant lead values are not recovered, but instead are transferred to the slag and sludge residues at concentrations that exceed the toxicity characteristic, then lead recovery is not really occurring. In order to discourage this "sham" recovery, EPA must ensure that the resulting slag does not contain lead (or other toxic metal constituents) above TC levels, or if it does, that the slag is subject to proper treatment requirements for such TC metal wastes prior to land disposal. Contrary to its own regulations, however, EPA purports to make the following "clarification" in this Notice of Data Availability (61 FR 21419, col. 3): The LDR standard for lead acid batteries in specified as RLEAD, or recovery of lead. (See 40 CFR Section 268.42). Once the batteries are smelted, the LDR requirements have been satisfied, and therefore the slag resulting from this smelting need not be treated further. (However, if the slag exhibits a characteristic of hazardous waste, it must of course be managed under all other applicable, i.e., non-LDR hazardous waste requirements.) [Emphasis added.] This supposed "clarification" is seriously mistaken. If EPA meant to restate the current regulatory requirement, the underscored "clarification" is flatly contrary to law. Once lead acid batteries are smelted, the LDR requirements applicable to the batteries only have been satisfied, but if the resulting slag or sludge from this smelting exhibits a hazardous characteristic, it is a new hazardous waste that must be treated further to meet the LDR requirements applicable to TC metal wastes. On the other hand, if EPA means to change the current regulations, it is unlawful to do so in this Notice of Data Availability, and not in a final rule after adequate notice and opportunity for comment. Because EPA's "clarification" may be construed as final agency action under the Administrative Procedure Act, and the statutory time period for judicial review in RCRA 7003(a) is limited to ninety days, the Council will have no recourse but to file a lawsuit seeking court review of EPA's unlawful action, unless EPA expressly withdraws the clarification prior to expiration of the 90-day period (i.e., August 8, 1996).

RESPONSE

The Agency agrees with the commenter that residues resulting from treated lead slag (using RLEAD), if they exhibit a lead toxicity characteristic (i.e., have lead levels exceeding 5.0 mg/l TCLP), would have to be treated for lead and any other underlying hazardous constituents present in the slag residual to comply with the UTS levels. EPA also agrees with the commenter's analysis of why this is the case under existing rules. EPA adds only the evident point that if the smelting process generates a slag which exhibits the TC for lead (or for that matter, any constituent), threats posed by land disposal have not yet been minimized.

After the publication of the May 10, 1997 NODA,EPA realized that lead slag residues resulting from the smelting of lead acid batteries were previously and appropriately identified as a separate treatability group in the Third Third Final Rule (55 FR 22520, June 1, 1990). Therefore, the status of the residues as prohibited or non-prohibited is determined at the point the residues are generated. Such residues would indeed require further treatment if they exceeded the TC for lead (5.0 mg/l) as generated.

Furthermore, EPA used new data from the treatment of lead slags to revise the lead UTS and proposed the revised standards in the Second Supplemental Proposal on May 12, 1997. The Agency observed high levels of lead in the lead slag, and therefore, believes that potential threats from treated lead waste (using RLEAD) are clearly not minimized. Therefore, lead slag residues that exhibit a lead toxicity characteristic (i.e., have lead levels exceeding 5.0 mg/l TCLP) after RLEAD is employed, have to be treated for lead and any other underlying hazardous constituents present in the slag residual. See the BDAT background materials in the RCRA docket for today's rule for additional information on the treatment performance data used in determining the revised lead standard.

While the data submitted with the comment, supports ETC's claim that the treatment standard can be met for lead from battery slag and foundry sands, the data is based on composite sampling and has not been utilized by the Agency to corroborate the standard. However, the Agency did review the data and does agree that there does not seem to be difficulty in achieving the standard based on composite sampling and only treating to remove the characteristic. See "Overview of Five Data Sets Submitted in Response to Phase IV Proposed Rule: Re: Treatment of Metals" as well as ETC's original comment No. PH2A-00014. The Agency did receive from ETC in response to the Second Supplementally information on statistically derived treatment standards from their data, which indicated that for lead a treatment standard of 1.20 was calculated, however there was one possible outlier in the data and if that data point was removed, the standard would actually be less the 0.75 mg/L TCLP for lead being promulgated today.

DCN	PH2A014
COMMENTER	Env. Technology Council
RESPONDER	MC

SUBJECT LEAD1
SUBJNUM 014
COMMENT 2. Treatment Data for Stabilization of Lead Slag and Sludge from Smelting of Lead Acid Batteries a. Description of Treatment Facilities and Processes
A number of ETC member companies operate commercial facilities for the stabilization of lead slag and sludge from smelting of lead batteries. These facilities receive RCRA and non-hazardous wastes which are direct disposed or treated, using stabilization technologies, to meet applicable treatment standards prior to disposal. Wastes received for stabilization include: Lead slags generated from the recycling of lead acid batteries, characteristically hazardous for lead (D008) and sometimes other metals; Foundry sands, characteristically hazardous for lead (D008); Soils from remedial projects contaminated with heavy metals such as lead (D008); Electric arc furnace dust, KO61; and Other listed wastes such as F006 and F007 - F012. Listed wastes are stabilized to meet the applicable treatment standards for each constituent for which the waste was listed. Characteristic wastes are treated until the waste no longer exhibits the characteristic. Slags require a size reduction step prior to stabilization. In the preamble to the Third-Third Rule, 55 Fed. Reg. at 22556, the Agency discusses the 9.5 mm size requirement and indicates that slags would probably have to be crushed or otherwise reduced in size prior to stabilization in order to comply with the D004 through DO11 treatment standards. To accomplish this size reduction, ETC member companies have installed sophisticated crushing and screening operations to provide the necessary pre- stabilization processing required to receive slags from battery recycling. Slags are crushed to less than 3/8 inches in size and then stabilized to remove the applicable characteristics.
At one ETC member-firm, for example, stabilization of lead battery slag typically proceeds along the following sequence of steps: 1) The generator provides a sample of the waste, along with available analytical information. 2) The ETC member-firm conducts bench scale stabilization treatability studies to determine the required amount of stabilization additives necessary to meet the treatment standards applicable to the waste. 3) The first shipments of waste from the generator is stabilized, then tested to assure that the waste has been treated to meet the applicable standards. 4) If the shipment meets the standards based on the design stabilization formulation from the bench scale study, subsequent shipments are received for stabilization. 5) Some of these subsequent shipments are analyzed, after treatment, as an ongoing spot-check of the stabilization process for that waste. 6) The testing of the first shipment and of subsequent shipments is stipulated in the Waste Analysis Plan portion of the facility's RCRA Part B permit. All testing of stabilized slag is done in accordance with SW 846 QA/QC protocols. Thus, the data presented in these comments was developed in strict compliance with LDR and RCRA permit requirements following all required QA/QC

procedures.

RESPONSE

The Agency thanks the commenter for providing additional information on the stabilization process supporting the lead UTS proposed in the second supplemental rule and being finalized in today's rulemaking by the Agency. However, the data is not based on grab sampling and while compelling was not used to corroborate today's standard. See "Overview of Five Data Sets Submitted in Response to Phase IV Proposed Rule: Re: Treatment of Metals."

DCN	PH2A014
COMMENTER	Env. Technology Council
RESPONDER	MC
SUBJECT	LEAD1
SUBJNUM	014

COMMENT b. Stabilization Data - Slag Tables 1 and 2 below show data from the stabilization of slag generated from battery recycling operations at one ETC member company in 1995 and 1996. The slag was crushed to less than 3/8 inch size and stabilized in lots of approximately 20 tons. Following stabilization, a 500 - 1000 gram sample of the stabilized slag was removed. A TCLP leachate test was run on the stabilized slag and the TCLP extract was analyzed for metals. Table 1 shows results for lead. Out of 36 samples of stabilized slag, 29 (80.6%) achieved a TCLP result below the UTS for lead of 0.37 mg/l.

TABLE 1 CONSTITUENT CONCENTRATION IN TCLP, mg/l IN STABILIZED BATTERY RECYCLING SLAG [SEE HARD COPY OF COMMENT P42A-00014 FOR TABLE] In all cases the treatment objective was to reduce leachability to below characteristic levels, since UTS levels were not applicable at the time. Nevertheless, as indicated in Table 2, not only did the stabilization meet the characteristic levels, it also met the UTS levels for all Arsenic, Barium, and Nickel values. Eight of the nine (88.9% of the Cadmium values and 6 of the 7 (85.7%) Selenium values also met the UTS. TABLE 2 CONSTITUENT CONCENTRATIONS IN TCLP, mg/l STABILIZED BATTERY RECYCLING SLAG [SEE HARD COPY OF COMMENT P42A-00014 FOR THIS TABLE] Given that the objective of the treatment formulation was to reach the characteristic level that is over 5 times higher than UTS for Cadmium and over 10 times higher than UTS for Lead, the fact that UTS levels were achieved in over 80% of these formulations is strong evidence that stabilization is indeed effective in meeting UTS for slag. Formulations designed with the objective of meeting UTS would not involve inordinate expense or difficulty to bring the remaining 10 to 20% of

the stabilized slag values under UTS. Based on these treatability data, ETC believes there can be no doubt regarding the ability of stabilization to meet the UTS for this slag. In addition, another ETC member company compiled extensive treatability data on stabilization of slag from smelting of lead batteries (and on foundry sand), which are attached to these comments. The attached tables show that stabilization of battery slag at this facility during March, 1995, through May, 1996, achieved the UTS levels for Lead and underlying metal constituents 100% of the time. See "Summary of TCLP Results of Waste Treated in Full-Scale Treatment Operations" attached hereto. Again, this data was taken entirely from LDR compliance testing that satisfied all QA/QC requirements. The quality control data are included in the attached tables. The economics of stabilization treatment have become very cost-effective in recent years. E.I. Digest, in its April 1996 issue, reports that the average price for bulk disposal in hazardous waste landfills is $135/ton. The price for crushing, stabilization, and disposal of slag wastes is well below that figure.

RESPONSE

The Agency thanks the commenter for providing data and supporting information on stabilization technology. While compelling, the Agency evaluated the data in “Overview of Dive Data Sets Submitted in Response to Phase IV Proposed Rule: Re: Treatment of Metals”, however was unable to use it to corrobrate the standard, because all the data was composite.

DCN PH2A014
COMMENTER Env. Technology Council
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 014
COMMENT c. Stabilization Data - Soil Table 3 provides a sampling of stabilization projects involving soils contaminated with Lead that were received and stabilized at an ETC member company in 1995 and 1996. As can be seen from the data, soils with Lead levels up to 276.2 mg/l in the untreated waste TCLP were stabilized to meet UTS. The stabilization formulations for these soil projects were designed to meet characteristic levels, yet readily met UTS as well. This is consistent with the results obtained for battery slags and foundry sands, discussed below. It is also evidence that stabilization can meet UTS levels for a wide variety of wastes, including TC-contaminated soils. TABLE 3 CONSTITUENT CONCENTRATION IN LEAD CONTAMINATED SOILS BEFORE & AFTER STABILIZATION (Pb, mg/l IN TCLP) [SEE HARD COPY OF COMMENT P42A-00014 FOR TABLE 3]

RESPONSE

The Agency thanks the commenter for providing data and supporting information on stabilization technology.

DCN PH2A014
COMMENTER Env. Technology Council
RESPONDER EE
SUBJECT LEAD2
SUBJNUM 014
COMMENT B. Lead-Bearing Foundry Wastes In the NODA, EPA indicates that the American Foundryman's Society has submitted comments that stabilization has not been demonstrated as meeting UTS for foundry sands. ETC member companies have reviewed their LDR compliance testing records and found substantial treatment data on stabilization of foundry sand. For example, Table 4 summarizes the TCLP Lead values in samples of untreated and treated (stabilized) foundry sand from one ETC member-firm. The results show that all foundry sand wastes met the UTS for lead. TABLE 4 CONSTITUENT CONCENTRATION IN FOUNDRY SAND BEFORE & AFTER STABILIZATION - Pb, mg/l IN TCLP [SEE HARD COPY OF COMMENT P42A-00014 FOR TABLE 4] Also attached are summary tables of data from another ETC member company which again show that stabilization of foundry sand can achieve UTS levels for Lead and underlying metal constituents. See "Foundry Sand, Summary of TCLP Results of Waste Treated in Full-Scale Treatment Operations" attached hereto. QA/QC Verification Reports for this data, as well as Total Metals and TCLP results of the raw (untreated) waste, are also attached. ETC believes that foundry sand wastes are very amenable to stabilization treatment to achieve UTS and, based on these results, do not appear to require any significantly different stabilization formulations than already in use to meet characteristic levels.

RESPONSE

The Agency acknowledges the presence of data on foundry sands in the records, and agrees with the commenter that foundry sand wastes are amenable to stabilization treatment to achieve the UTS. The Agency thanks the commenter for providing data and supporting the UTS for lead.

DCN PH2A016
COMMENTER Dupont Engineering
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 016
COMMENT DuPont supports alternative treatment standards for TC lead smelter metalwastes. DuPont supports modifications to the TC metal standards addressed in the NODA if they are made in a manner which encourages recycle. DuPont believes that the Agency needs to set standards which are achievable by the processes and technologies the Agency is chartered to encourage, such as smelting to recover usable materials. The Agency's position related to smelting of batteries as stated in the NODA is a good start, but a number of other lead- bearing wastes also have high lead content and recovery of that lead should also be encouraged.

RESPONSE

The Agency acknowledges that, in the NODA, EPA stated that "once the batteries are smelted, the LDR requirements have been satisfied, and therefore the slag resulting from this smelting need not be treated further. The standards proposed under Phase IV (i.e., compliance with UTS) would not apply to this slag, even if the slag exhibits a characteristic of hazardous waste (i.e., contains lead in amounts greater than 5.0 mg/l TCLP)." The Agency's statement was based on the usual interpretation that "when EPA specifies a treatment method as the treatment standard, residues resulting from the required treatment method are no longer prohibited from land disposal unless EPA should otherwise specify."

However, after the publication of the NODA, EPA realized that lead slag residues resulting from the smelting of lead acid batteries were previously and appropriately identified as a separate treatability group in the Third Third Final Rule (55 FR 22520, June 1, 1990). Therefore, the status of the residues as prohibited or non-prohibited is determined at the point the residues are generated. Such residues would indeed require further treatment if they exceeded the TC for lead (5.0 mg/l) as generated. EPA clarified this issue with the representatives of the Battery Council International, both in person and in a letter dated July 31, 1996.

Furthermore, EPA used new data from the treatment of lead slags and revised the lead UTS and proposed the revised standards in the Second Supplemental Proposal on May 12, 1997. The Agency observed high levels of lead in the lead slag, and therefore, believes that potential threats from treated lead wastes (using RLEAD) are clearly not minimized. Therefore, lead slags that exhibit a lead toxicity characteristic (i.e., have lead levels exceeding 5.0 mg/l TCLP) after RLEAD is employed, would have to be treated again for lead and any other underlying hazardous constituents present in the slag residual. See the BDAT background materials in the RCRA docket for today's rule for additional information on the treatment performance data used in determining the revised lead standard.

DCN PH2A018
COMMENTER Chemical Waste Mgmt
RESPONDER MC
SUBJECT LEAD1
SUBJNUM 018
COMMENT I. INTRODUCTION Chemical Waste Management, Inc., (CWM) a wholly owned subsidiary of WMX Technologies, Inc. (WMX) submits the following comments on EPA's proposed Phase IV Land Disposal Restrictions notice of Data Availability. See 61 Fed. Reg. at 21,418 (May 10, 1996). WMX is a leading provider of comprehensive hazardous waste management services at its 22 hazardous waste facilities located in the United States. Its hazardous waste management services, including transportation, incineration, on-site services, treatment, resource recovery and disposal, are furnished principally to commercial and industrial customers, other waste management companies, and governmental entities.

II. LEAD-BEARING SMELTER WASTES (61 Fed. Reg. at 21,419) In the notice the Agency clarifies an issue regarding the applicability of the LDR restrictions to slags resulting from the smelting of lead acid batteries. The Agency states that once batteries are treated using smelting (RLEAD), the LDR requirements have been satisfied, and the resulting slag need not be treated further even if it continues to exhibit the characteristic for lead (D008). Further, the Agency states that if a secondary smelter accepts materials other than lead acid batteries, then LDR requirements could apply to the slag, as with any other waste; however, if the lead smelter accepts some materials closely related to lead acid batteries then the LDR status of the slag should not be affected by these closely related lead-bearing items. CWM believes that the Agency should publish a list of materials which secondary lead smelters may accept and process without changing the LDR status of their slags. Such a list will help those facilities that dispose of these slags determine the regulatory status of the waste. Furthermore, CWM believes that the list codified at 40 CFR Part 266, Appendix Xl (Lead-Bearing Materials That May Be Processed in Exempt Lead Smelters) will define those materials that may be processed by secondary lead smelters.

RESPONSE

After the publication of the NODA, EPA realized that lead slag residues resulting from the smelting of lead acid batteries were previously and appropriately identified as a separate treatability group in the Third Third Final Rule (55 FR 22520, June 1, 1990). Therefore, the status of the residues as prohibited or non-prohibited is determined at the point the residues are generated. Such residues would indeed require further treatment if they exceeded the TC for lead

(5.0 mg/l) as generated. EPA clarified this issue with the representatives of the Battery Council International, both in person and in a letter dated July 31, 1996. Therefore, EPA notes that the issue of processing lead-bearing materials other than lead-acid batteries in secondary smelters becomes irrelevant. Any residue resulting from the lead smelter, irrespective of the type of materials smelted, that exhibit a lead toxicity characteristic (i.e., have lead levels exceeding 5.0 mg/l TCLP), has to be treated for lead and any other underlying hazardous constituents present in the slag residue.

DCN PH2A014
COMMENTER Environmental Technology Council
RESPONDER EE
SUBJECT LEAD2
SUBJNUM 014
COMMENT B. Lead-Bearing Foundry Wastes In the NODA, EPA indicates that the American Foundryman's Society has submitted comments that stabilization has not been demonstrated as meeting UTS for foundry sands. ETC member companies have reviewed their LDR compliance testing records and found substantial treatment data on stabilization of foundry sand. For example, Table 4 summarizes the TCLP Lead values in samples of untreated and treated (stabilized) foundry sand from one ETC member-firm. The results show that all foundry sand wastes met the UTS for lead. TABLE 4 CONSTITUENT CONCENTRATION IN FOUNDRY SAND BEFORE & AFTER STABILIZATION - Pb, mg/l IN TCLP [SEE HARD COPY OF COMMENT P42A-00014 FOR TABLE 4] Also attached are summary tables of data from another ETC member company which again show that stabilization of foundry sand can achieve UTS levels for Lead and underlying metal constituents. See "Foundry Sand, Summary of TCLP Results of Waste Treated in Full-Scale Treatment Operations" attached hereto. QA/QC Verification Reports for this data, as well as Total Metals and TCLP results of the raw (untreated) waste, are also attached. ETC believes that foundry sand wastes are very amenable to stabilization treatment to achieve UTS and, based on these results, do not appear to require any significantly different stabilization formulations than already in use to meet characteristic levels.

RESPONSE

The Agency acknowledges the presence of data on foundry sands in the records, and the commenter conclusion that foundry sand wastes are amenable to stabilization treatment to achieve the UTS. The Agency thanks the commenter for providing data and supporting the UTS for lead. The Agency however is unable to use the data, however compelling, to corrobrate the achievability of stabilization treatment for foundry sand waste because the data was based on composite sampling and not the grab sampling that is required under the LDR program. The Agency has collected new data that was presented the Second Supplemental, along with revised treatment standards for metals which the Agency believes can be met by both stabilization and HTMR facilities. See “Development of Metal Treatment Standards” in docket supporting today’s rule.

MISCELLANEOUS COMMENTS ON THE PHASE IV NOTICE OF DATA AVAILABILITY, MAY 10, 1996

DCN P42A001
COMMENTER Env. Technologies Intl
RESPONDER SS
SUBJECT MISC
SUBJNUM 001
COMMENT 3. ETI's is most concerned with the fact that a majority of the metal waste streams currently circumvent US rules and regulations via direct landfilling in Canada. This is an obvious attempt to avoid the stricter US disposal requirements and violates the spirit of the North American Free Trade Agreement. MRRS was designed to meet the needs of the TC metals market, which due to lack of enforcement, is exported away. If the open invitation to ship waste to Canada without consequence remains, development of additional capacity to treat these waste streams will be curtailed.

RESPONSE

Controls on export of metal waste from the U.S. is outside the scope of this rulemaking.

DCN P42A002
COMMENTER Battery Council/ABR
RESPONDER SS
SUBJECT MISC
SUBJNUM 002
COMMENT Our clients, the Battery Council International (BCI) and Association of Battery Recyclers (ABR), jointly request that the public docket on the U.S. Environmental Protection Agency's (EPA) Notice of Data Availability (NODA) on the Resource Conservation and Recovery Act (RCRA) Land Disposal Restrictions (LDR) Phase IV proposed rule (61 Fed. Reg. 21418 (May 10, 1996)) be kept open for submission of data on Toxicity Characteristic (TC)-metals contaminated soils and related explanatory materials, until public comments are due on EPA's proposed RCRA Hazardous Waste Identification Rule (HWIR) - Contaminated Media rule. 1/ On April 30, 1996, representatives of BCI and ABR met with EPA staff to discuss our November 20, 1995, comments on the RCRA LDR Phase IV proposed rule regarding treatment standards for D008 (lead) and D010 (selenium) wastes.2/ The May 10, 1996, Federal Register notice largely reflected discussions held at the meeting. Among other things, it requested additional data on TC metal-contaminated soil that would require treatment to meet the Proposed LDR treatment standards. We intend to respond to this data

request in this NODA as well as in EPA's proposed RCRA HWIR-contaminated media rule, but the data submitted under the HWIR proposal will be more complete than that which is currently available for this rulemaking. Accordingly, BCI and ABR believe that comments on this issue can best be presented in the context of EPA's proposed RCRA HWIR-Contaminated Media rule and thus request that the record in this proceeding be held open until comments are due in that one -- i.e., until July 29, 1996.3/ FOOTNOTES 1/ BCI is a non-profit trade association representing commercial entities involved in the manufacture, distribution, sale, and reclamation of lead-acid batteries. BCI's members and associate members include manufacturers and distributors of lead-acid storage batteries for automotive, marine, industrial, stationary, specialty, consumer and commercial uses, and secondary smelters that reclaim or recycle the batteries once they are spent. BCI's membership represents more than 99 percent of the nation's domestic lead-acid battery manufacturing capacity and more than 84 percent of the nation's lead battery recycling or secondary smelting capacity. ABR is a national trade association whose members include companies in the lead recycling and manufacturing industries and the lead-chemicals industry. Members of the ABR collectively represent approximately 85% of the lead recycling capacity currently available in the United States. 2/ See 60 Fed. Reg. 43654 (August 22, 1995). 3/ 61 Fed. Reg. 18780 (April 29, 1996).

RESPONSE

The commenter expressed concern that the comment period of the May 1996 Notice of Data Availability closed before the comment period for the Hazardous Waste Identification Rule for Contaminated Media. The commenter's comment on the HWIR-media rule was more complete than that on the NODA.

After this comment was received by EPA, the Agency decided to combine the Phase IV LDR rule with the contaminated soil provisions of the HWIR-media rule. In developing this final rule, EPA took into account the public comments on the HWIR media rule as well as those on the various Phase IV proposals and NODAs. Thus, the commenter's concerns are moot.

DCN P42A010
COMMENTER EDF
RESPONDER SS
SUBJECT MISC
SUBJNUM 010
COMMENT

Though published under the title "Notice of Data Availability," the current notice largely requests comment on issues for which the Agency lacks data, has never proposed regulatory

language/and/or never articulated a rationale or methodology for reaching a particular position. In many cases, the only material on which EPA seeks comment is the position of other commenters.

However, a NODA seeking reaction to other comments cannot be used to circumvent EPA's obligation to propose a rule and provide a rationale for its position. In the instant NODA, such specificity is lacking regarding regulatory language, the Agency's position, and/or the data on which EPA bases its position.

RESPONSE

The commenter was concerned with lack of specificity, rationale, and/or data on four topics: the treatment standard for silver wastes, the solid waste exclusion of recycled wood preserving wastewaters, the capacity variance requested by FMC, and the treatment standards for wood preserving wastes. On each of these matters, EPA has either decided not to promulgate the options presented in the NODA, or has acquired the necessary data to support the Agency’s position as promulgated in today’s rule.

Comments on First Phase IV Notice of Data Availability, May 10, 1996:

DCN PH2A004
COMMENTER Eastman Kodak
RESPONDER AC
SUBJECT SLVR
SUBJNUM 004
COMMENT Eastman Kodak Company ("Kodak") is the primary U.S. manufacturer of photographic films, papers, chemicals, and other imaging products. Many of our products use silver halide technology. Along with reuse and recycling, treatment and disposal are part of our waste management strategy. Because the proposed Phase IV Land Disposal Restriction (LDR) regulations and their regulatory approaches may impact the treatment and disposal of our manufacturing waste and the waste generated by our customers, we are commenting on the proposed options for treatment standards for D011 Silver Toxicity Characteristic (TC) Wastes. Kodak commends EPA for considering raising the Universal Treatment Standard (UTS) for silver, in response to comments previously submitted by Kodak.

The LDR Treatment Standard for Silver Should Not Be Lowered Because Silver's Low Toxicity Does Not Warrant it. The current D011 silver TC waste LDR treatment standard of 5 mg/L adequately minimizes threats to human health and the environment. There is no credible scientific justification for lowering the LDR standard to 0.30 mg/L silver (nonwastewaters) and 0.43 mg/L silver (wastewaters). It is more appropriate to complete the silver TC review and remove silver from the TC list. If silver is not removed from the TC list at this time, the D011 standard should be kept at 5 mg/L and the UTS should be raised to the same 5 mg/L level. Kodak believes that existing toxicological and environmental fate evidence is adequate to support the removal of silver from the TC list. EPA's Office of Solid Waste has identified the removal of silver from the TC list as one of their projects for regulatory reform.

Silver was included as a D011 Toxicity Characteristic waste solely based on the Maximum Contaminant Level (MCL) for silver under the Safe Drinking Water Act. The agency stated that, "... if EPA determines, within the scope of the Safe Drinking Water Act rulemaking, that silver does not pose a threat to human health and the environment, the Agency will consider proposing the deletion of silver from the list of TC constituents." (55 FR 11812, March 29, 1990.) On January 30, 1991 EPA deleted the silver MCL, because EPA determined "... the only potential adverse effect from exposure to silver in drinking water is argyria (a discoloration of the eye and skin). EPA considers argyria a cosmetic effect since it does not impair body function." (56 FR 3573, January 30, 1991.) Additionally, on December 12, 1992 EPA removed silver from the Human Health Criteria in the Water Quality Criteria

Recommendations. (57 FR 60910, December 12, 1992.) EPA also determined that silver does not bioaccumulate in freshwater fish and is not a hazard to wildlife, so the Office of Water did not include silver in Table 6-A, "Pollutants that are Bioaccumulative Chemicals of Concern" in the Final Water Quality Guidance for the Great Lakes System. (60 FR 15393, March 23, 1995.) EPA stated in this Notice of Data Availability that "concern about aquatic toxicity remains." The only studies Kodak believes exist that show significant aquatic toxicity from silver are based on the silver ion, usually silver nitrate, which is not the form of silver that occurs in natural ecosystems. The silver complexes that are formed in natural waters, such as silver chloride and silver sulfide, have very low toxicity. Research results, previously shared with EPA (LeBlanc, et. al., 1984; Cooley, et. al., 1988), have documented the substantial reduction in toxicity of silver that occurs in natural waters (groundwater, surface water and sea water) due to complexation with natural ligands and adsorption to particulate matter and sediments. Additionally, EPA's own data have documented that silver is not mobile in soils and sediments, and thus does not pose any potential for adverse environmental or health effects. (Galbraith, et. al., 1972; Klusman and Edwards, 1976; Larsen, et. al., 1973; Smith and Carson, 1977; and Wachter, 1977). Kodak contacted EPA's Office of Solid Waste to clarify the aquatic toxicity concern, but was not given any further detail. We believe the agency has an obligation to adopt the less stringent silver standard unless it can articulate its reasons for concerns about aquatic toxicity. Specificity is needed to give the regulated community an opportunity to respond to EPA's concerns. In conclusion, toxicity data already exist that verify that the current D011 silver LDR treatment standard minimizes threat to human health and the environment and should not be lowered.

Lowering the Silver D011 TC Characteristic Waste LDR Level is Counterproductive. EPA and the photographic processing industry encourage water conservation. However, reducing the volume of photographic processing washwater raises the concentration (but not the amount) of silver discharged, increasing the likelihood that the silver concentration will exceed the lowered LDR standard. It is difficult to justify the necessary capital expenditures for water conservation, if this increase in the discharge concentration of silver causes it to fail the LDR treatment standard, with the resulting expenses. Hence, a lower silver D011 TC standard will discourage the conservation of wash water in photographic processing operations, working against the goal of water conservation. Recommendations For all these reasons, the appropriate agency action is to delete silver as TC waste criteria. If silver is not removed from the TC list at this time, Kodak strongly supports EPA's first new option of keeping the D011 standard at 5 mg/L and promulgating the UTS treatment level for

silver at the same 5 mg/L level.

RESPONSE:

In its Phase IV Notice of Data Availability (61 FR, 21420, May 10, 1996) EPA proposed leaving the treatment standard for D011 silver wastes at the TC level rather than lowering it to the UTS level. EPA has since decided that the UTS level was the more appropriate standard in order to fulfill the mandate of RCRA.

EPA is in the process of determining whether silver should remain on the TC list at 40 CFR 261.24 (b) Table 1, or whether the current TC level should be altered. In addition, EPA continues its work on the Hazardous Waste Identification Rule (HWIR) to establish risk-based exit levels for hazardous wastes. The Agency is not yet able to establish a nationally-applicable risk-based level for silver that fulfills the statutory charge of minimizing threats of hazardous waste to human health and the environment.

The process of establishing such a level is technically complex; EPA is currently modeling the ecological and human health effects of exposure to silver through numerous pathways. Several issues remain unresolved concerning human health and environmental risk. The Agency recently acquired studies indicating that silver may be connected to central nervous system and other non-cancer effects in humans. (Rungby, J. and G. Danscher, 1984, Hypoactivity in silver exposed rats, Acta. Pharmacol. Toxicol. 55: 398-401, as cited in ATSDR, 1990; Shavlovski et al, 1995, Embryotoxicity of silver ions is diminished by ceruloplasm--further evidence for its role in the transport of copper, Biometals; Ohbo, Y., H. Fukuzako, K. Takeuchi, and M. Takigawa, 1996, Argyria and convulsive siezures caused by ingestion of silver in a patient with schizophrenia, Psychiatry and Clinical Neurosciences. 50:89-90; and Wetshofen, M., and H. Schafer, 1986, Generalized argyrosis in man: neurotological, ultrastructural, and X-ray microanalytical findings,. Arch. Otorhinolaryngol., 243:260-264.) The draft Reference Dose for these effects have not been finalized by the Agency for use in risk assessments. (A Reference Dose is a benchmark level for chronic toxicity that is protective of human health.) In addition to potential adverse human health effects, uncertainties and concerns also remain for potential adverse environmental effects. Although EPA removed the Maximum Contaminant Level (MCL) for silver in drinking water, the Ambient Water Quality Criteria remain in effect due to potential aquatic toxicity. Further areas of uncertainty are how silver speciates after release (i.e. which valence state of silver would be present). The issue could be important since potential toxic effects differ depending on the species of silver present. In short, EPA's work on understanding risks from disposal of silver-containing hazardous wastes is ongoing, and it would be premature to establish a treatment standard based on risk at this time.

In the absence of such "minimize threat" levels for hazardous constituents, the Agency establishes standards based on Best Demonstrated Available Technology (BDAT). (See full explanation in the preamble of the Phase II Final LDR rule at 59 FR 47986, September 19, 1994.) The fact that the UTS for nonwastewater forms of silver is being lowered (made more stringent) from the existing level of 0.30mg/L to 0.14 mg/L is due to new data on what treatment technology achieves. As explained in the summary of this preamble section (Section III: Revised Land Disposal Restrictions for Metal Constituents in All Hazardous Wastes, Including Toxic

Characteristic Metals), technology-based standards are the best assurance that threat is minimized, given the uncertainty as to the level at which threats of hazardous waste disposal are minimized.

EPA expects that the new treatment standard for silver wastes will have little, if any impact on the regulated community. As stated by commenters, high-silver wastes are generally recycled due to their economic value and are covered by the special streamlined standards for recyclable materials utilized for precious metal recovery at 40 CFR Part 266.70 Subpart F. Moreover, the Regulatory Impact Analysis for this rule estimated that the new, more stringent UTS levels for metal constituents, including silver, will not increase compliance costs. This is because the current treatment methods already achieve the new standard of 0.11 in silver *nonwastewaters*. (Achievability of the UTS for TC silver *wastewaters* is not an issue; EPA received no comments nor data on its proposal to apply the existing UTS of 0.43 mg/L.)

Thus, the Agency is promulgating the *wastewater* standard of 0.43 mg/L as proposed and the *nonwastewater* standard of 0.14 mg/L. If EPA changes the status of silver on the TC list, EPA will revisit the treatment standards for silver wastes.

DCN PH2A005
COMMENTER National Mining Association
RESPONDER AC
SUBJECT SLVR
SUBJNUM 005
COMMENT These comments are submitted in response to the May 10, 1996 Federal Register Notice issued by the United States Environmental Protection Agency ("EPA" or "the Agency") pursuant to the Resource Conservation and Recovery Act ("RCRA"), entitled "Land Disposal Restrictions ("LDR") Phase IV Proposed Rule -- Issues Associated With Clean Water Act Treatment Equivalency, and Treatment Standards for Wood Preserving Wastes and Toxicity Characteristic Metal Wastes; Notice of Data Availability." 61 Fed. Reg. 21,418. The National Mining Association ("NMA") comprises the producers of most of the nation's coal, metals, industrial and agricultural minerals; manufacturers of mining and mineral processing machinery, equipment, and supplies; and the engineering and consulting firms, financial institutions and other firms seeing the coal and hardrock mining industry. NMA's comments briefly address two issues raised in the Notice of Data Availability: EPA's request for additional data relating to a potential capacity variance for newly-identified mineral processing wastes, and the Agency's proposal to modify the Universal Treatment Standard ("UTS") for silver.
EPA Should Modify The UTS For Silver For All Wastes Finally, NMA supports EPA's proposal to modify the UTS for silver which, as discussed in NMA's April 24, 1996 comments on the Supplemental Proposal, is overly stringent. 61 Fed. Reg. at 21,420. At a minimum, the UTS for silver should be set at the characteristic level (5.0 mg/l) for all wastes subject to the UTS. Such a revised treatment standard should not be restricted in applicability only to

D011 wastes, as EPA has acknowledged that silver does not have any adverse effects on human health. 60 Fed. Reg. 66,344, 66,351 (Dec. 21, 1995)./l As for environmental risks, the Agency has determined silver does not pose an unacceptable risk to the environment at the levels far in excess of 5.0 mg/l. See, e.g., 60 Fed. Reg. at 66,466. Thus it makes no sense, and is in fact contrary to law, to require hazardous wastes be treated to reduce silver concentrations below 5.0 mg/l -- a level which clearly meets the "minimize threat" mandate of RCRA 3004(m)(1). FOOTNOTE 1/ Indeed, the Safe Drinking Water Act ("SDWA") Maximum Contaminant Level for silver, which formed the basis for setting the RCRA characteristic level for that constituent, was deleted from EPA's regulations more than five years ago. 56 Fed. Reg. 3526 (Jan. 30, 1991). This action was taken because "the only adverse effect from exposure to silver is argyria (a discoloration of the skin)." 54 Fed. Reg. 22,062, 22,139 (May 22, 1989).

RESPONSE:

In its Phase IV Notice of Data Availability (61 FR, 21420, May 10, 1996) EPA proposed leaving the treatment standard for D011 silver wastes at the TC level rather than lowering it to the UTS level. EPA has since decided that the UTS level was the more appropriate standard in order to fulfill the mandate of RCRA.

EPA is in the process of determining whether silver should remain on the TC list at 40 CFR 261.24 (b) Table 1, or whether the current TC level should be altered. In addition, EPA continues its work on the Hazardous Waste Identification Rule (HWIR) to establish risk-based exit levels for hazardous wastes. The Agency is not yet able to establish a nationally-applicable risk-based level for silver that fulfills the statutory charge of minimizing threats of hazardous waste to human health and the environment.

The process of establishing such a level is technically complex; EPA is currently modeling the ecological and human health effects of exposure to silver through numerous pathways. Several issues remain unresolved concerning human health and environmental risk. The Agency recently acquired studies indicating that silver may be connected to central nervous system and other non-cancer effects in humans. (Rungby, J. and G. Danscher, 1984, Hypoactivity in silver exposed rats, Acta. Pharmacol. Toxicol. 55: 398-401, as cited in ATSDR, 1990; Shavlovski et al, 1995, Embryotoxicity of silver ions is diminished by ceruloplasm--further evidence for its role in the transport of copper, Biometals; Ohbo, Y., H. Fukuzako, K. Takeuchi, and M. Takigawa, 1996, Argyria and convulsive siezures caused by ingestion of silver in a patient with schizophrenia, Psychiatry and Clinical Neurosciences. 50:89-90; and Wetshofen, M., and H. Schafer, 1986, Generalized argyrosis in man: neurotological, ultrastructural, and X-ray microanalytical findings,. Arch. Otorhinolaryngol., 243:260-264.) The draft Reference Dose for these effects have not been finalized by the Agency for use in risk assessments. (A Reference Dose is a benchmark level for chronic toxicity that is protective of human health.) In addition to potential adverse human health effects, uncertainties and concerns also remain for potential adverse environmental effects. Although EPA removed the Maximum Contaminant Level (MCL)

for silver in drinking water, the Ambient Water Quality Criteria remain in effect due to potential aquatic toxicity. Further areas of uncertainty are how silver speciates after release (i.e. which valence state of silver would be present). The issue could be important since potential toxic effects differ depending on the species of silver present. In short, EPA's work on understanding risks from disposal of silver-containing hazardous wastes is ongoing, and it would be premature to establish a treatment standard based on risk at this time.

In the absence of such "minimize threat" levels for hazardous constituents, the Agency establishes standards based on Best Demonstrated Available Technology (BDAT). (See full explanation in the preamble of the Phase II Final LDR rule at 59 FR 47986, September 19, 1994.) The fact that the UTS for nonwastewater forms of silver is being lowered (made more stringent) from the existing level of 0.30mg/L to 0.14 mg/L is due to new data on what treatment technology achieves. As explained in the summary of this preamble section (Section III: Revised Land Disposal Restrictions for Metal Constituents in All Hazardous Wastes, Including Toxic Characteristic Metals), technology-based standards are the best assurance that threat is minimized, given the uncertainty as to the level at which threats of hazardous waste disposal are minimized.

EPA expects that the new treatment standard for silver wastes will have little, if any impact on the regulated community. As stated by commenters, high-silver wastes are generally recycled due to their economic value and are covered by the special streamlined standards for recyclable materials utilized for precious metal recovery at 40 CFR Part 266.70 Subpart F. Moreover, the Regulatory Impact Analysis for this rule estimated that the new, more stringent UTS levels for metal constituents, including silver, will not increase compliance costs. This is because the current treatment methods already achieve the new standard of 0.11 in silver *nonwastewaters*. (Achievability of the UTS for TC silver *wastewaters* is not an issue; EPA received no comments nor data on its proposal to apply the existing UTS of 0.43 mg/L.)

Thus, the Agency is promulgating the *wastewater* standard of 0.43 mg/L as proposed and the *nonwastewater* standard of 0.14 mg/L. If EPA changes the status of silver on the TC list, EPA will revisit the treatment standards for silver wastes.

DCN PH2A007
COMMENTER Silver Council
RESPONDER AC
SUBJECT SLVR
SUBJNUM 007
COMMENT The Silver Council is a recently formed advocacy group dedicated to working with the regulated and regulatory communities to develop and promote environmentally sound and cost-effective methods for the recovery and management of silver resulting from photographic processes. The Silver Council and our member organizations and companies have a vested interest in the new options being considered by EPA concerning treatment standards for D011 and other silver-bearing wastes. As stated in the May 10 notice, our predecessor organization, The Silver Coalition, submitted comments on the Phase IV proposed rule urging EPA not to promulgate treatment standards for

silver below the Toxicity Characteristic (TC) level of 5.0 mg/L. The Silver Coalition comments also provided information supporting the removal of silver from the TC constituent list, an action currently being considered by the Agency. The Silver Council continues to support the objective of removing silver from the TC list. Until the Agency completes its evaluation of such an action, however, The Council recommends that EPA finalize the first option discussed in the notice (i.e., revise the Universal Treatment Standard (UTS) for silver upward to the TC regulatory level of 5.0 mg/L).

Concerns about the Toxicity of Silver in the Environment are Unfounded

EPA has noted, in this notice and in several other rulemakings, that silver does not pose a risk to human health. The Agency remains concerned, however, about the effects of silver on aquatic organisms. Building on the information already provided to the Agency by the Silver Coalition, The Silver Council is currently working with EPA to provide pertinent data to address the Agency's concerns about the behavior of silver in aquatic environments. The free ionic form of silver, which has the potential to be quite toxic to aquatic organisms, is rarely found in natural systems and is not a component of industrial wastes. The silver ion complexes readily with commonly occurring ligands and solids in natural waters to form stable, insoluble compounds, making silver generally unavailable for biological uptake. The silver compounds that form in the ambient environment, as well as those found in photographic-processing wastes, are several orders of magnitude less toxic than the free silver ion. Studies and hazard assessments conducted by EPA and other groups indicating that silver poses a risk to aquatic organisms evaluated the silver ion (usually silver nitrate), which is not an environmentally relevant form of silver from which to draw conclusions about toxicity to ecological receptors. The forms of silver that occur in the environment (e.g., silver chloride, silver sulfide, silver oxide) have been shown to exhibit little or no adverse effects on aquatic organisms.

The Silver Council Supports the First Option Presented in the Notice

The Silver Council supports the first option (to revise the UTS value for silver upward to 5.0 mg/L) because it establishes a single, uniform treatment standard for all wastes containing silver, consistent with the Agency's original intent in promulgating Universal Treatment Standards. Silver is not included on Appendix VII of 40 CFR Part 261 as the basis for listing of any listed hazardous waste. Silver is found in some electroplating sludges (F006), but its presence in these wastes hardly

warrants a stringent treatment standard below the TC regulatory level. It would be arbitrary and inappropriate to subject listed wastes containing silver to a more stringent treatment standard for the metal than is required for their characteristic counterparts, as described under the second option proposed in the notice. Summary and Recommendations In summary, The Silver Council urges EPA to finalize the first option set forth in the May 10 notice concerning the treatment standard for silver-bearing wastes. Specifically, The Silver Council supports the upward revision of the Universal Treatment Standard for silver to a higher level, most preferably the TC regulatory level of 5.0 mg/L. Promulgation of this option will subject all silver-bearing wastes to the same constituent-specific treatment standard, simplifying compliance and administrative requirements for generators and the Agency. In addition, promulgating the UTS level for silver at the TC regulatory level of 5.0 mg/L is a practical approach for dealing with D011 wastes while the Agency continues its review of the removal of silver from the TC list.

RESPONSE:

In its Phase IV Notice of Data Availability (61 FR 21420, May 10, 1996) EPA proposed leaving the treatment standard for D011 silver wastes at the TC level rather than lowering it to the UTS level. EPA has since decided that the UTS level was the more appropriate standard in order to fulfill the mandate of RCRA.

EPA is in the process of determining whether silver should remain on the TC list at 40 CFR 261.24 (b) Table 1, or whether the current TC level should be altered. In addition, EPA continues its work on the Hazardous Waste Identification Rule (HWIR) to establish risk-based exit levels for hazardous wastes. The Agency is not yet able to establish a nationally-applicable risk-based level for silver that fulfills the statutory charge of minimizing threats of hazardous waste to human health and the environment.

The process of establishing such a level is technically complex; EPA is currently modeling the ecological and human health effects of exposure to silver through numerous pathways. Several issues remain unresolved concerning human health and environmental risk. The Agency recently acquired studies indicating that silver may be connected to central nervous system and other non-cancer effects in humans. (Rungby, J. and G. Danscher, 1984, Hypoactivity in silver exposed rats, Acta. Pharmacol. Toxicol. 55: 398-401, as cited in ATSDR, 1990; Shavlovski et al, 1995, Embryotoxicity of silver ions is diminished by ceruloplasm--further evidence for its role in the transport of copper, Biometals; Ohbo, Y., H. Fukuzako, K. Takeuchi, and M. Takigawa, 1996, Argyria and convulsive siezures caused by ingestion of silver in a patient with schizophrenia, Psychiatry and Clinical Neurosciences. 50:89-90; and Wetshofen, M., and H. Schafer, 1986, Generalized argyrosis in man: neurotological, ultrastructural, and X-ray microanalytical findings,. Arch. Otorhinolaryngol., 243:260-264.) The draft Reference Dose for these effects have not been finalized by the Agency for use in risk assessments. (A Reference Dose is a benchmark level for chronic toxicity that is protective of human health.) In addition to

potential adverse human health effects, uncertainties and concerns also remain for potential adverse environmental effects. Although EPA removed the Maximum Contaminant Level (MCL) for silver in drinking water, the Ambient Water Quality Criteria remain in effect due to potential aquatic toxicity. Further areas of uncertainty are how silver speciates after release (i.e. which valence state of silver would be present). The issue could be important since potential toxic effects differ depending on the species of silver present. In short, EPA's work on understanding risks from disposal of silver-containing hazardous wastes is ongoing, and it would be premature to establish a treatment standard based on risk at this time.

In the absence of such "minimize threat" levels for hazardous constituents, the Agency establishes standards based on Best Demonstrated Available Technology (BDAT). (See full explanation in the preamble of the Phase II Final LDR rule at 59 FR 47986, September 19, 1994.) The fact that the UTS for nonwastewater forms of silver is being lowered (made more stringent) from the existing level of 0.30mg/L to 0.14 mg/L is due to new data on what treatment technology achieves. As explained in the summary of this preamble section (Section III: Revised Land Disposal Restrictions for Metal Constituents in All Hazardous Wastes, Including Toxic Characteristic Metals), technology-based standards are the best assurance that threat is minimized, given the uncertainty as to the level at which threats of hazardous waste disposal are minimized.

EPA expects that the new treatment standard for silver wastes will have little, if any impact on the regulated community. As stated by commenters, high-silver wastes are generally recycled due to their economic value and are covered by the special streamlined standards for recyclable materials utilized for precious metal recovery at 40 CFR Part 266.70 Subpart F. Moreover, the Regulatory Impact Analysis for this rule estimated that the new, more stringent UTS levels for metal constituents, including silver, will not increase compliance costs. This is because the current treatment methods already achieve the new standard of 0.11 in silver *nonwastewaters*. (Achievability of the UTS for TC silver *wastewaters* is not an issue; EPA received no comments nor data on its proposal to apply the existing UTS of 0.43 mg/L.)

Thus, the Agency is promulgating the *wastewater* standard of 0.43 mg/L as proposed and the *nonwastewater* standard of 0.14 mg/L. If EPA changes the status of silver on the TC list, EPA will revisit the treatment standards for silver wastes.

DCN PH2A010
COMMENTER EDF
RESPONDER AC
SUBJECT SLVR
SUBJNUM 010
COMMENT Treatment Standard for TC Silver Wastes In the NODA, EPA solicits public comment on whether the silver treatment standard for all wastes, or D011 wastes, should be weakened from the existing universal treatment standard (UTS) of 0.43 mg/l for wastewaters and 0.3 mg/l TCLP for nonwastewaters to a higher level, "such as" the TC regulatory level of 5.0 mg/l. Significantly, EPA does not contend the UTS level is unachievable. Instead, EPA suggests some higher number may be justified on a risk basis. Yet EPA provides no risk

analysis in this rulemaking supporting a weaker treatment standard. Instead, EPA merely notes it received risk data from other parties. See 61 FR 21420. Accordingly, there is no evidence in the record indicating the methodology EPA would employ to set a higher treatment standard, and on what toxicity information the decision would be reached. EPA cannot use the NODA process to bypass its obligation to properly propose its position for public comment.

Second, the lack of a risk-based methodology is particularly important in this context since any weakening of the treatment standard could only be justified on the basis of a "minimized threat" determination under Section 3004(m) of RCRA, which EPA has not attempted to render. Since the issue of whether EPA data and risk modeling techniques are sufficiently rigorous to support a "minimized threat" treatment standard at this time is the focus of a parallel rulemaking (known as HWIR), it is particularly inappropriate to raise the issue in this rulemaking without even providing the remotest suggestion of whether and how the two rulemakings are related, and whether all the issues raised in the HWIR rulemaking regarding proposed "minimized threat" standards require repetition in this rulemaking as well. Moreover, in the HWIR rule making, EPA proposed a silver minimized threat level for wastewaters only. See 60 FR 66466 (December 21, 1995). There is no discussion in the NODA of whether or why EPA would be reconsidering its HWIR position in the instant rulemaking. Finally, and most critically, EPA seems to be ignoring the fact that silver is extremely toxic to environmental receptors. This toxicity caused EPA to recently rank silver as among the highest hazard metals in the RCRA universe, in large part because it received the maximum aquatic toxicity score. See Setting Priorities for Minimization of Combusted Hazardous Waste, November 1995, Appendix IX (hereby incorporated by reference). Aquatic toxicity is relevant to the instant rulemaking since the Section 3004(m) "minimized threat" standard expressly applies to the protection of the environment.

In HWIR, EPA conducted an ecological risk analysis, although the flaws in the analysis rendered it inadequate to ensure protection of the environment. See Comments of the Environmental Technology Council on HWIR, dated April 22, 1996, which are hereby incorporated by reference. For example, the HWIR ecological risk assessment failed to employ a sediment benchmark for silver. Id. at 88. See also Review of a Methodology for Establishing Human Health and Ecologically Based Exit Criteria for HWIR, EPA Science Advisory Board, May 22, 1996, pp. 24-25, hereby adopted and incorporated by reference. As noted above, no ecological risk assessment is provided or even discussed in the instant NODA. This abject failure to assess the ecological risk posed by silver, and/or propose a treatment standard based upon any relevant methodology, violates both Section 3004(m) of RCRA and the Administrative Procedures Act.

RESPONSE:

EPA agrees that it does not have an adequate basis for establishing a risk-based treatment standard for silver, and is not setting such a standard at this time.

DCN PH2A014
COMMENTER Env. Technology Council
RESPONDER AC
SUBJECT SLVR
SUBJNUM 014
COMMENT

C. Treatment Standards for DO11 Silver TC Wastes EPA has proposed to apply the UTS for silver to D011 waste. 60 Fed. Reg. 43682 (Aug. 22, 1995). The UTS for silver is 0.43 mg/l for wastewaters and 0.30 mg/l TCLP for nonwastewaters. The proposal was based on a comprehensive evaluation of treatment performance data from both listed and characteristic wastes for all metal constituents in the UTS table. See BDAT Background Document for Toxicity Characteristic Metal Wastes D004-D011 in the docket. In this NODA, however, EPA discusses the "possibility" of changing the UTS for silver for all hazardous wastes, or setting the UTS for DO11 wastes only, to the TC regulatory level of 5.0 mg/l. 61 FR 21420, col. 1. Neither the NODA, nor the administrative record, provides any adequate technical basis for these "options." Although silver poses significant ecological toxicity risks, EPA asserts that "human health effects are not major." Id. Based on this unsupported statement, the agency would take the ill-conceived step of abandoning the technology-based UTS for silver-bearing wastes and setting a new apparently "risk-based" standard at the TC regulatory level. Regrettably, for EPA to announce this major departure from the BDAT methodology in a Notice of Data Availability -- without technical justification or discussion of the implications for the LDR program -- is plainly irresponsible. There is no discussion in the NODA of the following significant issues: EPA does not discuss how a treatment standard based simply on the TC regulatory level would meet the "minimize threat" standard in RCRA 3004(m)(1). There is no discussion, or supporting data, showing that the TC level for silver would "substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste" as required by the statute. Indeed, the TC level is the concentration at which a waste is "clearly hazardous" warranting Subtitle C control, not the level at which the toxicity and/or mobility of this hazardous constituent has been "substantially" reduced. Nor is there any discussion in the NODA of the relationship of the Hazardous Waste Identification Rule (HWIR), and its

multi-pathway risk assessment approach, to this ostensible risk-based treatment level for DO11 wastes (and potentially all hazardous wastes that contain silver as an underlying hazardous constituent). Ironically, the HWIR multi-pathway risk analysis for silver resulted in a risk-based level of 0.134 mg/kg total for nonwastewater. 60 FR 66431 (Table C-1). Given that silver poses significant aquatic toxicity risks, EPA does not explain how setting the LDR treatment standard at the TC toxicity level would minimize threats to the environment, as the statute requires. Because the current UTS levels have a sound technology basis, and the NODA "alternative" to substitute the TC silver level does not have an adequate technical or legal basis in the record, it should be rejected.

RESPONSE:

EPA agrees that it does not have an adequate basis on which to set the TC level as the minimize threat level for silver, and has decided to apply the technology-based UTS level to D011 wastes as a result.

DCN PH2A016
COMMENTER Dupont Engineering
RESPONDER AC
SUBJECT SLVR
SUBJNUM 016
COMMENT

DuPont agrees with the Agency's proposal to set the LDR and UTS limits for D011 wastes at the TC limit and further supports the Agency's continued study of whether or not silver should be a TC metal. As the Agency notes in the NODA discussion of silver, there remain questions as to the hazards posed by silver and whether the hazards are chemical species specific or generally attributable to all silver compounds. The Agency further notes that the risk to human health from silver is low, and the risks posed by contaminants in downgradient receptors (typically drinking water sources) are the basis of the land disposal restriction program. For those reasons, it is overly burdensome to ascribe a high hazard to silver in a leachate context and therefore regulate it for land ban purposes at the existing UTS level. DuPont therefore suggests that the Agency retain the TC LDR land ban at the TC level of 5 mg/l and further that the Agency increase the UTS to that level until such time as it has a basis for regulating silver at a lower level.

RESPONSE:

In its Phase IV Notice of Data Availability (61 FR 21420, May 10, 1996) EPA proposed leaving the treatment standard for D011 silver wastes at the TC level rather than lowering it to the UTS level. EPA has since decided that the UTS level was the more appropriate standard in order to fulfill the mandate of RCRA.

EPA is in the process of determining whether silver should remain on the TC list at 40 CFR 261.24 (b) Table 1, or whether the current TC level should be altered. In addition, EPA continues its work on the Hazardous Waste Identification Rule (HWIR) to establish risk-based exit levels for hazardous wastes. The Agency is not yet able to establish a nationally-applicable risk-based level for silver that fulfills the statutory charge of minimizing threats of hazardous waste to human health and the environment.

The process of establishing such a level is technically complex; EPA is currently modeling the ecological and human health effects of exposure to silver through numerous pathways. Several issues remain unresolved concerning human health and environmental risk. The Agency recently acquired studies indicating that silver may be connected to central nervous system and other non-cancer effects in humans. (Rungby, J. and G. Danscher, 1984, Hypoactivity in silver exposed rats, Acta. Pharmacol. Toxicol. 55: 398-401, as cited in ATSDR, 1990; Shavlovski et al, 1995, Embryotoxicity of silver ions is diminished by ceruloplasm--further evidence for its role in the transport of copper, Biometals; Ohbo, Y., H. Fukuzako, K. Takeuchi, and M. Takigawa, 1996, Argyria and convulsive siezures caused by ingestion of silver in a patient with schizophrenia, Psychiatry and Clinical Neurosciences. 50:89-90; and Wetshofen, M., and H. Schafer, 1986, Generalized argyrosis in man: neurotological, ultrastructural, and X-ray microanalytical findings,. Arch. Otorhinolaryngol., 243:260-264.) The draft Reference Dose for these effects have not been finalized by the Agency for use in risk assessments. (A Reference Dose is a benchmark level for chronic toxicity that is protective of human health.) In addition to potential adverse human health effects, uncertainties and concerns also remain for potential adverse environmental effects. Although EPA removed the Maximum Contaminant Level (MCL) for silver in drinking water, the Ambient Water Quality Criteria remain in effect due to potential aquatic toxicity. Further areas of uncertainty are how silver speciates after release (i.e. which valence state of silver would be present). The issue could be important since potential toxic effects differ depending on the species of silver present. In short, EPA's work on understanding risks from disposal of silver-containing hazardous wastes is ongoing, and it would be premature to establish a treatment standard based on risk at this time.

In the absence of such "minimize threat" levels for hazardous constituents, the Agency establishes standards based on Best Demonstrated Available Technology (BDAT). (See full explanation in the preamble of the Phase II Final LDR rule at 59 FR 47986, September 19, 1994.) The fact that the UTS for nonwastewater forms of silver is being lowered (made more stringent) from the existing level of 0.30mg/L to 0.14 mg/L is due to new data on what treatment technology achieves. As explained in the summary of this preamble section (Section III: Revised Land Disposal Restrictions for Metal Constituents in All Hazardous Wastes, Including Toxic Characteristic Metals), technology-based standards are the best assurance that threat is minimized, given the uncertainty as to the level at which threats of hazardous waste disposal are minimized.

EPA expects that the new treatment standard for silver wastes will have little, if any impact on the regulated community. As stated by commenters, high-silver wastes are generally

recycled due to their economic value and are covered by the special streamlined standards for recyclable materials utilized for precious metal recovery at 40 CFR Part 266.70 Subpart F. Moreover, the Regulatory Impact Analysis for this rule estimated that the new, more stringent UTS levels for metal constituents, including silver, will not increase compliance costs. This is because the current treatment methods already achieve the new standard of 0.11 in silver *nonwastewaters*. (Achievability of the UTS for TC silver *wastewaters* is not an issue; EPA received no comments nor data on its proposal to apply the existing UTS of 0.43 mg/L.)

Thus, the Agency is promulgating the *wastewater* standard of 0.43 mg/L as proposed and the *nonwastewater* standard of 0.14 mg/L. If EPA changes the status of silver on the TC list, EPA will revisit the treatment standards for silver wastes.

DCN PH2A010
COMMENTER EDF
RESPONDER SB
SUBJECT WOOD2
SUBJNUM 010
COMMENT Solid Waste Exclusion of Recycled Wood Preserving Wastewaters In the instant NODA, EPA announced it is reviewing the public comments it had solicited in August 1995 regarding a potential conditional exclusion from the definition of solid waste for recycled wastewaters used in the wood preserving industry. However, in neither the August 1995 solicitation nor the instant NODA does the Agency actually propose regulatory language for an exclusion, or otherwise discuss the nature or content of any conditions that may be part of the exclusion. Therefore, the NODA cannot be construed as a proposed rule from which final agency action can be taken. There is no proposal before the public on which comment can be focused. Moreover, despite the August 1995 solicitation, very little data were provided by the wood preserving industry. The only set of comments containing more than conclusory statements was submitted by the American Wood Preservers Institute (AWPI), and it merely contains aggregate statistics on water usage. No quantitative information was provided on: (1) the percentage of collected wastewater and precipitation actually recycled at each waterborne facility;1/ (2) the percentage and quantities of wastewaters and precipitation collected but not recycled at nonwaterborne plants; (3) the extent to which plants within the industry cover drip pads to prevent contact with precipitation and the reasons for doing so if water is an economically desired process input; and (4) the percentage of facilities that employ closed-loop piping to convey the wastewaters to their ultimate reclamation and reuse, the means of conveyance employed by other facilities, the method of construction employed for such piping or other conveyances, and the release record of such piping or conveyance systems. FOOTNOTE 1/ AWPI merely states "reuse is the standard", and refers to the zero discharge requirements of the Clean Water Act, but such requirements do not apply where the wastewater is injected or otherwise disposed by means other than discharges into POTWs or surface waters.
As the State of Oregon suggests in its comments, not all wood preserving facilities are the same. Therefore, real data are needed to determine whether a national rule is appropriate given the case-by-case exemption authorities already in the rules. Indeed, as part of its consideration, EPA should investigate whether its Regions or authorized states have received case-by-case requests for an exemption, and the bases for resolving those exemption requests. In addition to the procedural obstacles to further consideration of the exclusion in the Phase IV LDR rulemaking, critical substantive issues remain. Of paramount importance is the status of the current drip pad requirements in the event an exclusion for wastewaters is

promulgated. AWPI contends the Subpart W drip pad standards would apply because nonwastewaters on the pad are still regulated. However, as noted by the State of Oregon, the nonwastewaters (such as wood chips) may not be generated in sufficient quantities to exceed the 100 kg/mo small quantity generator threshold. AWPI's argument that EPA would have jurisdiction over wastewater releases into the environment even if the drip pad standards do not apply completely misses the point. RCRA's design and construction standards are intended to prevent or minimize releases. See Section 1003 (a)(5) of RCRA. Relying on after-the-fact cleanup authorities to protect human health and the environment is not an adequate or cost effective means of ensuring protection of human health and the environment. In addition, the drip pad closure standards in 40 CFR 265 Subpart W require the facility owner/operator to attempt clean closure of all hazardous waste residues and conveyances contaminated with hazardous waste. If wood preserving wastewaters are not considered hazardous wastes, the equipment and conveyances used to manage the wastewaters will not be subject to these closure requirements, and financial responsibility for closure may not include appropriate disposition of such equipment and conveyances.

RESPONSE

EPA agrees with the commenter that the May 10, 1996 NODA “cannot be construed as a proposed rule from which final agency action can be taken.” It is for this reason that the Agency proposed an exclusion and provided specific regulatory language in the May 12, 1997 LDR Phase IV Second Supplemental Proposal, which is being finalized today. EPA also agrees with the commenter that the NODA did not specific information on the data items that the commenter mentioned. Although this information would be useful to have, we do not consider it to be essential to the limited and conditional exclusion that we are finalizing today. In fact, the industry’s practice of generating and reusing wastewaters on-site at waterborne facilities to treat wood is well known to EPA. The exclusion is limited to only these materials, and only then when specific conditions are met.

The Agency did not, as the commenter suggested, “investigate whether its Regions or authorized states have received case-by-case requests for an exemption, and the bases for resolving those exemption requests.” Again, this would be useful information to have. It is not, however, essential to determining whether a limited and conditional national exclusion is sensible policy. EPA regional offices and RCRA authorized states had ample opportunity to oppose this exclusion had they so desired. In fact, those comments that we did receive from the states were supportive of our efforts, provided that we include some of the conditions that we are finalizing today.

EPA agrees with the commenter’s concerns about the Subpart W drip pad standards. In order to meet the conditions of the exclusion being finalized today, EPA is requiring that a wood

preserving plant's drip pads must be in compliance with the standards in Part 265, Subpart W, regardless of whether the plant generates a total of less than 100 kg/month of hazardous waste. The fact that Subpart W requirements will still apply addresses the commenters concern about the absence of particular closure requirements should plants not be required to comply with Subpart W. Finally, the Agency does not plan to rely "on after-the-fact cleanup authorities to protect human health and the environment," as the commenter suggests. The conditions placed upon this exclusion are there to assure that the exclused wastewaters and spent solutions are reused for their original intended purpose and not released to the environment.

DCN PH2A014
COMMENTER Env. Technology Council
RESPONDER SB
SUBJECT WOOD2
SUBJNUM 014
COMMENT III. Solid Waste Exclusion of Recycled Wood Preserving Wastewaters EPA states in the NODA that it is reviewing industry comments in the record on a conditional exclusion from the definition of solid waste for recycled wastewaters used in the wood preserving industry. EPA has not proposed any regulatory language, however, or otherwise discussed the basis or conditions for such an exclusion. As a result, EPA has not provided adequate notice and opportunity for public comment. ETC believes that an industry-wide exclusion of this type must be fully supported in the record. For this exclusion, however, no information has been provided on such technical issues as (1) the percentage and quantities of collected wastewater actually recycled at wood preserving facilities; (2) the percentage and quantities of wastewaters not recycled; (3) the extent to which wood preserving facilities cover drip pads to prevent contact with precipitation and resulting contamination; (4) the percentage of facilities that employ closed-loop piping to convey the wastewaters for reclamation and reuse; and (5) the type of piping and the record of releases from such piping or other conveyances. Not all wood preserving facilities operate in the same way. Therefore, hard information on all facilities in the industry is needed to evaluate a national exclusion. Given the inadequate notice and explanation, and given the lack of technical support in the record, a national exclusion for wastewater used in the wood preserving industry is not appropriate.

RESPONSE

EPA agrees with the commenter that the NODA did not provide sufficient information, especially given the absence of regulatory language, to constitute a proposal to exclude wood preserving wastewaters from the definition of solid waste. However such information was provided in the May 12, 1997 LDR Phase IV Second Supplemental Proposal, which is being

finalized today. EPA agrees with the commenter that we have not provided specific information on the data items 1-5 that the commenter mentioned. Although this information would be useful to have, we do not consider it to be essential to the limited and conditional exclusion that we are finalizing today. In fact, the industry's practice of generating and reusing wastewaters on-site at waterborne facilities to treat wood is well known to EPA. The exclusion is limited to only these materials, and only then when specific conditions are met.

DCN PH2A021
COMMENTER J. H. Baxter Co.
RESPONDER SB
SUBJECT WOOD2
SUBJNUM 021
COMMENT B. Exclusion for Wood Preserving Wastewaters EPA's notice also solicits comments on EPA's proposal to exclude from the definition of solid waste wood preserving wastewaters that are returned to the process from which they originated, provided that drippage from treated wood is collected and managed on drip pads in compliance with Subpart W. 61 Fed. Reg. 21422. J.H. Baxter believes the evidence in the record is sufficient to support a national exclusion along the lines proposed by EPA. This exclusion will in no way reduce the level of protection afforded by Subpart W. It will create a more rational system of regulation with Subpart W as one of its cornerstones.

RESPONSE

The Agency appreciates the commenter's support of an exclusion from the definition of solid waste for wood preserving wastewaters that meet certain conditions. EPA has finalized such an exclusion in today's rule.