CHAPTER 4
COMMENT/RESPONSE

4.1 INTRODUCTION

In the August 22, 1995 proposed rule for the 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 (60 FR 43654), EPA proposed treatment standards for certain wastes listed and identified since November 1984 that have not been covered in previous Land Disposal Restriction (LDR) rulemakings. In addition, EPA issued the Land Disposal Restrictions 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 (NODA) on May 10, 1996 (61 FR 21418).

EPA received 123 comments to the proposed rule and 21 comments to the NODA.[56] This chapter summarizes those comments related (either directly or indirectly) to the capacity analysis for the newly listed wood preserving wastes.[57]. EPA received 8 comments to the Phase IV Proposed Rule and 6 to the Notice of Data Availability (NODA) on the capacity analysis for F032, F034, and F035 wastes: Beazer East (23); Rollins Environmental Services, Inc. (27, N19); Penta Task Force (32, N3); Utilities Solid Waste Activities Group et al (USWAG) (35); American Wood Preservers Institute (39); Chemical Waste Management (48, N18); J.H. Baxter (58); The Hazardous Waste Management Association (97); Georgia Department of Natural Resources (N13); DuPont Engineering (N16); and Dow (N9).[58]

The comments address eight issues related to the capacity analysis for wood preserving wastes:

1. Discrepancy Exists in the Wood Preserving Waste Generation Estimates;
2. Sufficient Combustion Capacity Exists for Newly Listed Wood Preserving Wastes;
3. Insufficient Incineration Capacity Exists for F032 Wastes;
4. Capacity for F032 Will Not Increase;
5. No Alternative Dioxin/Furan Technologies Are Commercially Available;
6. Insufficient Vitrification Capacity Exists for Newly Listed Wood Preserving Wastes;
7. Available Capacity Does Not Exist for Newly Listed Wood Preserving Wastewaters; and
8. National Capacity Variance Is Needed for Soil and Debris Contaminated with Newly Listed Wood Preserving Wastes.

For each of these issues, we present a summary of the issue, EPA's response to the commenters' questions and concerns, and photocopies of the actual comment letters.

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[56] Lists of the commenters to the proposed rule and the NODA can be found in Appendix B. Each comment has been assigned a document number. In the rest of the chapter we will refer to the commenter both by name and by document number. Comment numbers beginning with an "N" indicate the comment was received in response to the NODA. Comment numbers with no "N" indicate the comment was received in response to the proposed rule.

[57] Comments that pertain to other waste streams and/or issues not addressed in today's rule will be addressed when the respective rules are finalized.

[58] Comment N9 addresses capacity for F024 under the mistaken assumption that EPA is revising the BDAT standards for F024. Therefore, the Agency has not addressed this comment because it is not relevant to the capacity analysis for this rule.

4.2 DISCREPANCY EXISTS IN THE WOOD PRESERVING WASTE GENERATION ESTIMATES

Summary:

In the proposed rule, EPA provided two estimates of the generation of newly listed wood preserving wastes, one for the purpose of the capacity analysis, and one for the purpose of the Regulatory Impact Analysis (RIA). Two commenters, Penta Task Force (32) and American Wood Preservers Institute (39), noted the discrepancy between these estimates. Penta Task Force stated that the estimate provided in the capacity analysis is an order of magnitude higher than the estimate in the RIA for F032 wastes and stated that the capacity analysis methodology more accurately reflects actual F032 waste volumes (32:15-16). American Wood Preservers Institute requested reevaluation and clarification of contradicting capacity estimates for F032 wastes (39:20-21).

Response:

The focus of the capacity analysis is not the same as that of the RIA. Thus, there can be differences in the estimates developed for these two separate analyses. The capacity analysis focuses on the quantity of waste requiring alternative treatment capacity over the two years following promulgation of the final LDR rule to evaluate whether a national capacity variance is required. The RIA focuses on the quantity of waste affected by the LDR rule over a much longer time frame following promulgation of the rule to evaluate the costs and benefits of the rule. Furthermore, while the RIA invariably develops a “best estimate” of the quantities of waste, the capacity analysis often uses an iterative process whereby an upper-bound estimate is first developed in order to determine whether the available capacity would be exceeded. If so, a more refined estimate is developed.

Also, as one of the commenters notes, EPA did not have data indicating whether wastes were wastewaters or nonwastewaters. Therefore, for the capacity analysis, wastes were classified as wastewaters or nonwastewaters based on the form of the waste that was reported to EPA in the 1993 Biennial Reporting system.

For the final rule, EPA has reevaluated both the capacity analysis and the RIA to resolve any discrepancies that cannot be explained by the different foci of the two analyses. The quantity of wood preserving wastes requiring alternative treatment capacity that is estimated in the revised capacity analysis now lies within the low-end and high-end estimate presented in the RIA. In the RIA, EPA estimates that between 3,860 tons and 18,808 tons of wood preserving nonwastewaters will require alternative treatment capacity under the Phase IV LDRs (see Exhibit 2-3 of the RIA). In the revised capacity analysis, EPA has estimated that about 10,000 tons of wood preserving nonwastewaters will require alternative treatment capacity (see Section 3.3.2 of this document).

Comments:

See next page.

Commenter: Penta Task Force
Comment Number: 32
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In its Regulatory Impact Analysis, EPA has assumed that only some 1,200 tons of F032 nonwastewaters are generated each year at the 49 wood processing facilities that would become subject to the F032 treatment standards. RIA, ES-12, Exh. 3-2 at 3-5, 3-6. But that estimate is flatly inconsistent with the 12,600 tons estimate found in the Capacity Analysis. As noted above, the Capacity

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Comment Number: 32
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Analysis estimates the F032 waste volumes at 22,000 tons per year; that estimate is based on data gleaned from the 1993 Biennial Reporting System ("BRS"). The RIA, on the other hand, derives it estimate on the basis of 1993 production statistics multiplied by a waste generation rate taken from a 1985 RCRA 3007 survey.

The methodology used in the Capacity Analysis more reliably reflects actual F032 waste volumes. The BRS data used in the Capacity Analysis reflect recent data reported by wood preserving sites on the actual quantities of wastes transferred off-site for treatment or disposal during 1993. The 1985 RCRA 3007 survey, on the other hand, was conducted at a time when most wood treating facilities were using surface impoundments for waste management and therefore had limited ability to quantify waste generation rates. Also, the RIA incorrectly asserts that the BRS report might reflect double counting of waste streams. In point of fact, the procedures used by BRS to collect the data were carefully designed to avoid double-counting. For these reasons, the volume estimates in the Capacity Analysis are more accurate than those presented in the RIA. If EPA were to use these more accurate volume estimates to analyze costs, it is clear as shown below that the cost of meeting the treatment standards at a six 9s incinerator would be prohibitive.

Commenter: American Wood Preservers Institute
Comment Number: 39
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EPA estimates some 40 tons of inorganic wastewater and 2,880 tons of inorganic non-wastewater will require alternative treatment capacity per year. EPA representatives stated that these numbers come in part from the Biennial report. However, generators do not distinguish between wastewaters and non-wastewaters. Therefore, it is unclear how EPA obtained these numbers.

By EPA's capacity analysis estimation, 12,600 tons of F032 non-wastewater sludges and residuals are generated at wood preserving facilities per year.[37] However, the Agency presents contradictory figures in its regulatory impact analysis where EPA estimates only 1,200 tons of F032 non-wastewaters are generated per year.[38] In addition, the Agency estimates that millions of tons of previously-contaminated soils and debris may require treatment.[39]

COMMENT:

The Agency's methodologies for calculating capacity and waste generation are unclear, inconsistent, and warrant explanation. The final rule should clarify how EPA achieved the estimates for total inorganic wastewater and non-wastewater. EPA

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[36] See, "National Capacity Assessment Report: Capacity Planning Pursuant to CERCLA Section 104(c)(9)", EPA 530-R-94-040.
[37] "Best Demonstrated Available Technology (BDAT) Background Document for Wood Preserving Wastes" (July 1995) and "Capacity Analysis", Section 3-8, EPA.
[38] "Regulatory Impact Analysis of the Phase IV Land Disposal Restrictions (Draft)", (August 7, 1995).
[39] Id.

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should explain which number reflects actual F032 waste generation volumes and use the correct volume throughout its analysis.

4.3 SUFFICIENT COMBUSTION CAPACITY EXISTS FOR NEWLY LISTED WOOD PRESERVING WASTES

Summary:

In the proposed rule, EPA stated that combustion would be able to meet the proposed treatment standards for the organic newly listed wood preserving wastes (both wastewaters and nonwastewaters). Based on EPA's assessment that there was over one million tons of available liquid combustion capacity available and over 100,000 tons of available sludge/solid combustion capacity, EPA proposed not to grant a variance for organic newly listed wood preserving wastes. Rollins Environmental Services, Inc. (27, N19) supports EPA's determination that sufficient combustion capacity exists for these wastes. Rollins stated that EPA's available sludge/solid capacity estimate does not include combustion capacity at the ECOVA facility in Nebraska. Rollins provided capacity data for all of their combustion facilities to EPA as Confidential Business Information (CBI). Rollins also stated that EPA overestimated capacity requirements for Phase II wastes as 439,500 tons and that this estimate should be less than 100,000 tons annually (27:3-4) (N19:1-3). In their comment to the NODA, Penta Task Force (N3) stated that the proposed suboption 3 (which EPA is finalizing today) would increase the number of facilities that could accept these wastes and alleviate capacity shortfall problems (N3:3).

Response:

EPA acknowledges Rollins Environmental Services, Inc.'s support and has incorporated the data provided into its revised capacity analysis. Refer to Chapter 2 in this document for a detailed discussion of how the data were incorporated into the analysis. In response to the Penta Task Force comment, EPA agrees that the number of facilities that could accept wood preserving wastes likely will increase and thus has incorporated this increase into the assumptions used to develop available capacity estimates in Chapter 2.

Comments:

See next page.

Commenter: Rollins Environmental Services
Comment Number: 27
Page Number: 3

EPA's own capacity survey, used for this proposal, shows an available sludge/solid combustion capacity of 115,900 tons. However, even this large volume of available capacity severely under reports the true actual available commercial combustion capacity. The Agency's survey demonstrates the following available combustion capacity numbers for sludge/solids:

Available Capacity	560,000 tons
Capacity Required for Phase II Wastes	(439,500)tons
Capacity Required for Phase III Wastes	(4,600) tons
Total Available Capacity	115,900 tons

RES feels the 115,900 tons of available capacity for sludges/solids is under reported for several reasons. The EPA's data did not include capacity figures from the ECOVA facility in Nebraska. Also the estimate that Phase II wastes are utilizing 439,500 tons of available capacity is extremely high. Anecdotal evidence, and records searches, indicate that the volume of *additional wastes* requiring treatment after promulgation of the Phase II treatment standards amounts to well less than 100,000 tons annually. Therefore, the real thermal capacity for sludge/solids should be significantly higher than the 115,900 tons the Agency estimates.

The commenters primary concern about thermal treatment capacity appears to be of the available capacity may not be available for F032 wastes if these wastes have a Dioxin/Furan treatment standard. The commenters imply that only a small percentage of the available thermal capacity will be open to wastes with a Dioxin/Furan standard. RES feels this is not a valid concern.

Commenter: Rollins Environmental Services
Comment Number: 27
Page Number: 4

RES operates five incineration facilities in the U.S. (see Attachment A). Three of these facilities (located in Kansas, Texas, & Utah) have demonstrated the ability to meet the Dioxin/Furan treatment standard under a variety of operating conditions. These facilities represent roughly 70% of the thermal treatment capacity of RES. We are confident the other two RES facilities could also meet ~~these treatment~~ standards (because of design & operational similarities between all RES incinerators) if there is sufficient demand to require utilizing these facilities. Within the RES system alone there is sufficient capacity to handle the F032 wastes.

Commenter: Rollins Enivironmental, Inc.
Comment Number: N19
Page Number: 1

ROLLINS ENVIRONMENTAL INC.

One Rollins Plaza, P.O. Box 2349, Wilmington, DE 19899, 302/426-2700

June 7, 1996

RCRA Information Center
U.S. Environmental Protection Agency (5305W)
401 M Street SW
Washington, D.C. 20460

Rollins Environmental Services, Inc. Comments on Land Disposal Restrictions 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; Docket Number F-96-P42A-FFFFF

Dear Sir or Madam:

This letter constitutes the comments of Rollins Environmental Services, Inc. On the above referenced notice.

Statement of Interest

Rollins Environmental Services, Inc. (RES) and its wholly-owned subsidiary companies is a full service company engaged in the treatment and destruction of hazardous and toxic wastes. Our interests are directly affected by the outcome of this regulatory proposal.

Treatment Standards for Wood Preserving Waste F032

In this NODA, the EPA is responding to the Wood Preserving Industry's concern that a Dioxin/Furan treatment standard for F032 would discourage commercial incineration facilities from treating this waste. Several years ago this concern would have been valid. However, in light of the technical upgrades that have taken place, and huge quantities of available capacity, in the incineration industry this concern should no longer affect Agency regulations. For example, just within the RES system there is more than sufficient capacity to treat the F032 process wastes and meet the proposed Dioxin/Furan treatment standard.

The wholly-owned subsidiaries of RES represent the largest block of incineration capacity in the

Commenter: Rollins Enivironmental, Inc.
Comment Number: N19
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U.S. As stated in our comments of 11/17/96, "three RES subsidiaries (located in Kansas, Texas, and Utah) have demonstrated the ability to meet the" proposed F032 "Dioxin/Furan treatment standard under a variety of operating conditions." "These facilities represent roughly 70% of the thermal treatment capacity of RES. We are confident the other two RES facilities could also meet these treatment standards if there is sufficient demand to handle the F032 wastes. Within the RES system alone there is sufficient capacity to handle the F032 wastes." RES is convinced these comments are still valid today, **and there is no capacity shortage for the treatment of F032 process wastes** (see attached 6/5/96 announcement of "Campaign Mode" at Coffeyville due to overcapacity).

There is a demonstratively sufficient amount of capacity to meet the proposed Dioxin/Furan treatment standards for F032 process wastes. Additionally, RES contends there is sufficient capacity to meet the proposed Dioxin/Furan treatment standards for F032 contaminated media wastes. However, since the data on the quantity of F032 contaminated media is incomplete, it is conceivable there may be a large F032 contaminated media cleanup that exceeds the capacity of facilities able to meet the Dioxin/Furan treatment standard. RES also acknowledges that some incineration facilities may not be able to meet the Dioxin/Furan treatment standard, thereby limiting the available capacity for large contaminated media projects.

Therefore, RES recommends the option of an alternative treatment standard for F032 contaminated media waste, available under limited circumstances. This option would allow an F032 contaminated media generator to utilize the alternative treatment standard under the following condition:

- The generator certifies to the EPA that a request to at least five incineration facilities indicates there is insufficient capacity to treat the F032 contaminated media while meeting the Dioxin/Furan treatment standard.

RES further recommends that EPA adopt the combination of suboptions 2 & 3 as outlined in the NODA as the alternative treatment standard. Under this recommendation, after certifying there is insufficient capacity for treatment of F032 contaminated media, a generator could utilize the alternative treatment standard of "Combustion in a Part B permitted facility that meets a Dioxin/Furan emission standard of 0.20 ng/DSCF."

Conclusion

There is sufficient existing treatment capacity to meet the Dioxin/Furan treatment standard for all F032 process wastes.

Also, there is sufficient existing treatment capacity to meet the Dioxin/Furan treatment standard for most F032 contaminated media projects. However, the treatment standard for F032 contaminated media should allow an alternative standard of "Combustion in a Part B permitted facility that meets a Dioxin/Furan emission standard of 0.20 ng/DSCF." after the generator certifies there is insufficient capacity to treat the F032 contaminated media while meeting the

Commenter: Rollins Enivironmental, Inc.
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Dioxin/Furan treatment standard.

Should you have any questions about these comments, please contact me at (302) 426-3471.

Sincerely,

Michael G. Fusco
Director, Regulatory Analysis

cc: P. Retallick
D. Scherger

Commenter: Penta Task Force
Comment Number: N3
Page Number: 3

B. Option 3 -- CMBST In RCRA-Permitted Devices.

The Penta Task Force recognizes that Option 3, which provides for combustion in RCRA-permitted facilities, would increase the number of combustion facilities that would accept F032 waste and, thus, is by far preferable to the proposed dioxin/furan treatment standard. Option 3 also would fully satisfy the LDR criteria as an appropriate treatment standard. Indeed, EPA's August, 1995 proposal was predicated on the finding that incineration is the best demonstrated available treatment ("BDAT") for dioxins/furans in F032 waste. And EPA has oft-stated that various types of incineration have been demonstrated to treat high and low level dioxin/furan constituents in a variety of organic wastes to levels below detection limits in incineration residues. Option 3 thus would ensure that F032 waste is treated by BDAT technology without the attendant stigma and capacity shortfall problems that would result from setting dioxin/furan numerical limits in the treatment residue.

Although Option 3 is preferable to setting dioxin/furan numerical limits, we do not believe there is a regulatory justification for limiting the treatment standard to permitted combustion devices only. As recently as April, 1996, EPA has amended the treatment standards for the various waste codes that were previously subject to an incineration (INCIN) standard to allow combustion in all hazardous waste incinerators, boilers and industrial furnaces under the new treatment code CMBST. See 61 Fed. Reg. 15,566, 15,601-15,653 (April 8, 1996). EPA has offered no justification for retreating from that decision now in the case of F032 (and perhaps F024) wastes.

Under either option -- Option 1 or Option 3 -- the number of treatment facilities that would accept F032 wastes would be greatly expanded. The Penta Task Force believes that all options being considered by the Agency are fully protective of health and safety and, thus, consideration of practicability and cost should drive the selection of the appropriate treatment option. As explained in our November, 1995 comments, the practical consequences of setting dioxin/furan numerical limits for F032 wastes would be to force wood preserving facilities to send their wastes to the only commercial incineration facility -- the Aptus Incinerator in Coffeyville, Kansas -- that is permitted to treat dioxin-containing waste.

4.4 INSUFFICIENT INCINERATION CAPACITY EXISTS FOR F032 WASTES

Summary:

Several commenters [Beazer East (23); Penta Task Force (32, N3); American Wood Preservers Institute (39); Chemical Waste Management (48, N18); J.H. Baxter (58); the Hazardous Waste Management Association (97); and the Dow Chemical Company (N9)] question whether there is adequate available combustion capacity that can meet the proposed treatment standards for dioxins and furans in F032 wastes. EPA proposed treatment standards for dioxins and furans in F032 wastes, which precluded the use of incinerators that are not permitted to accept dioxin and furan wastes. However, in its capacity analysis for the proposed rule, EPA assumed that all incinerators would be able to treat these wastes, found that there was sufficient incineration capacity available, and thus did not propose a capacity variance for F032 wastes.

Beazer East stated that the proposed LDR standards for dioxins and furans in F032 will create insurmountable disposal problems because only one incinerator in the US is licensed to accept dioxin and furan wastes (23:4,8-10). Penta Task Force stated that the available capacity at the one facility permitted to incinerate dioxins and furans to the proposed standards, the APTUS facility, is less than 6,600 tons/yr for non-PCB wastes. According to Penta Task Force, this creates a shortfall in capacity for the estimated 12,600 tons of F032 nonwastewater process sludges and residuals (32:3-4,13-17,26, N3:2,5). American Wood Preservers Institute (AWPI) stated that the APTUS facility has 19,500 to 25,400 tons of capacity per year, 70 percent of which is dedicated to TSCA-regulated PCB waste, leaving 5,850 to 7,350 tons per year available for other waste streams. AWPI noted that even if all of this remaining capacity is dedicated to F032 waste, there is not sufficient capacity to treat the actual volumes of F032 wastes, and given the strong public resistance to new incinerators and the huge costs associated with permitting facilities capable of meeting a destruction and removal efficiency (DRE) of 99.9999%, additional incineration capacity for dioxin-containing wastes is not likely (39:24-26).

Chemical Waste Management stated that if an incineration facility must demonstrate a DRE of 99.9999%, then EPA must grant a national capacity variance for F032 wastes. However, the commenter notes that if incineration or combustion is established as the treatment standard, its facilities may be able to accept F032 wastes (48:38, N18:2). J.H. Baxter stated that Laidlaw Environmental, the current handler of Baxter's F032 waste streams, will no longer accept the wastes if the dioxin standard for F032 is adopted, and that it will be extremely difficult to obtain timely treatment for F032 waste streams. Baxter also noted that the one commercial facility currently permitted to combust dioxin and furan wastes has an annual capacity is 22,000 tons, 70% of which is devoted to incineration of TSCA-regulated wastes contaminated with PCBs. According to Baxter, this leaves capacity for 6,600 tons of waste from RCRA-regulated disposal activities, which will create a capacity shortfall (58:1-3).

The Hazardous Waste Management Association (HWMA) believes that the Agency's statement regarding the only permitted facility to combust F032 wastes with dioxin and furan constituents (60 FR 43682) contradicts its capacity analysis, which indicates there is sufficient capacity. HWMA stated that there may be sufficient incineration capacity for F034 wastes, but not for dioxins and furans proposed as BDAT for F032, and recommended that EPA either promulgate a two-year national capacity variance or remove dioxins and furans from the F032 treatment standards (97:17-18). The Dow Chemical company believes that EPA has not sufficiently analyzed the available treatment capacity for these wastes (N9:2,3).

Response:

In today's rule EPA is not requiring the combustion of F032 wastes in a "six 9's" destruction and removal efficiency combustion device. Therefore, facilities may combust F032 wastes at any RCRA facility regulated under CFR Part 266 or 264, Subpart O without having to monitor the concentrations of dioxins and furans left behind in the combustion residues. This alternative should eliminate the "stigma" types of concerns raised by commenters. In addition, facilities may combust F032 wastes in combustion devices regulated under CFR Part 265, Subpart O units, provided the residues meet the applicable standards for each regulated dioxin or furan constituent, or make a demonstration that their combustion is at least equivalent to that required of permitted incinerators or Part 266 BIFs, in which case these interim status incinerators would also have the option of not monitoring for dioxins in combustion residue. EPA has determined that approximately 885,539 tons/year of available capacity exists for

liquid Phase IV wood preserving wastes and the approximately 87,600 to 199,000 tons/year of available capacity exists for pumpable/nonpumpable sludges, solids, and soils at combustion facilities permitted to accept F032 wastes (see Section 2.1.2 of this document), while required capacity is only a fraction of these amounts. Therefore, there is sufficient capacity to treat F032 to the final LDR standards, and EPA is not granting a national capacity variance for these wastes.

Comments:

See next page.

Commenter: Beazer East
Comment Number: 23
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As discussed in greater detail below, the Agency's proposed LDR for dioxin/furan congeners (hereinafter referred to as "dioxin/furan") as constituents of F032 LDR lacks scientific justification and will create insurmountable disposal problems. For example, EPA has determined that its proposed one part per billion ("ppb") concentration limit for dioxin/furan can be achieved by incineration, without considering the consequence of only one incinerator being licensed in the United States to accept such waste. Furthermore, EPA has intentionally, through its Draft Combustion Strategy For Combustion of Hazardous Waste, May 1993 ("Combustion Strategy"), created significant impediments to the issuance of new permits for additional hazardous waste incinerators. Moreover, as Beazer has consistently maintained in its previous comments, the public simply refuses to tolerate the risks of new incineration, particularly with respect to the more controversial substances, such as PCBs or dioxins. Under these circumstances, any thought of obtaining a new permit for an incinerator which would be used to incinerate dioxin/furan is unfathomable.

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II. EPA HAS FAILED TO CONSIDER THE TECHNICAL, ECONOMICAL AND PRACTICAL IMPACTS OF THE PROPOSED LDRs ON REMEDIATION

EPA's Proposed Rule fails to consider a number of critical issues related to the remediation of wood treating sites. These issues involve LDRs for F032, F034 and F035 as discussed below.

A. The Proposed LDRs for Hazardous Waste No. F032 Will Create Insurmountable Disposal Problems.

1. Dioxin/Furan should not be regulated constituents under the F032 LDR.

Regulation of dioxin/furan as constituents under the F032 LDR is scientifically unwarranted. One of the first LDRs for dioxin/furan-containing wastes was established by EPA for F027.[2] EPA established the F027 LDR at 1 ppb (in leachate) and is now arbitrarily applying the 1 ppb standard to F032.

EPA's characterization of F027 as acutely hazardous was based on trace levels of hexachlorodioxins. See *Toxicological Profile for Pentachlorophenol*,

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[2] EPA established LDRs for the "dioxin-wastes" F020-23 and F026-28 in one rulemaking on January 14, 1986. 51 Fed. Reg. 1602.

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May 1994, Agency for Toxic Substances and Disease Registry (ATSDR). EPA considers hexachlorodioxins as potent animal carcinogens. Id. This characterization of hexachlorodioxins is not technically founded and is even refuted by the results of a bioassay performed by the National Toxicity Program ("NTP") in 1989, the results of which were reported in NTP-TR-349 and in NIH Publication 89-2804 (the "NTP cancer bioassay"). As noted in a November 27, 1991 letter from Vulcan Chemicals to EPA (the "Vulcan Letter") (obtained from the RCRA docket), the NTP cancer bioassay on penta conclusively demonstrated that any cancer response observed in exposed laboratory animals was due to the toxic overexposure of the test animals to penta and not to the trace amounts of hexachlorodioxin present. See the Vulcan Letter, p.3.

Moreover, the EPA's Science Advisory Board's ("SAB's") recent evaluation of EPA's draft dioxin risk reassessment documents has sharply criticized EPA's reliance on the standard default assumption of a linear non-threshold model for carcinogenic risk and has called for a substantial rewrite of the assessment. The SAB concluded that one major weakness of the assessment was that the presentation of scientific findings portrayed in the draft conclusions was not balanced and exhibited a tendency to overstate the evidence of danger.

Accordingly, Beazer believes that EPA currently is without sufficient scientific bases for regulating dioxin/furan as a constituent of F032.

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RECOMMENDATION:

Given that EPA has yet to scientifically demonstrate and support the risk from low level exposure to dioxin/furan, Beazer recommends that EPA exclude dioxin/furan from regulation as part of the F032 LDRs until agreement on the scientific underpinnings of this regulatory action is achieved.[3]

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[3] Beazer has serious doubts regarding the Agency's rote reliance on technology-based standards to meet LDRs. The Agency has discretion to utilize either a risk-based or technology-based standard, American Petroleum Institute v. EPA, 906 F.2d 729 (D.C. Cir. 1990) and in the case of dioxin/furan, Beazer believes that a site-specific risk-based standard is more appropriate on both a scientific and practical basis. If EPA retains dioxin/furan as an indicator parameter for F032, the standard should not be identical for all congeners. EPA has determined that 2,3,7,8-TCDD is the most toxic of the dioxin/furan congeners. 51 Fed. Reg. 1732. In order to assess the risks posed by dioxin/furan other than 2,3,7,8-TCDD, EPA adopted an interim procedure for assessing the risks to human health based on toxicity equivalency factors ("TEFs") which permits the conversion of any dioxin/furan congener into an equivalent concentration of 2,3,7,8-TCDD or Toxicity Equivalents ("TEQs"). Id. In 1989, EPA adopted the International TEFs which are presented below for the six dioxin/furan congeners in the proposed LDRs for F032.

Compound	Toxicity Equivalent Factor
Tetrachlorodibenzo-p-dioxins (2,3,7,8-TCDDs)	1.0
Pentachlorodibenzo-p-dioxins (2,3,7,8-PeCDDs)	0.5
Hexachlorodibenzo-p-dioxins (2,3,7,8-HxCDDs)	0.1
Tetrachlorodibenzo-p-furans (2,3,7,8-TCDFs)	0.1
Pentachlorodibenzo-p-furans (2,3,4,7,8-TCDFs)	0.5
Hexachlorodibenzo-p-furans (2,3,7,8-HxCDFs)	0.1

See *Interim Procedures for Estimating Risks Associated With Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs).* U.S. Environmental Protection Agency, Risk Assessment Forum, Washington D.C. EPA/625/3089/016 (1989).

All of the dioxin/furan congeners shown above exhibit significantly less toxicity than 2,3,7,8-TCDD. The one congener that is associated with pentachlorophenol, HxCDDs, is 10 times less toxic than 2,3,7,8-TCDD. Clearly, the proposed LDR treatment standard for nonwastewaters of 1 ppb for all the listed dioxins/furans other than possibly 2,3,7,8-TCDD is not consistent with the risks identified in the recent scientific literature associated with each of the congeners. Moreover, EPA has acknowledged that dioxin/furan wastes are immobile. 51 Fed. Reg. 1602 (January 14, 1986). Thus, the risk associated with F032 wastes placed in a secure Subtitle C landfill is dramatically different than the residential risk scenario EPA has utilized to develop dioxin/furan action levels.

Commenter: Penta Task Force
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The Penta Task Force is aware that there is one commercial incineration facility that is permitted to treat dioxin-containing wastes and that the stigma issue does not apply to that facility. But that facility -- the Aptus Incinerator in Coffeyville, Kansas -- is a unit operating at 99.9999 percent ("six 9s") DREs and was designed to handle "acutely hazardous" dioxin-containing wastes. Because EPA has already decided, after an extensive review of the matter, that it is not appropriate to classify F032 wastes as acutely hazardous, any treatment strategy that relies on the management of the wastes in a six 9s incinerator would be improper.

The refusal of treatment facilities to accept F032 wastes will lead to severe shortfalls in treatment capacity. The Coffeyville facility simply does not have sufficient capacity to handle the volumes of F032 wastes that will become subject to the treatment standard. Moreover, even if there were sufficient capacity for six 9s incineration of F032 wastes, the costs compared to incineration at a four 9s unit would be exorbitant. By the Agency's own reckoning, some 12,600 tons of F032 nonwastewater process sludges and residuals are generated each year at wood preserving sites. In comparison, the available capacity of the Coffeyville facility for non-PCB wastes is less than 6,600 tons per year,

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or only one-half that which would be needed to handle the volumes of F032 wastes that would require treatment. As shown below, incineration of the 12,600 tons of F032 process wastes in a six 9s incinerator would cost in excess of $113 million dollars per year compared to the cost of only $12 million dollars for incineration in a four 9s unit. This cost would need to be borne by relatively few companies -- there are only 49 wood preserving plants that generate F032 waste and many of these plants are small- to moderate-sized businesses. (Indeed, even if four 9s incinerators would take the waste, but were forced to charge the same cost as six 9s incineration because of added analytical costs or the need for multiple burns to meet the 1.0 ppb standard, the economic impact on wood preserving sites would have the same devastating impact.)

Commenter: Penta Task Force
Comment Number: 32
Page Number: 13

B. The Stigma Problem Will Lead To Treatment Capacity Shortages.

The Capacity Analysis prepared in connection with this rulemaking estimates that some 12,600 tons of F032 nonwastewater sludges and residuals are generated at wood preserving facilities each year. See Capacity Analysis, 3-8. See also,

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Final Proposed Best Demonstrated Available Technology (BDAT) Background Document for Wood Preserving Wastes F032, F034-F035, Table 3-6, at 3-53 (July 26, 1995) (hereinafter "F032 BDAT Background Document"). If commercial hazardous waste incinerators refuse to take the waste, it will need to go to the Aptus facility in Coffeyville, Kansas -- the only incinerator permitted to accept dioxin-containing wastes. Indeed, EPA's Regulatory Impact Analysis ("RIA") for the proposed rule assumes that the wastes are treated at Coffeyville, which indicates EPA's tacit recognition of the problem.[6]

The annual capacity for the Aptus facility is on average roughly 22,000 tons per year. Telephone Interview with Rollins Environmental Services (Oct. 23, 1995). Of that amount, 70 percent of the incinerator's capacity is dedicated to TSCA-regulated PCB wastes. See Memorandum from Jose Labiosa, USEPA/OSW, Re: Conversation with Chris Logelin, APTUS, (March 16, 1993) (Dkt. No. PH4P-S0127). As such, only 22,0[illegible] tons x 0.3, or 6,600 tons, of the facility's total annual capacity is available for

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[6] It should be noted that although EPA's Capacity Analysis relies on the total combustion capacity provided by all four 9s incinerators and BIFs, its Regulatory Impact Analysis assumes that the F032 wastes will be treated at the Coffeyville facility. See Regulatory Impact Analysis of the Phase IV Land Disposal Restrictions (Draft), 3-6 n.12 (Aug. 7, 1995) (hereinafter "RIA"). Moreover, the volumes of F032 wastes assumed in EPA's Capacity Analysis are 10 fold greater than that assumed in the RIA. Compare Capacity Analysis, at 3-8 (12,600 tons) with RIA, at ES-12, Exh. 3-2 at 3-5 (1,200 tons). In short, the Capacity Analysis is based on one set of assumptions -- incineration of some 12,600 tons of F032 nonwastewaters in four 9s incinerators and BIFs -- and the RIA is based on another series of assumptions -- incineration of 1,200 tons of F032 nonwastewaters in the only six 9s facility permitted to handle such wastes. See RIA, 3-6 n.12. This glaring discrepancy in the methodologies used to support the rulemaking serves to highlight the significant conceptual problems with the Agency's overall approach to establishing the F032 treatment standards.

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incineration of non-PCB wastes. (And some portion of that capacity presumably is already being used to burn dioxin-containing wastes under the waste codes F020, F021, F022, F023, F026, F027 and F028.) In short, the capacity of the Coffeyville facility is only one-half that which would be needed to handle the F032 nonwastewater process wastes.

Moreover, some 10,520 tons of F032-contaminated soil and debris are generated annually at wood processing facilities and large volumes (perhaps as high as 102 million tons) of contaminated soils from past operations may require treatment. See Capacity Analysis, 3-10 to 3-11. Although EPA has proposed a two-year national capacity treatment variance for F032-contaminated soil and debris, neither the Capacity Analysis nor the Regulatory Impact Analysis provide any indication of the significant costs and capacity issues that necessarily will arise after the variance period ends and these contaminated soils require treatment. EPA's failure to squarely address this problem is another example of the significant conceptual problems associated with the current proposal.

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C. **The Treatment Costs Will Be Prohibitive.**

EPA has seriously understated the treatment costs for the volumes of F032 nonwastewaters that will become subject to the rule. In its Regulatory Impact Analysis, EPA has assumed that only some 1,200 tons of F032 nonwastewaters are generated each year at the 49 wood processing facilities that would become subject to the F032 treatment standards. RIA, ES-12, Exh. 3-2 at 3-5, 3-6. But that estimate is flatly inconsistent with the 12,600 tons estimate found in the Capacity Analysis. As noted above, the Capacity

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Analysis estimates the F032 waste volumes at 22,000 tons per year; that estimate is based on data gleaned from the 1993 Biennial Reporting System ("BRS"). The RIA, on the other hand, derives it estimate on the basis of 1993 production statistics multiplied by a waste generation rate taken from a 1985 RCRA 3007 survey.

The methodology used in the Capacity Analysis more reliably reflects actual F032 waste volumes. The BRS data used in the Capacity Analysis reflect recent data reported by wood preserving sites on the actual quantities of wastes transferred off-site for treatment or disposal during 1993. The 1985 RCRA 3007 survey, on the other hand, was conducted at a time when most wood treating facilities were using surface impoundments for waste management and therefore had limited ability to quantify waste generation rates. Also, the RIA incorrectly asserts that the BRS report might reflect double counting of waste streams. In point of fact, the procedures used by BRS to collect the data were carefully designed to avoid double-counting. For these reasons, the volume estimates in the Capacity Analysis are more accurate than those presented in the RIA. If EPA were to use these more accurate volume estimates to analyze costs, it is clear as shown below that the cost of meeting the treatment standards at a six 9s incinerator would be prohibitive.

In estimating costs, EPA has evaluated the incremental cost of requiring combustion of F032 nonwastewaters by a six 9's DRE incinerator against the cost under a "no treatment option." RIA, 3-7. We believe that a more illustrative measure of costs would be to compare the cost of incineration at a six 9s unit with the cost of incineration at a four 9s unit. Our consultant, H.M. Rollins, recently contacted representatives of the

Commenter: Penta Task Force
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Aptus facility and learned that the unit cost of incinerating dioxin-containing wastes at that facility is currently $4.50/lb ($9,000/ton).[7/] By comparison, the unit cost for incineration at a four 9s incinerator is roughly $0.48/lb ($960/ton). The incremental cost of six 9s versus four 9s incineration thus is roughly $8,000/ton ($9,000 - $960 = $8,040). The cost of incineration of the 12,600 tons of F032 nonwastewaters would be roughly $113 million per year at the Coffeyville facility and roughly $12 million per year in a four 9s incinerator. The incremental cost of six 9s versus four 9s treatment of the F032 wastes is thus some $101 million per year. These prohibitive and unnecessary costs would need to be borne by the relatively few wood preserving sites -- 49 in all -- that would become subject to the rule.

Commenter: Penta Task Force
Comment Number: 32
Page Number: 26

A. EPA Should Establish Incineration As An Alternative Treatment Standard.

Incineration in a four 9s combustion unit currently is the only practicable technology for treating F032 waste streams. Because of the stigma problem, that technology will be unavailable if the Agency sets treatment standards for dioxin/furan constituents in the waste.

Commenter: Penta Task Force
Comment Number: N3
Page Number: 2

As explained in our comments on the August, 1995 Phase IV LDR proposal, numerical limits for dioxin and furan constituents of F032 waste will raise treatment costs to prohibitive levels, will foreclose the only practicable avenue for treatment -- thermal treatment in combustion units that are subject to subtitle C standards, and is inconsistent with EPA's past regulation of other similar chlorinated waste that contain dioxins and furans (i.e., F024 waste).

Commenter: Penta Task Force
Comment Number: N3
Page Number: 5

In short, Option 2 does not address the principle problem with the proposed dioxin/furan treatment standard -- the lack of available treatment capacity for such waste and the exorbitant cost of treatment in those limited circumstances where the capacity does exist.

Commenter: American Wood Preservers Institute
Comment Number: 39
Page Number: 24

EPA IGNORES THE STIGMA ASSOCIATED WITH DIOXIN AND FURAN WASTES

EPA states that incineration should be able to meet the proposed treatment standards for organic wastewaters and non-wastewaters.[45] However, this ignores the stigma associated with dioxin and furan wastes.

EPA is aware of the dioxin and furan waste stigma and has acknowledged this it directly and indirectly on several occasions. In 1991, the Agency noted that "the commercial hazardous waste treatment industry tends to shy away from these (dioxin-containing) wastes, thus resulting in unnecessary delays in such treatment."[46] The Agency also acknowledged that incineration capacity is limited and "the possibility of increased capacity in the future is constrained by EPA's "Draft Strategy for Combustion of Hazardous Waste", issued in May 1993.[47]

Presently, there is only one incinerator permitted to accept dioxin-containing wastes in the United States – Rollin's APTUS facility in Coffeyville, Kansas. EPA has not issued standards dealing with particulate matter and dioxins/furans under its combustion strategy. Given the strong public resistance to new incinerators, and the huge costs associated with permitting a six-9's facility (several millions of dollars), additional incineration capacity for these wastes is not likely.

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[45] 60 FR 43685 (August 22, 1995).
[46] See, Advanced Notice of Proposed Rulemaking (ANPR) "Land Disposal Restrictions: Potential Treatment Standards for Newly Identified and Listed Wastes and Contaminated Soils", 56 FR 55160, 55179 (October 24, 1991).
[47] See, "Presumptive Remedies for Soil, Sediments, and Sludges at Wood Treater Sites Quick Fact Sheet (Draft)" (November 1994).

Commenter: American Wood Preservers Institute
Comment Number: 39
Page Number: 25

COMMENT:

AWPI believes that sufficient incineration capacity does not exist to meet the actual volumes of F032 wastes.

ALTERNATIVE TECHNOLOGIES TO INCINERATION DO NOT EXIST

EPA states that "any available technology can be used to meet the LDR level.[48] All of the so-called "alternatives" were evaluated by the Office of Technology Assessment (OTA) in 1991. Of the thirteen identified dioxin and furan treatment technologies, only one (rotary kiln incineration) had been developed, permitted and used on a site cleanup.[49]

COMMENT:

AWPI is unaware of any alternative technology that has been developed to commercial scale, permitted to receive, and capable of meeting the 1 ppb PCDD and PCDF UTSs.

INCINERATION FOR F032 IS NOT "AVAILABLE"

EPA has based its treatment standards for F032 on incineration. The Agency estimates that the 49 plants using pentachlorophenol generate 12,600 tons of F032 non-wastewater process sludges and residuals per year. In addition, these plants will generate some 10,500 tons of F032 soil and debris annually.

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[48] 60 FR 43680 (August 22, 1995).
[49] See, "Dioxin Treatment Technologies-Background Paper", U.S. Congress, Office of Technology Assessment, OTA-BP-0-93, p.13 (November 1991).

Commenter: American Wood Preservers Institute
Comment Number: 39
Page Number: 26

While not disputing that the technology has been demonstrated, AWPI questions how EPA can state that it is "available." Only one site (APTUS) is permitted to accept dioxin-containing wastes with a 19,500 to 24,500 tons per year capacity. Of that amount, 70 percent is dedicated to TSCA-regulated PCB waste leaving 5,850 to 7,350 tons per year capacity available for other waste streams.[50]

COMMENT:

If one assumes that the APTUS facility will dedicate the remaining 30 percent capacity exclusively to burning F032 waste, and assuming the high end of the capacity range (7,350 tons per year), the APTUS facility comes up short by 15,750 tons per year. One six-9's facility does not constitute "available" technology.

Commenter: Chemical Waste Management
Comment Number: 48
Page Number: 38

Furthermore, it is not clear to CWM how the Agency's Combustion Strategy will alleviate this problem as the Agency states it will. The establishment of stricter dioxin and furan requirements on combustion facilities will still not alleviate the dioxin myth in the eyes of the public that has been perpetuated by the Agency.

Commenter: Chemical Waste Mangement
Comment Number: N18
Page Number: 2

CWM believes that the easiest approach to implement would be to establish INCIN or CMBST as the treatment standard for the D/F constituents in the F032 wastes. If F032 dioxins and furans are regulated in this manner then CWM incineration facilities will be much more likely to accept F032 waste streams than if specific D/F constituents are regulated individually.

Commenter: J.H. Baxter
Comment Number: 58
Page Number: 1

Along with other members of the wood preservation industry, J.H. Baxter is concerned about the impact of the proposed 1.0 part per billion treatment standard for dioxins and furans in the F032 wastestreams. J.H. Baxter believes there is not adequate capacity for treatment of F032 wastes if a treatment standard is established for dioxin constituents. Even with adequate capacity, the high cost of incineration would make the economic impact on our company and other affected wood treating facilities devastating.

We also have provided comments on the current classification of wood preserving production waste waters as solid waste. J.H. Baxter believes EPA should amend the regulations to exempt recycled wood preserving waste waters from the definition of solid waste.

Commenter: J.H. Baxter
Comment Number: 58
Page Number: 2

I. *Treatment Standards for F032 Wood Preserving Wastes*

A. EPA's Proposal Does Not Address Capacity Shortfall Issues

J.H. Baxter uses pentachlorophenol (penta) to treat wood products, primarily utility poles and utility pole cross-arms, that are exposed to extreme weather conditions for extended periods of service. The treating solution for these wood products consists of penta and oil, usually fuel or diesel grade. Consequently, F032 wastestreams have high energy values. They are accepted at permitted incineration facilities as alternative energy sources. If the proposed regulation with the associated dioxin standard is adopted, the wood preserving industry no longer will be able to utilize the facilities currently permitted to burn F032 wastes.

In 1991 EPA requested data and comments on treatment standards for many newly listed RCRA wastes, including F032 wastes. At that time, the Agency noted that in its experience when dioxin and furan constituents are proposed for regulation in waste-specific treatments, the hazardous waste industry "tends to shy away" from the treating such wastes, creating delays in treatment. 56 Fed. Reg. 55160, 55179 (Oct. 24, 1991). The proposal stated that the delays result "due to the acute sensitivity of the public to these constituents and the increase in liability resulting from handling them." Id. In effect, these wastes are pariahs as far as the public and the hazardous waste treatment industry are concerned. EPA, therefore, solicited ideas on how F032 treatment standards could be constructed, so as to avoid anticipated bottlenecks in treatment for these wastes.

In the current proposal, EPA notes that many commentors to its 1991 notice expressed concerns that facilities would not accept the F032 waste if the treatment standards include a dioxin limitation. J.H. Baxter shares these concerns. J.H. Baxter has been informed by Laidlaw Environmental, the commercial hazardous waste facility currently handling our F032 wastestreams, that Laidlaw will not accept these wastes if the dioxin standard for F032 wastes is adopted. J.H. Baxter has no doubt that it will be extremely difficult, if not impossible, to obtain timely treatment for F032 wastestreams, should dioxin constituents be regulated.

Commenter: J.H. Baxter
Comment Number: 58
Page Number: 3

In contrast to the concern about treatment delays it viewed as serious in 1991, EPA now curtly dismisses the issue in one sentence, stating that the Agency's "Combustion Strategy" will alleviate this problem. 60 Fed. Reg. at 43682. In reviewing the proposed regulation there is no discussion of the "Combustion Strategy" or whether facilities legally will be able to accept and treat wastes with the associated dioxin standard using this "Combustion Strategy."

Presumably, the "Combustion Strategy" refers to a draft policy statement issued by EPA on May 18, 1993, that discusses both short and long-term goals for incinerators and industrial furnaces. It is impossible to ascertain how this policy statement can alleviate the unwillingness of the hazardous waste industry to accept F032 wastes if a dioxin standard is imposed. As noted earlier by EPA, refusals by commercial hazardous waste treaters to accept wastestreams with specific dioxin standards are based on public sensitivities and concerns about increased liability. Changes in permitting requirements or incinerator capacity applicable to a dioxin standard for F032 may be goals of EPA's draft policy. These goals currently have not changed public perceptions or decreased liability concerns for waste treaters. No treatment standard should be tied to these changes until they are realities.

In the newly proposed regulation, EPA has identified only one commercial facility currently permitted to combust wastes that may have PCDD and PCDF constituents with concentrations above the treatment standard proposed for F032 wastes. 60 Fed. Reg. at 43681. It is our understanding that this incineration facility has an annual capacity of only 22,00[illegible] tons. Seventy percent of this annual capacity is devoted to incineration of TSCA-regulated wastes contaminated with polychlorinated biphenyls. Therefore, this facility has additional annual capacity for only 6,600 tons of wastes from RCRA-regulated disposal activities. This predictable, extreme capacity shortfall is not addressed at all by EPA in the proposal.

Commenter: Hazardous Waste Management Association
Comment Number: 97
Page Number: 17

The Agency is proposing a national capacity variance for soil and debris contaminated with Phase IV newly listed wastes. HWMA supports this proposal in principal; however, it is not clear whether this includes D004-D011 newly identified wastes. The Agency states that, "EPA is proposing a national capacity variance for soil and debris contaminated with Phase IV newly listed wastes" (60 FR 43686). This statement implies that the capacity variance is for all newly identified Phase IV soil and debris, a universe which does include D004-D011 newly identified wastes. However, the Agency does not indicate that this national capacity variance is being

Commenter: Hazardous Waste Management Assocation
Comment Number: 97
Page Number: 18

Furthermore, it is not clear how the Agency's Combustion Strategy will alleviate this problem as asserted by the Agency. The establishment of stricter dioxin and furan requirements on combustion facilities will still not alleviate the myth in the eyes of the public that dioxin is the most toxic compound known to man and that no exposure is acceptable.

Commenter: DOW
Comment Number: N9
Page Number: 2

Suboptions 2 and 3 also raise national capacity questions which EPA must address before further consideration of adopting such constraints can proceed

Commenter: DOW
Comment Number: N9
Page Number: 3

In considering the additional limitations described in Suboptions 2 and 3, EPA has not addressed whether sufficient available capacity would remain which is licensed to treat the volume of F024 and F032 currently generated. Dow alone currently generates over 50,000 tons per year of F024 at its U.S. facilities. Implementation of Suboptions 2 or 3 would require a significant portion of that waste volume to be managed offsite in commercial units. Before proceeding, EPA must analyze the U.S. wide generation of the potentially impacted waste codes considering how much available treatment capacity would be available after such requirements would go into effect.

4.5 CAPACITY FOR F032 WILL NOT INCREASE

Summary:

In the proposed rule, EPA stated that although some commenters to the ANPRM (56 FR 55160) had expressed concern that treatment facilities would not accept F032 waste if the treatment standards include a dioxin concentration, EPA believed that its Combustion Strategy would alleviate this problem. Many commenters to the proposed rule stated that new available capacity for F032 wastes will not become available due to the stigma associated with dioxins and requested that EPA explain how the Combustion Strategy will address the stigma associated with dioxins and furans [Beazer East (23); Penta Task Force (32); American Wood Preservers Institute (39); Chemical Waste Management (48); J.H. Baxter (58); HWMA (97)]. Beazer East and American Wood Preservers Institute both believe that given the current public sentiment a new permit for incineration of dioxins and furans will never be issued (23:4,8-10; 39:24-26). Penta Task Force stated that dioxin emissions are not the real problem behind the treatment industry's reluctance to accept dioxin/furan containing-wastes, but that the real issue is a reluctance by incineration facilities to analyze their ash and residuals for dioxin/furans because they are likely to exceed the 1 ppb standard stated in the proposed rule (32:2-3). Chemical Waste Management, J.H. Baxter, and the Hazardous Waste Management Association all stated that the Agency's Combustion Strategy will not alleviate public concern over dioxins (48:38; 58:4-5; 97:18).

Response:

In today's rule EPA is not requiring the combustion of F032 wastes in a "six 9's" destruction and removal efficiency combustion device. Therefore, facilities may combust F032 wastes at any RCRA facility regulated under CFR Part 266 or 264, Subpart O without having to monitor the concentrations of dioxins and furans left behind in the combustion residues. This alternative should eliminate the stigma types of concerns raised by commenters. In addition, facilities may also combust F032 wastes in combustion devices regulated under CFR Part 265, Subpart O units, provided the residues meet the applicable standards for each regulated dioxin or furan constituent, or make a demonstration that their combustion is at least equivalent to that required of permitted incinerators or Part 266 BIFs, in which case these interim status incinerators would also have the option of not monitoring for dioxins in combustion residue. Under EPA's Combustion Strategy, EPA has directed permit writers to determine whether the combustion of low level dioxin wastes is being conducted in a manner that is protective of human health and the environment. EPA believes that the final approach to F032 wastes is consistent with this Combustion Strategy by providing a compliance alternative for those units required to comply with standards assuring good combustion efficiency, or that demonstrate such efficiency. Furthermore, as seen in Chapter 2 of this background document, the Agency accounts for the potentially lower available combustion capacity resulting from the treatment standards chosen for F032 wastes and still finds ample capacity available.

Comments:

See next page.

Commenter: Beazer East
Comment Number: 23
Page Number: 4

As discussed in greater detail below, the Agency's proposed LDR for dioxin/furan congeners (hereinafter referred to as "dioxin/furan") as constituents of F032 LDR lacks scientific justification and will create insurmountable disposal problems. For example, EPA has determined that its proposed one part per billion ("ppb") concentration limit for dioxin/furan can be achieved by incineration, without considering the consequence of only one incinerator being licensed in the United States to accept such waste. Furthermore, EPA has intentionally, through its Draft Combustion Strategy For Combustion of Hazardous Waste, May 1993 ("Combustion Strategy"), created significant impediments to the issuance of new permits for additional hazardous waste incinerators. Moreover, as Beazer has consistently maintained in its previous comments, the public simply refuses to tolerate the risks of new incineration, particularly with respect to the more controversial substances such as PCBs or dioxins. Under these circumstances, any thought of obtaining a new permit for an incinerator which would be used to incinerate dioxin/furan is unfathomable.

Commenter: Beazer East
Comment Number: 23
Page Number: 8

II. EPA HAS FAILED TO CONSIDER THE TECHNICAL, ECONOMICAL AND PRACTICAL IMPACTS OF THE PROPOSED LDRs ON REMEDIATION

EPA's Proposed Rule fails to consider a number of critical issues related to the remediation of wood treating sites. These issues involve LDRs for F032, F034 and F035 as discussed below.

A. The Proposed LDRs for Hazardous Waste No. F032 Will Create Insurmountable Disposal Problems.

1. Dioxin/Furan should not be regulated constituents under the F032 LDR.

Regulation of dioxin/furan as constituents under the F032 LDR is scientifically unwarranted. One of the first LDRs for dioxin/furan-containing wastes was established by EPA for F027.[2] EPA established the F027 LDR at 1 ppb (in leachate) and is now arbitrarily applying the 1 ppb standard to F032.

EPA's characterization of F027 as acutely hazardous was based on trace levels of hexachlorodioxins. See *Toxicological Profile for Pentachlorophenol,*

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[2] EPA established LDRs for the "dioxin-wastes" F020-23 and F026-28 in one rulemaking on January 14, 1986. 51 Fed. Reg. 1602.

Commenter: Beazer East
Comment Number: 23
Page Number: 9

May 1994, Agency for Toxic Substances and Disease Registry (ATSDR). EPA considers hexachlorodioxins as potent animal carcinogens. Id. This characterization of hexachlorodioxins is not technically founded and is even refuted by the results of a bioassay performed by the National Toxicity Program ("NTP") in 1989, the results of which were reported in NTP-TR-349 and in NIH Publication 89-2804 (the "NTP cancer bioassay"). As noted in a November 27, 1991 letter from Vulcan Chemicals to EPA (the "Vulcan Letter") (obtained from the RCRA docket), the NTP cancer bioassay on penta conclusively demonstrated that any cancer response observed in exposed laboratory animals was due to the toxic overexposure of the test animals to penta and not to the trace amounts of hexachlorodioxin present. See the Vulcan Letter, p.3.

Moreover, the EPA's Science Advisory Board's ("SAB's") recent evaluation of EPA's draft dioxin risk reassessment documents has sharply criticized EPA's reliance on the standard default assumption of a linear non-threshold model for carcinogenic risk and has called for a substantial rewrite of the assessment. The SAB concluded that one major weakness of the assessment was that the presentation of scientific findings portrayed in the draft conclusions was not balanced and exhibited a tendency to overstate the evidence of danger.

Accordingly, Beazer believes that EPA currently is without sufficient scientific bases for regulating dioxin/furan as a constituent of F032.

Commenter: Beazer East
Comment Number: 23
Page Number: 10

RECOMMENDATION:

Given that EPA has yet to scientifically demonstrate and support the risk from low level exposure to dioxin/furan, Beazer recommends that EPA exclude dioxin/furan from regulation as part of the F032 LDRs until agreement on the scientific underpinnings of this regulatory action is achieved.[3]

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[3] Beazer has serious doubts regarding the Agency's rote reliance on technology-based standards to meet LDRs. The Agency has discretion to utilize either a risk-based or technology-based standard, American Petroleum Institute v. EPA, 906 F.2d 729 (D.C. Cir. 1990) and in the case of dioxin/furan, Beazer believes that a site-specific risk-based standard is more appropriate on both a scientific and practical basis. If EPA retains dioxin/furan as an indicator parameter for F032, the standard should not be identical for all congeners. EPA has determined that 2,3,7,8-TCDD is the most toxic of the dioxin/furan congeners. 51 Fed. Reg. 1732. In order to assess the risks posed by dioxin/furan other than 2,3,7,8-TCDD, EPA adopted an interim procedure for assessing the risks to human health based on toxicity equivalency factors ("TEFs") which permits the conversion of any dioxin/furan congener into an equivalent concentration of 2,3,7,8-TCDD or Toxicity Equivalents ("TEQs"). Id. In 1989, EPA adopted the International TEFs which are presented below for the six dioxin/furan congeners in the proposed LDRs for F032.

Compound	Toxicity Equivalent Factor
Tetrachlorodibenzo-p-dioxins (2,3,7,8-TCDDs)	1.0
Pentachlorodibenzo-p-dioxins (2,3,7,8-PeCDDs)	0.5
Hexachlorodibenzo-p-dioxins (2,3,7,8-HxCDDs)	0.1
Tetrachlorodibenzo-p-furans (2,3,7,8-TCDFs)	0.1
Pentachlorodibenzo-p-furans (2,3,4,7,8-TCDFs)	0.5
Hexachlorodibenzo-p-furans (2,3,7,8-HxCDFs)	0.1

See *Interim Procedures for Estimating Risks Associated With Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and -dibenzofurans (CDDs and CDFs).* U.S. Environmental Protection Agency, Risk Assessment Forum, Washington D.C. EPA/625/3089/016 (1989).

All of the dioxin/furan congeners shown above exhibit significantly less toxicity than 2,3,7,8-TCDD. The one congener that is associated with pentachlorophenol, HxCDDs, is 10 times less toxic than 2,3,7,8-TCDD. Clearly, the proposed LDR treatment standard for nonwastewaters of 1 ppb for all the listed dioxins/furans other than possibly 2,3,7,8-TCDD is not consistent with the risks identified in the recent scientific literature associated with each of the congeners. Moreover, EPA has acknowledged that dioxin/furan wastes are immobile. 51 Fed. Reg. 1602 (January 14, 1986). Thus, the risk associated with F032 wastes placed in a secure Subtitle C landfill is dramatically different than the residential risk scenario EPA has utilized to develop dioxin/furan action levels.

Commenter: American Wood Preserves Institute
Comment Number: 39
Page Number: 24

EPA IGNORES THE STIGMA ASSOCIATED WITH DIOXIN AND FURAN WASTES

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EPA is aware of the dioxin and furan waste stigma and has acknowledged this it directly and indirectly on several occasions. In 1991, the Agency noted that "the commercial hazardous waste treatment industry tends to shy away from these (dioxin-containing) wastes, thus resulting in unnecessary delays in such treatment."[46] The Agency also acknowledged that incineration capacity is limited and "the possibility of increased capacity in the future is constrained by EPA's "Draft Strategy for Combustion of Hazardous Waste", issued in May 1993.[47]

Presently, there is only one incinerator permitted to accept dioxin-containing wastes in the United States – Rollin's APTUS facility in Coffeyville, Kansas. EPA has not issued standards dealing with particulate matter and dioxins/furans under its combustion strategy. Given the strong public resistance to new incinerators, and the huge costs associated with permitting a six-9's facility (several millions of dollars), additional incineration capacity for these wastes is not likely.

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[45] 60 FR 43685 (August 22, 1995).
[46] See, Advanced Notice of Proposed Rulemaking (ANPR) "Land Disposal Restrictions: Potential Treatment Standards for Newly Identified and Listed Wastes and Contaminated Soils", 56 FR 55160, 55179 (October 24, 1991).
[47] See, "Presumptive Remedies for Soil, Sediments, and Sludges at Wood Treater Sites Quick Fact Sheet (Draft)" (November 1994).

Commenter: American Wood Preserves Institute
Comment Number: 39
Page Number: 25

COMMENT:

AWPI believes that sufficient incineration capacity does not exist to meet the actual volumes of F032 wastes.

Commenter: American Wood Preserves Institute
Comment Number: 39
Page Number: 26

While not disputing that the technology has been demonstrated, AWPI questions how EPA can state that it is "available." Only one site (APTUS) is permitted to accept dioxin-containing wastes with a 19,500 to 24,500 tons per year capacity. Of that amount, 70 percent is dedicated to TSCA-regulated PCB waste leaving 5,850 to 7,350 tons per year capacity available for other waste streams.[50]

COMMENT:

If one assumes that the APTUS facility will dedicate the remaining 30 percent capacity exclusively to burning F032 waste, and assuming the high end of the capacity range (7,350 tons per year), the APTUS facility comes up short by 15,750 tons per year. One six-9's facility does not constitute "available" technology.

Commenter: Penta Task Force
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As EPA is aware, there is a stigma associated with wastes containing dioxins and furans. In the past, when the Agency has attempted to set treatment standards for dioxin and furan constituents in wastes, commercial treatment facilities have refused to accept the wastes and the result has been a severe shortfall in treatment capacity. In the case of chlorinated aliphatic hydrocarbon manufacturing ("F024") wastes, the situation was sufficiently grave to require EPA to alter the regulatory standard to delete the dioxin and furan limits and to offer incineration as an alternative treatment standard.

EPA now suggests that its proposed combustion strategy will solve the stigma problem. The Penta Task Force disagrees. The standards contemplated under the combustion strategy have not yet been proposed and, even under the most ambitious rulemaking schedule, would not be in place in time to address the capacity shortages that are expected to result from the present rulemaking. More importantly, the combustion strategy is targeted at reducing dioxin emissions and, as such, does not address the real problem behind the treatment industry's refusal to accept wastes that are governed by dioxin and furan treatment standards -- the reluctance of incineration facilities to analyze their ash and other combustion residuals for dioxins and furans. As EPA is aware, the residuals from combustion of certain chlorinated wastes that are currently handled by these facilities are likely to contain dioxins and furans at appreciable levels far above the 1 part-per-billion ("ppb") standard for dioxin and furan constituents contemplated in the

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proposed rule. It is this fact, not the levels of dioxins and furans in incinerator emissions, that accounts for the treatment industry's reluctance to accept wastes regulated by dioxin furan treatment standards. Moreover, as we show, even after combustion units are upgraded to meet the new standards contemplated by EPA's combustion strategy, the residues contained in the air pollution control devices at the "upgraded" units are still likely to exceed the 1 ppb dioxin/furan limits.

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Furthermore, it is not clear to CWM how the Agency's Combustion Strategy will alleviate this problem as the Agency states it will. The establishment of stricter dioxin and furan requirements on combustion facilities will still not alleviate the dioxin myth in the eyes of the public that has been perpetuated by the Agency.

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EPA currently does not have adequate information about the economic impact of this proposal on the wood treating industry. There have been several requests made to EPA to defer or forego the regulation of PCDD and PCDF in F032 wastestreams based on the belief that regulation of surrogate constituents such as pentachlorophenol, total suspended solids and oils and greases, in F032 will provide adequate treatment. EPA received no data in support of these proposals and, therefore, has proposed to regulate dioxin constituents.

Now EPA in the discussion of its compliance with the regulatory impact analysis requirements of Executive Order 12866 has requested better information on potentially impacted facilities, waste volumes and constituents, concentrations, additional treatment requirements and treatment costs. Further, other cost estimates used by EPA in its regulatory analysis of the impact of the Phase II Land Disposal Restrictions are based on industries that use wastewater treatment surface impoundments and other wastewater practices not used in the wood preserving industry, and consequently which have no applicability to the economic impact on the wood preserving industry of these regulations.

J.H. Baxter requests that EPA defer a decision on regulating dioxin constituents in F032 wastestreams until it obtains better information to estimate accurately the economic impact on the wood preserving industry, and particularly on the small facilities in that industry. Additionally, EPA should