

US EPA ARCHIVE DOCUMENT

DCN PH4P027
COMMENTS Rollins Environmental
RESPONDER JL
SUBJECT WOOD4
SUBJNUM 027
COMMENT

RES fully supports the treatment standards as proposed for F032, 34, & 35. These standards reflect the use of the demonstrated achievable Universal Treatment Standards (UTS), and are protective of human health and the environment.

The Agency indicated that some commenters to the ANPRM of April, 1991 were concerned about the proposed Dioxin/Furan treatment standard for nonwastewater F032 wastes. The commenters expressed concern about the need to monitor Dioxin/Furan's in the treatment residue, and about the available capacity to treat these wastes. We contend the inclusion of a Dioxin/Furan treatment standard for F032 is necessary to assure proper treatment of these wastes and there is more than sufficient capacity available to provide this treatment.

Dioxins and Furans are present in Chlorophenolic formulations which are used in the process generating this waste. In addition, if the treatment process for these wastes is not properly operated and fully monitored, treatment of Chlorophenolics could actually result in some Dioxin/Furan formation (a properly run and monitored treatment process will not allow this reformation and can routinely meet the proposed Dioxin/Furan standards). A treatment standard for Dioxin/Furan's will assure that F032 wastes are treated correctly with proper treatment practices to destroy all organic constituents. Proper treatment includes destroying the Dioxin/Furan's in the waste and preventing their reformation in the treatment process. Therefore, the Dioxin/Furan treatment standard is needed to require treatment of all hazardous constituents in F032 wastes and thereby meet the "minimize threat" level required by RCRA.

RESPONSE

EPA is promulgating treatment standards that set numerical limits for the regulation of Dioxin and Furan (D/F) hazardous constituents in F032. In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method solely for D/F constituents in F032.

This alternative limits the availability of the "CMBST" to those combustion devices subject to combustion standards in 40 CFR 264 Subpart O, or 40 CFR 266 Subpart H. F032 wastes combusted in combustion devices operating under these standards do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to every other organic and metal constituent regulated in F032 as a prerequisite to land disposal.

It should be emphasized that facilities seeking the combustion of F032 in an incinerator regulated under a 40 CFR 265 Subpart O do not qualify for a "CMBST" treatment standard. F032 residues arising from 40 CFR 265 units must meet the applicable UTS numerical limits for each regulated D/F constituent as a prerequisite to land disposal.

EPA also believes that facilities operating a Part 265 incinerator that can demonstrate to EPA that their combustion device operates in a manner that conforms to the combustion controls achieved by Part 264 incinerators or Part 265 BIFs may qualify for the CMBST treatment standard pursuant to a treatability variance under 268.42(b). (See Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997, and today's preamble discussion.)

EPA disagrees somewhat with the commenter's assertion that numerical standards are needed for D/F. EPA is persuaded that permitted incinerators and BIFs need not monitor these constituents. As set out in the preamble, these units are subject to controls on combustion efficiency (BIFs directly, and incinerators through omnibus determinations) as well as controls on D/F emissions when operated in a manner conducive for D/F formation (under the same authority). EPA believes these units will fully destroy D/F in the wastes. The Agency believes it is justified, to assure the availability of capacity, to provide this modest compliance accommodation.

DCN PH4P032
COMMENTS Penta Task Force
RESPONDER JL
SUBJECT WOOD4
SUBJNUM 032
COMMENT

F. The Levels Of Dioxins/Furans In F032 Wastes Do Not Warrant Separate Dioxin/Furan treatment Standards.

To the extent EPA has concluded that the concentrations of dioxins/furans in F032 wastes are sufficiently high to warrant the extraordinary measure of incineration in a six 9s unit, that conclusion is unwarranted. Only acutely hazardous dioxin containing wastes (i.e., F020-F023, F026, F027, and F028) are required to be incinerated in a six 9s unit. But, as EPA's analysis clearly shows, the concentrations of dioxins/furans in F032 wastes are some three to four orders of magnitude lower than the corresponding dioxin/furan concentrations in wastes designated as acutely hazardous. - See Tables attached to Labiosa Memorandum Re: "Regulations of Dioxins in F032, and U242" (undated) (Dkt. No. PH4P-S0128).

Moreover, there is a substantial likelihood that EPA has overstated the levels of dioxins and furans in F032 wastes. According to data in the Agency's possession, the average dioxin/furan concentrations in F032 process sludges and residuals are 3.0 ppb for TCDDs, 1.0 ppb for PeCDDs, 2,000 ppb for HxCDD, 20 ppb for TCDFs, 500 ppb for PeCDFs, and 3,000 ppb for HxCDFs. See F032 BDAT Background Document, Table 3-8 at 3-56. But, these data were culled from sampling of wood preserving sites during the mid-1980s. See Background Document Supporting the Proposed Listing of Waste from Wood Preservation and Surface Protection Processes, Vol. I, Table I-2 at I-4 (Dec. 19, 1988). A number of significant events have occurred since that time that bring into issue whether these older data reflect the dioxin/furan concentrations in F032 wastes currently generated at wood processing facilities.

The concentration of dioxins/furans in commercial pentachlorophenol formulations have decreased substantially since the mid-1980s. In 1986, U.S. manufacture of pentachlorophenol became subject to comprehensive regulation under the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA") which sets stringent limits on the levels of hexachlorodibenzo-p-dioxin ("HxCDD") in the pentachlorophenol that is marketed in the U.S. A Settlement Agreement entered into between EPA and the U.S. manufacturers of penta limits the HxCDD

content of each batch of pentachlorophenol released for shipment to no more than 4 parts-per-million ("ppm"), and 2 ppm HxCDD for the average of all batches released for shipment in any calendar month. This limit in HxCDD content must be met without causing the formation of any detectable amounts of 2,3,7,8-TCDD at a limit of detection limit of no higher than 1 ppb.

U.S. manufacturers are also required to sample and analyze every batch of pentachlorophenol released for shipment for HxCDD content. An additional sampling and analysis for other dioxin/furan contaminants are conducted once a month, or after 120 batches of pentachlorophenol has been produced. The results of the analyses are submitted to EPA's Office of Pesticide Programs in monthly reports.

As a result of these U.S. requirements, U.S. manufacturers have applied substantial resources to the investigation of penta manufacture in relation to the formation of HxCDD in the product. The HxCDD content of individual batches consistently meets U.S. requirements with the average monthly HxCDD levels of all batches between 1.5 and 1.8 ppm. These reductions have been accomplished by carefully optimizing the reaction parameters used in penta manufacture so as to minimize to the extent practicable the formation of HxCDD. As shown below, not only has the HxCDD content of penta been minimized, but the concentrations of a number of other dioxins/furans have been substantially reduced.

These are summarized below:

TCDD Content. The F032 BDAT Background Document reports that the concentration of TCDD in technical grade pentachlorophenol ranges from < 0.03 ppm to 18 ppm. F032 BDAT Background Document, Table 3-2 at 3-49. The attached table (Tab 2) set forth analyses of penta produced by Vulcan during the period January 1989 through August 1994.⁸ As shown in the table, TCDD has not been detected in Vulcan produced penta at the detection limit of 0.001 ppm. (Analysis of KMG-Bernuth's product gives comparable results.)

TCDF Content. The F032 BDAT Background Document reports that the concentration of TCDF in technical grade pentachlorophenol ranges from 0.01 ppm to 10 ppm. Id., Table 3-2 at 3-49. Vulcan's analysis of its penta product produced during the period January 1989 through August 1994 shows the absence of TCDF at the detection limit of 0.001 ppm. See Table at Tab 3. (Analysis of KMG-Bernuth's product gives comparable results.)

⁸ The data discussed above was collected in connection with comments prepared on EPA's draft dioxin reassessment document in the fall of 1994. The comments covered the period January

1989 through August 1994 and these data are attached as exhibit to these comments. The composition of penta produced since August of 1994 are consistent with these data.

PeCDD/PeCDF Content. The F032 BDAT Background Document reports that the concentrations of PeCDD in pentachlorophenol range from < 0.03 ppm to 100 ppm, and the concentrations of PeCDF range from 0.03 ppm to 40 ppm. Analysis of penta produced during the period January 1989 through August 1994 has not indicated the presence of either PeCDD or PeCDF at approximately the 0.005 ppm detection limits. See Tables at Tab 4. (Analysis of KMG-Bernuth's product gives comparable results.)

HxCDD Content. The F032 BDAT Background Document reports that the concentration of HxCDD in pentachlorophenol ranges from < 0.03 ppm to 1,000 ppm. As discussed above, and as shown in the attached tables (Tab 5), the HxCDD content of each batch of Vulcan-produced penta is consistently below 4.0 ppm with the average monthly HxCDD levels between 1.5 ppm and 1.8 ppm. (Analysis of KMG-Bernuth's product gives comparable results.)

HxCDF Content. The F032 BDAT Background Document reports that the concentration of HxCDF in pentachlorophenol ranges from < 0.03 ppm to 90 ppm. Id.

The analysis of Vulcan-produced penta for the period January 1989 through August 1994 is set forth in the attached table (Tab 6).

That analysis shows that the concentration of HxCDF in Vulcan-produced penta ranges from "Not Detected" (approximately 0.1 ppm detection limit) to 13.4 ppm with the average HxCDF content of product produced during the period at 1.7 ppm. (Analysis of KMG-Bernuth's product gives comparable results.)

In sum, because the concentrations of dioxin and furan congeners in pentachlorophenol formulation used at wood preserving sites has sharply decreased over the years, the concentrations of these constituents in the waste streams also would be expected to have declined.

Perhaps of even greater importance, the dioxin concentration in the F032 wastes is expected to be only a fraction of that found in the commercial product. Typical penta wood treatment solutions contain roughly 5-7% penta by weight, or 50,000-70,000 ppm. With respect to HxCDD, for example, commercial penta contains an average HxCDD content of 2 ppm, or 0.0002%. As such, the HxCDD content of a typical penta wood treatment solution is roughly 100 to 140 ppb. Because process residuals generally may contain only about one-tenth of the pentachlorophenol levels in the treating solutions, it is highly likely that the HxCDD content in F032

process wastes would be no more than 10 to 14 ppb, and not the 2,000 ppb estimated by EPA.

Moreover, operating practices within the wood preserving industry have changed since the data supporting the F032 listing rule were collected. In the past, most of the facilities used high temperatures in the treating process. These temperatures could have led to the formation of dioxins and furans from chlorophenols and other dioxin and furan precursors in the treating solutions and may have accounted for the elevated dioxin/furan levels in the EPA data. By contrast, many wood preserving facilities now operate their processes at ambient temperatures. (For those facilities that currently operate at higher than ambient temperatures, the facilities control their process parameters to a far greater degree than in the past.) In addition, many of the wastes that were analyzed by EPA in the mid-1980s -- i.e. drip track samples and contaminated soils and sludges from tank farm areas and around process areas -- were reflective of operating practices that are no longer used at wood preserving sites.

In short, there is a firm basis for concluding that the dioxin concentrations in F032 wastes are significantly lower than that estimated by EPA. The Penta Task Force has recently commissioned a sampling and analysis of some two dozen process waste streams from six different wood preserving sites. The results of that analysis will be presented to the Agency shortly. We urge EPA to defer a decision on the proposal until it has had an opportunity to review these new data.

RESPONSE

The commenter believes that the concentrations of dioxin and furan (D/F) constituents in F032 may not warrant regulation under the land disposal restrictions. The commenter points out that EPA's characterization data on untreated F032 describes the concentrations of D/F of past formulation practices and that current practices generate F032 wastes with far lower concentrations than those originally reported by EPA during the listing of F032 as a hazardous waste in 1988. The commenter also submitted data on the characterization of Pentachlorophenol (PCP) formulations as well as estimates of what concentrations D/F may reach in F032. In a separate report, the commenter submitted characterization data describing several waste streams that the commenter described as F032 wastes (see BDAT Background Document for this information.)

In response to comments from the Penta Task Force and the American Wood Preserving Institute, the EPA has also proposed and is promulgating in today's rule an alternative compliance treatment standard that sets combustion ("CMBST") as a treatment method for D/F

constituents in F032. EPA is also promulgating treatment limits for D/F as proposed.

EPA has promulgated, however, a revised "CMBST" compliance alternative which limits the availability of the "CMBST" to those combustion devices in compliance with applicable combustion standards in the 40 CFR 264 Subpart O, or 40 CFR 266. F032 wastes combusted in combustion devices operating under 40 CFR 264 or 266 do not have to monitor the concentrations of D/F left behind in combustion residues. However, the facilities must meet UTS numerical limits applicable to each organic and metal constituent regulated in F032 as a prerequisite to land disposal.

The data submitted by the Penta Group consist of characterization data describing PCP commercial grades (see monthly averages of PCP commercial grade from vats in Tables 1 through 6 (attached to the original comment), a characterization study of several F032 waste streams at six wood preserving facilities, and a bench-scale combustion study on several F032 wastes . All these data are summarized in Appendix K of the Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997, and they are not repeated here.

After reviewing these data, EPA was persuaded by the commenters that the steps taken by the manufactures for formulating the commercial grades of PCP do appear to have diminished the loadings of PCDD and PCDF in F032 wastes to levels far below the one characterized by EPA during the sampling data collected by EPA during the early 70's . EPA was not persuaded, however, by the submitted data that all the constituents proposed for regulation in F032 are present in concentrations below the 1 ppb proposed for the regulated PCDD and PCDF in F032 wastes. The characterization data from six plants suggest that Hx-CDD and Hx-CDF, Te-CDD, and Pe-CDF can be found at levels well above the 1 ppb. The commenter believes, however, that the reported values for Te-CDD and Pe-CDF (some samples) may have been false positives from the analytical instrument employed. Another peculiarity of the data is that all the sampled facilities but one did not characterize for each one of the proposed PCDD and PCDF constituents proposed for regulation in F032 filter press cake wastes. The one facility who tested for PDDD and PCDF did report up to 2 ppb for Te-CDD (according to the commenter - a false positive result), 190 ppb for Hx-CDD, and 560 ppb for Hx-CDF.

It has been EPA experience through out the land disposal program that hazardous constituents of concern that are within the same or up to one order of magnitude as the detection limit of an analytical test method are most sensible to masking by other constituents in percent levels unless appropriate corrective and clean up measures are followed to remove the constituents of analytical concerns from the other interfering constituents. EPA has provided guidance in today's BDAT Background Document on two EPA SW 846 Test Methods (namely, SW-846 Method 8280A (proposed in the Update III, July 1995) and Method 8290 (Update II to the Third Edition of SW -846, December 1994) that EPA believes will enable wood preserving facilities to overcome the potential interferences that the Penta Group may have encountered.

Other point made by the Penta Group is that another commercial manufacturer of PCP is believed to have similar trends for the concentrations of PCDD and PCDF in PCP oils and in F032 wastes to the one shown by the Penta Group's F032 characterization study. However, no characterization data on such other wastes were made available to EPA. Another point made by the Penta Group is that it is believed that past listing data showing high concentrations of all the PCDD and PCDF proposed for regulation may have been the result from past practices for treating wood products at high temperatures. The commenter felt such practices have been abandoned by the industry and that most wood treaters have switched to formulation processes that emphasize ambient temperatures. However, the commenter cannot assure with certainty whether this is standard practice at all wood treater facilities in the market.

Because of the uncertainties found with the Penta Group characterization data with regard to Te-CDD, Te-CDF and Pe-PCDD, EPA cannot support a determination that these constituents are not present in F032. Based on the available data from the listing of F032, EPA has decided to retain the list of constituents proposed for regulation and to promulgate treatment standards as proposed.

DCN PH4P039

COMMENTS AWPI

RESPONDER JL

SUBJECT WOOD4

SUBJNUM 039

COMMENT EPA's F032 TREATMENT STANDARDS DO NOT

REFLECT CURRENT DATA. EPA's

treatment standard for F032 is based on data that do not reflect the current formulation of pentachlorophenol. The levels of dioxins and furans in commercial pentachlorophenol formulations have been reduced significantly since the mid-1980s. In 1986, EPA set limits on concentrations of impurities in pentachlorophenol and required that manufacturers submit reports on a monthly basis. The results of over five years of reporting for one manufacturer are enlightening: DATA ARE NOT REPRODUCED HERE

Clearly, the data on technical grade pentachlorophenol used by the EPA in support of the F032 listing are not representative of the current formulation of pentachlorophenol. With the decrease in the concentrations of dioxin and furan congeners in the preservative treating formulation, it is logical to expect a corresponding decrease in dioxin and furan constituents in the waste streams. Vulcan Chemicals, an AWPI member company and a manufacturer of pentachlorophenol for the treating industry, will be submitting analytical data from six different wood preserving sites in an effort to provide contemporary dioxin and furan data in F032 wastes. COMMENT: AWPI urges the Agency to defer its decision on this proposed rule until it has reviewed the new data.

RESPONSE

1. Does EPA's Proposed F032 Treatment Standard fail to reflect current data on the treatment of F032?

The commenter feels EPA has disregarded available data on the treatment of F032. Presumably the commenter is referring to the treatment of F032 contaminated soils since wood preserving wastes have been land disposed without treatment.

EPA has reviewed existing practices for the treatment of hazardous wastes believed as difficult to treat as F032. EPA has also examined available 1992 data on the treatment of soil contaminated with F032. Based on these information, EPA has determined that the treatment data supporting UTS represent the performance of treatment technologies that are Best Demonstrated and Available for wood preserving wastes. EPA does not believe that the 1992 data regarding the treatment of F032 soils support revision of the proposed UTS limits since on

most instances the technologies show inferior performance to the one achieved by UTS based technologies. Further, EPA does not have to set treatment standards that can be met by other or all available treatment technologies. (See Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035.) As a result, EPA is promulgating UTS limits for F032 as proposed.

2. EPA's characterization data on F032 do not reflect existing waste generation practices.

EPA has received new data on the characterization of F032 wastes and has incorporated in the Final BDAT Background Document for Wood Preserving wastes this new information. However, EPA has not been persuaded by these new data that the proposal for setting treatment standards for D/F in F032 should be withdrawn. This is because the D/F constituents proposed for regulation are still present in F032 at concentrations well above the UTS limits proposed for regulation. These constituents also resist environmental degradation mechanisms and thus, long-term threats to the human health and the environment will not necessarily be minimized if allowed to be disposed of untreated. EPA has thus concluded that these constituents are still of regulatory concern. As a result, EPA is promulgating the proposed UTS limits for D/F. EPA is also promulgating an alternative compliance treatment standard of CMBST for D/F.

The data submitted by the Penta Group consist of characterization data describing PCP commercial grades (see monthly averages of PCP commercial grade from vats in Tables 1 through 6 (attached to the original comment), a characterization study of several F032 waste streams at six wood preserving facilities, and a bench-scale combustion study on several F032 wastes. All these data are summarized in Appendix K of the Final BDAT Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997, and they are not repeated here.

After reviewing these data, EPA was persuaded by the commenters that the steps taken by the manufactures for formulating the commercial grades of PCP do appear to have diminished the loadings of PCDD and PCDF in F032 wastes to levels far below the one characterized by EPA during the sampling data collected by EPA during the early 70's. EPA was not persuaded, however, by the submitted data that all the constituents proposed for regulation in F032 are present in concentrations below the 1 ppb proposed for the regulated PCDD and PCDF in F032 wastes. The characterization data from six plants suggest that Hx-CDD and Hx-CDF, Te-CDD, and Pe-CDF can be found at levels well above the 1 ppb. The commenter believes, however, that the reported values for Te-CDD and Pe-CDF (some samples) may have been false positives from the analytical instrument employed. Another peculiarity of the data is that all the sampled facilities but one did not characterize for each one of the proposed PCDD and PCDF constituents proposed for regulation in F032 filter press cake wastes. The one facility who tested for PDDD and PCDF did report up to 2 ppb for Te-CDD (according to the commenter - a false positive result), 190 ppb for Hx-CDD, and 560 ppb for Hx-CDF.

It has been EPA experience through out the land disposal program that hazardous

constituents of concern that are within the same or up to one order of magnitude as the detection limit of an analytical test method are most sensible to masking by other constituents in percent levels unless appropriate corrective and clean up measures are followed to remove the constituents of analytical concerns from the other interfering constituents. EPA has provided guidance in today's BDAT Background Document on two EPA SW 846 Test Methods (namely, SW-846 Method 8280A (proposed in the Update III, July 1995) and Method 8290 (Update II to the Third Edition of SW -846, December 1994) that EPA believes will enable wood preserving facilities to overcome the potential interferences that the Penta Group may have encountered.

Other point made by the Penta Group is that another commercial manufacturer of PCP is believed to have similar trends for the concentrations of PCDD and PCDF in PCP oils and in F032 wastes to the one shown by the Penta Group's F032 characterization study. However, no characterization data on such other wastes were made available to EPA. Another point made by the Penta Group is that it is believed that past listing data showing high concentrations of all the PCDD and PCDF proposed for regulation may have been the result from past practices for treating wood products at high temperatures. The commenter felt such practices have been abandoned by the industry and that most wood treaters have switched to formulation processes that emphasize ambient temperatures. However, the commenter cannot assure with certainty whether this is standard practice at all wood treater facilities in the market.

Because of the uncertainties found with the Penta Group characterization data with regard to Te-CDD, Te-CDF and Pe- PCDD, EPA cannot support a determination that these constituents are not present in F032. Based on the available data from the listing of F032, EPA has decided to retain the list of constituents proposed for regulation and to promulgate treatment standards as proposed.

DCN PH4P048
COMMENTS Chemical Waste Management
RESPONDER PSB
SUBJECT WOOD4
SUBJNUM 048
COMMENT

The EPA is proposing to apply Universal Treatment Standards (UTS) to wood preserving wastes F032, F034, and F035.

CWM has several comments on the proposal as it presently exists.

The first comment is a clarification with regard to the specific BDAT standards that apply to F032, F034, and F035 waste streams. Currently there are differences in the preamble table (See 60 Fed. Reg. at 43,682) and the BDAT standards reflected in proposed 268.40 (See 60 Fed. Reg. at 43,696). The Agency's October 25, 1995, correction to this proposed rule(60 Fed. Reg. at 54,645) indicates that the table contained in the preamble contains the correct list of proposed regulated constituents, while the 268.40 table is incorrect. CWM understands this to mean that F032 is the only waste stream to have dioxins and furans proposed as BDAT, and that F035 has no organic constituents proposed as BDAT. The Agency needs to ensure that this is accurately reflected in the final rule so as to avoid the confusion caused by these errors in the proposal.

CWM's second comment on this proposal involves the Agency's proposal to regulate dioxins and furans in F032. CWM is concerned by the Agency's statement that "EPA has identified one commercial facility currently permitted to combust wastes that may have PCDD and PCDF constituents with concentrations one to two of magnitude higher than those levels found in F032" (See 60 Fed. Reg. at 43,682). The statement indicates to CWM that the Agency is intent on regulating F032 wastes as an acute dioxin waste. If this is the case CWM believes that this contradicts the Agency's capacity analysis which indicates that there is sufficient incineration capacity for wood preserving waste streams. CWM believes that F032 wastes should not be regulated as an acute dioxin waste. If it is not regulated as an acute dioxin waste then CWM agrees that there is existing incineration capacity available. CWM requests that the Agency clarify this in the final rule.

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.

DCN PH4P048
COMMENTS Chemical Waste Management
RESPONDER PSB
SUBJECT WOOD4
SUBJNUM 048

RESPONSE

EPA identified several discrepancies in the list of and the limits of specific hazardous constituents proposed for regulation in several pages of the 60 FR (43680-43682 and 43694-43697). EPA later issued a Correction Notice to clarify what portions of the preamble were incorrect and what portions were correct (see 60 FR 546451, October 25, 1995). Also, several commenters and two technical journals pointed out to these discrepancies. EPA is promulgating pursuant to the Correction Notice unless otherwise noticed in this preamble and in the Final BDAT Background Document for these Newly Listed Wood Preserving Wastes (F032, F034, and F035).

Also, it appears that the commentor was concerned that since the BDAT model supporting numerical limits for D/F constituents was based on six 9's Destruction and Removal Efficiency (DRE) incinerators, facilities seeking compliance with the numerical limits in RCRA incinerators, cement kilns, or other industrial furnaces achieving a four 9's DRE were likely to fail the proposed UTS limits. It also appears that EPA's discussions in the preamble and the BDAT Background Document for F032, F034, and F035 that at least one facility was permitted to treat D/F containing wastes as difficult to treat as F032 led the commentor to believe that EPA was considering to limit the combustion of F032 to a six 9's DRE -RCRA combustion device. EPA is clarifying, therefore, that in today's rule EPA is not amending §§264.343 (a) (2) or 266.104 (a) (3).

It should be noted that although the BDAT combustion technologies supporting the development of UTS limits for D/F regulated in nonwastewater forms of F032 and F024 met a RCRA incineration performance of six 9's DRE performance, the modeled compliance treatment alternative of "CMBST" was based on the performance a four 9's DRE - RCRA 264 Subpart O, rotary kiln incinerator combusting F024. Data from the F024 incineration study shows that a well designed and well operated four 9's DRE incinerator can also meet the proposed limits of 1 ppb for nonwastewater forms of F024.

DCN PH4P062
COMMENTS RETEC
RESPONDER JL
SUBJECT WOOD4
SUBJNUM 062
COMMENT

Treatment Standards for Wood Preserving Wastes

We do not support the proposed regulation of dioxin and furan constituents in F032. Use of other surrogate compounds such as pentachlorophenol or polycyclic aromatic hydrocarbons (PAH) constituents may be appropriate. Specifically, these compounds can be used as a surrogate for treatment of wastewater by carbon absorption. Water at two wood treating sites is treated through activated carbon and subsequently discharged under an National Pollutant Discharge Elimination System permit. The facilities conducted effluent monitoring for dioxins and furans (Table 1). Data from the sampling events show that effluent concentrations for pentachlorophenol, PAH constituents as well as dioxins and furans are well below the universal treatment standards (UTS). Hence, PCP or PAH constituents can be used as surrogate compounds to demonstrate dioxin and furan concentrations are below UTS levels. We request that EPA consider such an approach for F032.

RESPONSE

Retec asked EPA to withdraw its proposal for the regulation of D/F constituents in F032 wastewaters. The commenter believes that the regulation of PCP and Polycyclic Aromatic Hydrocarbons (PAHs) can ensure the reduction of D/F in F032 wastewaters. The commenter also submitted data with regard to concentrations of D/F, PCP, and PAHs analytes in two effluent F032 wastewaters treated by activated carbon adsorption. These data appear to support the commenter's statement that monitoring of PCP and PAHs may serve as a surrogate candidates for the reduction of D/F levels in these particular effluent wastewaters. However, EPA lacks data to determine if the alternative surrogate constituents proposed for regulation can also serve as surrogates for monitoring the treatment of D/F in wastewater treatment effluents resulting from other treatment technology trains that may achieve the proposed UTS. Furthermore, the choice of when to use surrogate pollutants is within EPA's expert discretion, and here, the Agency believes it best to analyze for CDD/CDF given the toxicity of these hazardous constituent. (In the case of nonwastewater being combusted, there is the competing consideration of assuring sufficient treatment capacity and the fact that CMBST is not ordinarily a matrix-dependent technology, that persuaded EPA to adopt a standard allowing compliance without monitoring for CDD's and CDF's.) Although EPA is not adopting this proposed alternative treatment standard

for D/F regulated in F032 wastewaters, EPA points out that treaters of F032 wastewaters can address this kind of alternative compliance monitoring scheme in their permits' Waste Analysis Plans (WAP).

EPA is thus promulgating UTS limits for D/F constituents as proposed.

DCN PH4P097
COMMENTS Hazardous Waste Management
RESPONDER JL
SUBJECT WOOD4
SUBJNUM 097
COMMENT

Treatment Standards for Wood Preserving Wastes (60 FR 43680)
EPA proposes to apply Universal Treatment Standards (UTS) to wood preserving wastes F032, F034, and F035. Currently, there are differences in the preamble table (60 FR 43682) and the BDAT standards reflected in proposed §268.40 (60 FR 43696). The Agency's October 25, 1995 correction to this proposed rule (60 FR 54645) indicates that the table in the preamble contains the correct list of proposed regulated constituents, while the §268.40 table is incorrect. Does this mean that F032 is the only waste stream to have dioxins and furans proposed as BDAT, and that F035 has no organic constituents proposed as BDAT? The Agency needs to ensure that this conclusion is accurately reflected in the final rule so as to avoid confusion.

RESPONSE

EPA identified several discrepancies in the list of and the limits of specific hazardous constituents proposed for regulation in several pages of the 60 FR (43680-43682 and 43694-43697). EPA later issued a Correction Notice to clarify what portions of the preamble were incorrect and what portions were correct (see 60 FR (546451), October 25, 1995). Also, several commenters and two technical journals pointed out to these discrepancies. EPA is promulgating pursuant to the Correction Notice unless otherwise noticed in this preamble and in the Final BDAT Background Document for these Newly Listed Wood Preserving Wastes (F032, F034, and F035).

DCN PH2A003

COMMENTS The Penta Task Force

RESPONDER JLABIOSA

SUBJECT WOOD4

SUBJNUM 003

COMMENT II. REVISION TO THE

F024 TREATMENT STANDARD By proposing to link the treatment standards for F032 waste with that for F024 waste, EPA has apparently concluded that both wastes should be subject to the same treatment standard. The Penta Task Force agrees, but believes that both wastes are appropriately regulated under a CMBST standard and thus no revision of the F024 treatment standard is necessary. Both wastes are classified as "toxic" under RCRA and neither falls within the acutely hazardous waste category. Moreover, we doubt that EPA would have proposed stringent dioxin/furan limits for F032 waste had the Agency had before it the current data on the dioxin/furan levels in commercial penta formulations and the resultant wood processing waste. We believe the Agency's prior experience with the stigma and resultant treatment capacity shortages that occurred in the case of the F024 rulemaking would have counseled against the selection of dioxin/furan limits in this rulemaking. As explained in our November 20, 1995 comments, the dioxin/furan content of F032 waste has declined substantially over the past decade. Penta Task Force November 20, 1995 Comments, at 21-26. Not only have the levels of dioxins/furans in commercial grade pentachlorophenol declined significantly, the levels in penta wood preserving wastes have also fallen. This is reflected in the data submitted by the Penta Task Force on waste samples collected from six (6) wood treating plants. See Chemical Analysis of F032 Wastes for Polychlorinated Dibenzop-dioxins, Polychlorinated Dibenzofurans, and Pentachlorophenols, (March 28, 1996). These data clearly demonstrate that EPA has significantly overestimated the levels of dioxins and furans in

F032 waste. Put in context, the data show that F032 and F024 are indeed similar because the levels of dioxins or furans in either case is not sufficiently high to warrant special treatment standards. In either case, a CMBST standard is fully protective of health and safety and is a fully appropriate treatment method.

RESPONSE

F032 and F024 are toxic wastes listed under the 40 CFR 261, Part D and the combustion of these wastes is currently allowed in combustion devices that meet a four 9's Destruction Removal Efficiency performance. The Penta Task Force has asked EPA to adopt the same compliance treatment standard of combustion currently applicable to F024. Adoption of CMBST would waive the monitoring of D/F constituents in F032 residues resulting from well designed and well operated combustion devices. EPA codified such treatment compliance alternative as incineration or "INCIN" in the 40 CFR 264 Subpart O unit (see Third Third rule (see 55 FR 22580-1, June 1, 1990)). EPA later amended the standard to a CMBST standard in the Phase 3 rulemaking. EPA generally agrees with the comment, but is amending the treatment standard for F024 (so that it is the same as the comparable F032 wastes). The revised standard limits the CMBST compliance alternative to those units with Part 264 incineration permits or Part 266 BIF controls and combustion efficiency.

EPA also believes that facilities operating a Part 265 incinerator that can demonstrate to EPA that their combustion device operates in a manner that conforms to the combustion controls achieved by Part 264 incinerators or Part 265 BIFs may qualify for the CMBST treatment standard pursuant to a treatability variance under 268.42(b). (See Final Background Document for Wood Preserving Wastes F032, F034, and F035, April 15, 1997, and today's preamble discussion.)

DCN PH4P023

COMMENTER Beazer East, Inc.

RESPONDER JLABIOSA

SUBJECT WOOD4

COMMENT 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. 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, 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.

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.

RESPONSE

EPA agrees with the commenter that the proposed treatment standards can have a chilling effect on ongoing remedial activities under RCRA, offsite remedial activities under CERCLA, and new or modified onsite Record of Decisions under CERCLA. EPA agrees, further, that in many instances, the cost to comply with such treatment standards may be prohibitive. EPA emphasizes, however, that HSWA prohibits EPA from taking into account cost considerations when setting treatment standards that implement RCRA 3004(m) provisions. EPA points out, however, that although HWIR media and HWIR regulatory efforts are still on the horizon and such regulatory frameworks are more appropriate, generally, for remedial activities; EPA cannot adopt the commenter's proposed option that media contaminated with wood preserving wastes are exempted from the LDRs. EPA's promulgation of such suggested option will be illegal since F032, F034, and F035 are newly listed wastes and EPA is mandated by HSWA to ban all and newly listed RCRA hazardous wastes from land disposal practices. As a result, treatment standards are needed to implement such restrictions. (See HSWA Section 3004(m) and 3004(g)(4); Chemical Waste Management v. EPA, 869 F. 2d, D.C. Cir. 1989). .)

The commenter believes that EPA lacks a "scientific base(s)" for regulating the proposed list of PCDD and PCDF as regulated UTS constituents in F032 because of the ongoing debate on how toxic PCDD and PCDF are. The commenter pointed out to EPA's Science Advisory Board's (SAB) comments on EPA's draft dioxin risk reassessment documents to support their argument. The commenter also believes that PCDD and PCDF are better suited for risk based approaches and that the proposed (technology based) treatment standard for each regulated PCDD and PCDF should be adjusted to reflect risks to the human health and the environment.¹ The commenter points out, further, that EPA has already acknowledged that "dioxin/furan" are immobile and thus, presumably, treatment standards for these constituents may not be warranted.

The commenter is correct to point out that the Agency is currently re-evaluating the available "scientific literature" in an effort to address the SAB comments on EPA's draft dioxin reassessment documents. However, all the concerns expressed by the SAB and others have been related to the precise degree of toxicity of dioxins. In fact, concerns have been raised that the Agency has underestimated the toxicity of dioxin with respect to effects other than cancer. There has been no serious argument that dioxins are not all toxic and should therefore not be regulated. Moreover, the issue of what "scientific bases" justifies EPA to identify and to treat PCDD and

¹ See, generally, 50 FR at 47986-7 (September 19, 1994) for EPA responses regarding Risk vs. Technology based treatment limits. This issue is not being reopened in today's rulemaking.

PCDF in F032 as toxic hazardous constituents of concern in F032 was determined in the final rule listing F032 as a hazardous waste under Subtitle C of RCRA. (See 55 FR 50465-67, December 6, 1990.) EPA is not reopening this EPA determination for public review under this rule. [emphasis added]

In the final rule listing F032 as a hazardous waste, EPA classified all the congeners of PCDD and PCDF constituents regulated today in F032 as toxic constituents that warranted the imposition of regulatory controls under Subtitle C of RCRA. PCDD and PCDF constituents are also listed in Appendix VIII of the 40 CFR Part 261 and in the UTS/BDAT lists of hazardous constituents. As a result, EPA believes that the regulation of PCDD and PCDF is legal. However, the commenter specific comment, suggesting that EPA rescinds its final determination that finds PCDD and PCDF as hazardous constituents warranting controls under the 40 CFR Part 261-268, can be addressed by the EPA if the commenter submits data to EPA that may warrant changes to the 40 CFR 261 through 268, pursuant to the rulemaking petition procedures established in the 40 CFR Part 260.20.

The commenter is also correct observing that EPA has stated in the Solvent and Dioxin rule that PCDD and PCDF are immobile (i.e. generally within the context of being insoluble in water). (51 FR 1602 (January 14, 1996)). The commenter is also correct to point out that based on toxicity equivalents (TEQs) --the toxicity of several isomers and congeners of PCDD and PCDF in F032 may be less than the one associated with 2,3,7,8- TCDD. However, the commenter cannot have it both ways. First, the commenter expressed strong reservations on EPA's scientific approaches to dioxin risk assessment and stated that it is questionable whether EPA should be regulating or not dioxins and furans as toxic constituents presumably under RCRA. Second, the commenter believes that the same scientific rationale to estimate the potential toxicity potency of different congeners and isomers is also used to adjust upward the technology based treatment standards promulgated today for PCDD and PCDF constituents. Likewise, EPA was not persuaded by the same suggestion of other commenters urging EPA to set treatment standards for PCDD/PCDF that are adjusted upward with TEQs. [emphasis added].

There is still a heated debate on the precise toxicity that may arise from individual or admixtures of PCDD and PCDF congeners and isomers. No one has suggested or convinced EPA that the regulated PCDD and PCDF constituents are not toxic. EPA is also under a Congressional mandate to set treatment standards that substantially reduce the short- and long-term toxicity or mobility of hazardous constituents prior to disposal. Although EPA believes that technology, risk, or health based treatment standards can satisfy, generally, the provisions of 3004 (m), EPA does not routinely adjust treatment standards promulgated under the 40 CFR Part 268 to correct or adjust with health or risk based quantifiers or factors any of the treatment standards promulgated for each UTS/BDAT constituent regulated by EPA.² For example, like PCDD/PCDF, PNA's are other toxic hazardous constituents found in F032 that are also

² Nor is EPA precluded from doing so, if EPA determines that a treatment standard promulgated today is inappropriate for a contaminated media pursuant to a treatability variance granted under the 40 CFR Part 268.44 (h).

relatively insoluble in water and thus, presumably less likely to migrate from a Subtitle C hazardous landfill. And EPA have selected specific constituents within the PNA's for regulation without relying on toxicity ranking factors for arriving to such list of regulated constituents. (See Final BDAT Background Document for Wood Preserving Wastes). However, under the land disposal restrictions, treatment levels are based on technologies that substantially reduce the loadings or concentrations of such constituents prior to disposal. Further, no one is suggesting that EPA is setting, today, treatment standards that force the treatment of PCDD and PCDF below levels were the concentrations of these constituents cease to be hazardous. To the contrary, EPA believes that the treatment standards promulgated today are within a range of treatment levels that will reduce, generally, short- and long-term threats to the human health and the environment. EPA is thus promulgating as proposed.