

technology based and risk-based standards, but remanded the rule to EPA for a fuller explanation of its decision to rely on technology-based standards alone. (*Hazardous Waste Treatment Council v. EPA*, 886 F. 2d 355 (D.C. Circ. 1989). ("HWTC III").) The court also held that EPA was not obligated to adopt either the RCRA characteristic test levels or the Safe Drinking Water Act Maximum Contaminant Levels (MCLs) as "minimize threat" levels because neither "purports to establish a level at which safety is assured or 'threats to human health and the environment are minimized'." (886 F. 2d at 363.)

In its response to the remand, EPA stated that the best way to fulfill the requirements of section 3004(m) would be to ensure that no technology-based treatment standard required treatment of hazardous waste containing levels of hazardous constituents posing insignificant risks. (55 FR 6641 (Feb. 26, 1990).) EPA, however, explained that it was not yet able to promulgate such levels. EPA believed that it lacked a reliable predictive model for ground-water exposure, needed to assess exposure scenarios for air pathways, needed to consider impacts on ecological receptors, needed to develop additional analytic methods for hazardous constituents, and needed to develop an approach for constituents with threshold effect levels lower than detection limits. (Id. at 6642.)

In the same notice, EPA noted that the "minimize threat" language of section 3004(m) could reasonably be interpreted to require more protection than the "normal subtitle C command that standards be those necessary to protect human health and the environment." (Id. at 6641.) EPA found that the many portions of the 1984 amendments stressing the inherent uncertainties of land disposal buttressed this interpretation. See, e.g., RCRA sections 1002(b)(7), 3004(d)(1)(A), 3004(e)(i)(A), 3004(g)(5). EPA also found support in the legislative history. For example, the Senate amendment containing the "minimize threat" standards replaced a committee bill that only would have required treatment to be "protective of human health and the environment." See S. 757, section 3004(b)(7), printed at S. Rep. No. 284, 98th Cong., 2nd Session 86. Further, EPA noted that the "no threat" levels it had been using in site-specific and waste stream specific contexts, such as clean closures, delistings, and no-migration petitions, would not necessarily be appropriate for generally applicable standards required to minimize threats to health and the environment. (55 FR 6641, note 1.)

At the same time, EPA took the position that section 30004(m) does not require the elimination of every conceivable threat posed by land disposal of hazardous waste, citing a statement by Senator Chafee that "[i]t is not intended that every waste receive repetitive levels of treatment, nor must all inorganic constituents be reclaimed." 130 Cong. Rec. S.9179 (daily ed., July 25, 1984). (55 FR 6641, note 1.) Clearly EPA did not interpret the minimize threat language to require the elimination of all threats.

Today, the Agency is proposing to re-evaluate the basis for some of the existing performance standards established for listed wastes. Since EPA's response to the HWTC III remand in 1990, the state-of-the-art in making quantitative determinations of risk has advanced and available methods have improved significantly. In addition, the increased sensitivity of analytical methods has lowered achievable detection limits, better bioassays exist than in the past, and more extensive biological data is available for extrapolation. As a result, the universe of available health-based and ecological data has grown significantly, and the reliability of this information has improved. The Agency now believes that these data can be used to establish levels that minimize threats to human health and the environment.

B. Risk Assessment and Minimize Threat Levels

1. Rationale

a. Overview

Today the Agency is proposing to establish risk-based LDR treatment requirements for some of the hazardous constituents for which exit levels are being proposed. These risk-based LDR requirements will minimize the short-term and long-term threats to human health and the environment posed by the hazardous waste constituents. The risk-based LDR levels (or "minimize threat" levels) would have the effect of capping, or limiting, treatment of those waste constituents where the current technology-based UTS standards require lower concentrations. EPA also hoped to propose most of these constituent-specific levels as "minimize threat" levels under section 3004(m) of RCRA that would cap current technology-based treatment standards under at these levels the LDR program. However, EPA is proposing "minimize threat" levels only for those constituents that were evaluated under the multipathway risk analysis and are not capped by quantitation (EQC) limitations. EPA is proposing to promulgate such levels as

replacements for the constituent-specific treatment levels in the LDR Universal Treatment Standards (UTS). (As explained in more detail in Section VI, EPA is not proposing to cap any LDR standards requiring the use of specified technologies.) As shown on Table 1, § 268.60, EPA is proposing "minimize threat" levels to cap UTS treatment requirements for either the wastewater or nonwastewater (or both) for approximately 70 wastewater constituents and 90 nonwastewater constituents.

EPA, however, is not proposing that any extrapolated levels serve as "minimize threat" levels for LDR purposes. EPA does not have as much confidence that this alternative methodology provides enough information on risks to human health and the environment to enable EPA to determine that risks have been minimized. Similarly, EPA is not proposing that any levels based on quantitation limits serve as "minimize threat" levels. Such levels are not based on any analysis of risks to human health and the environment. In fact, as explained above, EPA is proposing to require compliance with technology-based LDR standards for all wastes which contain such constituents.

If a claimant finds that all constituents in a waste are below exit levels at the waste's point of generation and if the claimant meets all of the requirements for filing an exit claim, EPA will not require compliance with the LDR treatment standards for the waste. EPA will take the position that such as waste never became subject to subtitle C regulations, so that LDR standards never applied to the waste. EPA is proposing to take this position for all exit levels, regardless of whether they were generated by the multipathway analysis, the extrapolation method, or EQC limitations. For further explanation, see section VI.D.

EPA, however, is proposing that all listed wastes which as generated contain constituents exceeding exit levels must meet LDR requirements (current or as modified by this proposal), even if the waste subsequently becomes exempt from hazardous waste regulation under this rule. This requirement resembles EPA's current rules for "de-characterized" wastes, which must meet LDR requirements even after they cease to exhibit the hazardous characteristic that made them subject to Subtitle C in the first place.