

TABLE 2.—MAXIMUM TOTAL CONSTITUENT AND LEACHATE CONCENTRATIONS <sup>1</sup> IN ASH—Continued

Organic constituents	Total constituent concentration (mg/kg)	TCLP leachate concentration (mg/l)
2,3,7,8-TCDD <sup>2</sup>	0.0175	0.0000000017

<sup>1</sup> These levels represent the highest concentration of each constituent found in any sample. These levels do not necessarily represent the specific levels found in any one sample.

<sup>2</sup> For risk assessment of PCDDs and PCDFs compounds, toxicity values are expressed as 2,3,7,8-TCDD equivalents (TEQs).

<sup>3</sup> This value is the calculated theoretical maximum leachate concentration based on the maximum total constituent concentration.

< Denotes that the constituent was not detected at the concentration specified in the table.

EPA requires that petitioners submit signed certifications affirming the truthfulness, accuracy and completeness of the information in their delisting petitions (See 40 CFR 260.22(i)(12)). SPSA and Onyx each submitted signed certifications stating that all submitted information is true, accurate and complete.

### III. EPA's Evaluation of the Petition

#### A. What Method Did EPA Use To Evaluate Risk?

For this delisting determination, we used information gathered by SPSA/Onyx to identify plausible exposure routes (*i.e.*, groundwater, surface water, and air) for hazardous constituents present in the petitioned waste. Because of its physical form, we determined that disposal in a RCRA Subtitle D landfill was the most reasonable, worst-case (least protective) disposal scenario for SPSA/Onyx's petitioned waste. We then used a fate and transport model to predict the release of hazardous constituents from the petitioned waste once it is disposed of, in order to evaluate the potential impact on human health and the environment. To perform this evaluation, we used a Windows-based software tool, the Delisting Risk Assessment Software Program (DRAS), to estimate the potential releases of waste constituents and to predict the risk associated with those releases. DRAS accomplishes this using several EPA models including the EPA Composite Model for Leachate Migration with Transformation Products (EPACMTP) fate and transport model for estimating groundwater releases. For a detailed description of the DRAS program and the EPACMTP model, See 65 FR 58015, September 27, 2000. Subsequent revisions to the DRAS program are described in 65 FR 75637 (December 4, 2000). The DRAS program is available on the World Wide Web at [http://www.epa.gov/earth1r6/6pd/rcra\\_c/pd-o/dras.htm](http://www.epa.gov/earth1r6/6pd/rcra_c/pd-o/dras.htm). The technical support document for the DRAS program is also available on the World Wide Web at <http://www.epa.gov/>

[earth1r6/6pd/rcra\\_c/pd-o/dtsd.htm](http://www.epa.gov/earth1r6/6pd/rcra_c/pd-o/dtsd.htm) as well as in the public docket for this proposed rule.

The Agency believes that the EPACMTP fate and transport model represents a reasonable worst-case scenario for possible groundwater contamination resulting from disposal of the petitioned waste in a landfill, and that a reasonable worst-case scenario is appropriate when evaluating whether a waste should be relieved of the protective management constraints of the RCRA Subtitle C program. The use of a reasonable worst-case scenario results in conservative values for the compliance-point concentrations and insures that the waste, once removed from hazardous waste regulation, will not pose a significant threat to human health or the environment.

In assessing potential risks to groundwater, we use the estimated waste volume and the maximum measured or calculated leachate concentrations as inputs to the DRAS program to estimate the constituent concentrations in the groundwater at a hypothetical receptor well downgradient from the disposal site. Using an established risk level, the DRAS program can back-calculate receptor well concentrations (referred to as a compliance-point concentration) using standard risk assessment algorithms and Agency health-based numbers.

For constituents which are not detected in leachate analysis, the DRAS requires that the detection limit be entered along with the other data. In these circumstances, the DRAS uses one-half the detection limit to calculate risk. We believe it is inappropriate to evaluate constituents which are not detected in any sample analyzed, if an appropriate analytical method was used.

Similarly, the DRAS also predicts possible risks associated with releases of waste constituents through surface pathways (*e.g.*, volatilization or wind-blown particulate from the landfill). As in the groundwater analyses, the DRAS uses the established acceptable risk level, the health-based data, and

standard risk assessment and exposure algorithms to perform this assessment.

In most cases, because a delisted waste is no longer subject to hazardous waste regulation, the Agency is generally unable to predict, and does not presently control, how a petitioner will manage a waste after it is excluded. Therefore, we believe that it is inappropriate to consider extensive site-specific factors when applying the fate and transport model.

The back-calculation procedure contrasts with the method used to compute the cumulative risk for a one-time delisting petition. To determine cumulative risk, the calculations proceed in a forward direction. Beginning with the leachate and total waste concentrations for each constituent in the waste (source concentrations), the waste volume and exposure parameters are used to estimate the upper-bound excess lifetime cancer risks (risk) and noncarcinogenic hazards (hazard). The risk is said to be cumulative because risks and hazards are summed separately for receptors (resident adults and children) across all applicable waste constituents and exposure pathways to obtain an estimate of the total individual risk and hazard for each receptor. Risk is the probability that a receptor will develop cancer. Risk is estimated based on a unique set of exposure, model, and toxicity assumptions.

Hazard is defined as the potential for noncarcinogenic health effects as a result of exposure to constituents of concern, averaged over an exposure period of less than an entire lifetime. A hazard is not a probability but rather a measure (expressed as a ratio) of the magnitude of a receptor's potential exposure relative to a standard exposure level. The standard exposure level is calculated over an exposure period such that there is no likelihood of adverse health effects to potential receptors, including sensitive populations.

If a delisting evaluation is performed for a one-time exclusion, the DRAS computes the cumulative carcinogenic