The notice of proposed rulemaking and notice of public hearing, instructed those interested in testifying at the public hearing to submit an outline of the topics to be addressed. As of Tuesday, March 16, 2004, no one has requested to speak. Therefore, the public hearing scheduled for March 31, 2004, is cancelled.

LaNita Van Dyke,

Acting Chief, Publications and Regulations Branch, Legal Processing Division, Associate Chief Counsel (Procedures and Administration).

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ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 261

[FRL–7638–1]

Hazardous Waste Management System; Proposed Exclusion for Identification and Listing of Hazardous Waste

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The EPA (also, ''the Agency'' or ''we'' in this preamble) is proposing to grant a petition submitted by General Electric Company (GE), King of Prussia, Pennsylvania, to exclude (or ''delist''), on a one-time basis, certain solid wastes that have been deposited and/or accumulated in two (2) on-site drying beds and two (2) on-site basins referred to by GE as ''surface impoundments'' at its RCA del Caribe facility in Barceloneta, Puerto Rico from the lists of hazardous wastes contained in the regulations. These drying beds and basins were used exclusively for disposal of its chemical etching wastewater treatment plant (WWTP) sludge from 1971 to 1978.

The Agency has tentatively decided to grant the petition based on an evaluation of waste-specific information provided by GE. This proposed decision, if finalized, would conditionally exclude the petitioned waste from the requirements of hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA).

If finalized, the EPA would conclude that GE's petitioned waste is nonhazardous with respect to the original listing criteria or factors which could cause the waste to be hazardous. The waste would still be subject to Local, State (as used herein the term State includes the Commonwealth of Puerto Rico) and Federal regulations for nonhazardous solid waste.

DATES: The Agency will accept public comments on this proposed decision until May 3, 2004. Comments postmarked after the close of the comment period will be stamped ''late.'' These ''late'' comments may not be considered in formulating a final decision.

Any person may request a hearing on this proposed rule by filing a written request by April 5, 2004. Pursuant to 40 CFR 260.20(d), the request must state the issue to be raised and explain why written comments would not suffice to communicate the person's views.

ADDRESSES: Please send two copies of your comments to Ernst J. Jabouin, RCRA Program Branch (2DEPP–RPB), Environmental Protection Agency, Region 2, 290 Broadway, New York, NY 10007–1866.

Any person may request a hearing on this proposed decision by filing a request to the Director, of the Division of Environmental Planning and Protection (DEPP), Environmental Protection Agency, Region 2, 290 Broadway, New York, NY 10007–1866.

FOR FURTHER INFORMATION CONTACT: For technical information concerning this document, contact Ernst J. Jabouin at the address above or at 212–637–4104. The RCRA regulatory docket for this proposed rule is located at the EPA Region 2, 290 Broadway, New York, NY 10007–1866, and is available for viewing from 8 a.m. to 4 p.m., Monday through Friday, excluding federal holidays. Call Ernst J. Jabouin at 212–637–4104 for appointments. The public may copy material from the regulatory docket at $0.15 per page.

SUPPLEMENTARY INFORMATION:

I. Overview Information

A. What Action Is EPA Proposing?

The EPA is proposing to grant GE's petition to have its wastewater treatment sludge excluded, or delisted, from the definition of a hazardous waste. The Agency evaluated the petition using a fate and transport model to predict the concentration of hazardous constituents which could be released from the petitioned waste after it is disposed.

B. Why Is EPA Proposing To Approve This Delisting?

GE petitioned EPA to exclude, or delist, the wastewater treatment sludge because GE believes that the petitioned waste does not meet the criteria for which EPA listed it. GE also believes there are no additional constituents or factors that could cause the wastes to be hazardous. Based on EPA's review described below, the Agency has tentatively determined that the waste can be considered nonhazardous.

In reviewing this petition, EPA considered the original listing criteria and the additional factors as required by the Hazardous and Solid Waste Amendments of 1984 (HSWA). See section 222 of HSWA, 42 U.S.C. 6921(f), and 40 CFR 260.22 (d)(2) through (4). EPA evaluated the petitioned waste against the listing criteria and factors cited in 40 CFR 261.11(a)(2) and (3).

The Agency also evaluated the waste for other factors including (1) the toxicity of the constituents; (2) the concentration of the constituents in the waste; (3) the tendency of the hazardous constituents to migrate and to bioaccumulate; (4) persistence in the environment of any constituents released from the waste; (5) plausible and specific types of management of the petitioned waste; (6) the quantity of waste produced; and (7) waste variability.

EPA believes that the petitioned waste does not meet the criteria for which the waste was listed, and has tentatively decided to delist this waste from the former RCA del Caribe Facility.

C. How Will GE Manage the Waste If It Is Delisted?

If the petitioned waste is delisted, GE must dispose of it in a Subtitle D landfill which is permitted, licensed, or registered by a state (as used herein includes the Commonwealth of Puerto Rico) to manage industrial waste. This exclusion does not change the regulatory status of the drying beds and on-site basins at the facility in Barceloneta, Puerto Rico where the waste has been disposed.

D. When Would EPA Finalize the Proposed Delisting?

HSWA specifically requires EPA to provide notice and an opportunity for comment before granting or denying a final exclusion. Thus, EPA will not make a final decision or grant an exclusion until it has addressed all timely public comments (including those at public hearings, if any) on today's proposal.

Since this rule would reduce the existing requirements for persons generating hazardous wastes, the regulated community does not need a six-month period to come into compliance in accordance with section 3010 of RCRA as amended by HSWA. Therefore, the exclusion would become effective upon finalization.

E. How Would This Action Affect the States?

Because EPA is issuing today's exclusion under the federal RCRA delisting program, only states subject to federal RCRA delisting provisions would be affected. This exclusion may not be effective in states having a dual system that includes federal RCRA requirements and their own requirements, or in states which have received authorization to make their own delisting decisions (note that the term ''State'' as used herein includes the Commonwealth of Puerto Rico).

Under section 3009 of RCRA, EPA allows states to impose their own non-RCRA regulatory requirements that are more stringent than EPA's. These more stringent requirements may include a provision that prohibits a federally issued exclusion from taking effect in the state.

Because a dual system (that is, both federal (RCRA) and state (non-RCRA) programs) may regulate a petitioner's waste, we urge petitioner to contact the state regulatory authority to establish the status of its wastes under the state law.

EPA has also authorized some states to administer a delisting program in place of the federal program, that is, to make state delisting decisions. Therefore, this exclusion does not apply in those authorized states. If GE transports the petitioned waste to or manages the waste in any state with delisting authorization, GE must obtain a delisting from that state before it can manage the waste as nonhazardous in the state.

II. Background

A. What Is the History of the Delisting Program?

The EPA published an amended list of hazardous wastes from nonspecific and specific sources on January 16, 1981, as part of its final and interim final regulations implementing section 3001 of RCRA. The EPA has amended this list several times and published it in 40 CFR 261.31 and 261.32.

The Agency lists wastes as hazardous because: (1) they typically and frequently exhibit one or more of the characteristics of hazardous wastes identified in subpart C of part 261 (that is, ignitability, corrosivity, reactivity, and toxicity) or (2) they meet the criteria for listing contained in § 261.11(a)(2) or (3).

Individual waste streams may vary depending on raw materials, industrial processes, and other factors. Thus, while a waste described in these regulations generally is hazardous, a specific waste from an individual facility meeting the listing description may not be.

For this reason, 40 CFR 260.20 and 260.22 provide an exclusion procedure, called delisting, which allows a person to demonstrate that EPA should not regulate a specific waste from a particular generating facility as a hazardous waste.

B. What Is a Delisting Petition, and What Does It Require of a Petitioner?

A delisting petition is a request from a facility to EPA or an authorized state to exclude waste generated at a particular facility from the list of hazardous wastes.

In a delisting petition, the petitioner must show the waste generated does not meet any of the criteria for listed wastes and does not exhibit any of the hazardous waste characteristics in 40 CFR part 261, subpart C. The criteria for which EPA lists a waste are in 40 CFR 261.11 and in the background documents. The petitioner must also present sufficient information to determine whether factors other than those for which the waste was listed warrant retaining it as a hazardous waste. (*See* 40 CFR 260.22, 42 U.S.C. 6921(f) and the background documents for the listed wastes).

A generator remains obligated under RCRA to confirm that its waste remains nonhazardous based on the hazardous waste characteristics even if EPA has ''delisted'' the waste.

C. What Factors Must EPA Consider in Deciding Whether To Grant a Delisting Petition?

EPA must also consider as a hazardous waste, a mixture containing listed hazardous wastes and wastes derived from treating, storing, or disposing of a listed hazardous waste. *See* 40 CFR 261.3(a)(2)(iv) and (c)(2)(i), called the ''mixture'' and ''derived-from'' rules, respectively. These wastes are also eligible for exclusion and remain hazardous wastes until excluded.

The ''mixture'' and ''derived-from'' rules are now final, after having been vacated, remanded, and reinstated.

III. EPA's Evaluation of the Waste Information and Data

A. What Wastes Did GE Petition EPA To Delist?

On November 20, 1997, GE petitioned EPA Region 2 to exclude an estimated volume of hazardous wastes ranging from 5,000 to 15,000 cubic yards from the list of hazardous wastes contained in 40 CFR 261.31. These wastes were generated and disposed of at GE's facility in Barceloneta, PR, formerly known as the RCA del Caribe facility. This facility is included on EPA's National Priority List and was the subject of a Superfund Remedial Investigation, Feasibility Study and Record of Decision. The wastes are described in GE's petition as EPA Hazardous Waste Number F006 wastewater treatment sludge that was generated from chemical etching operation and accumulated in two drying beds and two basins where the sludge mixed with soil. F006 is defined as ''Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.'' The constituents of concern for which F006 is listed are cadmium, hexavalent chromium, nickel and complexed cyanide.

B. What Information and Analyses Did GE Submit To Support This Petition?

To support its petition, GE submitted (1) descriptions and schematic diagrams of its manufacturing and wastewater treatment processes, including historical information on past waste generation and management practices; (2) detailed chemical and physical analysis of the sludge (*see* section III.D.); and (3) environmental monitoring data from past and recent studies of the facility, including groundwater data from wells located around the two drying beds and two basins. GE submitted a signed certification of accuracy and responsibility statement set forth in 40 CFR 260.22(i)(12). By this certification, GE attests that all submitted information is true, accurate and complete.

C. How Did GE Generate the Petitioned Waste?

According to information submitted by GE, the RCA del Caribe, Inc. Barceloneta facility began generating wastewater treatment sludge from its chemical etching operation in 1971 until the plant ceased operations in April 1987. During that time, the facility manufactured aperture (or shadow) masks for television picture tubes. A shadow mask is a specially prepared, paper thin, carbon steel screen used in cathode ray tubes to direct the electron beam to the television screen. The shadow masks were manufactured using a photolithographic/chemical etching process with the photolithographic step to establish locations of holes and slots and the chemical etching step to produce the desired holes and slots. During the process thin sheets of carbon steel which contained a thin layer of grease to protect the metal from corrosion and rusting were rinsed with tap water, detergent, caustic cleaning solution (sodium hydroxide), and deionized water. Rinses generated from this process were directed to the wastewater treatment plant. Then, a photoresist solution or glazing glue composed of casein, potassium or ammonium dichromate and a disinfectant (Borax) was baked to the surface of the clean sheet of steel. Once this process known as sensitizing is performed, the sheet was exposed to Ultra violet (UV) light to photographically develop the mask pattern. Developing or rinsing the UV exposed sheets with deionized water to remove unexposed photoresist solution from the sheets to exposed bare portions to be etched upon application of a wetting agent and oven-drying the sheet. These wastewaters, which contained unreacted photoresist solution, were directed to the wastewater treatment plant and were a source of chromium (from chromium dichromate) for the influent to the treatment plant and the resulting sludge. A mixture of hydrochloric acid and ferric chloride was used to chemically etch holes and slots in unprotected steel sheet portions. During the reaction, ferric ion (Fe^{+3}) reacted with metallic ion (Fe^{+0}) to produce ferrous ion (Fe^{+2}) as follows:

$2\ Fe^{+3} + Fe^{+0} => 3\ Fe^{+2}$

Spent ferric chloride etching solution was recovered for reuse in a closed-loop system. Final rinsing followed the etching process. Rinsed water from this step contained chromium, ferric chloride, and ferrous chloride and were directed to the wastewater treatment plant.

The manufacturing process contributed to a chromium-reducing environment such that hexavalent chromium, or Cr(VI) would normally be reduced to trivalent chromium, or Cr(III). Because the etching solution was recovered and recycled in a closed loop system, it accumulated excess ferrous ions which were periodically converted elsewhere in the loop system to ferric ion by adding chloride.

$3\ Fe^{+2} + 3/2\ Cl_2 => 3\ Fe^{+3} + 3\ Cl$

However, for safety reasons, the regeneration was not allowed to go to completion. Excess chlorine in the etching solution would have evolved into hazardous chlorine gas. Therefore, some residual ferrous ion was always left in the regenerated solution. The ramification is that at low pH, the Eh (redox potential) of a solution containing both ferrous and ferric ions lies within a narrow range in which Cr (III) is stable, and Cr(VI) is not. Thus, any chromium in the excess etchant solution was trivalent, not hexavalent.

All the wastewaters described above were blended prior to treatment. This results in reduction of hexavalent chromium to trivalent chromium species. The combined stream was pumped to the wastewater treatment plant where it was treated with caustic soda to effect precipitation of metals, chiefly ferric dioxide. A polymer was added to the metal in a clarifier. Clarified effluent flowed by gravity into a permitted natural sinkhole while the sludge underflow was discharged by gravity to two on-site sludge drying beds and two basins referred to by GE as ''surface impoundments'' (SI).

D. How Did GE Sample and Analyze the Data in This Petition?

GE analyzed the drying beds sludge, basins sludge, basins soil and groundwater samples from the monitoring well network for hazardous constituents listed in 40 CFR part 264, appendix IX and for other parameters.

GE's sampling strategy for contaminants consisted of dividing each drying beds and each basin surface area into four equal quadrants. Composite samples were collected from each quadrant. Each composite sample within that quadrant was composed of samples from five shallow borings and five grab samples for the surface composite samples. The borings and composite grab samples were located at the center and five to fifteen feet from the center (toward the corner), of each quadrant. Each boring sample was collected by making a composite of the entire thickness of the sludge representing the total depth of the unit sampled. The grab samples were collected from the surface to 0.5 feet. Contaminated soil around the basins were sampled in a fashion similar to what is described above for both surface and borings soil samples. The Agency evaluated the petitioned waste using these samples in combination with data from the Remedial Investigation.

To quantify the total constituent and leachate concentrations, GE used the Contract Laboratory Program Scope of Work, (CLP SOW, April 1990) and SW–846 Methods 6010/7000 series: for arsenic, barium, cadmium, chromium, hexavalent chromium, lead, mercury, nickel, selenium, and silver; 8240 for Appendix IX Volatile Organic Compounds (VOCs); 8270 for Appendix IX Semi-Volatile Organic Compounds (SVOCs); GE used these methods along with the Toxicity Characteristic Leaching Procedure (TCLP), (SW–846 Method 1311) to determine leachate concentrations of metals, VOCs, and SVOCs. Characteristic testing of soil and sludge samples also included analysis of ignitability (SW–846 Method 1010) and corrosivity (SW–846 Method 9095).

E. What Were the Results of GE's Analysis?

The maximum total and leachate concentrations for toxicity characteristic metals and nickel, total cyanide in GE's waste samples are summarized in Table 1. Since none of the sludge samples failed for toxicity, no soil samples were subjected to TCLP leachate analysis. Also, there was no detection of significant concentrations of organics in either the soil or the sludge when analyzed for ''Appendix 9 constituents.'' As a result, neither the sludge nor the soil were subjected to TCLP organic analysis. EPA does not generally verify submitted test data before proposing delisting decisions. The sworn affidavit submitted with the petition binds the petitioner to present truthful and accurate results.

TABLE 1

	Maximum observed total concentration (mg/kg)			Maximum observed Leachate concentration (mg/L TCLP)	
	Sludge drying beds	Sludge SI basins	Soil around basins	Sludge drying beds	Sludge SI basins
Arsenic	17.4J	27.4	91.0	0.022	ND
Barium	21.1	38.6	140	0.432	0.716
Cadmium	ND	1.2	3.0	ND	ND
Chromium	5360	8400	4370	0.157	ND
Lead	ND	677J	94.3J	ND	ND
Mercury	1.1J	1.6	0.49	ND	ND
Nickel	43.3J	94J	64.4J	0.0214	ND
Selenium	0.30J	ND	0.61J	ND	ND
Silver	26.4J	0.66	22.1	ND	ND
Cyanide	ND	46.5	ND	ND	ND

Note: ND=Not Detected
J=value is an estimated quantity.

IV. Methodology for Risk Assessments

A. How Did EPA Evaluate the Risk of Delisting This Waste?

For this delisting determination, EPA used information gathered to identify plausible exposure routes (*i.e.,* groundwater, surface water, air) to hazardous constituents present in the petitioned waste. EPA estimated the risk posed by the waste if disposed of in an unlined Subtitle D landfill which, under a plausible mismanagement scenario, did not receive daily cover for 30 days at a time. Constituents of concern are assumed to migrate to a receptor through groundwater, air, and surface water routes. EPA used a Windows based software tool, the Delisting Risk Assessment Software Program (DRAS) developed by Region 6, to estimate the potential releases of waste constituents and to predict the risk associated with those releases. A detailed description of DRAS and the fate, transport and risk models it uses follows.

1. Introduction

During a delisting determination, the Agency uses risk assessment methodologies to predict the concentration of hazardous constituents released from the petitioned waste after disposal to determine the potential impact on human health and the environment. The DRAS program has been used to estimate the potential releases of waste constituents to waste management units. The program also predicts the risk associated with exposure to those releases using fate and transport mechanisms to predict releases and risk assessment algorithms to estimate adverse effects from exposure to those chemical releases. The DRAS computes chemical-specific exit values or ''delisting levels.'' The delisting levels are calculated using modeled, medium-specific chemical concentrations and standard EPA exposure assessment and risk characterization algorithms. EPA detailed all chemical release, exposure, and risk characterization methodologies in the EPA Region 6 RCRA delisting Technical Support Document.

The Agency has used the maximum estimated annual waste volume and the maximum reported leachate and total waste constituent concentrations as the input data into the DRAS program to generate compliance point concentrations and estimate risk. The compliance point is the location of an individual exposed to potential releases of delisted wastes for the purpose of evaluating risk. Compliance point concentrations are generated in a two-part process. First, the DRAS back-calculates a waste constituent concentration that an individual (receptor) may be exposed to without unacceptable risk. Then, knowing the maximum concentration permitted at the compliance point, the fate and transport models are used to back-calculate the maximum permissible concentration at the waste management unit that could be disposed of without exceeding the compliance point concentration.

The risk assessment performed by the DRAS program which underlies the proposed rule is based upon a comprehensive approach to evaluating the movement of waste constituents from their waste management units, through different routes of exposure or pathways, to the points where human and ecological receptors are potentially exposed to these constituents. This risk assessment is being used in today's proposed rule to determine whether the petitioned RCRA listed waste can be defined as ''low-risk'' waste, able to exit the Subtitle C system and be managed in Subtitle D units. Low risk wastes are generally defined by Region 2 as wastes with a cancer risk of no more than 1×10^{-6} or a hazard quotient of no more than 1.0. A cancer risk of 1×10^{-6} indicates a one in 1,000,000 probability of an individual developing cancer over a lifetime. For noncarcinogenic chemicals, a hazard quotient of one represents potential exposure equal to the safe toxicity threshold value. The program back-calculates allowable waste constituent concentrations at the selected risk levels.

Although the pathway of ingestion of contaminated groundwater may be appropriate to propose exit levels for some wastes and constituents, it may not be protective for others, depending on the physical and chemical properties of each waste constituent. Some constituents have a high potential to bioaccumulate or bioconcentrate in living organisms. Pathways in which these constituents come in contact with fish would be important to evaluate.

The DRAS program performs an extensive risk assessment that examines numerous exposure pathways, rather than just the groundwater ingestion pathway. The DRAS program evaluates exposures associated with managing wastes in Subtitle D landfills or surface impoundments. Elements of the risk assessment procedure performed by the DRAS that support this proposal have undergone review by the Science Advisory Board (SAB) and EPA's Office of Research and Development (ORD). The use of the Composite Model for leachate migration with Transformation Products (CMTP) as used in the DRAS was favorably received by the SAB. ORD reviewed all other aspects of the DRAS program and responded favorably with comments. All ORD comments were addressed and incorporated into the DRAS program.

2. What Conditions Does the Agency Use in Determining Whether a Waste May Be Delisted?

The EPA's approach in RCRA delisting risk analyses has typically been to represent a reasonable worst-case waste disposal scenario for the petitioned waste rather than use of site-specific factors. The Agency believes that a reasonable worst-case scenario results in conservative values for the compliance point concentrations and is appropriate when determining whether a waste should be relieved of the management constraints of RCRA Subtitle C. Site-specific factors (*e.g.,* site hydrogeology) are not considered because a delisted waste is no longer subject to hazardous waste control, and therefore, the Agency is generally unable to predict and does not control where and how a waste will be managed after delisting. However, the Agency may impose conditions for exclusion so that the delisted waste is still managed in a manner that is protective of human health and the environment (refer to section VI.B. of this preamble).

3. How Is the Risk Assessment in the DRAS Program Structured?

The assessment estimated the risk associated with constituent-specific concentrations in the petitioned waste at the management unit that could be expected to result in an acceptable exposure to human or ecological receptors (determined through using the toxicity benchmarks such as reference doses—RfDs). The risk assessment took into account the various pathways by which waste constituents may move through the environment from the waste management unit to a receptor. The DRAS uses the fate and transport mechanisms to predict waste constituent movement. The potential exposure pathways considered in the assessment are not all-inclusive, but were selected to reflect those that might be commonly associated with the management of wastes in Subtitle D units. The management units could potentially be located in the range of environments that exist across the United States. Various environments have differing characteristics (*e.g.,* meteorological conditions, soil type) with some environments more conducive for the movement of certain constituents in certain pathways. Conditions resulting in a conservative evaluation were used for each pathway, regardless of whether or not these conditions are likely to occur simultaneously at any one location. The assessment was structured using a deterministic approach. A deterministic approach uses a single, point estimate of the value of each input or parameter and calculates a single result based on those point estimates. The assessment used the best data available to select typical (*i.e.,* approximately 50th percentile) and high-end (*i.e.,* approximately 90th percentile) values for each parameter. The DRAS code which performs the assessment is constructed as a set of calculations that begin with an acceptable exposure level for a constituent to a receptor, and back-calculates to a waste constituent concentration in the management unit that corresponds to the acceptable risk level.

The steps of the assessment which provide estimates of acceptable constituent-specific concentrations in waste include the following:

Step 1—Specify acceptable risk levels for each constituent and each receptor.

Step 2—Specify the exposure medium. Using the toxicity benchmarks as a starting point and the exposure equations, the assessment back calculates the concentration of contaminant in the medium (*e.g.,* air, water, soil) that corresponds to "acceptable" exposure at the specified risk level. The exposure equations coded into the DRAS software include a quantitative description of how a receptor comes into contact with the contaminant and how much the receptor takes in through specific mechanisms (*e.g.,* ingestion, inhalation, dermal adsorption) over some specified period of time.

Step 3—Calculate the point of release concentration from the exposure concentration. Based on the back-calculated concentration in the exposure medium (from Step 2), the concentration in the medium to which the contaminant is released to the environment (*i.e.,* air, soil, groundwater) for each pathway/receptor was modeled. The end result of this calculation is a waste constituent concentration at the point of release from the waste management unit (where the exempted waste is disposed) that will not result in adverse effects to human health and the environment.

4. When Assessing the Risk of the Exempted Waste, Where Does the DRAS Assume the Waste is Deposited?

The DRAS risk assessment evaluates risks associated with petitioned RCRA wastes deposited to two waste management scenarios: landfills and surface impoundments. A landfill waste management scenario is used for the evaluation of solid wastes, while a surface impoundment waste management scenario is used for the evaluation of liquid wastes. The determination of whether a waste is a liquid waste is made using EPA approved Test Method 9095, referred to as the Paint Filter Test. Data to characterize landfills were obtained from a 1987 nationwide survey of industrial Subtitle D landfills. For releases to groundwater, EPA's Composite Model for leachate migration with Transformation Products (EPACMTP) fate and transport model was used by DRAS. The model assumes that solid wastes remain uncovered for thirty days after disposal and that the landfill will finally be covered with a 2-foot-thick native soil layer. The Subtitle D landfill is assumed to be unlined or if lined, that any liner at the base of the landfill will eventually completely fail.

The DRAS assumes that liquid industrial wastes are disposed of in an unlined surface impoundment with a sludge or sediment layer at the base of the impoundment and that releases of contaminants originate from the surface impoundment. The surface impoundment is taken to have a 20-year operational life. After this period, the impoundment may be filled in, or simply abandoned. In either case, the remaining waste in the impoundment will leach into the unsaturated zone relatively quickly. Therefore, the duration of the leaching period in the modeling analysis is set equal to 20-years.

5. What Types of Chemical Releases From the Waste Management Units Does the DRAS Evaluate?

The DRAS evaluates chemical releases of waste constituents from the waste management units to air, surface runoff and ground water. Using the

EPACMTP fate and transport model, DRAS evaluates the potential release of waste contaminants to the ground water. In this evaluation, the differences between waste management units are represented by different values or frequency distributions of the source-specific parameters. Source-specific parameters used by the EPACMTP predict releases to the ground water from landfills include:

Capacity and dimensions of the waste management unit;
Leachate concentration;
Infiltration and recharge rates;
Pulse duration;
Fraction of hazardous waste in the waste management unit;
Density of the waste and;
Concentration of the chemical constituent in the hazardous waste

The source-specific parameters used by the model for surface impoundments include:

The area;
The ponding depth (such as the depth of liquid in the impoundment) and;
The thickness and hydraulic conductivity of the sludge or sediment layer at the bottom of the impoundment

Data on the areas, volumes, and locations of waste management units were obtained from the 1987 EPA Survey of Industrial Subtitle D waste facilities in the United States. Derivation of the parameters for each type of waste management unit is described in the EPACMTP Background Document and User's Guide.

For finite-source scenarios, simulations are performed for transient conditions, and the source is assumed to be a pulse of finite duration. In the case of landfills, the pulse duration is based on the initial amount of contaminant in the landfill, infiltration rate, landfill dimensions, waste and leachate concentration, and waste density. For surface impoundments, the duration of the leaching period is determined by the waste management unit's lifetime (the default value is 20 years). For a finite-source scenario, the model can calculate either the peak receptor well concentration for noncarcinogens or an average concentration over a specified period for carcinogens. The finite-source methodology in the EPACMTP is discussed in detail in the background document.

The DRAS evaluates releases of waste constituents from the waste management to the air. Releases of chemicals to the air may be in the form of either particulates or volatile concentrations. Inhalation of particulates and their absorption into the lungs at the point of exposure (POE) and air deposition of particulates and subsequent ingestion of the soil-waste mixture at the POE are a function of particulate releases. The DRAS calculates particulate emissions resulting from wind erosion of soil-waste surfaces, from vehicular traffic, and from waste loading and unloading. To estimate the respirable particulate emissions resulting from wind erosion of surfaces with an infinite source of erodible particles, DRAS uses the methodology documented in Rapid Assessment of Exposure to Particulate Emissions from Surface Contamination Sites (RAEPE). The methodologies documented in Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources (AP–42) were employed to calculate the dust and particulate emissions resulting both from vehicular traffic and from waste loading and unloading operations at a facility.

Particulate emission rates computed using these methodologies were summed and entered in the Ambient Air Dispersion Model, a steady-state, Gaussian plume dispersion model developed by EPA to predict the concentrations of constituents 1,000 feet downwind of a hypothetical land disposal facility. For a complete description and discussion, refer to the 1985 Ambient Air Dispersion Model (AADM). The model assumes that:

(1) The emission rate is constant over time;
(2) The emissions arise from an upwind virtual point source with emissions occurring at ground level and;
(3) No atmospheric destruction or decay of the constituent occurs

The DRAS assumes typical or conservative values for all variables that are likely to influence the potential for soil erosion, including wind velocity and vegetative cover. The AADM unit dimension assumptions were modified to more closely resemble a landfill's. The DRAS equations compute emissions resulting from wind erosion, vehicular traffic, and waste loading and unloading. These equations are thoroughly described in the Region 6 delisting Technical Support Document. For the landfill waste disposal scenario, the DRAS assumed that no vegetative cover is present, thereby assuming enhanced erodability of soil or waste. The mean annual wind speed is assumed to be 4 meters per second. This value represents the average of the wind speeds registered at U.S. climatological stations as documented in Table 4–1 of RAEPE. The DRAS assumes a month's (30 days') worth of waste would be uncovered at any one time.

Although particulates greater than 10 micrometers (um) in size generally are not considered respirable, the DRAS calculates the emission rate for particle sizes up to 30um in order to assess the potential impact of deposition and ingestion of such particulates using the distributions of wind-eroded particulates presented in RAEPE. Specifically, these distributions indicate that the release rate for particulates up to 30 um in size should be approximately twice the release rate calculated for particulates 10 um in size. The DRAS calculates the total annual average emissions of respirable particulates by summing for wind erosion, for vehicle travel, and for waste loading and unloading operations. The DRAS evaluates air deposition of the annual total emissions of particulates less than or equal to 30 um in size to soil 1,000 feet from the edge of a disposal unit. DRAS calculates the resulting soil concentration after one year of accumulation, conservatively assuming no constituent removal (no leaching, volatilization, soil erosion, or degradation).

The DRAS also evaluates the atmospheric transport and inhalation of volatile constituents which was developed by EPA's Office of Air Quality Planning and Standards (OAQPS) and has been recommended for use in risk assessments conducted under the Superfund program. The DRAS program, is currently being revised to incorporate Shen's modification of Farmer's equation which will result in a better estimate of volatile emissions. Estimates of emissions of VOCs from disposal of wastewaters in surface impoundments are computed with EPA's Surface Impoundment Modeling System (SIMS). SIMS was developed by EPA's OAQPS. Further information can be found in the Background Document for the Surface Impoundment Modeling System Version 2.0. The volatile emission rates derived from the respective waste management scenario are used by the AADM steady-state Gaussian plume dispersion model to predict the concentrations of constituents 1,000 feet downwind of a hypothetical disposal facility.

The DRAS evaluates potential releases of waste constituents to accessible surface waters. Exposure through the surface water pathway results from erosion of hazardous materials from the surface of a solid waste landfill and transport of these constituents to nearby surface water bodies. The DRAS uses the universal soil loss equation (USLE) to compute long-term soil and waste erosion from a landfill in which delisted waste has been disposed. The USLE is used to calculate the amount of waste that will be eroded from the landfill. In addition, the size of the landfill is computed using the waste volume estimate provided by the petitioner. The volume of surface water into which runoff occurs is determined by estimating the expected size of the stream into which the soil is likely to enter. The amount of soil delivered to surface water is calculated using a sediment delivery ratio. The sediment delivery ratio determines the percentage of eroded material that is delivered to surface water based on the assumption that some eroded material will be redeposited between the landfill and the surface water body. A distance of 100 meters (m) to the nearest surface water body is assumed. The DRAS program as used here is currently being revised to account for partitioning between water and suspended solids when the eroded waste enters the stream. Rainfall erosion factor values range from 20 to 550 per year. Values greater than 300 occur in only a small proportion of the southeastern United States. A value of 300 was chosen as a conservative estimate ensuring that a reasonable worst-case scenario is provided for most possible landfill locations. Soil erodibility factors range from 0.1 to 0.69 ton per acre. A value of 0.3 was selected for the analysis, which is estimated to exceed 66% of all values assuming a normal distribution. One month's worth of waste is assumed to be left uncovered at any one time and thus would be readily transportable by surface water runoff. Other variables used by the DRAS to evaluate releases to surface waters employed conservative assumptions. DRAS multiply the total annual mass of eroded material by the sediment delivery ratio to determine the mass of soil and waste delivered to surface water.

The predicted erosion capacity is gradually diluted as it mixes with nearby surface waters. DRAS selects a representative volume or flux rate of surface water based on stream order, which is a system of taxonomy for streams and rivers. A stream that has no other streams flowing into it is referred to as a first-order stream. Where two first-order streams converge, a second-order stream is created. Where two second-order streams converge, a third-order stream is created. Data indicate that second-order streams have an estimated flow rate of 3.7 cubic feet per second. The second-order stream was selected for analysis as the smallest stream capable of supporting recreational fishing. Fifth-order streams were also chosen for analysis as the smallest streams capable of serving as community water supplies. Fifth-order stream flow is estimated to be 380 cubic feet per second.

6. By What Means May an Individual Be Exposed to the Proposed Exempted Waste?

An exposure scenario is a combination of exposure pathways through which a single receptor may be exposed to a waste constituent. Receptors may be human or other animal in an ecosystem. There are many potential exposure scenarios. The DRAS evaluated the risks of the proposed waste associated with the exposure scenarios most likely to occur as a result of releases from the waste management unit. Receptors may come into contact with delisted waste constituent releases from a waste management unit via two primary exposure routes, either (1) directly via inhalation or ingestion of water or (2) indirectly via subsequent ingestion of soil and foodstuffs (such as fish) that become contaminated by waste constituents through the food chain. Receptors may also be exposed to waste constituents released from a waste management unit to surface media (via volatilization to air or via windblown particulate matter) or to groundwater (via ingestion of groundwater). The exposure scenarios assessed by DRAS are generally conservative in nature and are not intended to be entirely representative of actual scenarios at all sites. Rather, they are intended to allow standardized and reproducible evaluation of risks across most sites and land use areas. Conservatism is incorporated to ensure protection of potential receptors not directly evaluated, such as special subpopulations. The recommended exposure scenarios and associated assumptions assessed by DRAS are reasonable and conservative and they represent a scientifically sound approach that allows protection of human health and the environment.

7. What Receptors Are Assessed for Risk From Exposure to the Proposed Exempted Waste?

Adult and child residents are the two receptors evaluated in this analysis. The adult resident exposure scenario is evaluated to account for the combination of exposure pathways to which an adult receptor may be exposed in an urban or rural (nonfarm) setting. The adult resident is assumed to be exposed to waste constituents from an emission source through the following exposure pathways:

(1) Direct inhalation of vapors and particles;
(2) Ingestion of fish;
(3) Ingestion of drinking water from surface water sources;
(4) Ingestion of drinking water from groundwater sources;
(5) Dermal absorption from groundwater sources via bathing;
(6) Inhalation from groundwater sources via showering

DRAS evaluates two exposure pathways for children: (1) dermal absorption while bathing with potentially contaminated groundwater and (2) the ingestion of soil containing contaminated particulates which have been emitted from the landfill and deposited on the soil. Child residents (1 to 6 years old) were not selected as receptors for the groundwater ingestion and inhalation pathways, the surface water pathways, or the direct air inhalation pathways because the adult resident receptor scenario has been found to be protective of children with regard to these pathways. There is no indication that children consume more drinking water or inhale more air per unit of body weight, factoring in the recognized exposure duration, than adults. Therefore, average daily exposure normalized to body weight would be identical for adults and children. Likewise, a child receptor was not included for the freshwater fish ingestion pathway because there is no evidence that children consume more fish relative to their body weight, factoring in exposure duration, than do adults. The dermal absorption while bathing with groundwater exposure pathway is evaluated differently for child residents than it is for adult residents because of the following considerations: (1) The ratio of exposed skin surface area to body weight is slightly higher for children than for adults, resulting in a slightly larger average daily exposure for children than for adults; and (2) the exposure duration for such children is limited to 6 years, thus lowering the lifetime average exposure to carcinogens. Typically, the adult scenario is more protective with regard to carcinogens (because of the longer exposure duration), and the child scenario is more protective with regard to noncarcinogens (because of the greater skin surface area to body weight ratio).

8. Where Does the DRAS Assume That Receptors Are Located When Performing the Risk Evaluation?

The EPACMTP, a probabilistic groundwater fate and transport model, was used to predict groundwater constituent concentrations at a hypothetical receptor well located downgradient from a waste management unit. This receptor well represents the POE. That is, the predicted waste constituent concentration at the POE is used to assess the risk of the proposed exempted waste. The distance to the well is based on the results of the 1987 nationwide survey of landfills conducted by EPA's Office of Solid Waste (OSW) which determined the distance to the nearest drinking water well downgradient from municipal landfills. The survey data are entered in the EPACMTP model as an empirical distribution: minimum = 0 m, median = 427 m, and maximum = 1,610 m (approximately 1 mile). In contrast to the 1990 Toxicity Characteristic (TC) Rule (55 FR 11798), there is no requirement that the well lie within the leachate plume.

For carcinogenic waste constituents, the exposure concentration is defined as the maximum 30 year average receptor well concentration; for noncarcinogens, the exposure concentration is taken to be the highest receptor well concentration during the modeled 10,000 year period. A 10,000 year limit was imposed on the exposure period; that is, the calculated exposure concentration is the peak or highest 30 year average concentration occurring within 10,000 years following the initial release from the waste management unit. The fate and transport simulation within the CMTP provided a probability distribution of receptor well concentrations as a function of expected leachate concentration. Using the receptor well concentrations as a function of the waste constituent concentration, the EPACMTP derived chemical-specific dilution attenuation factors (DAFs) which convert a leachate concentration in the landfill to a groundwater concentration at the receptor well.

Human exposure routes for surface water include ingestion of surface water used as drinking water and ingestion of fish from nearby surface water bodies. For the surface water ingestion exposure route, the surface water POE modeled is a fifth-order stream 100 m from the waste management unit. Fifth-order streams were chosen for analysis because EPA assumes that a fifth-order stream is the smallest stream capable of serving as a community water supply. The assumption of a 100 m distance to the nearest surface water body is a conservative assumption based on available data. An EPA survey of municipal landfill facilities showed that 3.6 percent of the surveyed facilities are located within 1 mile of a river or stream and that the average distance from these facilities to the closest river or stream is 586 m (1,921 feet). For the fish ingestion exposure route, a second-order stream was chosen for analysis. This stream segment was determined to be the smallest stream capable of supporting fisheries. The POE in the surface water body for collection of fish is assumed to be 100 m downgradient from the disposal facility. Human exposure to emissions of windblown particulates from landfills and to emissions of volatiles from landfills and surface impoundments is assessed by the DRAS. For the air pathway, the DRAS assumes the POE is 305 m (1,000 feet) downwind of the waste management unit.

9. How Does DRAS Determine Rates of Exposure?

The calculation of constituent-specific exposure rates for each exposure pathway evaluated were based on:

(1) The estimated concentration in a given medium as calculated in DRAS;
(2) The contact rate;
(3) Receptor body weight, and;
(4) The frequency and duration of exposure

This calculation is repeated for each constituent and for each exposure pathway included in an exposure scenario. Exposure to hazardous constituents is assumed to occur over a period of time. To calculate an average exposure per unit of time, the DRAS divides the total exposure by the time period. Exposures are intended to represent reasonable maximum exposure (RME) estimates for each applicable exposure route. The RME approach is intended to combine upper-bound and mid-range exposure factors so that the result represents an exposure scenario that is both protective and reasonable, not the worst possible case.

10. What Rate of Contact With a Contaminated Media Does the DRAS Use?

The contact rate is the amount of contaminated medium contacted per unit of time or event. Contact rates for subsistence food types (fish for the fish ingestion pathway) are assumed to be 100 percent from the hypothetical assessment area (surface water body). The following sections describe exposure pathway-specific contact rates.

11. What Are the Contact Rates at Which Individuals Are Exposed to Contaminated Media?

For groundwater and surface water ingestion, the intake rate is assumed to be 2.0 liters per day (l/day), the average amount of water that an adult ingests. This value, which is currently used to set drinking water standards, is close to the current 90th percentile value for adult drinking water ingestion (2.3 l/day) reported in the EPA Exposure Factors Handbook. This value approximates the 8 glasses of water per day historically recommended by health authorities. The contact for the dermal exposure pathway is assumed to occur while bathing with contaminated groundwater. In this analysis, the DRAS assumes that the average adult resident is in contact with groundwater during bathing for 0.25 hour per event and that the average child resident is in contact with groundwater during bathing for 0.33 hour per event, with one event per day. For dermal bathing exposure to contaminated groundwater, the selected receptors are an adult and a young child (1 to 6 years old). During bathing, generally all of the skin surface is exposed to water. The total adult body surface area can vary from about 17,000 to 23,000 square centimeters (cm^2). The EPA Exposure Factors Handbook (EFH) reports a value of 20,000 cm^2 as the median value for adult skin surface area. A value of 6,900 cm^2 has been commonly used for a child receptor in EPA risk assessments; this value is approximately the average of the median values for male children aged 2 to 6. The EFH presents a range of recommended values for estimates of the skin surface area of children by age. The mean skin surface area at the median for boys and girls 5 to 6 years of age is 0.79 square meters (m^2) or 7,900 cm^2. Given that the age for children is defined as 0 to 6 years (see EFH Section 3.3.4), a skin surface area value for ages 5 to 6 years would be a conservative estimate of skin surface area for children. For calculation of dermal exposure to waste constituents, the DRAS uses a value of 7,900 cm^2 for the skin surface area of children and a value of 20,000 cm^2 for the skin surface area of adults.

For the groundwater pathway of inhalation exposure during showering, the contact with water is assumed to occur principally in the shower and in the bathroom. The DRAS analysis assumes that the average adult resident spends 11.4 minutes per day in the shower and an additional 48.6 minutes per day in the bathroom. Daily inhalation rates vary depending on activity, gender, age, and so on. Citing a need for additional research, the EFH does not recommend a reasonable upper-bound inhalation rate value. The EFH recommended value for the average inhalation rate is 15.2 cubic meters per day (m^3) for males and 11.3 m^3 day for females. The EPA established an upper-bound value for an individual's inhalation rate at 20 m^3 day which has been commonly used in past EPA risk assessments. This value is used by the DRAS for assessment of inhalation exposure.

The DRAS assesses the ingestion of soil contaminated with air-deposited particulates from a nearby landfill. The potential for exposure to constituents via soil ingestion is greater for children because they are more likely to ingest more soil than adults as a result of behavioral patterns present during childhood. Therefore, exposure to waste constituents through ingestion of contaminated soils is evaluated for the child in a delisting risk assessment. The mean soil ingestion values for children range from 39 to 271 milligrams per day (mg/day), with an average of 146 mg/day for soil ingestion and 191 mg/day for soil and dust ingestion (see EPA EFH). Based on the EFH statement that 200 mg/day may be used as a conservative estimate of the mean, the DRAS uses 200 mg/day as the soil ingestion rate for children.

Fish consumption rates vary greatly, depending on geographic region and social or cultural factors. The recommended value for fish consumption for all fish is 0.28 grams of fish per kilogram body weight per day for an average adult (see EPA EFH). This value equates with a fish consumption rate of 20.1 grams per day (g/day) for all fish. The DRAS estimated that an exposed individual eats 20 g of fish per day, representing one 8-ounce serving of fish approximately once every 11 days.

12. At What Frequency Does the DRAS Assume That Receptors Are Exposed to Contaminated Media?

An exposure frequency of 350 days per year is applied to all exposure scenarios (see EPA EFH). Until better data become available, the common assumption that residents take 2 weeks of vacation per year is used to support a value of 15 days per year spent away from home, leaving 350 days per year spent at home and susceptible to exposure.

13. For What Duration Does the DRAS Assume Receptors Are Exposed to Contaminated Media?

The exposure duration reflects the length of time that an exposed individual may be expected to reside near the constituent source. For the adult resident, this value is taken to be 30 years, and for the child resident, this value is taken to be 6 years (see EPA EFH). The adult resident is assumed to live in one house for 30 years, the approximate average of the 90th percentile residence times from two key population mobility studies. For the child resident, the exposure duration is assumed to be 6 years, the maximum age of the young child receptor. For carcinogens, exposures are combined for children (6 years) and adults (24 years). For noncarcinogenic constituents, the averaging time (AT) equals the exposure duration in years multiplied by 365 days per year. For an adult receptor, the exposure duration is 30 years, and for a child receptor, the exposure duration is 6 years. For carcinogenic constituents, the AT has typically been 25,550 days, based on a lifetime exposure of 70 years at 365 days per year. The life expectancy value in the EFH is 75 years. Given this life expectancy value, the AT for a delisting risk assessment is 27,375 days, based on a lifetime exposure of 75 years at 365 days per year.

14. What Body Weights Are Assumed for Receptors in the DRAS Evaluation?

Risk Assessment Guidance for Superfund defines the body weight of the receptor as either adult weight (70 kilograms (kg)) or child weight (1 to 6 years, 15 kg). The EFH recommended value of 71.8 kg for an adult differs from the 70-kg value commonly used in EPA risk assessments. In keeping with the latest EFH recommendation, the DRAS used a 72-kg adult weight and a 15-kg child weight for the proposed delisting determination.

B. What Risk Assessment Methods Has the Agency Used in Previous Delisting Determinations That Are Being Revised in This Proposal?

1. Introduction

The fate and transport of constituents in leachate from the bottom of the waste unit through the unsaturated zone and to a drinking water well in the saturated zone was previously estimated using the EPA Composite Model for Landfill (EPACML) (*See* 55 FR 11798). The EPACML accounts for:

One-dimensional steady and uniform advective flow;

Contaminant dispersion in the longitudinal, lateral, and vertical directions;

Sorption.

However, advances in groundwater fate and transport have been made in recent years and the Agency proposes the use of a more advanced groundwater fate and transport model for RCRA exclusions.

2. What Fate and Transport Model Does the Agency Use in the DRAS for Evaluating the Risks to Groundwater From the Proposed Exempted Waste?

The Agency proposes to use the EPACMTP in this delisting determination. The EPACMTP considers the subsurface fate and transport of chemical constituents. The EPACMTP is capable of simulating the fate and transport of dissolved contaminants from a point of release at the base of a waste management unit, through the unsaturated zone and underlying groundwater, to a receptor well at an arbitrary downstream location in the aquifer. The model accounts for the following mechanisms affecting contaminant migration: transport by advection and dispersion, retardation resulting from reversible linear or nonlinear equilibrium adsorption onto the soil and aquifer solid phase, and biochemical degradation processes.

3. Why Is the EPACMTP Fate and Transport Model an Improvement Over the EPACML?

The modeling approach used for this proposed rulemaking includes three major categories of enhancements over the EPACML. The enhancements include:

(1) Incorporation of additional fate and transport processes (*e.g.,* degradation of chemical constituents);
(2) Use of enhanced flow and transport solution algorithms and techniques (*e.g.,* three-dimensional transport) and;
(3) Revision of the probabilistic methodology (*e.g.,* site-based implementation of available input data).

A discussion of the key enhancements which have been implemented in the EPACMTP is presented here and the details are provided in the proposed 1995 Hazardous Waste Identification Rule (HWIR) background documents (60 FR 66344–December 21, 1995).

The EPACML was limited to conditions of uniform groundwater flow. It could not handle accurately the conditions of significant groundwater mounding and non-uniform groundwater flow due to a high rate of infiltration from the waste units. These conditions increase the transverse horizontal as well as the vertical spreading of a contaminant plume. The EPACMTP accounts for these effects directly by simulating groundwater flow in the vertical as well as horizontal directions.

The EPACMTP can simulate fate and transport of metals, taking into account geochemical influences on the mobility of metals. The EPA's MINTEQA2 metals speciation model is used to generate effective sorption isotherms for individual metals, corresponding to a range of geochemical conditions. The transport modules in EPACMTP have been enhanced to incorporate the nonlinear MINTEQ sorption isotherms. This enhancement provides the model with capability to simulate, in the unsaturated and in the saturated zones, the impact of pH, leachate organic matter, natural organic matter, iron hydroxide and the presence of other ions in the groundwater on the mobility of metals. The saturated zone module implemented in the EPACML was based on a Gaussian distribution of concentration of a chemical constituent in the saturated zone. The module also used an approximation to account for the initial mixing of the contaminant entering at the water table underneath the waste unit. The approximate nature of this mixing factor could sometimes lead to unrealistic values of contaminant concentration in the groundwater close to the waste unit, especially in cases of a high infiltration rate from the waste unit. The enhanced model incorporates a direct linkage between the unsaturated zone and saturated zone modules which overcomes these limitations of the EPACML.

To enable a greater flexibility and range of conditions that can be modeled, the analytical saturated zone transport module has been replaced with a numerical module, based on the highly efficient state-of-the-art Laplace Transform Galerkin (LTG) technique. The enhanced module can simulate the anisotropic, non-uniform groundwater flow, and transient, finite source, conditions. The latter requires the model to calculate a maximum receptor well concentration over a finite time horizon, rather than just the steady state concentration which was calculated by the EPACML. The saturated zone modules have been implemented to provide either a fully three-dimensional solution, or a highly efficient quasi-3D solution. The latter has been implemented for probabilistic applications and provides nearly the same accuracy as the fully three dimensional option, but is more computationally efficient. Both the unsaturated zone and the saturated zone transport modules can accommodate the formation and the transport of parent as well as of the transformation products.

A highly efficient semi-analytical unsaturated zone transport module has been incorporated to handle the transport of metals in the unsaturated zone and can use MINTEQA2 derived linear or nonlinear sorption isotherms. Conventional numerical solution techniques are inadequate to handle extremely nonlinear isotherms. An enhanced method-of-characteristic based solution has been implemented which overcomes these problems and thereby enables the simulation of metals transport in the probabilistic framework. Non-linearity in the metals sorption isotherms is primarily of concern at higher concentration values; for low concentrations, the isotherms are linear or close to linear. Because of the attenuation in the unsaturated zone, and the subsequent dilution in the saturated zone, concentrations in the saturated zone are usually low enough so that properly linearized isotherms are used by the model in the saturated zone without significant errors.

The internal routines in the model which determine placement of the receptor well relative to the areal extent of the contaminant plume have been revised and enhanced to eliminate bias which was present in the implementation in the EPACML. The calculation of the areal extent of the plume has been revised to take into consideration the dimensions of the waste unit. The logic for placing a receptor well inside the plume limits has been improved to eliminate a bias towards larger waste unit areas and to ensure that the placement of the well inside these limits, for a given radial distance from the unit, is truly randomly uniform. However, for this proposal, the closest drinking water well is located anywhere on the downgradient side of the waste unit.

The data sources from which parameter distributions for nationwide probabilistic assessments are obtained have been evaluated, and where appropriate, have been revised to make use of the latest data available for modeling. Leachate rates for Subtitle D waste units have been revised using the latest version of the Hydrologic Evaluation of Landfill Performance (HELP) model with the revised data inputs. Source specific input parameters (*e.g.*, waste unit area and volume) have been developed for various different types of industrial waste units besides landfills. Input values for the groundwater related parameters have been revised to utilize information from a nationwide industry survey of actual contaminated sites. The original version of the model was implemented for probabilistic assessments assuming continuous source (infinite source) conditions only. This methodology did not take into account the finite volume and/or operational life of waste units. The EPACMTP model has been implemented for probabilistic assessments of either continuous source or finite source scenarios. In the latter scenario, predicted groundwater impact is not only based on the concentrations of contaminants in the leachate, but also on the amount of constituent in the waste unit and/or the operational life of the unit.

The landfill is taken to be filled to capacity and covered when leaching begins. The time period during which the landfill is filled-up, usually assumed to be 20 years, is considered to be small relative to the time required to leach all of the constituent mass out of the landfill. The model simulation results indicate that this assumption is not unreasonable; the model calculated leaching duration is typically several hundred years. The leachate flux, or infiltration rate, is determined using the HELP model. The net infiltration rate is calculated using a water balance approach, which considers precipitation, evapo-transpiration, and surface run-off. The HELP model was used to calculate landfill infiltration rates for a representative Subtitle D landfill with 2-foot earthen cover, and no liner or leachate collection system, using climatic data from 97 climatic stations located throughout the US. These correspond to the reasonable worst case assumptions as explained in the HWIR Risk Assessment Background Document for the HWIR proposed notice (60 FR 66344—December 21, 1995). Additional details on the methodologies used by the EPACMTP to derive DAFs for waste constituents modeled for the landfill scenario are presented in the Background Documents for the proposed HWIR docket (60 FR 66344—December 21, 1995). The fraction of waste in the landfill is assigned a uniform distribution with lower and upper limits of 0.036 and 1.0, respectively, based on analysis of waste composition in Subtitle D landfills. The lower bound assures that the waste unit will always contains a minimum amount of the waste of concern. The waste density is assigned a value based on reported densities of hazardous waste, and varies between 0.7 and 2.1 grams per cubic centimeter (g/cm\3\).

The area of the surface impoundment and the impoundment depth used by the EPACMTP are obtained from the OSW Subtitle D Industrial Survey and were entered into the probabilistic analyses as distributions. The sediment layer at the base of the impoundment is taken to be 2 feet thick, and have an effective equivalent saturated conductivity of 10^{-7} centimeters per second (cm/s). These values were selected in recognition of the fact that most non-hazardous waste surface impoundments do have some kind of liners in place. Additional details on the methodologies used by the EPACMTP to derive DAFs for waste constituents modeled for the surface impoundment waste management scenario are presented in the Background Documents for the 1995 proposed HWIR docket (60 FR 66344—December 21, 1995).

4. Has the EPACMTP Methodology Been Formally Reviewed?

The Science Advisory Board (SAB), a public advisory group that provides information and advice to the EPA, reviewed the EPACMTP model as part of a continuing effort to provide improvements in the development and external peer review of environmental regulatory models. Overall, the SAB commended the Agency for making significant enhancements to the EPACMTP's predecessor (EPACML) and for responding to previous SAB suggestions. The SAB also concluded that the mathematical formulation incorporating transformation or degradation products into the model appeared to be correct and that the site-based approach using hydrogeologic regions is superior to the previous approach used in EPACML. The model underwent public comment during the 1995 proposed HWIR (60 FR 66344—December 21, 1995).

5. Has the Agency Modified the EPACMTP as Utilized in the HWIR Proposal?

The EPACMTP, as developed for HWIR, determined the DAF using a probabilistic approach that selected, at random, a waste volume from a range of waste volumes identified in EPA's 1987 Subtitle D landfill survey. In delisting determinations, the waste volume of the petitioner is known. Therefore, application of EPACMTP to the delisting program has been modified to evaluate the specific waste volume. The Agency modified the DAFs determined under the HWIR proposal to account for a known waste volume. To generate waste volume-specific DAFs, EPA developed ''scaling factors'' to modify DAFs developed for HWIR (based on the entire range of disposal unit areas) to DAFs for delisting waste volumes. This was accomplished by computing a 90th percentile DAF for a conservative chemical for 10 specific waste volumes (ranging from 1,000 cu. yds. to 300,000 cu. yds.) for each waste management scenario (landfill and surface impoundment). The Agency assumed that DAFs for a specific waste volume are linearly related to DAFs developed by EPACMTP for the HWIR. DAF scaling factors were computed for the ten increment waste volumes. Using these ten scaling factor DAFs, regression equations were developed for each waste management scenario to provide a continuum of DAF scaling factors as a function of waste volume.

The regression equations are coded into the DRAS program which then automatically adjusts the DAF for the waste volume of the petitioner. The method used to verify the scaling factor approach is presented in Application of EPACMTP to Region 6 delisting Program: Development of Volume-adjusted Dilution Attenuation Factors. For the landfill waste management scenario, the DAF scaling factors ranged from 9.5 for 10,000 cu. yard to approximately 1.0 for waste volumes greater than 200,000 cu. yards. Therefore, for solid waste volumes greater than 200,000 cu. yds., the waste volume-specific DAF is the same as the DAF computed for the proposed HWIR. The regression equation that can be used to determine the DAF scaling factor (DSF) as a function of waste volume (in cubic yards) for the landfill waste management unit is: DSF = 6152.7 $\times$ (waste volume)$^{-0.7135}$. The correlation coefficient of this regression equation is 0.99, indicating a good fit of this line to the data points. DAF scaling factors for surface impoundment waste volumes ranged from 2.4 for 2,000 cu. yards to approximately 1.0 for 100,000 cu. yds. For liquid waste volumes greater than 200,000 cu. yds., the waste volume-specific DAF is the same as the DAF computed for the proposed HWIR. The regression equation for DSF as a function of waste volume for surface impoundment wastes is: DSF = 14.2 $\times$ (waste volume)$^{-0.2288}$. The correlation coefficient of this regression equation is also 0.99, indicating an extremely good fit of this line to the data points.

V. Evaluation of This Petition

A. What Other Factors Did EPA Consider in Its Evaluation?

We also consider the applicability of ground-water monitoring data during the evaluation of delisting petitions where the waste in question is or has ever been placed on land. In this case, the waste has been placed directly on soil or in contact with underlying clayey sand and limestone bedrock. A total of three groundwater sampling events has been conducted at the site from monitoring wells around the existing drying beds and basins which contain the waste and submitted to the Agency as part of the petition. Historical data showed sporadic detection of four inorganic constituents in the groundwater and indicated that the drying beds and basins waste was a possible source. However, a confirmation groundwater sampling event utilizing a more sophisticated EPA recommended sampling technique could not establish that hazardous substances were currently leaching from the drying beds and basins sludge as well as associated contaminated soil at levels exceeding those predicted by the EPACMTP model in the DRAS program. The evaluation was based on a statistical analysis conducted in accordance with Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities—Interim Final Guidance, EPA, April 1989 and Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities—Addendum to Interim Final Guidance, EPA, July 1992. Leachate analysis of sludge samples generally supported the conclusion that the beds and basins sludge was not currently a source of groundwater contamination above health-based levels.

Specifically, chromium, lead, mercury and nickel were sporadically detected in groundwater. However, the sludge did not appear to be leaching these constituents to groundwater. Chromium, lead, and mercury are present in background samples. The highest concentration of these constituents were found in a single sample described as ''brown, turbid.'' None of them were detected in the filtered portion of that same sample. Nickel contamination could not be attributed to the sludge and was detected in only one quarterly sampling event. Furthermore, using low flow method in a confirmatory sampling event to account for turbidity, except for mercury which was slightly above the health base level, nickel was not detected and chromium and lead were detected below the level of concern. Therefore, the analytical results of groundwater show that elevated levels of mercury, nickel, chromium and lead historically detected in the groundwater at the site are attributable to naturally-occurring trace elements in fine sediments.

B. What Did EPA Conclude About GE's Analysis?

The total cumulative risk posed by the waste, is approximately 3.66×10^{-6}. EPA believes that this risk is acceptable because the value is within a generally acceptable range of 1×10^{-4} to 1×10^{-6} and the estimated risk is associated with a single contaminant. Specifically, ingestion of carcinogenic arsenic in groundwater contributes 3.66×10^{-6}; the surface water pathway contributes 3.11×10^{-9}. Cadmium, the other contributor to the total risk and included only as a detection limit, has no groundwater ingestion risk and its surface water pathway contributes only 5.51×10^{-15} to the total level of risk.

After reviewing GE's processes, the EPA concludes that (1) hazardous constituents of concern are present in GE's waste, but not at levels which are likely to pose a threat to human health and the environment when placed in a solid waste landfill; and (2) the petitioned waste does not exhibit any of the characteristics of ignitability, corrosivity, or reactivity. See 40 CFR 261.21, 261.22, and 261.23, respectively.

C. What is EPA's Evaluation of This Delisting Petition?

The descriptions of the GE hazardous waste process and analytical characterization, with the proposed verification testing requirements (as discussed later in this document), provide a reasonable basis for EPA to grant the exclusion.

The Agency has reviewed the sampling procedures used by GE and have determined they satisfy EPA criteria for collecting representative samples of constituent concentrations in the wastewater treatment sludge.

EPA believes the data submitted in support of the petition show that GE's waste will not pose a threat when disposed of in a Subtitle D landfill regulated by a state. The Agency therefore, proposes to grant GE an exclusion for its WWTP sludge.

If EPA finalizes the proposed rule, the Agency will no longer regulate the petitioned waste under 40 CFR parts 262 through 268 and the permitting standards of part 270.

VI. Conditions for Exclusion

A. What Are the Maximum Allowable Concentrations of Hazardous Constituents in the Waste?

Table 2 below summarizes maximum observed TCLP concentrations in GE's waste, maximum allowable leachate levels for GE's waste, and the level of regulatory concern at the point of exposure for groundwater. The EPA calculated delisting levels for all constituents detected.

Maximum allowable leachate concentrations (expressed as a result of the TCLP test) were calculated for all constituents for which leachate was analyzed. The allowable leachate concentrations were derived from the health-based calculation within the DRAS program. Maximum allowable leachate levels were also derived from MCLs, SDWA Treatment Technique (TT) action levels, or toxicity characteristic levels from 40 CFR 261.24 if they resulted in a more conservative delisting level. The maximum allowable point of exposure groundwater concentrations correspond to the lesser of the health-based values calculated within the DRAS program or the MCLs or TT action levels.

A statistical review of some of the data indicates that the maximum values used in the modeling and risk estimation correspond to a very high confidence interval. Assuming that the distribution of the data is adequately defined, future samples are likely to exhibit concentrations which are less than the maximum values used in this evaluation. All of the maximum waste concentrations observed are less than the corresponding delisting levels assigned.

TABLE 2

	Maximum observed [1] leachate concentration (mg/l TCLP)		Maximum allowable leachate concentration (mg/l TCLP)	Maximum allowable point of exposure concentration (mg/l in ground-water)	Maximum allowable TCLP base on MCL mg/l
	Sludge drying beds	Sludge SI basins			
Arsenic	0.0221	ND(0.1)	0.0604	0.604	6.19
Barium	0.432	0.716	472	[2]358	359
Cadmium	ND	ND(0.01)	3.63	[2]0.965	0.967
Chromium	0.157	ND(0.01)	1400000	[2]2480	2480
Lead	ND	ND(0.085)	484	483	484
Mercury	ND	ND(0.0002)	0.219	[2]0.960	0.961
Nickel	0.0214	ND(0.04)	182	182	
Selenium	ND	ND(0.195)	14	[2]0.748	3.74
Silver	ND	ND(0.01)	24.8	24.8	
Cyanide	ND	ND(0.01)	87.1	[2]23.2	23.2

Note: ND=Not Detected (Detection Limit).
J=value is an estimated quantity.
[1]These levels represent the highest constituent concentration found in any one sample, not necessarily the specific levels found in one sample.
[2]The concentration is based on the MCL or TT action level.

In addition to the delisting values in the table, several delisting levels based on total concentrations were also established for GE's waste. Table 3 below summarizes maximum observed total concentrations in GE's waste, maximum allowable total levels for GE's waste. In all cases, the observed levels were below allowable levels.

TABLE 3

	Maximum observed total concentration (mg/kg)			Maximum allowable total concentration mg/kg
	Sludge drying beds	Sludge SI basins	Soil around basins	
Arsenic	17.4J	27.4	91.0	91000
Barium	21.1	38.6	140	20600000
Cadmium	ND	1.2	3.0	771000

TABLE 3—Continued

	Maximum observed total concentration (mg/kg)			Maximum allowable total concentration mg/kg
	Sludge drying beds	Sludge SI basins	Soil around basins	
Chromium	5360	8400	4370	2310000000
Lead	R	677J	15.5/94.3J	541000
Mercury	1.1J	1.6	0.49	80
Nickel	*10.8/43.3J*	43.5/94J	64.4J	30800000
Selenium	0.30J	0.66	0.55/0.61J	7710000
Silver	26.4J	46.5	22.1	7710000
Cyanide	R	ND	ND	30800000

Note: ND=Not Detected (Detection Limit).
J=value is an estimated quantity.
R=rejected.

B. What Are the Conditions of the Exclusion?

The proposed exclusion only applies to the approximately five to fifteen thousand cubic yards of sludge and contaminated soil described in the petition. Any amount exceeding this volume cannot be considered delisted under this exclusion. Furthermore, GE must dispose of this sludge in a Subtitle D landfill which is permitted, licensed, or registered by a state to manage industrial waste.

GE must also complete additional verification sampling in order to ensure that the landfilled sludge meets delisting requirements. Each unit shall at a minimum be divided into four quadrants and a boring drilled at the center or an identified area of concern within each quadrant. A composite sample comprising the vertical extent of the sludge at each individual boring location is to be collected within the sludge areas of the two drying beds and the two basins. Surface composite samples using the same number of quadrant above shall be collected for the sludge in the two basins and the contaminated soil in the vicinity of the basins. The 102,400 square foot grid surrounding the basins could stake on an 160-foot interval for a square grid area of approximately 25,600 square feet (a total of four square grid). A soil boring shall be installed at the center of each square grid for a total of 4 soil borings. Boring samples shall be collected at three depth levels (top, middle and bottom) for a total of three samples at each boring location. A total of 40 samples is expected from the drying beds, the basins and the area surrounding the basins. QA/QC protocols would remain as spelled out in the petition. The samples are to be analyzed for TCLP metals that includes arsenic, barium, cadmium, chromium and nickel.

If, anytime after disposal of the delisted waste, GE possesses or is otherwise made aware of any environmental or waste data (including but not limited to leachate data or groundwater monitoring data) or any other data relevant to the delisted waste indicating that any constituent identified in section VI.A. is at a level higher than the delisting level established in section VI.A. or is at a level in groundwater that exceeds the point of exposure concentration established in section VI.A., then GE must report such data, in writing, to the Director of the Division of Environmental Planning and Protection within 10 days of first possessing or being made aware of that data.

Based on any information provided by GE and any other information received from any source, the Director of the Division of Environmental Planning and Protection will make a determination as to whether the reported information requires GE to take action to protect human health or the environment. Further action may include suspending, or revoking the exclusion, or other appropriate response necessary to protect human health and the environment.

C. What Happens if GE Fails To Meet the Conditions of the Exclusion?

If GE violates the terms and conditions established in the exclusion, the Agency may start procedures to withdraw the exclusion.

The EPA has the authority under RCRA and the Administrative Procedures Act, 5 U.S.C. 551 (1978) *et seq.* (APA), to reopen a delisting decision if we receive new information indicating that the conditions of this exclusion have been violated.

If the Director of the Division of Environmental Planning and Protection determines that information reported by GE as described in section VI.B., or information received from any other source, does require GE to take action the Director of the Division of Environmental Planning and Protection will notify GE in writing of the actions the Director of the Division of Environmental Planning and Protection believes are necessary to protect human health and the environment. The notice shall include a statement of the proposed action and a statement providing GE with an opportunity to present information as to why the proposed action is not necessary or to suggest an alternative action. GE shall have 10 days from the date of the Director's notice or such other time period as established by EPA to present the information.

If after 10 days, GE presents no further information, the Director of the Division of Environmental Planning and Protection will issue a final written determination describing the actions that are necessary to protect human health or the environment. Any required action described in the Director's determination shall become effective immediately, unless the Director of the Division of Environmental Planning and Protection provides otherwise.

VII. Regulatory Impact

Under Executive Order 12866, EPA must conduct an ''assessment of the potential costs and benefits'' for all ''significant'' regulatory actions.

The proposal to grant an exclusion is not significant, since its effect, if promulgated, would be to reduce the overall costs and economic impact of EPA's hazardous waste management regulations. This reduction would be achieved by excluding waste generated at a specific facility from EPA's lists of hazardous wastes, thus enabling a facility to manage its waste as nonhazardous.

Because there is no additional impact from today's proposed rule, this proposal would not be a significant regulation, and no cost/benefit assessment is required. The Office of Management and Budget (OMB) has also exempted this rule from the requirement for OMB review under section (6) of Executive Order 12866.

VIII. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 U.S.C. 601–612, whenever an agency is required to publish a general notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis which describes the impact of the rule on small entities (that is, small businesses, small organizations, and small governmental jurisdictions). No regulatory flexibility analysis is required, however, if the Administrator or delegated representative certifies that the rule will not have any impact on small entities.

This rule, if promulgated, will not have an adverse economic impact on small entities since its effect would be to reduce the overall costs of EPA's hazardous waste regulations and would be limited to one facility. Accordingly, the Agency certifies that this proposed regulation, if promulgated, will not have a significant economic impact on a substantial number of small entities. This regulation, therefore, does not require a regulatory flexibility analysis.

IX. Paperwork Reduction Act

Information collection and record-keeping requirements associated with this proposed rule have been approved by Office of Management of Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (Public Law 96–511, 44 U.S.C. 3501 *et seq.*) and have been assigned OMB Control Number 2050–0053.

X. Unfunded Mandates Reform Act

Under section 202 of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, which was signed into law on March 22, 1995, EPA generally must prepare a written statement for rules with federal mandates that may result in estimated costs to state, local, and tribal governments in the aggregate, or to the private sector, of $100 million or more in any one year.

When such a statement is required for EPA rules, under section 205 of the UMRA, EPA must identify and consider alternatives, including the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule. EPA must select that alternative, unless the Administrator explains in the final rule why it was not selected or it is inconsistent with law.

Before EPA establishes regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, EPA must develop under section 203 of the UMRA a small government agency plan. The plan must provide for notifying potentially affected small governments, giving them meaningful and timely input in the development of EPA regulatory proposals with significant federal intergovernmental mandates, and informing, educating, and advising them on compliance with the regulatory requirements.

The UMRA generally defines a federal mandate for regulatory purposes as one that imposes an enforceable duty upon state, local, tribal governments or the private sector estimated to cost $100 million or more in any one year.

The EPA finds that today's delisting decision is deregulatory in nature and does not impose any enforceable duty on any state, local, or tribal governments or the private sector estimated to cost $100 million or more in any one year. In addition, the proposed delisting decision does not establish any regulatory requirements for small governments and so does not require a small government agency plan under UMRA section 203.

XI. Executive Order 12875

Under Executive Order 12875, EPA may not issue a regulation that is not required by statute and that creates a mandate upon a state, local, or tribal government, unless the federal government provides the funds necessary to pay the direct compliance costs incurred by those governments. If the mandate is unfunded, EPA must provide to OMB a description of the extent of EPA's prior consultation with representatives of affected state, local, and tribal governments; the nature of their concerns; copies of written communications from the governments; and a statement supporting the need to issue the regulation. In addition, Executive Order 12875 requires EPA to develop an effective process permitting elected officials and other representatives of state, local, and tribal governments ''to provide meaningful and timely input in the development of regulatory proposals containing significant unfunded mandates.'' Today's rule does not create a mandate on state, local or tribal governments. The rule does not impose any enforceable duties on these entities. Accordingly, the requirements of section 1(a) of Executive Order 12875 do not apply to this rule.

XII. Executive Order 13045

Executive Order 13045 is entitled ''Protection of Children from Environmental Health Risks and Safety Risks'' (62 FR 19885, April 23, 1997). This order applies to any rule that EPA determines (1) is economically significant as defined under Executive Order 12866, and (2) the environmental health or safety risk addressed by the rule has a disproportionate effect on children. If the regulatory action meets both criteria, the Agency must evaluate the environmental health or safety effects of the planned rule on children, and explain why the planned regulation is preferable to other potentially effective and reasonably feasible alternatives considered by the Agency. This proposed rule is not subject to Executive Order 13045 because this is not an economically significant regulatory action as defined by Executive Order 12866.

XIII. Executive Order 13084

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly affects or uniquely affects that communities of Indian tribal governments, and that imposes substantial direct compliance costs on those communities, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by the tribal governments.

If the mandate is unfunded, EPA must provide to OMB, in a separately identified section of the preamble to the rule, a description of the extent of EPA's prior consultation with representatives of affected tribal governments, a summary of the nature of their concerns, and a statement supporting the need to issue the regulation.

In addition, Executive Order 13084 requires EPA to develop an effective process permitting elected and other representatives of Indian tribal governments ''to meaningful and timely input'' in the development of regulatory policies on matters that significantly or uniquely affect their communities of Indian tribal governments. This action does not involve or impose any requirements that affect Indian Tribes. Accordingly, the requirements of section 3(b) of Executive Order 13084 do not apply to this rule.

XIV. Executive Order 13132

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national levels of government.''

Under section 6 of Executive Order 13132, EPA may not issue a regulation that has federalism implications, that imposes substantial direct compliance costs, and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments or EPA consults with State and local officials early in the process of developing the proposed regulation. EPA also may not issue a regulation that has federalism implication and that preempts State law, unless the Agency consults with State and local officials early in the process of developing the proposed regulation.

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in the Executive Order 13132. Thus, the requirements of section 6 of the Executive Order do not apply to this rule.

XV. National Technology Transfer and Advancement Act

Under section 12(d) of the National Technology Transfer and Advancement Act, the Agency is directed to use voluntary consensus standards in its regulatory activities unless doing so would be inconsistent with applicable law or otherwise impractical.

Voluntary consensus standards are technical standards (for example, materials specifications, test methods, sampling procedures, business practices, etc.) that are developed or adopted by voluntary consensus standard bodies. Where EPA does not use available and potentially applicable voluntary consensus standards, the Act requires that Agency to provide Congress, through the OMB, an explanation of the reasons for not using such standards.

This rule does not establish any new technical standards, and thus the Agency has no need to consider the use of voluntary consensus standards in developing this proposed rule.

List of Subjects in 40 CFR Part 261

Environmental protection, Hazardous waste, Recycling, Reporting and recordkeeping requirements.

Authority: Sec. 3001(f) RCRA, 42 U.S.C. 6921(f).

Dated: December 15, 2003.

Walter Mugdan,

Director, Division of Environmental Planning and Protection.

Editorial Note: This document was received in the Office of the Federal Register on March 16, 2004.

For the reasons set out in the preamble, 40 CFR part 261 is proposed to be amended as follows:

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

1. The authority citation for part 261 continues to read as follows:

Authority: 42 U.S.C. 6905, 6912(a), 6921, 6922, and 6938.

2. In Table 1 of appendix IX of part 261, add the following waste stream in alphabetical order by facility to read as follows:

Appendix IX to Part 261—Wastes Excluded Under §§ 260.20 and 260.22

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES

Facility	Address	Waste description
* *	*	* * * *
GE's Former RCA del Caribe	Barceloneta Puerto Rico	Wastewater treatment plant (WWTP) sludges from chemical etching operation. (EPA Hazardous Waste No. F006) and contaminated soil mixed with sludge. This is a one-time exclusion for a range of 5,000 to15,000 cubic yards of WWTP sludge. This exclusion was published on [insert publication date of the final rule]. 1. Delisting Levels: (A) The constituent concentrations measured in the TCLP extract may not exceed the following levels (mg/L): arsenic—0.0604; barium—472; cadmium—3.63; chromium—1,400,000; lead—484; mercury—0.219; nickel—182; selenium—14; silver—24.8; and cyanide—87.1 (B) The total constituent concentrations in any sample may not exceed the following levels (mg/kg): arsenic—91,000; barium—20,600,000; cadmium—771,000; chromium—2,310,000,000; lead—541,000; mercury—80; nickel—30,800,000; selenium—771,000; silver—771,000; and cyanide—30,800,000.

TABLE 1.—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		2. Verification Sampling—For the two drying beds and two basins, composite samples comprising the vertical extent at individual boring location; for the contaminated soil around the basins; boring samples at 3 different depth levels (top, middle and bottom) also at individual boring location, are to be collected from four different boring locations or quadrant within each of the units and four different square grid areas within the soil surrounding the basins. Surface composite samples within each quadrant and square grid shall also be collected for the sludge in the two basins and the contaminated soil in the vicinity of the basins. A total of forty samples must be collected as follows: Sixteen boring composite samples for the drying beds and basins, twelve surface composite samples for the basins and contaminated soil, and twelve boring samples for the soil around the basins. The samples are to be analyzed for TCLP metals that include arsenic, barium, cadmium, chromium and nickel. The results are to be compared to the delisting levels in Condition (1)(a). Sludge from which samples collected exceed delisting levels are not delisted. Additional sampling can be conducted with the approval of U.S. EPA Region 2 in order to isolate the sludge which exceeds the delisting levels from sludge that meets the delisting levels. 3. Reopener Language—(a) If, anytime after disposal of the delisted waste, GE possesses or is otherwise made aware of any data (including but not limited to leachate data or groundwater monitoring data) or any other data relevant to the delisted waste indicating that any constituent identified in Condition (1) is at a level higher than the delisting level established in Condition (1), or is at a level in the groundwater at a level exceeding the point of exposure groundwater levels established in section VI.A. of the preamble, then GE must report such data, in writing, to the Director of the Division of Environmental Planning and Protection within 10 days of first possessing or being made aware of that data. (b) Based on the information described in paragraph (a) and any other information received from any source, the Director will make a preliminary determination as to whether the reported information requires GE to take action to protect human health or the environment. Further action may include suspending, or revoking the exclusion, or other appropriate response necessary to protect human health and the environment. (c) If the Director of the Division of Environmental Planning and Protection determines that the reported information does require action, the Director of the Division of Environmental Planning and Protection will notify GE in writing of the actions the Director believes are necessary to protect human health and the environment. The notice shall include a statement of the proposed action and a statement providing GE with an opportunity to present information as to why the proposed action is not necessary or to suggest an alternative action. GE shall have 10 days from the date of the Director's notice or such other time period as is established by EPA to present the information. (d) If after 10 days GE presents no further information, the Director of the Division of Environmental Planning and Protection will issue a final written determination describing the actions that are necessary to protect human health or the environment. Any required action described in the Director's determination shall become effective immediately, unless the Director of the Division of Environmental Planning and Protection provides otherwise. 4. Notifications—GE must provide a one-time written notification to any State Regulatory Agency to which or through which the waste described above will be transported for disposal at least 60 days prior to the commencement of such activities. Failure to provide such a notification will result in a violation of the waste exclusion and a possible revocation of the decision.

* * * * *

[FR Doc. 04–6216 Filed 3–18–04; 8:45 am]
BILLING CODE 6560–50–P

DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

49 CFR Part 571

[Docket No. NHTSA 2004–17243]

RIN 2127–AG86

Federal Motor Vehicle Safety Standards; Lamps, Reflective Devices, and Associated Equipment

AGENCY: National Highway Traffic Safety Administration (NHTSA), DOT.

ACTION: Notice of withdrawal of proposed rulemaking.

SUMMARY: This document withdraws a 1998 notice of proposed rulemaking (NPRM) that would have amended the Federal motor vehicle safety standard on lighting to reduce glare from daytime running lamps (DRLs). In late 2001, General Motors (GM) submitted a petition for rulemaking that asked NHTSA to mandate DRLs on new vehicles. We have decided that the issue addressed in the 1998 NPRM, just one of a number of interrelated issues surrounding DRLs, would best be resolved in the context of responding to the GM petition.

FOR FURTHER INFORMATION CONTACT: The following persons at the NHTSA, 400 Seventh Street SW., Washington, DC 20590.

For non-legal issues, you may call Mr. Richard VanIderstine, Office of Crash Avoidance Standards (Telephone: 202–366–2720) (Fax: 202–366–7002).

For legal issues, you may call Mr. Eric Stas, Office of Chief Counsel (Telephone: 202–366–2992) (Fax: 202–366–3820).

SUPPLEMENTARY INFORMATION:

I. Background

Federal Motor Vehicle Safety Standard (FMVSS) No. 108, *Lamps, Reflective Devices, and Associated Equipment,* establishes lighting requirements for motor vehicles. Although the standard does not require DRLs, it does specify requirements that they must meet if a vehicle manufacturer voluntarily decides to provide them (*see* 49 CFR 571.108, S5.5.11).

In proposing to permit vehicles to be equipped with DRLs, we stated that limits on the intensity of DRLs were needed to prevent glare and to ensure that DRLs do not mask the vehicle's turn and hazard warning signals (56 FR 38100, August 12, 1991). In the final rule published on January 11, 1993, we adopted the following limitations on DRL intensity: (1) 3,000 cd for lamps other than headlamps, and (2) 7,000 cd for upper beam headlamps used as DRLs at test point H-V, if mounted not higher than 864 mm above the road surface (*see* 58 FR 3500). No limitation was provided for lower beam headlamps used as DRLs.

Since that time, the number of DRL-equipped vehicles has increased significantly, and NHTSA has received numerous complaints regarding DRL glare. Further, in 1997, the National Motorists Association (NMA) and JCW Consulting submitted petitions for rulemaking that, among other things, asked NHTSA to amend FMVSS No. 108 to reduce DRL intensity and resulting glare.[1]

NHTSA published a notice of proposed rulemaking in 1998 to amend FMVSS No. 108 to reduce glare from DRLs (63 FR 42348, August 7, 1998). Such reduction would have been accomplished in three stages. The NPRM proposed that one year after publication of the final rule, DRLs utilizing the upper headlight beam would not be permitted to exceed 3,000 cd at any point, thereby becoming subject to the maximum candela permitted for DRLs other than headlamps. Two years after publication of the final rule, that same limitation would have applied to the upper half of lower beam DRLs. Finally, four years after publication of the final rule, all DRLs, except lower beam DRLs, would have been subject to a flat 1,500 cd limit. (Lower beam DRLs would have been limited to 1,500 cd at horizontal or above.) NHTSA anticipated that its proposed approach would have provided the public with all of the conspicuity benefits of DRLs, while reducing the glare from these light sources.

Approximately 700 comments have been submitted since the NPRM was published in 1998. Many commenters did not want DRLs, regarding them to be of little value and requesting that they be prohibited. Other commenters represented the opposite opinion, stating that DRLs are effective and should be mandatory. Still other commenters supported the proposal to reduce glare from DRLs.

In the intervening period, NHTSA received a petition for rulemaking from General Motors (GM) asking the agency to mandate DRLs on new vehicles.[2] In support of its December 20, 2001 petition, GM submitted various studies designed to demonstrate the efficacy of DRLs in preventing deaths and injuries associated with daytime crashes. In addition, information was provided on the costs of DRLs. During this time, NHTSA also has studied the impact of DRLs in terms of crash avoidance on U.S. highways.

II. Reason for Withdrawal

After reviewing the comments submitted pursuant to the 1998 NPRM, NHTSA has concluded that there are a number of interrelated issues surrounding DRLs that may best be evaluated in a comprehensive fashion. These issues include: whether DRLs should be optional or mandatory, how to balance the competing goals of conspicuity and prevention of glare when setting intensity levels, what are the levels of cost and benefits associated with DRLs, whether DRLs may reduce the conspicuity of motorcycles or emergency vehicles, whether DRLs mask turn signals or other roadway users, and the extent to which they may distort distance perception or result in failure to use the vehicle's normal headlighting system at night.

Moreover, both the GM studies and NHTSA's own studies suggest that DRLs have the positive potential to reduce crashes. We believe that further research and analysis may provide a better understanding of potential safety benefits of DRLs and optimum performance requirements for those devices. As one example of our ongoing research, NHTSA currently has a study underway on the effect of DRLs on motorcycle conspicuity, that could assist in assessing the safety benefit of DRLs, once completed.

In seeking to address DRL issues on a more comprehensive basis, NHTSA also plans to conduct further deliberations with Transport Canada, particularly regarding its comments to the docket on DRL intensity reduction and on its follow-up comments regarding switching and other issues. Such consultations would promote harmonization of DRL regulation in the North American market.

Accordingly, for all of the reasons discussed above, NHTSA is withdrawing the 1998 NPRM for DRL

[1] The NMA petition (submitted in August 1997) and the JCW Consulting petition (submitted in September 1997) are discussed in detail in NHTSA's August 7, 1998 **Federal Register** notice (*see* 63 FR 42348, 42351). The NMA petition is available under Docket No. NHTSA–1998–3319–21, and the JCW Consulting petition is available under Docket No. NHTSA–1998–3319–22. Both were originally incorporated in Docket submissions No. NHTSA–1998–3319–1 and –2.

[2] Docket No. NHTSA–2001–8876–11.