

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

**PETITION OF BFI WASTE SYSTEMS
OF NORTH AMERICA, INC. FOR AN
ADJUSTED STANDARD WASTE
DELISTING**

**AS 08-05
(Adjusted Standard - Land)
(Waste Delisting)**

NOTICE OF FILING

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Illinois Pollution Control Board
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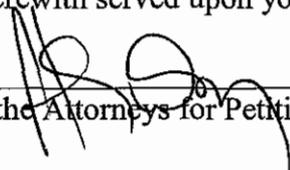
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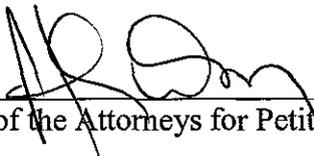
Please take notice that on May 6, 2008 the undersigned caused to be filed with the Clerk of the Illinois Pollution Control Board Petitioner's Pre-Filed Testimony Responding to Questions from Board's Technical Personnel, copies of which are herewith served upon you.

By:  One of the Attorneys for Petitioner

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CERTIFICATE OF SERVICE

I, Patricia F. Sharkey, hereby certify that I served a copy of the above-listed document upon those listed on the attached Notice of Filing on May 6, 2008 via email and First Class United States Mail, postage prepaid.



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PETITIONER’S PRE-FILED TESTIMONY
RESPONDING TO QUESTIONS FROM BOARD’S TECHNICAL PERSONNEL

NOW COMES BFI Waste Systems of North America, Inc. (“BFI”), by its attorneys McGuireWoods LLP, and provides the following response to questions posed by the Illinois Pollution Control Board (“Board”) technical personnel in Attachment A to the Hearing Officer’s Order dated April 4, 2008:

1. Monitoring Frequency

Question: Please elaborate on the adequacy of quarterly and semi-annual leachate monitoring to demonstrate that each batch of leachate meets the proposed delisting levels.

The amended Adjusted Standard language filed with the Board on April 14, 2008 increased the initial monitoring based upon the recommendation of the Illinois Environmental Protection Agency (EPA). It states that the first three consecutive loads of leachate after approval of the delisting petition will be tested for compliance with the delisting levels. Thereafter quarterly sampling and analysis will be conducted for the first year. After the first year, a semi-annual sampling and analysis scheme will be employed. The more frequent sampling at the beginning is designed to confirm that the leachate meets the delisting levels before significant volumes of delisted leachate are hauled off-site. The constituents monitored will include the “final list” of constituents referenced in

the petition (including constituents identified by the Board referenced below in our response to Board Comments #3 and #4).

BFI's proposed sampling frequency is sufficient on a technical basis and is also consistent with the monitoring frequency required by USEPA in its 2005 multi-year delisting of an F039 leachate for Shell Oil Company. See Proposed Rule in 69 Fed. Reg. 77690, which describes the delisting. (*Attachment 1.*) In the Shell delisting, USEPA required eight samples to be taken within the first 60 days following the delisting. Thereafter, USEPA required Shell to sample quarterly for the remainder of the first year. If Shell demonstrated that its leachate consistently met the delisting levels, USEPA then required only annual sampling. Although BFI's Amended Petition proposes fewer upfront sampling events, it also proposes more frequent sampling (semi-annual) over the long term than USEPA required of Shell.

It should also be noted that Shell's leachate was not being generated in a closed landfill. As it was derived from an active landfilling operation, Shell's leachate was potentially subject to far more variation than is BFI's leachate. The same is true of the Delisting Petition of Waste Management of Illinois, Inc. ("WMII"), cited by the Board, which proposed to delist a filter cake that is generated on an on-going basis from batches of differing waste streams received and treated at the WMII facility. As the Board noted in its December 15, 2005 WMII Opinion (p. 8), the basis for requiring more sampling for a multi-year delisting is the fact that "the future waste may exhibit variability in constituents and contaminant levels." That variability is not present in this case. Unlike the Shell leachate and WMII's filter cake, BFI's leachate will be generated in a closed landfill that has not received any hazardous waste for over 25 years. BFI's Phase I Unit

has been covered with a low permeability cap that restricts infiltration for over ten years. As demonstrated by the nine years of monitoring data provided with the Petition, the impermeable cap and the closed, static condition of the landfill has resulted in a leachate with very little variability in chemical character.

In the case of BFI's petition, the large amount of analytical data and the lengthy period over which it was obtained provides a high level of assurance regarding which specific chemicals are present in the leachate and the range of concentrations at which they are present. Specifically, the Petition includes fifteen individual sampling events collected over a period of nine years. In contrast, in the BP Amoco Petition, BP Amoco presented the Board with data from just three sampling events (three samples each) taken over a six month period. Similarly, Shell only provided USEPA with data from four monitoring events performed over a period of approximately three months – yet USEPA found that to be a sufficient basis to allow periodic monitoring of the leachate.

BFI's waste stream is not generated by a "multiple batch" operation, as referred to in USEPA's Manual and Technical Support Document. Rather, it is generated on a continual basis from a single, static source. Thus, as USEPA found for Shell, periodic sampling is appropriate and sufficient. As stated above, BFI has agreed with IEPA to provide a program of sampling that includes initial sampling of the first three truck loads of waste, then quarterly sampling for one year, and finally semi-annual sampling thereafter. BFI's Adjusted Standard also requires confirmatory sampling if a sample fails to achieve the delisting limits.

Sampling and analysis of every load of leachate has not been required by USEPA itself, even for leachate with a higher probability of variability than that cover by BFI's

petition. Requiring so much sampling and analysis is extraordinarily onerous and costly and will thwart many very appropriate and, as in this case, environmentally beneficial delistings. Extending such a requirement to waste streams that are not associated with “multi-batch” processes goes beyond the Manual and Technical Support Document’s guidance, and is simply unwarranted by any practical concern.

2. DRAS Modeling: One Time Delisting v. Multi-year Delisting

Question: Explain BFI’s rationale for not utilizing the multi-year approach to derive the delisting levels using the multi-year values of 500,000 gallon/year and 7-year anticipated closure period.

BFI’s delisting petition seeks a “Conditional Delisting”, as defined in the United States Environmental Protection Agency’s (“USEPA”) “National Policy for Hazardous Waste Delistings,” issued by Elizabeth A. Cotsworth, Acting Director, Office of Solid Waste on July 1, 1998. (See *Attachment 2* hereto.)¹ In the case of BFI’s petition, the delisting language places strict requirements on how the leachate can be managed, once delisted. The restrictions in the Adjusted Standard language do not allow any amount of leachate to be directly deposited on the land in either a landfill or a surface impoundment. Thus, rather than modeling a prohibited scenario or a scenario that is impossible as a practical matter, BFI used the DRAS model to derive risk-based limits for the potential occurrence of a “reasonable worst case” mismanagement scenario wherein the entire contents of a tanker truck were spilled during a catastrophic highway accident on route to the wastewater treatment facility.

¹ That Policy states: “In the Agency’s view, a conditionally delisted waste would exit the hazardous waste management system at the point it meets the established delisting levels, and would remain outside of the hazardous waste management system so long as the delisted waste generator complies with the conditions placed on the disposal of the delisted waste.”

The leachate would not be deemed delisted and would be subject to RCRA hazardous waste standards if for any reason it did not reach the wastewater treatment facility.² Nonetheless, BFI took the conservative step of modeling the risk associated with the transportation of the leachate to the wastewater treatment facility. An accidental spill associated with a catastrophic highway accident resulting in the release of the entire contents of a 5,000 gallon tanker truck was determined to be a “reasonable worst case” mismanagement scenario. The type of tanker trucks used to transport leachate hold no more than 5,000 gallons of liquid. Thus, 5,000 gallons is deemed to be a “reasonable worst case” maximum volume of untreated leachate that has the potential to be released to the environment at any one time. Five thousand gallons was therefore used as the input for the DRAS model.

As stated in the Petition (at p. 23), BFI’s selection of a spill of one tanker truck of material as a “reasonable worst case” scenario is consistent with USEPA’s worst case discharge planning volumes for a tanker truck release, as stated in 40 CFR 112, Appendix D governing the “Determination of a Worst Case Discharge Planning Volume” for purposes of Spill Prevention Control and Countermeasure Plans (SPCC PLAN) under the Federal Oil Pollution Prevention regulations.

² BFI’s proposed Adjusted Standard is conditioned on the leachate being both sent and received by a permitted wastewater treatment facility located in Illinois which has a Pretreatment Program which has been approved by the USEPA. If the leachate is managed in any other way, it will still be considered a RCRA hazardous waste. The DRAS model is limited in terms of the scenarios it can model. The only two options included in DRAS are to model disposal in an unlined landfill or a surface impoundment. Thus, the DRAS model is not capable of modeling risk (or lack thereof) associated with the treatment of the leachate at a wastewater treatment facility. But this is not a problem since the Clean Water Act regulatory regime will govern the treatment of the leachate once it reaches the wastewater treatment facility. Like RCRA treatment regulations, the Clean Water Act provides regulatory assurance that the leachate in this case will be treated to non-hazardous levels at the wastewater treatment facility before discharge to the environment. Therefore, there is no risk associated with the disposal of the entire multi-year volume of leachate.

This approach is also consistent with common sense. While it is conceivable that more than one tanker truck could be involved in a catastrophic accident over the anticipated seven year post-closure period, there is no practical possibility that more than one tanker truck of leachate would be involved in a catastrophic accident at the same location. Thus modeling the environmental impact of a release of more than 5,000 gallons would not be a “reasonable worst case.” Moreover, there is clearly no possibility that all of the tanker trucks dispatched over the anticipated seven year post-closure period would be involved in catastrophic accidents. Even more far-fetched would be a scenario where all of these tanker trucks were involved in accidents that resulted in the release of all of this leachate at the same location.

BFI recognizes that this Petition does not fall squarely within the confines of a traditional land-based delisting scenario and the DRAS model’s general use for those traditional scenarios, but the Board should not assume that this difference dooms this Petition. It is the underlying regulations that must be achieved. The USEPA Manual recognizes that DRAS is one tool for demonstrating that the regulatory risk-based delisting criteria are met, but it is not the only means for doing so. USEPA recognized in its 1998 Policy memorandum that “Delisting was and will continue to be an evolving program as substantive technical and policy issues continue to develop.” That Policy Memorandum goes on to state “...the Agency realizes that for a relatively small number of petitioned wastes that are not (or will not be) managed under a scenario our generic delisting models can assess, Regions may have to consider site-specific circumstances or consider adding specific conditions, on a case-by-case basis.”

In that Policy Memorandum, USEPA contrasts the relatively inflexible “worst case” assumptions that must be placed on “unconditional delistings” versus the more case specific requirements that can be built into a “conditional listing.” For “unconditional delistings,” the regulatory agency loses control over how a waste is managed once it is delisted, therefore the application of conservative assumptions is warranted. One of those conservative assumptions is that 100% of the delisted waste ever generated will be disposed of in an unlined landfill or impoundment at a single location. That unrealistic and overly conservative assumption is not required for a “conditional delisting,” such as is proposed by BFI, under which the regulatory agency does not lose control over how the waste is managed.

The thrust of USEPA’s Policy on “conditional delistings” is that the delisting should contain “appropriate mechanisms ...that would help ensure that the waste was being managed in accordance with the conditions.” Thus, for disposal scenarios that do not fall within the assumptions that apply to the land-based scenarios anticipated in its Guidance Manual, it is appropriate for the Board to use its professional judgment to fashion protective delisting conditions and to require the Petitioner to model the risk associated with the “reasonable worst case” mismanagement scenario under those conditions. That is what BFI has proposed in this case. Under the protective conditions proposed by BFI and concurred in by Illinois EPA, BFI’s delisted leachate will be handled from “cradle-to-grave” under the RCRA hazardous waste program, the Illinois Special Waste program, and the Clean Water Act program. Furthermore, BFI has conservatively modeled the risk associated with the possibility that under these programs there is nonetheless a release to the environment.

The good news is that the very limited “conditional delisting” proposed in BFI’s Petition poses very little risk to the environment – indeed far less than do the land-based disposal scenarios normally proposed in delisting petitions. The delisted leachate will be treated to Clean Water Act standards and it will be transported over a shorter distance than it is currently. In fact, the risk of the catastrophic 5,000 gallon release scenario modeled by BFI is more likely to occur without the delisting, given the fact that absent the delisting BFI is required to transport this leachate a much further distance. We note that since this Petition was filed in 2007, the CID Treatment Facility in Calumet City, Illinois has informed BFI that it cannot accept the Phase I Unit leachate. As a result, BFI is now forced to haul this leachate over 350 miles away to the next closest liquid hazardous waste treatment facility in Ohio. That is a 700 mile round trip. This fact makes the Board’s prompt the issuance of this delisting all the more important.

3. Constituents of Concern

Question: Please elaborate on the test results for those F039 constituents, listed [in the Board’s Attachment A] that do not seem to appear in Appendix D [of the Petition.].

BFI apologizes for its misstatement in the Petition that all F039 constituents were analyzed in its sampling events. What was meant was that all of the normally analyzed landfill constituents were analyzed. The F039 constituents referenced by the Board are not normally analyzed in landfill leachate. Indeed, BFI’s RCRA hazardous waste landfill permit requires that it analyze its leachate for the Appendix IX constituents, which do not include these particular constituents. Appendix IX was intended to encompass all

constituents likely to be found in hazardous waste landfill leachate or groundwater during compliance monitoring.

In response to the Board's question, BFI consulted with a number of laboratories in various locations throughout the country and found no single laboratory that currently can analyze for the full list of these F039 constituents. As a result, leachate samples will need to be submitted to two different analytical laboratories to obtain the analyses for all of these parameters cited by the Board.

Based on the comprehensive records of all hazardous wastes that were disposed of in the Phase I Unit of the Davis Junction Landfill, BFI has no reason to suspect that these atypical constituents are present in the leachate. Nonetheless, to facilitate the Board's positive action on this Petition, BFI has taken steps to obtain additional leachate samples which will be sent for analyses to the two laboratories with the capability to analyze for these additional F039 constituents.

4. Final List of Constituents of Concern

Question: Please elaborate on BFI's reasons for not including certain specified constituents in the final list of constituents.

BFI acknowledges that these constituents were detected and were inadvertently left off the list of Final Constituents.

In response to the Board's question, BFI re-ran the DRAS model, including the following additional constituents:

- 1,2,3,4,6,7,8,9-OCDD and 1,2,3,4,6,7,8-HpCDD³
- 1,4-diochlorobenzene;
- Heptachlor; and
- Selenium.

The output from the new DRAS run is attached as *Attachment 3*. These constituents have also been added to a table summarizing the Delisting Levels. (See *Attachment 4*.) The results indicate that the maximum concentration of the above constituents are less than the delisting levels.

Three of the constituents referenced in this question (1,2,4 Trimethyl benzene, Fluoride, and Sulfide) are not included in the DRAS software and thus cannot be modeled using DRAS. Therefore, BFI reviewed the risk associated with each of these constituents under other potentially available health-based standards (Class I Groundwater Quality Standards, USEPA Secondary Contaminant Levels, and IRIS).

In the case of 1,2,4 Trimethyl benzene, this constituent is not included in DRAS, nor is a federal primary or secondary drinking water standard available. However, the maximum detected concentration of this constituent in the leachate was 0.030 mg/L (3/14/01). This concentration in the leachate is below the groundwater objective for Class I groundwater listed in the table entitled “Groundwater Remediation Objectives for Chemicals Not Listed in TACO”, prepared by the Illinois EPA Toxicity Assessment Unit, dated May 1, 2007. Therefore, this concentration in the leachate does not represent a

³ These constituents are dioxin congeners that have been incorporated into the DRAS model by converting the concentrations into a concentration of 2,3,7,8-TCDD using the Toxicity Equivalent Quotient (TEQ) calculation referenced at pg. 15 of the DRAS User Guide. (See calculations attached at the back of *Attachment 3*.)

significant threat to human health or the environment with respect to the groundwater pathway.

Fluoride is also not included in DRAS, nor is there an Illinois groundwater remediation objective under the TACO regulations. The concentration of fluoride in the specific leachate sample cited by the Board (collected on 11/4/99) is 0.29 mg/L. This concentration is below the Secondary Maximum Contaminant Level established by USEPA of 2.0 mg/L. This concentration of fluoride in the leachate is therefore not believed to represent a significant threat to human health or the environment with respect to the groundwater pathway.

Sulfide is also not included in DRAS. An internet research did not readily identify any published groundwater standards for sulfide. Furthermore, sulfide is not listed in USEPA's Integrated Risk Information Systems (IRIS) database. Given that IRIS is one of the more comprehensive databases of human health effects that may result from exposure to various substances found in the environment, the fact the sulfide is not present in the database suggests that evaluation of sulfide within a delisting petition is not appropriate. The human health effects of sulfide in water are either not severe enough, or the data is too limited for it to be included in detailed risk assessments, such as those required for a delisting petition.

5. Land Disposal Restrictions for F039 Constituents

Question: Please explain whether USEPA delisting guidance or policy allows delisting levels for constituents of concern to be higher than the LDR UTS.

Yes. At the time that USEPA adopted the Land Disposal Restriction (“LDR”) program Universal Treatment Standards (“UTS”), it recognized that in some instances those standards were more stringent than the risk-based standards that are the basis for the listing and delisting of hazardous waste. UTS are technology-based standards that must be met before the waste can be applied to the land. In contrast, listing and delisting levels are risk-based and focus on the specific health and environmental criteria in 35 Ill. Adm. Code 721.111 (Criteria for Listing Hazardous Waste) and 35 Ill. Adm.Code 720.122 (Waste Delisting).

That the LDR treatment standards were established on a different basis and for a different purpose is evident from the Preamble to the EPA’s LDR Third Third opinion and its discussion of the lawsuit in which industry plaintiffs challenged EPA’s treatment standards as being more stringent in some instances than human health and environmental standards. EPA defended its LDR treatment standards in its June 1, 1990 Final Rule adopting the Land Disposal Restrictions for Third Third Scheduled Wastes:

“ ...a number of commenters raised the issue of whether the treatment standards being adopted are below levels at which threats to human health and the environment are minimized, citing portions of the recent opinion in *Hazard Waste Treatment Council v. EPA*, 886 F.2d 355 (D.C. Cir. 1989) (HWTC III). In that case, the Court upheld EPA’s existing technology-based approach to establishing treatment standards as a reasonable construction of the statute, but remanded the case to the Agency in order for the Agency to explain properly why it had chosen this approach. EPA’s explanation was published in the Federal Register on February 26, 1990, and was accepted by the Court, which dismissed all petitions for review on March 15, 1990. The standards EPA is adopting in this rule are also technology-based, which the Agency believes is

warranted at this time due to the uncertainties associated with hazardous waste land disposal and the Agency's present inability to quantify precisely de minimis levels of hazardous constituents that would determine when threats to human health and the environment from disposal of prohibited wastes are minimized. 55 FR 6642." (55 Fed. Reg. 22520, at 22535, June 1, 1990). (See excerpt in *Attachment 5* hereto).

In discussing the relationship between the LDR treatment standards and health and environmental standards, EPA confessed that it was unable to promulgate standards prescribing acceptable levels of risk for every hazardous constituent – a very broad and difficult task. Therefore, it categorized types of waste and required a “best demonstrated technology demonstration” for each category. Significantly, EPA distinguished this type of broad generally applicable treatability standard from “standards that are applied in particularized circumstances, such as RCRA clean closures, no migration determinations, and delistings.” 55 Fed. Reg. 6640 (Feb.26, 1990). (See *Attachment 6* hereto).

It is true that the constituents for which F039 leachate is listed as hazardous are identified in Part 728. It is also true that Part 728 - Table T also lists the UTS for those constituents. However, nothing in USEPA or Board regulations states that the UTS are to be used as listing or delisting levels. In fact, UTS have an entirely different purpose. UTS limits are based on the demonstrated availability of treatment technologies to ensure safe disposal in land units. Among other things, they are designed to ensure the integrity of the landfill liner. In contrast, EPA's and the Board's listing and delisting regulations establish health and environmental risk-based criteria, and are not tied to land disposal.

Pursuant to 35 IAC 720.122(a), BFI's Petition must demonstrate that the leachate does not meet any of the criteria under which F039 was listed and the Board must determine that there is a reasonable basis to believe that factors (including additional

constituents) other than those for which the leachate was listed could cause the leachate to be a hazardous waste. In the case of a listed F039 waste, it was listed as a hazardous based on toxicity. When a waste is listed as hazardous based on toxicity, Section 720.122(d) requires that a delisting petition must either: A) demonstrate that the waste does not contain the constituent(s) that caused EPA to list it as hazardous or B) demonstrate that although the waste contains those constituents, the waste does not meet the criterion in 35 Ill. Adm. Code 721.111(a)(3)(A) through (a)(3)(K) for which it was listed. Those criteria focus on: the nature of the toxicity, the concentration of the constituent, the potential to migrate under improper management, the potential to degrade into nonharmful constituents, the potential to bioaccumulate, plausible types of improper management, the quantities of waste generated, the nature and severity of the human health and environmental damage related to mismanagement, and action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste. Notably, the treatability of the waste is not a factor which is considered in this long list of delisting criteria.

This is not to say that LDR treatability standards have no applicability to a delisted waste. If a delisted waste is destined for land disposal, it is reasonable to conclude that the delisted waste must meet the LDR universal treatment standards before it can be land disposed. However, BFI's "conditional delisting" does not allow the delisted leachate to be land disposed. Therefore, the LDR standards are not applicable in this case. Indeed, Illinois EPA has dropped its objection to BFI's delisting (which suggested an LDR limit for 1,4 dioxane) based on amendments to the Adjusted Standard language which make it clear that the leachate will only be considered delisted as long as

it is transported to and received by a wastewater treatment facility. (See IEPA's amended recommendation, dated April 21, 2008.)

EPA's RCRA Delisting Manual does not address the relationship between the delisting process and its risk-based criteria and the LDR process and its technology-based treatment standards. The only EPA statement we have been able to identify on this subject is a published answer to a question posed to the RCRA Call Center. (See *Attachment 7*.) In that answer, the Call Center stated:

“The generator must comply with the LDR requirements before disposing of the delisted waste because LDR attaches at the point of generation. A delisting only absolves the generator from his obligation of handling the waste as hazardous. If a particular hazardous waste is eligible for a delisting and is granted the delisting prior to generation, then LDR requirements would not apply. Conversely, if a waste is generated and subsequently delisted, the generator would need to comply with the applicable Part 268 requirements before disposal.”

This statement recognizes that obtaining a delisting and complying with LDR requirements are two distinct steps, i.e. the generator of a waste that *has been delisted* must comply with LDR *before disposal*. Apparently, EPA believes that LDR treatment standards never apply if a hazardous waste is delisted before it is generated – as would be the case with a multi-year waste stream such as the leachate in this case. But, in any case, the LDR treatment standards are, of course, only applicable to land disposal – which is not allowed under BFI's proposed Adjusted Standard. It would defeat the LDR program and the incentives it is designed to create to require that wastes that could otherwise be delisted under the regulatory risk-based delisting procedure and that are destined for treatment, reuse or recycling must meet the land restriction treatment standards before they can be delisted.

BFI's proposed Adjusted Standard is consistent with the goal of the LDR regulations to direct hazardous waste toward treatment rather than land disposal. Unlike many delisting petitions, BFI's petition is designed to facilitate a treatment option rather than by-pass treatment.

6. Delisting Levels and Toxicity Characteristic Levels

Question: Please explain BFI's rationale for not proposing the lower DRAS value as the delisting level for vinyl chloride.

The delisting level calculated by DRAS required the input of the assumption that the leachate will be disposed of in a surface impoundment. However, as discussed above, the proposed delisting language actually limits the management options for the delisted waste to treatment at a wastewater treatment facility with a USEPA approved pretreatment program. USEPA's 1998 Policy Memorandum indicates that the risk assessment fate and transport modeling performed in support of delisting petitions should be specific to the type of unit where the delisted waste will ultimately be disposed and that site-specific circumstances should be considered when wastes will not be managed under a scenario the generic delisting models can assess.

As the DRAS surface impoundment modeling is conservative and can be met for the great majority of constituents found in the Phase I leachate, BFI is willing to accept DRAS calculated delisting levels as a general matter. However, with regard to a few constituents, one of which is vinyl chloride, the DRAS model appears to be overstating the risk. In the case of vinyl chloride, the overstatement appears to be approximately an order of magnitude. DRAS calculated a delisting level of 0.0285 mg/L. Although this very low number has been met in a majority of the sampling events for the BFI leachate,

there is a possibility it could be exceeded in the future. As noted in the Petition Technical Support Document (p. 33), even non-hazardous leachate has been found to exceed this very low number on occasion.

Given the anomaly presented by this low DRAS number and the fact that this leachate will be treated before disposal, BFI believes it is appropriate to consider the validity of the DRAS number in light of USEPA's own extensive review of the toxicity of vinyl chloride. In establishing the Section 261.24 toxicity characteristic list and concentrations, EPA used a very similar approach to the approach employed in the DRAS model. See 55 Fed. Reg. 11798 (March 29, 1990). EPA began by identifying health-based concentration thresholds. Where drinking water MCL's were available, as was the case for vinyl chloride, EPA used the MCL in the model, saying MCL's are "the most appropriate health criterion to use" because they address the groundwater ingestion pathway and were developed pursuant to a "rigorous methodology in which all available health information is evaluated." Id. 11813-11814. EPA then applied a dilution/attenuation factor that was developed using a subsurface fate and transport model (*EPACML*), incorporating an unlined landfill or surface impoundment as the worst-case mismanagement scenario, and using a "Monte Carlo" approach for the dilution/attenuation factors, which includes the full range and distribution of values for all parameters rather than made judgments as to "worst case" values.

EPA included vinyl chloride in the list of the toxicity characteristic constituents in Table 1 to Section 261.24 because it was recognized to be present in many wastes that are not otherwise regulated as hazardous. Id. 11811. That EPA was correct about this is proven true in this case by the fact that vinyl chloride has been detected in the non-listed

leachate from the non-hazardous waste Phase II and III units at the Davis Junction Landfill at as high as 0.2 mg/L. This make sense in light of the fact that 98% of the wastes that were actually disposed of at the Phase I unit were no different from the wastes that were disposed of at the non-hazardous Phase II and III units. Furthermore, of the 2 % of listed hazardous that was disposed of in the Phase I Unit, the great majority was not waste that would have contained vinyl chloride. There is substantial evidence that the vinyl chloride in the Phase I Unit leachate is not derived from the hazardous wastes disposed of in that landfill unit, but rather is representative of the level of vinyl chloride found in non-listed municipal landfill leachate.

While we are aware that USEPA reached a different conclusion in the 2002 Nissan delisting, we note that the constituents involved in that case were different (metals) which may not have received the historical scrutiny that vinyl chloride did when it was placed on the toxic characteristic list. Furthermore, the Nissan delisting did not involve a delisting that limited disposal to a wastewater treatment plant.

Based on all of the above, we believe it is permissible and appropriate for the Board to review the delisting level for vinyl chloride in this case in light of the individual listing/delisting criteria in 35 Ill. Adm. Code 721.111(a)(3) (A) through (K).

7. Detection Limits

Question: Please provide a demonstration that the detection limits do not exceed delisting levels at the target risk level.

BFI is unclear as to the Board's specific intent with respect to this question. In particular, does the Board intend that delisting levels be calculated for all undetected constituents or just carcinogenic constituents (i.e. those constituents where a target risk

level of 10-6 would be applicable)? Upon clarification from the Board, BFI will take the necessary steps to provide the Board with the information requested.

As an aside, we note that for the USEPA Shell Oil Company delisting, Shell collected analytical data for a similar number of chemicals as BFI (the Appendix IX constituents), and the majority of them were never detected in the leachate. Shell's delisting rule as published in the Federal Register included a Table with the applicable delisting levels for only 19 chemicals, which USEPA described as summarizing the "detected constituents." (See 69 Fed. Reg. 77690, at 77693.) Thus, it appears that USEPA did not require Shell to model the effect of "non-detect" levels in DRAS.

8. User Alert for DRAS Version 2

(1) Dilution and Attenuation Factors

The User Alert included with the Board's comments indicates that various dilution and attenuation factors (DAFs) for landfills are incorrect. However, BFI's DRAS analysis assumed that the materials were disposed in a surface impoundment rather than a landfill. It is unclear from the copy of the User Alert included with the Board's comments whether the DAFs for surface impoundments included in DRAS Version 2 are correct (the actual User Alert is no longer available at the referenced web site).

BFI sought clarification on this issue from Todd Ramaly of USEPA. Mr. Ramaly was initially contacted by phone on April 28, 2008, but we did not speak with him until May 6, 2008. Mr. Ramaly indicated that he would need to research the proper DAFs to use for the surface impoundment scenario, as he had limited experience with modeling

this scenario in DRAS. Mr. Ramaly indicated he would investigate this issue and provide us with additional information as it became available.

However, for the four constituents that had a surface impoundment DAF of zero, the DAF used in BFI's DRAS model was the lowest DAF for the metals modeled, which is believed to be a conservative approach.

(2) Carcinogenic/Noncarcinogenic effects

A review of the COCs identified the following with both carcinogenic and noncarcinogenic effects:

- Tetrachloroethylene;
- Trichloroethylene;
- Vinyl chloride;
- Arsenic;
- Benzene;
- Cadmium;
- Methylene chloride;
- 1,4-Dichlorobenzene; and
- Heptachlor.

As indicated in the User Alert, the above COCs were entered twice into DRAS, once time listed as a carcinogen and once as a noncarcinogen. Upon rerunning the DRAS model, the results indicated that the delisting levels under the carcinogenic and

noncarcinogenic scenarios were the same for the above COCs. (See output in *Attachment 2*.)

The remaining items (3) through (6) listed in the User Alert are not believed to impact BFI's DRAS evaluation because they relate to exposure pathways that are not used as the basis for calculation of the delisting levels. As shown on Table III (*Attachment 4*), the limiting pathways for calculation of the delisting levels are limited to pathways related to groundwater. Mr. Ramaly of USEPA was also consulted relative to this issue and he generally agreed with this conclusion, however suggested that the correction equations be investigated to confirm this. BFI will provide this additional information within a supplemental filing.

3. IRIS Database

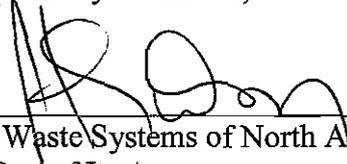
The Board also indicated that toxicity values recently updated in USEPA's IRIS database are not reflected in DRAS Version 2.0. This version of DRAS is dated April 2002. Therefore, the on-line USEPA IRIS database was reviewed to identify reference doses or carcinogenic slope factors for the final list of constituents that have been updated since April 2002. In summary, reference doses for the following constituents were found to have been updated since April 2002:

- Xylenes;
- Benzene;
- Acetone;
- Methyl ethyl ketone; and
- Toluene.

The updated reference doses have been input into the revised DRAS model included at *Attachment 2*. The input values that have been modified are summarized in the "List of COCs with Altered Chemical Properties" output page from the DRAS software. The revised delisting levels for the above constituents are greater than the maximum detected concentrations in the historical leachate data presented in BRI's petition.

BFI appreciates the opportunity to answer the Board's questions and will provide witnesses at the May 15, 2008 hearing who will be prepared to discuss these matters further.

Respectfully submitted,



BFI Waste Systems of North America, Inc.
By One of Its Attorneys

Dated: May 6, 2008

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"Rules and Regulations" section of this **Federal Register** publication.

Dated: December 14, 2004.

Donald S. Welsh,

Regional Administrator, Region III.

[FR Doc. 04-28196 Filed 12-27-04; 8:45 am]

BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[RME R03-OAR-2004-DC-0001; FRL-7855-4]

Approval and Promulgation of Air Quality Implementation Plans; District of Columbia; Amendments to the Size Thresholds for Defining Major Sources and to the NSR Offset Ratios for Sources of VOC and NO_x

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA proposes to approve revisions to the District of Columbia (the District) State Implementation Plan (SIP). The revisions reduce the size thresholds for defining major sources and increase the new source review (NSR) offset ratio requirements for sources of ozone precursors to meet the Clean Air Act (CAA) requirements for 1-hour ozone nonattainment areas classified as severe. These amendments to the District's SIP are required pursuant to the reclassification of the Metropolitan Washington, DC 1-hour ozone nonattainment area from serious to severe. In the Final Rules section of this **Federal Register**, EPA is approving the District's SIP submittal as a direct final rule without prior proposal because the Agency views this as a noncontroversial submittal and anticipates no adverse comments. A detailed rationale for the approval is set forth in the direct final rule. If no adverse comments are received in response to this action, no further activity is contemplated. If EPA receives adverse comments, the direct final rule will be withdrawn and all public comments received will be addressed in a subsequent final rule based on this proposed rule. EPA will not institute a second comment period. Any parties interested in commenting on this action should do so at this time.

DATES: Comments must be received in writing by January 27, 2005.

ADDRESSES: Submit your comments, identified by Regional Material in EDocket (RME) ID Number R03-OAR-

2004-DC-0001 by one of the following methods:

A. Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the on-line instructions for submitting comments.

B. Agency Web site: <http://www.docket.epa.gov/rmepub/> RME, EPA's electronic public docket and comment system, is EPA's preferred method for receiving comments. Follow the on-line instructions for submitting comments.

C. E-mail: morris.makeba@epa.gov.
D. Mail: R03-OAR02004-DC-0001, Makeba Morris, Chief, Air Quality Planning Branch, Mailcode 3AP21, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103.

E. Hand Delivery: At the previously-listed EPA Region III address. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to RME ID No. R03-OAR-2004-DC-0001. EPA's policy is that all comments received will be included in the public docket without change, and may be made available online at <http://www.docket.epa.gov/rmepub/>, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through RME, [regulations.gov](http://www.regulations.gov) or e-mail. The EPA RME and the Federal [regulations.gov](http://www.regulations.gov) Web sites are an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through RME or [regulations.gov](http://www.regulations.gov), your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the electronic docket are listed in the RME

index at <http://www.docket.epa.gov/rmepub/>. Although listed in the index, some information is not publicly available, i.e., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically in RME or in hard copy during normal business hours at the Air Protection Division, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103. Copies of the District submittal are available at the District of Columbia Department of Public Health, Air Quality Division, 51 N Street, NE., Washington, DC 20002.

FOR FURTHER INFORMATION CONTACT: Linda Miller, (215) 814-2068, or by e-mail at miller.linda@epa.gov.

SUPPLEMENTARY INFORMATION: For further information on this proposed approval of revisions to 20 DCMR Chapters 1, 2, 7 and 8 which reduce the major source size thresholds and increase the offset ratio requirements in order to satisfy the mandatory CAA requirements pursuant to the reclassification of the Metropolitan Washington DC 1-hour ozone nonattainment area from serious to severe, please see the information provided in the direct final action, with the same title, that is located in the "Rules and Regulations" section of this **Federal Register** publication.

Dated: December 14, 2004.

Donald S. Welsh,

Regional Administrator, Region III.

[FR Doc. 04-28198 Filed 12-27-04; 8:45 am]

BILLING CODE 6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 261

[SW-FRL-7855-5]

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

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule and request for comment.

SUMMARY: EPA is proposing to grant a petition submitted by Shell Oil Company (Shell Oil Company) to exclude (or delist) a certain liquid waste generated by its Houston, TX Deer Park

facility from the lists of hazardous wastes.

EPA used the Delisting Risk Assessment Software (DRAS) in the evaluation of the impact of the petitioned waste on human health and the environment.

EPA bases its proposed decision to grant the petition on an evaluation of waste-specific information provided by the petitioner. This proposed decision, if finalized, would exclude the petitioned waste from the requirements of hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA).

If finalized, EPA would conclude that Shell Oil Company's petitioned waste is nonhazardous with respect to the original listing criteria. EPA would also conclude that Shell Oil Company's process minimizes short-term and long-term threats from the petitioned waste to human health and the environment.

DATES: EPA will accept comments until February 11, 2005. EPA will stamp comments received after the close of the comment period as late. These late comments may not be considered in formulating a final decision. Your requests for a hearing must reach EPA by January 12, 2005. The request must contain the information prescribed in 40 CFR 260.20(d).

ADDRESSES: Please send three copies of your comments. You should send two copies to the Section Chief of the Corrective Action and Waste Minimization Section, Multimedia Planning and Permitting Division (6PD-C), Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202. You should send a third copy to Nicole Bealle, Waste Team Leader, Texas Commission on Environmental Quality, 5425 Polk Avenue, Suite A, Houston, TX 77023. Identify your comments at the top with this regulatory docket number: "F-04-TEXDEL-Shell Oil."

You should address requests for a hearing to Ben Banipal, Chief of the Corrective Action and Waste Minimization Section, Multimedia Planning and Permitting Division (6PD-C), Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202.

FOR FURTHER INFORMATION CONTACT: Comments may also be submitted electronically to Michelle Peace at peace.michelle@epa.gov.

SUPPLEMENTARY INFORMATION: The information in this section is organized as follows:

- I. Overview Information
 - A. What Action Is EPA Proposing?
 - B. Why Is EPA Proposing To Approve This Delisting?

- C. How Will Shell Oil Company Manage the Waste, if It Is Delisted?
- D. When Would the Proposed Delisting Exclusion be Finalized?
- E. How Would This Action Affect the States?

II. Background

- A. What Is the History of the Delisting Program?
- B. What Is a Delisting Petition, and What Does it Require of a Petitioner?
- C. What Factors Must EPA Consider in Deciding Whether To Grant a Delisting Petition?

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

- A. What Wastes Did Shell Oil Company Petition EPA To Delist?
- B. Who Is Shell Oil Company and What Process Does it Use To Generate the Petitioned Waste?
- C. How Did Shell Oil Company Sample and Analyze the Data in This Petition?
- D. What Were the Results of Shell Oil Company's Analysis?
- E. How did EPA Evaluate the Risk of Delisting This Waste?
- F. What Did EPA Conclude About Shell Oil Company's Analysis?
- G. What Other Factors Did EPA Consider in its Evaluation?
- H. What Is EPA's Evaluation of This Delisting Petition?

IV. Next Steps

- A. With What Conditions Must the Petitioner Comply?
- B. What Happens if Shell Oil Company Violates the Terms and Conditions?

V. Public Comments

- A. How may I as an Interested Party Submit Comments?
- B. How may I Review the Docket or Obtain Copies of the Proposed Exclusions?

VI. Regulatory Impact

- VII. Regulatory Flexibility Act
- VIII. Paperwork Reduction Act
- IX. Unfunded Mandates Reform Act
- X. Executive Order 13045
- XI. Executive Order 13084
- XII. National Technology Transfer and Advancements Act
- XIII. Executive Order 13132 Federalism

I. Overview Information

A. What Action Is EPA Proposing?

EPA is proposing:

(1) To grant Shell Oil Company's delisting petition to have its multisource landfill leachate underlying the Minimum Technology Requirements (MTR) hazardous waste landfill excluded, or delisted, from the definition of a hazardous waste; and subject to certain verification and monitoring conditions.

(2) To use the Delisting Risk Assessment Software (DRAS) to evaluate the potential impact of the petitioned waste on human health and the environment. The Agency used this model to predict the concentration of hazardous constituents released from the petitioned waste, once it is disposed.

B. Why Is EPA Proposing To Approve This Delisting?

Shell Oil Company's petition requests an exclusion from the F039 waste listing pursuant to 40 CFR 260.20 and 260.22. Shell Oil Company does not believe that the petitioned waste meets the criteria for which EPA listed it. Shell Oil Company also believes no additional constituents or factors could cause the waste to be hazardous. EPA's review of this petition included consideration of the original listing criteria and the additional factors required by the Hazardous and Solid Waste Amendments of 1984 (HSWA). See section 3001(f) of RCRA, 42 U.S.C. 6921(f), and 40 CFR 260.22(d)(1)-(4) (hereinafter all sectional references are to 40 CFR unless otherwise indicated). In making the initial delisting determination, EPA evaluated the petitioned waste against the listing criteria and factors cited in §§ 261.11(a)(2) and (a)(3). Based on this review, EPA agrees with the petitioner that the waste is nonhazardous with respect to the original listing criteria. (If EPA had found, based on this review, that the waste remained hazardous based on the factors for which the waste was originally listed, EPA would have proposed to deny the petition.) EPA evaluated the waste with respect to other factors or criteria to assess whether there is a reasonable basis to believe that such additional factors could cause the waste to be hazardous. EPA considered whether the waste is acutely toxic, the concentration of the constituents in the waste, their tendency to migrate and to bioaccumulate, their persistence in the environment once released from the waste, plausible and specific types of management of the petitioned waste, the quantities of waste generated, and waste variability. EPA believes that the petitioned waste does not meet the listing criteria and thus should not be a listed waste. EPA's proposed decision to delist waste from Shell Oil Company's facility is based on the information submitted in support of this rule, including descriptions of the wastes and analytical data from the Deer Park, TX facility.

C. How Will Shell Oil Company Manage the Waste if It Is Delisted?

If the leachate is delisted, Shell will make piping modifications to allow the leachate to be routed to the North Effluent Treater (NET) for treatment. The treated effluent will be discharged through an Texas Pollutant Discharge Elimination System (TPDES) permitted outfall.

D. When Would the Proposed Delisting Exclusion be Finalized?

RCRA section 3001(f) specifically requires EPA to provide notice and an opportunity for comment before granting or denying a final exclusion. Thus, EPA will not grant the exclusion until it addresses all timely public comments (including those at public hearings, if any) on this proposal.

RCRA section 3010(b)(1) at 42 USCA 6930(b)(1), allows rules to become effective in less than six months when the regulated facility does not need the six-month period to come into compliance. That is the case here, because this rule, if finalized, would reduce the existing requirements for persons generating hazardous wastes.

EPA believes that this exclusion should be effective immediately upon final publication because a six-month deadline is not necessary to achieve the purpose of section 3010(b), and a later effective date would impose unnecessary hardship and expense on this petitioner. These reasons also provide good cause for making this rule effective immediately, upon final publication, under the Administrative Procedure Act, 5 U.S.C. 553(d).

E. How Would This Action Affect the States?

Because EPA is issuing this exclusion under the Federal RCRA delisting program, only states subject to Federal RCRA delisting provisions would be affected. This would exclude states which have received authorization from EPA to make their own delisting decisions.

EPA allows states to impose their own non-RCRA regulatory requirements that are more stringent than EPA's, under section 3009 of RCRA, 42 U.S.C. 6929. 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, EPA urges petitioners to contact the state regulatory authority to establish the status of their wastes under the state law.

EPA has also authorized some states (for example, Louisiana, Oklahoma, Georgia, Illinois) to administer an RCRA 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 unless that state makes the rule part of its authorized program. If Shell Oil Company transports the petitioned waste to or manages the waste in any state with delisting authorization, Shell

Oil Company must obtain delisting authorization 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?

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. EPA has amended this list several times and published it in §§ 261.31 and 261.32.

EPA lists these wastes as hazardous because: (1) The wastes 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), (2) the wastes meet the criteria for listing contained in §§ 261.11(a)(2) or (a)(3), or (3) the wastes are mixed with or derived from the treatment, storage or disposal of such characteristic and listed wastes and which therefore become hazardous under §§ 261.3(a)(2)(iv) or (c)(2)(i), known as the "mixture" or "derived-from" rules, respectively.

Individual waste streams may vary, however, depending on raw materials, industrial processes, and other factors. Thus, while a waste described in these regulations or resulting from the operation of the mixture or derived-from rules generally is hazardous, a specific waste from an individual facility may not be hazardous.

For this reason, §§ 260.20 and 260.22 provide an exclusion procedure, called delisting, which allows persons to prove 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 wastes from the list of hazardous wastes. The facility petitions EPA because it does not consider the wastes hazardous under RCRA regulations.

In a delisting petition, the petitioner must show that wastes generated at a particular facility do not meet any of the criteria for which the waste was listed. The criteria for which EPA lists a waste are in part 261 and further explained in the background documents for the listed waste.

In addition, under § 260.22, a petitioner must prove that the waste does not exhibit any of the hazardous

waste characteristics (that is, ignitability, reactivity, corrosivity, and toxicity) and present sufficient information for EPA to decide whether factors other than those for which the waste was listed warrant retaining it as a hazardous waste. (See part 261 and the background documents for the listed waste.)

Generators remain obligated under RCRA to confirm whether their 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?

Besides considering the criteria in § 260.22(a) and section 3001(f) of RCRA, 42 U.S.C. 6921(f), and in the background documents for the listed wastes, EPA must consider any factors (including additional constituents) other than those for which EPA listed the waste, if a reasonable basis exists that these additional factors could cause the waste to be hazardous.

EPA must also consider as hazardous waste mixtures containing listed hazardous wastes and wastes derived from treating, storing, or disposing of listed hazardous waste. See § 261.3(a)(2)(iii) and (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. See 66 FR 27266 (May 16, 2001).

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

A. What Waste Did Shell Oil Company Petition EPA To Delist?

On January 29, 2003, Shell Oil Company petitioned EPA to exclude from the lists of hazardous wastes contained in § 261.31, multisource landfill leachate (F039) generated from its facility located in Deer Park, Texas. The waste falls under the classification of listed waste pursuant to § 261.31. Specifically, in its petition, Shell Oil Company requested that EPA grant a standard exclusion for 3.36 million gallons (16,619 cu. yards) per year of the multisource landfill leachate.

B. Who Is Shell Oil Company and What Process Does it Use To Generate the Petitioned Waste?

Shell Oil Company refines high sulfur crude oil from Mexico into products including gasoline, kerosene, jet fuel, fuel oil, lube oil and others. The hazardous wastes included incinerator ash, spent catalysts and filters,

Chlorinated Plate Interceptor (CPI) sludge from the refinery wastewater treatment plant, NET and primary solids from Shell Chemical and the South Effluent Treater (SET). The wastes disposed of in the minimum technological requirements (MTR) landfill for the past four years have been Class 1 and Class 2 nonhazardous wastes. The landfill is designed to meet the minimum technological requirements specified in 40 CFR § 264.301. The design includes a primary leachate collection system and liner (underlying the deposited waste) followed by a secondary leachate collection system. Leachate from this landfill requires offsite disposal as an F039 (multisource leachate) listed waste. However, analytical data collected monthly for this aqueous stream shows that it is not a characteristic waste and contains little to no detectable concentrations of organic constituents.

C. How Did Shell Oil Company Sample and Analyze the Data in This Petition?

- To support its petition, Shell Oil Company submitted:
- (1) Historical information on past waste generation and management practices;
 - (2) Results of the total constituent list for 40 CFR part 264 Appendix IX volatiles, semivolatiles, metals, pesticides, herbicides, dioxins and PCBs;
 - (3) Results of the constituent list for 40 CFR part 264 Appendix IX on Toxicity Characteristic Leaching Procedure (TCLP) extract for volatiles, semivolatiles, and metals;
 - (4) Analytical constituents of concern for F039;
 - (5) Results from total oil and grease analyses;
 - (6) Multiple pH testing for the petitioned waste.

D. What Were the Results of Shell Oil Company's Analyses?

EPA believes that the descriptions of the Shell Oil Company analytical

characterization provide a reasonable basis to grant Shell Oil Company's petition for an exclusion of the multisource landfill leachate. EPA believes the data submitted in support of the petition show the multisource landfill leachate is non-hazardous. Analytical data for the multisource landfill leachate samples were used in the DRAS to develop delisting levels. The data summaries for detected constituents are presented in Table I. EPA has reviewed the sampling procedures used by Shell Oil Company and has determined that it satisfies EPA criteria for collecting representative samples of the variations in constituent concentrations in the multisource landfill leachate. In addition, the data submitted in support of the petition show that constituents in Shell Oil Company's waste are presently below health-based levels used in the delisting decision-making. EPA believes that Shell Oil Company has successfully demonstrated that the multisource landfill leachate is non-hazardous.

TABLE I.—MAXIMUM TCLP CONCENTRATIONS AND MAXIMUM ALLOWABLE DELISTING CONCENTRATION OF THE MULTISOURCE LANDFILL LEACHATE AT THE SHELL OIL COMPANY DEER PARK, TX FACILITY ¹

Constituent	TCLP analyses (mg/l)	Maximum allowable delisting concentration levels (mg/l)
Antimony	0.0092	0.0204
Arsenic	0.011	² 0.385
Barium	0.252	2.92
Copper	0.00553	418.00
Chromium	0.0122	5.0
Cobalt	0.0126	2.25
Nickel	0.0368	1.13
Selenium	0.0128	0.0863
Acetone	0.033	1.46
Acetophenone	0.0031	1.58
Benzene	0.013	0.022
Dichloroethane, 1,2	0.0014	0.0803
Ethylbenzene	0.00098	4.51
Napthalene	0.0061	1.05
Phenanthrene ³	0.0014	1.39
Phenol	0.056	9.46
TCDD,2,3,7,8	0.0000000325	0.0000926
Trichloropropane	0.00025	0.000574
Xylenes (total)	0.0016	97.60

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

² EPA defers to the maximum allowable delisting concentration based on the MCL. As a result, Shell Oil Company's analytical sampling results and consequent DRAS analysis meet the criteria for the proposed delisting petition approval.

³ The DRAS program does not have a delisting concentration for phenanthrene. Consequently EPA substituted anthracene into the DRAS program to set a delisting level for phenanthrene. Anthracene has similar toxicological and health based properties as phenanthrene. The DRAS program contains a complete risk-based dataset for anthracene. Shell Oil Company's phenanthrene analytical sampling results and consequent DRAS analysis using anthracene input parameters meet the criteria for the proposed phenanthrene delisting level.

⁴ Shell ran TCLP analysis only for the liquid wastes, total analysis were excluding because similar analytical results would be provided.

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

For this delisting determination, EPA used such information gathered to identify plausible exposure routes (*i.e.*,

groundwater, surface water, air) for hazardous constituents present in the petitioned waste. EPA determined that disposal in a surface impoundment is the most reasonable, worst-case disposal

scenario for Shell Oil Company's petitioned waste. EPA applied the Delisting Risk Assessment Software (DRAS) described in 65 FR 58015 (September 27, 2000) and 65 FR 75637

(December 4, 2000), to predict the maximum allowable concentrations of hazardous constituents that may be released from the petitioned waste after disposal and determined the potential impact of the disposal of Shell Oil Company's petitioned waste on human health and the environment. A copy of this software can be found on the world wide web at http://www.epa.gov/earth1r6/6pd/rcra_c/pd-o/dras.htm. In assessing potential risks to groundwater, EPA used the maximum estimated waste volumes and the maximum reported extract concentrations as inputs to the DRAS program to estimate the constituent concentrations in the groundwater at a hypothetical receptor well down gradient from the disposal site. Using the risk level (carcinogenic risk of 10^{-5} and non-cancer hazard index of 0.1), the DRAS program can back-calculate the acceptable receptor well concentrations (referred to as compliance-point concentrations) using standard risk assessment algorithms and EPA health-based numbers. Using the maximum compliance-point concentrations and EPA's Composite Model for Leachate Migration with Transformation Products (EPACMTP) fate and transport modeling factors, the DRAS further back-calculates the maximum permissible waste constituent concentrations not expected to exceed the compliance-point concentrations in groundwater.

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

The DRAS also uses the maximum estimated waste volumes and the maximum reported total concentrations to predict possible risks associated with releases of waste constituents through surface pathways (e.g., volatilization from the surface impoundment). As in the above groundwater analyses, the DRAS uses the risk level, the health-based data and standard risk assessment and exposure algorithms to predict maximum compliance-point concentrations of waste constituents at a hypothetical point of exposure. Using

fate and transport equations, the DRAS uses the maximum compliance-point concentrations and back-calculates the maximum allowable waste constituent concentrations (or "delisting levels").

In most cases, because a delisted waste is no longer subject to hazardous waste control, EPA is generally unable to predict, and does not presently control, how a petitioner will manage a waste after delisting. Therefore, EPA currently believes that it is inappropriate to consider extensive site-specific factors when applying the fate and transport model. EPA does control the type of unit where the waste is disposed. The waste must be disposed in the type of unit the fate and transport model evaluates.

EPA also considers the applicability of groundwater monitoring data during the evaluation of delisting petitions. In this case, Shell Oil Company will dispose of its wastewater in its TPDES permitted NET unit, with existing groundwater contamination sources. The groundwater contamination is currently being addressed and managed through a RCRA Corrective Actions Program. Consequently the groundwater data would not be relevant to this exclusion. Therefore, EPA has determined that it would be unnecessary to request groundwater monitoring data.

EPA believes that the descriptions of Shell Oil Company hazardous waste process and analytical characterization provide a reasonable basis to conclude that the likelihood of migration of hazardous constituents from the petitioned waste will be substantially reduced so that short-term and long-term threats to human health and the environment are minimized.

The DRAS results which calculate the maximum allowable concentration of chemical constituents in the waste are presented in Table I. Based on the comparison of results from the DRAS and maximum TCLP concentrations found in Table I, the petitioned waste should be delisted because no constituents of concern tested are likely to be present or formed as reaction products or by-products in Shell Oil Company's waste.

F. What Did EPA Conclude About Shell Oil Company's Analysis?

EPA concluded, after reviewing Shell Oil Company's processes that no other hazardous constituents of concern, other than those for which tested, are likely to be present or formed as reaction products or by-products in the waste. In addition, on the basis of explanations and analytical data provided by Shell Oil Company, pursuant to § 260.22, EPA

concludes that the petitioned waste do not exhibit any of the characteristics of ignitability, corrosivity, reactivity or toxicity. See §§ 261.21, 261.22 261.23 and 261.24, respectively.

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

During the evaluation of Shell Oil Company's petition, EPA also considered the potential impact of the petitioned waste via non-groundwater routes (i.e., air emission and surface runoff). With regard to airborne dispersion in particular, EPA believes that exposure to airborne contaminants from Shell Oil Company's petitioned waste is unlikely. Therefore, no appreciable air releases are likely from Shell Oil Company waste under any likely disposal conditions. EPA evaluated the potential hazards resulting from the unlikely scenario of airborne exposure to hazardous constituents released from Shell Oil Company's waste in an open surface impoundment. The results of this worst-case analysis indicated that there is no substantial present or potential hazard to human health and the environment from airborne exposure to constituents from Shell Oil Company's multisource landfill leachate.

H. What Is EPA's Evaluation of This Delisting Petition?

The descriptions of Shell Oil Company's hazardous waste process and analytical characterization, with the proposed verification testing requirements (as discussed later in this notice), provide a reasonable basis for EPA to grant the exclusion. The data submitted in support of the petition show that constituents in the waste are below the maximum allowable leachable concentrations (see Table I). EPA believes Shell Oil Company's process will substantially reduce the likelihood of migration of hazardous constituents from the petitioned waste. Shell Oil Company's process also minimizes short-term and long-term threats from the petitioned waste to human health and the environment.

Thus, EPA believes Shell Oil Company should be granted an exclusion for the multisource landfill leachate. EPA believes the data submitted in support of the petition show Shell Oil Company's multisource landfill leachate is non-hazardous. EPA has reviewed the sampling procedures used by Shell Oil Company and has determined that it satisfies EPA criteria for collecting representative samples of variable constituent concentrations in the multisource landfill leachate. The data submitted in support of the petition

show that constituents in Shell Oil Company's waste are presently below the compliance point concentrations used in the delisting decision and would not pose a substantial hazard to the environment. EPA believes that Shell Oil Company has successfully demonstrated that the multisource landfill leachate is non-hazardous.

EPA therefore, proposes to grant an exclusion to Shell Oil Company, in Deer Park, Texas, for the multisource landfill leachate described in its petition. EPA's decision to exclude this waste is based on descriptions of the treatment activities associated with the petitioned waste and characterization of the multisource landfill leachate.

If EPA finalizes the proposed rule, EPA will no longer regulate the petitioned waste under Parts 262 through 268 and the permitting standards of Part 270.

IV. Next Steps

A. With What Conditions Must the Petitioner Comply?

The petitioner, Shell Oil Company, must comply with the requirements in 40 CFR part 261, Appendix IX, Table 1. The text below gives the rationale and details of those requirements.

(1) Delisting Levels

This paragraph provides the levels of constituents for which Shell Oil Company must test the multisource landfill leachate, below which these wastes would be considered non-hazardous.

EPA selected the set of inorganic and organic constituents specified in Paragraph (1) of 40 CFR part 261, Appendix IX, Table 1, (the exclusion language) based on information in the petition. EPA compiled the inorganic and organic constituents list from the composition of the waste, descriptions of Shell Oil Company's treatment process, previous test data provided for the waste, and the respective health-based levels used in delisting decision-making. These delisting levels correspond to the allowable levels measured in the total concentrations. The limits described here do not relieve Shell Oil Company of its duty to comply with discharge limits in its TPDES permit.

(2) Waste Holding and Handling

The purpose of this paragraph is to ensure that Shell Oil Company manages and disposes of any multisource landfill leachate that contains hazardous levels of inorganic and organic constituents according to Subtitle C of RCRA. Managing the multisource landfill

leachate as a hazardous waste until initial verification testing is performed will protect against improper handling of hazardous material. If EPA determines that the data collected under this Paragraph do not support the data provided for in the petition, the exclusion will not cover the petitioned waste. The exclusion is effective upon publication in the **Federal Register** but the disposal as non-hazardous cannot begin until the verification sampling is completed.

(3) Verification Testing Requirements

Shell Oil Company must complete a rigorous verification testing program on the multisource landfill leachate to assure that the treated multisource landfill leachate does not exceed the maximum levels specified in Paragraph (1) of the exclusion language. This verification program operates on two levels.

The first part of the verification testing program consists of testing the multisource landfill leachate for specified indicator parameters as per Paragraph (1) of the exclusion language.

If EPA determines that the data collected under this Paragraph do not support the data provided for the petition, the exclusion will not cover the generated wastes. If the data from the initial verification testing program demonstrate that the leachate meets the delisting levels, Shell Oil Company may request quarterly testing. EPA will notify Shell Oil Company, in writing, if and when it may replace the testing conditions in paragraph (3)(A) with the testing conditions in (3)(B) of the exclusion language.

The second part of the verification testing program is the quarterly testing of representative samples of multisource landfill leachate for all constituents specified in Paragraph (1) of the exclusion language. EPA believes that the concentrations of the constituents of concern in the multisource landfill leachate may vary over time. Consequently this program will ensure that the leachate is evaluated in terms of variation in constituent concentrations in the waste over time.

The proposed subsequent testing would verify that Shell Oil Company operates a landfill where the constituent concentrations of the multisource landfill leachate do not exhibit unacceptable temporal and spatial levels of toxic constituents.

EPA is proposing to require Shell Oil Company to analyze representative samples of the multisource landfill leachate quarterly during the first year of waste generation. Shell Oil Company would begin quarterly sampling 60 days

after the final exclusion as described in Paragraph (3)(B) of the exclusion language.

EPA, per Paragraph 3(C) of the exclusion language, is proposing to end the subsequent testing conditions after the first year, if Shell Oil Company has demonstrated that the waste consistently meets the delisting levels. To confirm that the characteristics of the waste do not change significantly over time, Shell Oil Company must continue to analyze a representative sample of the waste on an annual basis. Annual testing requires analyzing the full list of components in Paragraph (1) of the exclusion language. If operating conditions change as described in Paragraph (4) of the exclusion language; Shell Oil Company must reinstate all testing in Paragraph (1) of the exclusion language. Shell Oil Company must prove through a new demonstration that their waste meets the conditions of the exclusion.

If the annual testing of the waste does not meet the delisting requirements in Paragraph 1, Shell Oil Company must notify EPA according to the requirements in Paragraph 6 of the exclusion language. The facility must provide sampling results that support the rationale that the delisting exclusion should not be withdrawn.

(4) Changes in Operating Conditions

Paragraph (4) of the exclusion language would allow Shell Oil Company the flexibility of modifying its processes (for example, changes in equipment or change in operating conditions) to improve its treatment process. However, Shell Oil Company must prove the effectiveness of the modified process and request approval from EPA. Shell Oil Company must manage wastes generated during the new process demonstration as hazardous waste until it has obtained written approval and Paragraph (3) of the exclusion language is satisfied.

(5) Data Submittals

To provide appropriate documentation that Shell Oil Company's multisource landfill leachate is meeting the delisting levels, Shell Oil Company must compile, summarize, and keep delisting records on-site for a minimum of five years. It should keep all analytical data obtained through Paragraph (3) of the exclusion language including quality control information for five years. Paragraph (5) of the exclusion language requires that Shell Oil Company furnish these data upon request for inspection by any employee or representative of EPA or the state of Texas.

If the proposed exclusion is made final, it will apply only to 3.36 million gallons (16,619 cu. yards) per year of multisource landfill leachate, generated at the Shell Oil Company facility after successful verification testing.

EPA would require Shell Oil Company to file a new delisting petition under any of the following circumstances:

(a) If it significantly alters the manufacturing process treatment system except as described in Paragraph (4) of the exclusion language;

(b) If it uses any new manufacturing or production process(es), or significantly changes from the current process(es) described in their petition; or

(c) If it makes any changes that could affect the composition or type of waste generated.

Shell Oil Company must manage waste volumes greater than 3.36 million gallons (16,619 cu. yards) per year of multisource landfill leachate as hazardous until EPA grants a new exclusion.

When this exclusion becomes final, Shell Oil Company's management of the wastes covered by this petition would be relieved from Subtitle C jurisdiction. Shell Oil Company must either treat, store, or dispose of the waste in an on-site facility. If not, Shell Oil Company must ensure that it delivers the waste to an off-site storage, treatment, or disposal facility that has a state permit, license, or register to manage municipal or industrial solid waste.

(6) Reopener

The purpose of Paragraph (6) of the exclusion language is to require Shell Oil Company to disclose new or different information related to a condition at the facility or disposal of the waste, if it is pertinent to the delisting. Shell Oil Company must also use this procedure if the waste sample in the annual testing fails to meet the levels found in Paragraph 1. This provision will allow EPA to reevaluate the exclusion, if a source provides new or additional information to EPA. EPA will evaluate the information on which EPA based the decision to see if it is still correct, or if circumstances have changed so that the information is no longer correct or would cause EPA to deny the petition, if presented.

This provision expressly requires Shell Oil Company to report differing site conditions or assumptions used in the petition in addition to failure to meet the annual testing conditions within 10 days of discovery. If EPA discovers such information itself or from a third party, it can act on it as

appropriate. The language being proposed is similar to those provisions found in RCRA regulations governing no-migration petitions at § 268.6.

EPA believes that it has the authority under RCRA and the Administrative Procedures Act (APA), 5 U.S.C. § 551 (1978) *et seq.*, to reopen a delisting decision. EPA may reopen a delisting decision when it receives new information that calls into question the assumptions underlying the delisting.

EPA believes a clear statement of its authority in delistings is merited in light of EPA's experience. See Reynolds Metals Company at 62 FR 37694 and 62 FR 63458 where the delisted waste leached at greater concentrations in the environment than the concentrations predicted when conducting the TCLP, thus leading EPA to repeal the delisting. If an immediate threat to human health and the environment presents itself, EPA will continue to address these situations on a case by case basis. Where necessary, EPA will make a good cause finding to justify emergency rulemaking. See APA § 553 (b).

(7) Notification Requirements

In order to adequately track wastes that have been delisted, EPA is requiring that Shell Oil Company provide a one-time notification to any state regulatory agency through which or to which the delisted waste is being carried. Shell Oil Company must provide this notification 60 days before commencing this activity.

B. What Happens if Shell Oil Company Violates the Terms and Conditions?

If Shell Oil Company violates the terms and conditions established in the exclusion, EPA will start procedures to withdraw the exclusion. Where there is an immediate threat to human health and the environment, EPA will evaluate the need for enforcement activities on a case-by-case basis. EPA expects Shell Oil Company to conduct the appropriate waste analysis and comply with the criteria explained above in Paragraph (1) of the exclusion.

V. Public Comments

A. How Can I as an Interested Party Submit Comments?

EPA is requesting public comments on this proposed decision. Please send three copies of your comments. Send two copies to Section Chief of the Corrective Action and Waste Minimization Section (6PD-C), Multimedia Planning and Permitting Division, Environmental Protection Agency (EPA), 1445 Ross Avenue, Dallas, Texas 75202. Send a third copy

to Nicole Bealle, Waste Team Leader, Texas Commission on Environmental Quality, 5425 Polk Avenue Suite A, Houston, TX 77023. Identify your comments at the top with this regulatory docket number: "F-04-TEXDEL-Shell Oil." You may submit your comments electronically to Michelle Peace at peace.michelle@epa.gov.

You should submit requests for a hearing to Ben Banipal, Section Chief of the Corrective Action and Waste Minimization Section (6PD-C), Multimedia Planning and Permitting Division, U. S. Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202.

B. How May I Review the Docket or Obtain Copies of the Proposed Exclusion?

You may review the RCRA regulatory docket for this proposed rule at the Environmental Protection Agency Region 6, 1445 Ross Avenue, Dallas, Texas 75202. It is available for viewing in EPA Freedom of Information Act Review Room from 9 a.m. to 4 p.m., Monday through Friday, excluding Federal holidays. Call (214) 665-6444 for appointments. The public may copy material from any regulatory docket at no cost for the first 100 pages, and at fifteen cents per page for additional copies.

VI. 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 this 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.

VII. 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 a small entity.

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, EPA hereby 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.

VIII. Paperwork Reduction Act

Information collection and record-keeping requirements associated with this proposed rule have been approved by the Office of Management and 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.

IX. 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, it 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, or tribal governments or the private sector.

EPA finds that this delisting decision is deregulatory in nature and does not impose any enforceable duty on any state, local, or tribal governments or the private sector. 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.

X. Executive Order 13045

The 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, EPA 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 EPA. This proposed rule is not subject to E.O. 13045 because this is not an economically significant regulatory action as defined by Executive Order 12866.

XI. Executive Order 13084

Because this action does not involve any requirements that affect Indian Tribes, the requirements of section 3(b) of Executive Order 13084 do not apply.

Under Executive Order 13084, EPA may not issue a regulation that is not required by statute, that significantly affects or uniquely affects the 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 the Office Management and Budget, 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 have "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.

XII. National Technology Transfer and Advancement Act

Under Section 12(d) of the National Technology Transfer and Advancement Act, EPA is directed to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, business practices, *etc.*) developed or adopted by voluntary consensus standard bodies. Where available and potentially applicable voluntary consensus standards are not used by EPA, the Act requires that EPA 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, EPA has no need to consider the use of voluntary consensus standards in developing this final rule.

XIII. Executive Order 13132 Federalism

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 government and the states, or on the distribution of power and responsibilities among the various levels of government."

Under section 6 of Executive Order 13132, EPA may not issue a regulation that has federalism implications, that impose 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 implications and that preempts state law unless EPA consults with state and local officials early in the process of developing the proposed regulation.

This action does not have federalism implication. It will not have a substantial direct effect on 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

Executive Order 13132, because it affects only one facility.

Lists 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: November 9, 2004.

Carl E. Edlund,
Director, Multimedia Planning and Permitting Division, Region 6.

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—Waste Excluded Under §§ 260.20 and 260.22.

TABLE 1.—WASTE EXCLUDED FROM NON-SPECIFIC SOURCES

Facility	Address	Waste Description
Shell Oil Company	Deer Park, TX	<p>Multisource landfill leachate (EPA Hazardous Waste No. F039) generated at a maximum annual rate of 3.36 million gallons (16,619 cu. yards) per calendar year after [insert publication date of the final rule] and disposed in accordance with the TPDES permit.</p> <p>The Delisting Levels set do not relieve Shell Oil Company of its duty to comply with the limits set in its TPDES permit. For the exclusion to be valid, Shell Oil Company must implement a verification testing program that meets the following Paragraphs:</p> <p>(1) <i>Delisting Levels:</i> All total concentrations for those constituents must not exceed the following levels (mg/l). The petitioner must analyze the aqueous waste on a total basis to measure constituents in the multisource landfill leachate.</p> <p>Multisource landfill leachate (i) Inorganic Constituents Antimony-0.0204; Arsenic-0.385; Barium-2.92; Copper-418.00; Chromium-5.0; Cobalt-2.25; Nickel-1.13; Selenium-0.0863; Thallium-0.005</p> <p>(ii) Organic Constituents Acetone-1.46; Acrylonitrile-0.00745; Acetophenone-1.58; Benzene-0.0222; Cresol, p-0.0788; Bis(2-chlorethyl)ether-0.00583; Bis(2-ethylhexyl)phthlate-15800.00; Dichlorobenzene, 1,3-0.00478; Dichloroethane, 1,2-0.0803; Dimethoate-3.15; Dimethylphenol, 2,4-0.405; Dinitrophenol-0.0293; Dinitrotoluene, 2,4-0.00451; Dinitrotoluene, 2,6-0.00451; Diphenylhydrazine-0.00484; Dichloroethylene, 1,1-0.00719; Ethylbenzene-4.51; Kepone-0.00407; Methacrylonitrile-0.00146; Methanol-7.32; Napthalene-1.05; Nitrobenzene 0.00788; Nitrosodiethylamine-0.000258; Nitrosodimethylamine-0.000076; Nitrosodi-n-butylamine-0.000826; N-Nitrosodi-n-propylamine-0.000553; N-Nitrosopiperidine-0.000102; N-Nitrosopyrrolidine-0.000841; N-Nitrosomethylethylamine-0.000176; PCB's-0.000841; Pentachlorophenol-1.58; Phenol-9.46; Pyridine-0.0146; 2,3,7,8-TCDD equivalents as TEQ-0.0000926; Trichloropropane-0.000574; Vinyl Chloride-0.0019; Xylenes (total)-97.60</p> <p>(2) <i>Waste Management:</i></p> <p>(A) Shell Oil Company must manage as hazardous all multisource landfill leachate generated, until it has completed initial verification testing described in Paragraph (3)(A) and (B), as appropriate, and valid analyses show that Paragraph(1) is satisfied.</p> <p>(B) Levels of constituents measured in the samples of the multisource landfill leachate that do not exceed the levels set forth in Paragraph (1) are non-hazardous. Shell Oil Company can manage and dispose of the non-hazardous multisource landfill leachate according to all applicable solid waste regulations.</p> <p>(C) If constituent levels in a sample exceed any of the Delisting Levels set in Paragraph (1), Shell Oil Company can collect one additional sample and perform expedited analyses to verify if the constituent exceeds the delisting level. If this sample confirms the exceedance, Shell Oil Company must, from that point forward, treat the waste as hazardous until it is demonstrated that the waste again meets the levels in Paragraph (1).</p> <p>(D) If the facility has not treated the waste, Shell Oil Company must manage and dispose of the waste generated under Subtitle C of RCRA from the time that it becomes aware of any exceedance.</p> <p>(E) Upon completion of the Verification Testing described in Paragraph 3(A) and (B) as appropriate and the transmittal of the results to EPA, and if the testing results meet the requirements of Paragraph (1), Shell Oil Company may proceed to manage its multisource landfill leachate as non-hazardous waste. If Subsequent Verification Testing indicates an exceedance of the Delisting Levels in Paragraph (1), Shell Oil Company must manage the multisource landfill leachate as a hazardous waste until two consecutive quarterly testing samples show levels below the Delisting Levels in Table I.</p>

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

Facility	Address	Waste Description
		<p>(3) <i>Verification Testing Requirements:</i> Shell Oil Company must perform sample collection and analyses, including quality control procedures, according to appropriate methods such as those found in SW-846 or other reliable sources (with the exception of analyses requiring the use of SW-846 methods incorporated by reference in 40 CFR 260.11, which must be used without substitution). If EPA judges the process to be effective under the operating conditions used during the initial verification testing, Shell Oil Company may replace the testing required in Paragraph (3)(A) with the testing required in Paragraph (3)(B). Shell Oil Company must continue to test as specified in Paragraph (3)(A) until and unless notified by EPA in writing that testing in Paragraph (3)(A) may be replaced by Paragraph (3)(B).</p> <p>(A) <i>Initial Verification Testing:</i> After EPA grants the final exclusion, Shell Oil Company must do the following:</p> <p>(i) Within 60 days of this exclusion becoming final, collect eight samples, before disposal, of the multisource landfill leachate.</p> <p>(ii) The samples are to be analyzed and compared against the Delisting Levels in Paragraph (1)</p> <p>(iii) Within sixty (60) days after this exclusion becomes final, Shell Oil Company will report initial verification analytical test data for the multisource landfill leachate, including analytical quality control information for the first thirty (30) days of operation after this exclusion becomes final. If levels of constituents measured in the samples of the multisource landfill leachate that do not exceed the levels set forth in Paragraph (1) are also non-hazardous in two consecutive quarters after the first thirty (30) days of operation after this exclusion become effective, Shell Oil Company can manage and dispose of the multisource landfill leachate according to all applicable solid waste regulations.</p> <p>(B) <i>Subsequent Verification Testing:</i> Following written notification by EPA, Shell Oil Company may substitute the testing conditions in (3)(B) for (3)(A). Shell Oil Company must continue to monitor operating conditions, and analyze two representative samples of the multisource landfill leachate for each quarter of operation during the first year of waste generation. The samples must represent the waste generated during the quarter. After the first year of analytical sampling verification sampling can be performed on a single annual sample of the multisource landfill leachate. The results are to be compared to the Delisting Levels in Condition (1).</p> <p>(C) <i>Termination of Testing:</i></p> <p>(i) After the first year of quarterly testing, if the Delisting Levels in Paragraph (1) are being met, Shell Oil Company may then request that EPA not require quarterly testing. After EPA notifies Shell Oil Company in writing, the company may end quarterly testing.</p> <p>(ii) Following cancellation of the quarterly testing, Shell Oil Company must continue to test a representative sample for all constituents listed in Paragraph (1) annually.</p> <p>(4) <i>Changes in Operating Conditions:</i> If Shell Oil Company significantly changes the process described in its petition or starts any processes that generate(s) the waste that may or could significantly affect the composition or type of waste generated as established under Paragraph (1) (by illustration, but not limitation, changes in equipment or operating conditions of the treatment process), it must notify EPA in writing; it may no longer handle the wastes generated from the new process as nonhazardous until the wastes meet the Delisting Levels set in Paragraph (1) and it has received written approval to do so from EPA.</p> <p>(5) <i>Data Submittals:</i> Shell Oil Company must submit the information described below. If Shell Oil Company fails to submit the required data within the specified time or maintain the required records on-site for the specified time, EPA, at its discretion, will consider this sufficient basis to reopen the exclusion as described in Paragraph 6. Shell Oil Company must:</p> <p>(A) Submit the data obtained through Paragraph 3 to the Section Chief, Region 6 Corrective Action and Waste Minimization Section, EPA, 1445 Ross Avenue, Dallas, Texas 75202-2733, Mail Code, (6PD-C) within the time specified.</p> <p>(B) Compile records of operating conditions and analytical data from Paragraph (3), summarized, and maintained on-site for a minimum of five years.</p> <p>(C) Furnish these records and data when EPA or the state of Texas request them for inspection.</p> <p>(D) Send along with all data a signed copy of the following certification statement, to attest to the truth and accuracy of the data submitted:</p> <p>Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. § 1001 and 42 U.S.C. § 6928), I certify that the information contained in or accompanying this document is true, accurate and complete.</p> <p>As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.</p> <p>If any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.</p> <p>(6) <i>Reopener:</i></p>

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

Facility	Address	Waste Description
		<p>(A) If, anytime after disposal of the delisted waste, Shell Oil Company possesses or is otherwise made aware of any environmental 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 for the delisting verification testing is at level higher than the delisting level allowed by the Division Director in granting the petition, then the facility must report the data, in writing, to the Division Director within 10 days of first possessing or being made aware of that data.</p> <p>(B) If the annual testing of the waste does not meet the delisting requirements in Paragraph 1, Shell Oil Company must report the data, in writing, to the Division Director within 10 days of first possessing or being made aware of that data.</p> <p>(C) If Shell Oil Company fails to submit the information described in Paragraphs (5),(6)(A) or (6)(B) or if any other information is received from any source, the Division Director will make a preliminary determination as to whether the reported information requires EPA action to protect human health and/or the environment. Further action may include suspending, or revoking the exclusion, or other appropriate response necessary to protect human health and the environment.</p> <p>(D) If the Division Director determines that the reported information does require action, EPA's Division Director will notify the facility in writing of the actions the Division 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 the facility with an opportunity to present information as to why the proposed action by EPA is not necessary. The facility shall have 10 days from the date of the Division Director's notice to present such information.</p> <p>(E) Following the receipt of information from the facility described in Paragraph (6)(D) or (if no information is presented under Paragraph (6)(D)) the initial receipt of information described in Paragraphs (5), (6)(A) or (6)(B), the Division Director will issue a final written determination describing EPA's actions that are necessary to protect human health and/or the environment. Any required action described in the Division Director's determination shall become effective immediately, unless the Division Director provides otherwise.</p> <p>(7) <i>Notification Requirements:</i> Shell Oil Company must do the following before transporting the delisted waste. Failure to provide this notification will result in a violation of the delisting petition and a possible revocation of the decision.</p> <p>(A) Provide a one-time written notification to any state Regulatory Agency to which or through which it will transport the delisted waste described above for disposal, 60 days before beginning such activities.</p> <p>(B) Update the one-time written notification if it ships the delisted waste into a different disposal facility.</p> <p>(C) Failure to provide this notification will result in a violation of the delisting variance and a possible revocation of the decision.</p>

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BILLING CODE 6560-50-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AU06

Endangered and Threatened Wildlife and Plants; Proposed Critical Habitat Designation for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule, reopening of public comment period.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce that we are soliciting additional comments on certain areas included in

our September 24, 2002, proposed rule (hereinafter referred to as the September 2002 proposal) to designate critical habitat for 4 vernal pool crustaceans and 11 vernal pool plants in California and southern Oregon (67 FR 59884). We issued a final rule based on the September 2002 proposal on August 6, 2003 (68 FR 46684). In the final rule we excluded certain specific lands that had been included in the September 2002 proposal. We excluded these lands pursuant to section 4(b)(2) of the Act based on either policy or economic reasons. On October 28, 2004, a court remanded the final designation to the Service in part, ordering the Service to make a new determination as to whether to designate the excluded areas (*Butte Environmental Council v. Norton*, NO. CIV. S-04-0096 (E.D. Cal. Oct. 28, 2004). The August 6, 2003, final rule is still in effect while we reconsider the exclusions from the proposed rule and make a new final determination. Pursuant to the court order, we will

evaluate the exclusions made to our proposal in two separate actions: (1) A re-evaluation of exclusions based on policy or non-economic reasons addressed herein; and (2) a re-evaluation of exclusions based on economic concerns in a subsequent **Federal Register** notice. Comments previously submitted on the September 2002 proposal need not be resubmitted because we will incorporate them into the public record as part of this reopening of the comment period and will fully consider them in development of a new final rule.

DATES: We will accept public comments on the policy (non-economic) exclusions to our September 2002 proposal and any new information concerning the 15 vernal pool species addressed in this critical habitat designation until January 27, 2005.

ADDRESSES: If you wish to comment, you may submit your comments and materials by any one of several methods:

ANE MA D Worcester, MA [Revised]

Worcester Regional Airport, MA
(Lat. 42°16'02" N, long. 71°52'32" W)
Spencer Airport, MA
(Lat. 42°17'26" N, long. 71°57'53" W)

That airspace extending upward from the surface to and including 3,500 feet MSL within a 4.2-mile radius of Worcester Regional Airport, excluding that airspace from the surface up to but not including 1,900 feet MSL within a 1-mile radius of the Spencer Airport. This Class D airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

* * * * *

Issued in Jamaica, New York, on August 17, 2005.

John G. McCartney,

Acting Area Director, Eastern Terminal Operations.

[FR Doc. 05-16740 Filed 8-22-05; 8:45 am]

BILLING CODE 4910-13-M

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****14 CFR Part 71**

[Docket No. FAA-2005-21226; Airspace Docket No. 05-ASO-8]

Establishment of Class E Airspace; Marion, KY

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action establishes Class E airspace at Marion, KY. Area Navigation (RNAV) Global Positioning System (GPS) Standard Instrument Approach Procedures (SIAP) Runway (RWY) 7 and RWY 25 have been developed for Marion-Crittenden County Airport. As a result, controlled airspace extending upward from 700 feet Above Ground Level (AGL) is needed to contain the SIAPs and for Instrument Flight Rules (IFR) operations at Marion-Crittenden County Airport. The operating status of the airport will change from Visual Flight Rules (VFR) to include IFR operations concurrent with the publication of the SIAP.

EFFECTIVE DATE: 0901 UTC, October 27, 2005.

FOR FURTHER INFORMATION CONTACT: Mark D. Ward, Manager, Airspace and Operations Branch, Eastern En Route and Oceanic Service Area, Federal Aviation Administration, P.O. Box 20636, Atlanta, Georgia 30320; telephone (404) 305-5586.

SUPPLEMENTARY INFORMATION:

History

On June 8, 2005, the FAA proposed to amend part 71 of the Federal Aviation Regulations (14 CFR part 71) by establishing Class E airspace at Marion, KY, (70 FR 33403). This action provides adequate Class E airspace for IFR operations at Marion-Crittenden County Airport. Designations for Class E airspace areas extending upward from 700 feet or more above the surface of the earth are published in FAA Order 7400.9M, dated August 30, 2004, and effective September 16, 2004, which is incorporated by reference in 14 CFR part 71.1. The Class E designations listed in this document will be published subsequently in this Order.

Interested parties were invited to participate in this rulemaking proceeding by submitting written comments on the proposal to the FAA. No comments objecting to the proposal were received.

The Rule

This amendment to part 71 of the Federal Aviation Regulations (14 CFR part 71) establishes Class E airspace at Marion, KY.

The FAA has determined that this proposed regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore, (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a Regulatory Evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule, when promulgated, will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (Air).

Adoption of the Amendment

■ In consideration of the foregoing, the Federal Aviation Administration proposes to amend 14 CFR Part 71 as follows:

PART 71—DESIGNATION OF CLASS A, CLASS B, CLASS C, CLASS D, AND CLASS E AIRSPACE AREAS; AIRWAYS; ROUTES; AND REPORTING POINTS

■ 1. The authority citation for Part 71 continues to read as follows:

Authority: 49 U.S.C. 106(g); 40103, 40113, 40120; E.O. 10854, 24 FR 9565, 3 CFR, 1959-1963 Comp., p. 389.

§ 71.1 [Amended]

■ 2. The incorporation by reference in 14 CFR 71.1 of Federal Aviation Administration Order 7400.9L, Airspace Designations and Reporting Points, dated September 2, 2003, and effective September 16, 2003, is amended as follows:

Paragraph 6005 Class E Airspace Areas Extending Upward from 700 feet or More Above the Surface of the Earth.

* * * * *

ASO KY E5 Marion, KY [NEW]

Marion-Crittenden County Airport, KY
(Lat. 37°20'04" N, long. 88°06'54" W)

That airspace extending upward from 700 feet above the surface within a 6.7—radius of Marion-Crittenden County Airport; excluding that airspace within the Sturgis, KY, Class E airspace area.

* * * * *

Issued in College Park, Georgia, on July 29, 2005.

Mark D. Ward,

Acting Area Director, Air Traffic Division, Southern Region.

[FR Doc. 05-16746 Filed 8-22-05; 8:45 am]

BILLING CODE 4910-13-M

ENVIRONMENTAL PROTECTION AGENCY**40 CFR Part 261**

[SW-FRL-7957-6]

Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Final Exclusion

AGENCY: Environmental Protection Agency.

ACTION: Final rule.

SUMMARY: Environmental Protection Agency (EPA) is granting petitions submitted by Shell Oil Company (Shell Oil Company) to exclude (or delist) certain wastes generated by its Houston, TX Deer Park facility from the lists of hazardous wastes. This final rule responds to petitions submitted by Shell Oil Company to delist F039 and F037 wastes. The F039 waste is generated from the refinery wastewater treatment plant, North Effluent Treater (NET) and

primary solids from Shell Chemical and the South Effluent Treatment (SET). The F037 waste North Pond Sludge is generated from the process wastewater, gravel and road base that has settled from storm water flow to the pond.

After careful analysis and use of the Delisting Risk Assessment Software (DRAS), EPA has concluded the petitioned wastes are not hazardous waste. The F039 exclusion applies to 3.36 million gallons per year (16,619 cubic yards) of multi-source landfill leachate. The F037 exclusion is a one time exclusion for 15,000 cubic yards of the sludge. Accordingly, this final rule excludes the petitioned wastes from the requirements of hazardous waste regulations under the Resource Conservation and Recovery Act (RCRA).

EFFECTIVE DATE: August 23, 2005.

ADDRESSES: The public docket for this final rule is located at the Environmental Protection Agency Region 6, 1445 Ross Avenue, Dallas, Texas 75202, and is available for viewing in EPA Freedom of Information Act review room on the 7th floor from 9 a.m. to 4 p.m., Monday through Friday, excluding Federal holidays. Call (214) 665-6444 for appointments. The reference number for this docket is F-04-TEXDEL-Shell Oil. The public may copy material from any regulatory docket at no cost for the first 100 pages and at a cost of \$0.15 per page for additional copies.

FOR FURTHER INFORMATION CONTACT: Ben Banipal, Section Chief of the Corrective Action and Waste Minimization Section, Multimedia Planning and Permitting Division (6PD-C), Environmental Protection Agency Region 6, 1445 Ross Avenue, Dallas, Texas 75202. For technical information concerning this notice, contact Michelle Peace, Environmental Protection Agency, 1445 Ross Avenue, Dallas, Texas 75202, at (214) 665-7430, or peace.michelle@epa.gov.

SUPPLEMENTARY INFORMATION: The information in this section is organized as follows:

I. Overview Information

- A. What action is EPA finalizing?
- B. Why is EPA approving this action?
- C. What are the limits of this exclusion?
- D. How will Shell Oil Company manage the wastes, if they are delisted?
- E. When is the final delisting exclusion effective?
- F. How does this final rule affect states?

II. Background

- A. What is a delisting?
- B. What regulations allow facilities to delist a waste?
- C. What information must the generator supply?

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

- A. What waste did Shell Oil Company petition EPA to delist?
 - B. How much waste did Shell Oil Company propose to delist?
 - A. How did Shell Oil Company sample and analyze the waste data in these petitions?
- #### IV. Public Comments Received on the Proposed Exclusions
- A. Who submitted comments on the proposed rules?
 - B. Where were the comments and what are EPA's responses to them?
- #### V. Statutory and Executive Order Reviews

I. Overview Information

A. What Action Is EPA Finalizing?

After evaluating the petitions for Shell Oil Company, EPA proposed, on December 28, 2004 and February 9, 2005, respectively, to exclude the wastes from the lists of hazardous waste under § 261.31. EPA is finalizing:

- (1) The decision to grant Shell Oil Company's delisting petition to have its F039 multi-source landfill leachate underlying the Minimum Technology Requirements (MTR) hazardous waste landfill excluded, or delisted, from the definition of a hazardous waste; and subject to certain verification and monitoring conditions; and
- (2) The decision to grant Shell Oil Company's delisting petition to have its North Pond F037 sludge excluded, or delisted, from the definition of a hazardous waste, once it is disposed in a Subtitle D landfill.

B. Why Is EPA Approving This Action?

Shell Oil Company's petitions request a delisting from the F039 and F037 wastes listing under 40 CFR 260.20 and 260.22. Shell Oil Company does not believe that the petitioned waste meets the criteria for which EPA listed it. Shell Oil Company also believes no additional constituents or factors could cause the waste to be hazardous. EPA's review of these petitions included consideration of the original listing criteria, and the additional factors required by the Hazardous and Solid Waste Amendments of 1984 (HSWA). See section 3001(f) of RCRA, 42 U.S.C. 6921(f), and 40 CFR 260.22 (d)(1)-(4) (hereinafter all sectional references are to 40 CFR unless otherwise indicated). In making the final delisting determination, EPA evaluated the petitioned wastes against the listing criteria and factors cited in § 261.11(a)(2) and (a)(3). Based on this review, EPA agrees with the petitioner that the wastes are nonhazardous with respect to the original listing criteria. (If EPA had found, based on this review, that the waste remained hazardous based on the factors for which the waste

was originally listed, EPA would have proposed to deny the petition.) EPA evaluated the wastes with respect to other factors or criteria to assess whether there is a reasonable basis to believe that such additional factors could cause the wastes to be hazardous. EPA considered whether the wastes are acutely toxic, the concentrations of the constituents in the wastes, their tendency to migrate and to bioaccumulate, their persistence in the environment once released from the waste, plausible and specific types of management of the petitioned waste, the quantities of waste generated, and waste variability. EPA believes that the petitioned wastes do not meet the listing criteria and thus should not be listed wastes. EPA's final decision to delist wastes from Shell Oil Company's facility is based on the information submitted in support of this rule, including descriptions of the wastes and analytical data from the Deer Park, TX facility.

C. What Are the Limits of This Exclusion?

This exclusion applies to the waste described in the Shell Oil Company petitions only if the requirements described in 40 CFR part 261, Appendix IX, Table 1 and the conditions contained herein are satisfied.

D. How Will Shell Oil Company Manage the Wastes, If They Are Delisted?

If the multi-source landfill leachate is delisted, Shell Oil Company will make piping modifications to allow the leachate to be routed to the North Effluent Treater (NET) for treatment. After its treatment, the multi-source landfill leachate will be discharged through a TPDES-permitted outfall in compliance with its TPDES permit. If F037 North Pond Sludge is delisted, Shell Oil Company will dispose of it in a Subtitle D landfill which is permitted, licensed, or registered by a state to manage industrial waste.

E. When Is the Final Delisting Exclusion Effective?

This rule is effective August 23, 2005. The Hazardous and Solid Waste Amendments of 1984 amended section 3010 of RCRA, 42 U.S.C. 6930(b)(1), allow rules to become effective in less than six months after the rule is published when the regulated community does not need the six-month period to come into compliance. That is the case here because this rule reduces, rather than increases, the existing requirements for persons generating hazardous waste. This reduction in existing requirements also provides a

basis for making this rule effective immediately, upon publication, under the Administrative Procedure Act, pursuant to 5 U.S.C. 553(d).

F. How Does This Final Rule Affect States?

Because EPA is issuing this exclusion under the Federal RCRA delisting program, only states subject to Federal RCRA delisting provisions would be affected. This would exclude states which have received authorization from EPA to make their own delisting decisions.

EPA allows states to impose their own non-RCRA regulatory requirements that are more stringent than EPA's, under section 3009 of RCRA, 42 U.S.C. 6929. 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, EPA urges petitioners to contact the State regulatory authority to establish the status of their wastes under the State law.

EPA has also authorized some states (for example, Louisiana, Oklahoma, Georgia, Illinois) to administer a RCRA 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 unless that state makes the rule part of its authorized program. If Shell Oil Company transports the petitioned waste to or manages the waste in any state with delisting authorization, Shell Oil Company must obtain delisting authorization from that state before it can manage the waste as nonhazardous in the state.

II. Background

A. What Is a Delisting Petition?

A delisting petition is a request from a generator to EPA or another agency with jurisdiction to exclude or delist, from the RCRA list of hazardous waste, waste the generator believes should not be considered hazardous under RCRA.

B. What Regulations Allow Facilities To Delist a Waste?

Under 40 CFR 260.20 and 260.22, facilities may petition EPA to remove their wastes from hazardous waste regulation by excluding them from the lists of hazardous wastes contained in §§ 261.31 and 261.32. Specifically, § 260.20 allows any person to petition the Administrator to modify or revoke any provision of 40 CFR parts 260 through 265 and 268. Section 260.22 provides generators the opportunity to

petition the Administrator to exclude a waste from a particular generating facility from the hazardous waste lists.

C. What Information Must the Generator Supply?

Petitioners must provide sufficient information to EPA to allow EPA to determine that the waste to be excluded does not meet any of the criteria under which the waste was listed as a hazardous waste. In addition, the Administrator must determine, where he/she has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste and that such factors do not warrant retaining the waste as a hazardous waste.

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

A. What Wastes Did Shell Oil Company Petition EPA To Delist?

On January 29, 2003, Shell Oil Company petitioned EPA to exclude from the lists of hazardous waste contained in § 261.31, multi-source landfill leachate (F039) generated from its facility located in Deer Park, TX. Then on December 30, 2003, Shell Oil Company petitioned EPA to exclude from the lists of hazardous waste contained in §§ 261.31 and 261.32, F037 North Pond Sludge.

B. How Much Waste Did Shell Oil Company Propose To Delist?

Shell Oil Company requested that EPA grant an exclusion for 3.36 million gallons (16,619 cu. yards) per year of the multi-source landfill leachate in its January 29, 2003 petition. In the December 30, 2003 petition, Shell Oil Company requested that EPA grant a one time exclusion for 15,000 cubic yards of the F037 North Pond Sludge.

C. How Did Shell Oil Company Sample and Analyze the Waste Data in These Petitions?

To support its petitions, Shell Oil Company submitted:

(1) Historical information on past waste generation and management practices including analytical data from eleven samples collected in September 2003 for the F037 North Pond Sludge and four samples of combined leachate data for the F039 multi-source landfill leachate;

(2) Results of the total constituent list for 40 CFR part 264, Appendix IX volatiles, semivolatiles, metals, pesticides, herbicides, dioxins and PCBs for the F037 North Pond Sludge and the F039 multi-source landfill leachate;

(3) Results of the constituent list for 40 CFR part 264, Appendix IX on Toxicity Characteristic Leaching Procedure (TCLP) extract for volatiles, semivolatiles, and metals for the F037 North Pond Sludge and the F039 multi-source landfill leachate;

(4) Analytical constituents of concern for F037 and F039;

(5) Results from total oil and grease analyses;

(6) Multiple pH testing for the petitioned wastes.

IV. Public Comments Received on the Proposed Exclusions

A. Who Submitted Comments on the Proposed Rules?

No comments were received on the proposed rule for the F037 wastes. Comments were submitted by Shell Deer Park Refining Company (Shell) to correct information contained in the proposed rule for F039.

B. What Were the Comments and What Are EPA's Responses to Them?

Shell noted that *Chlorinated* Plate Interceptor should be *Corrugated* Plate Interceptor. EPA has noted this and made appropriate changes in the final rule and exclusion language to reflect this change.

Shell noted that: (1) the compound p-cresol (4-methylphenol) should be added to Table I; and (2) the compound trichloropropane should be deleted from Table I as this constituent was not detected in any of the samples above the reporting level.

The compound p-cresol (4-methylphenol) appears in Table 1.—Waste Excluded From the Non-Specific Sources as "Cresol, p." EPA has made the appropriate change to read p-Cresol. The compound trichloropropane estimated value of 0.00025 mg/l was reported in the revised analyses on October 11, 2004, Combined Leachate Data, and thus it will not be deleted.

Shell requested: (1) that the following constituents be deleted from Table 1—Wastes Excluded from Non-Specific Sources in the exclusion language to be consistent with Table I in Section III. D in the preamble of the proposed rule: Thallium, Acrylonitrile, Bis (2-chlorethyl) ether, Bis (2-ethylhexyl) phthlate, Dichlorobenzene 1,3, Dimethoate, Dimethylphenol 2,4, Dinitrophenol, Dinitrotoluene 2,6, Diphenylhydrazine, Dichloroethylene 1,1, Kepone, Methacrylonitrile, Methanol, Nitrobenzene, Nitrosodiethylamine, Nitrosodimethylamine, Nitrosodi-n-butylamine, N-Nitrodi-n-propylamine, N-Nitrosopiperidine, N-

Nitrosopyrrolidine, N-Nitrosomethylethylamine, PCBs, Pentachlorophenol, Pyridine, Trichloropropane, Vinyl Chloride; and (2) that the compound phenanthrene should be added with a delisting level of 1.36 mg/L to be consistent with Table I in Section III. D.

EPA has made the deletions as prescribed. EPA has added the compound phenanthrene with a delisting level of 1.36 mg/L to Table 1.—Waste Excluded From Non-Specific Sources. EPA also added compounds toluene, fluorene, and vanadium because they were inadvertently left off of Table 1—Wastes Excluded from Non-Specific Sources.

Shell noted that in the exclusion language paragraph (3)(A)(i) of Table 1—Waste Excluded from Non-Specific Sources, the number of samples to be collected within the first 60 days should be changed from eight to four. Also in paragraph (3)(B) for subsequent verification sampling, Shell Oil Company requested that the number of samples per quarter be changed from two to one. Previous discussions between EPA and Shell Oil Company were based on two different waste streams. Since this is one stream, EPA will allow the changes in the number of samples collected and the number of samples taken per quarter.

In addition, on October 30, 2002, (67 FR 66251), EPA proposed the Methods Innovation Rule to remove from the regulations unnecessary requirements other than those considered to be Method Defined Parameters (MDP). An MDP is a method that, by definition or design, is the only one capable of measuring the particular property (e.g. Method 1311—TCLP). Therefore, EPA is no longer generally requiring the use of only SW-846 methods for regulatory applications other than those involving MDPs. The general purpose of this rule is to allow more flexibility when conducting RCRA-related sampling and analysis activities. We retained only those methods considered to be MDPs in the regulations and incorporate them by reference in 40 CFR 260.11. EPA is changing Shell's delisting exclusion language found in paragraph (3) of the F039 exclusion language to reflect the generic language placed in all delisting exclusions as a result of the Methods Innovation Rule (70 FR 34537) which was finalized on June 14, 2005.

V. Statutory and Executive Order Reviews

Under Executive Order 12866, "Regulatory Planning and Review" (58

FR 51735, October 4, 1993), this rule is not of general applicability and therefore is not a regulatory action subject to review by the Office of Management and Budget (OMB). This rule does not impose an information collection burden under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*) because it applies to a particular facility only. Because this rule is of particular applicability relating to a particular facility, it is not subject to the regulatory flexibility provisions of the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*), or to sections 202, 204, and 205 of the Unfunded Mandates Reform Act of 1995 (UMRA). Because this rule will affect only a particular facility, it will not significantly or uniquely affect small governments, as specified in section 203 of UMRA. Because this rule will affect only a particular facility, this final 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 Executive Order 13132, "Federalism," (64 FR 43255, August 10, 1999). Thus, Executive Order 13132 does not apply to this rule. Similarly, because this rule will affect only a particular facility, this final rule does not have tribal implications, as specified in Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments" (65 FR 67249, November 9, 2000). Thus, Executive Order 13175 does not apply to this rule. This rule also is not subject to Executive Order 13045, "Protection of Children from Environmental Health Risks and Safety Risks" (62 FR 19885, April 23, 1997), because it is not economically significant as defined in Executive Order 12866, and because the Agency does not have reason to believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. The basis for this belief is that the Agency used the DRAS program, which considers health and safety risks to infants and children, to calculate the maximum allowable concentrations for this rule. This rule is not subject to Executive Order 13211, "Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use" (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866. This rule does not involve

technical standards; thus, the requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) do not apply. As required by section 3 of Executive Order 12988, "Civil Justice Reform," (61 FR 4729, February 7, 1996), in issuing this rule, EPA has taken the necessary steps to eliminate drafting errors and ambiguity, minimize potential litigation, and provide a clear legal standard for affected conduct. The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report which includes a copy of the rule to each House of the Congress and to the Comptroller General of the United States. Section 804 exempts from section 801 the following types of rules (1) rules of particular applicability; (2) rules relating to agency management or personnel; and (3) rules of agency organization, procedure, or practice that do not substantially affect the rights or obligations of non-agency parties 5 U.S.C. 804(3). EPA is not required to submit a rule report regarding today's action under section 801 because this is a rule of particular applicability.

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: August 10, 2005.

Carl E. Edlund,

Director, Multimedia Planning and Permitting Division, Region 6.

■ For the reasons set out in the preamble, 40 CFR part 261 is 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—Waste Excluded Under §§ 260.20 and 260.22

TABLE 1.—WASTE EXCLUDED FROM NON-SPECIFIC SOURCES

Facility	Address	Waste description
Shell Oil Company	Deer Park, TX ..	<p>North Pond Sludge (EPA Hazardous Waste No. F037) generated one time at a volume of 15,000 cubic yards August 23, 2005 and disposed in a Subtitle D landfill. This is a one time exclusion and applies to 15,000 cubic yards of North Pond Sludge.</p> <p>(1) Reopener:</p> <p>(A) If, anytime after disposal of the delisted waste, Shell possesses or is otherwise made aware of any environmental data (including but not limited to leachate data or ground water monitoring data) or any other data relevant to the delisted waste indicating that any constituent identified for the delisting verification testing is at level higher than the delisting level allowed by the Division Director in granting the petition, then the facility must report the data, in writing, to the Division Director within 10 days of first possessing or being made aware of that data.</p> <p>(B) If Shell fails to submit the information described in paragraph (A) or if any other information is received from any source, the Division Director will make a preliminary determination as to whether the reported information requires EPA 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.</p> <p>(C) If the Division Director determines that the reported information does require EPA action, the Division Director will notify the facility in writing of the actions the Division 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 the facility with an opportunity to present information as to why the proposed EPA action is not necessary. The facility shall have 10 days from the date of the Division Director's notice to present such information.</p> <p>(D) Following the receipt of information from the facility described in paragraph (C) or if no information is presented under paragraph (C), the Division Director 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 Division Director's determination shall become effective immediately, unless the Division Director provides otherwise.</p> <p>(2) Notification Requirements: Shell must do the following before transporting the delisted waste: Failure to provide this notification will result in a violation of the delisting petition and a possible revocation of the decision.</p> <p>(A) Provide a one-time written notification to any state regulatory agency to which or through which they will transport the delisted waste described above for disposal, 60 days before beginning such activities.</p> <p>(B) Update the one-time written notification, if they ship the delisted waste to a different disposal facility.</p> <p>(C) Failure to provide this notification will result in a violation of the delisting variance and a possible revocation of the decision.</p>
Shell Oil Company	Deer Park, TX ..	<p>Multi-source landfill leachate (EPA Hazardous Waste No. F039) generated at a maximum annual rate of 3.36 million gallons (16,619 cu. yards) per calendar year after August 23, 2005 and disposed in accordance with the TPDES permit.</p> <p>The delisting levels set do not relieve Shell Oil Company of its duty to comply with the limits set in its TPDES permit. For the exclusion to be valid, Shell Oil Company must implement a verification testing program that meets the following paragraphs:</p> <p>(1) Delisting Levels: All total concentrations for those constituents must not exceed the following levels (mg/l). The petitioner must analyze the aqueous waste on a total basis to measure constituents in the multi-source landfill leachate.</p> <p>Multi-source landfill leachate (i) Inorganic Constituents Antimony-0.0204; Arsenic-0.385; Barium-2.92; Copper-418.00; Chromium-5.0; Cobalt-2.25; Nickel-1.13; Selenium-0.0863; Thallium-0.005; Vanadium-0.838</p> <p>(ii) Organic Constituents Acetone-1.46; Acetophenone-1.58; Benzene-0.0222; p-Cresol-0.0788; Bis(2-ethylhexyl)phthalate-15800.00; Dichloroethane, 1,2-0.0803; Ethylbenzene-4.51; Fluorene-1.87; Napthalene-1.05; Phenol-9.46; Phenanthrene-1.36; Pyridine-0.0146; 2,3,7,8-TCDD equivalents as TEQ-0.0000926; Toluene-4.43; Trichloropropane-0.000574; Xylenes (total)-97.60</p> <p>(2) Waste Management:</p> <p>(A) Shell Oil Company must manage as hazardous all multi-source landfill leachate generated, until it has completed initial verification testing described in paragraph (3)(A) and (B), as appropriate, and valid analyses show that paragraph (1) is satisfied.</p> <p>(B) Levels of constituents measured in the samples of the multi-source landfill leachate that do not exceed the levels set forth in paragraph (1) are non-hazardous. Shell Oil Company can manage and dispose of the non-hazardous multi-source landfill leachate according to all applicable solid waste regulations.</p> <p>(C) If constituent levels in a sample exceed any of the delisting levels set in paragraph (1), Shell Oil Company can collect one additional sample and perform expedited analyses to verify if the constituent exceeds the delisting level. If this sample confirms the exceedance, Shell Oil Company must, from that point forward, treat the waste as hazardous until it is demonstrated that the waste again meets the levels in paragraph (1).</p> <p>(D) If the facility has not treated the waste, Shell Oil Company must manage and dispose of the waste generated under Subtitle C of RCRA from the time that it becomes aware of any exceedance.</p>

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

Facility	Address	Waste description
		<p>(E) Upon completion of the Verification Testing described in paragraph 3(A) and (B) as appropriate and the transmittal of the results to EPA, and if the testing results meet the requirements of paragraph (1), Shell Oil Company may proceed to manage its multi-source landfill leachate as non-hazardous waste. If Subsequent Verification Testing indicates an exceedance of the delisting levels in paragraph (1), Shell Oil Company must manage the multi-source landfill leachate as a hazardous waste until two consecutive quarterly testing samples show levels below the delisting levels in Table I.</p> <p>(3) Verification Testing Requirements: Shell Oil Company must perform sample collection and analyses, including quality control procedures, using appropriate methods. As applicable to the method-defined parameters of concern, analyses requiring the use of SW-846 methods incorporated by reference in 40 CFR 260.11 must be used without substitution. As applicable, the SW-846 methods might include Methods 0010, 0011, 0020, 0023A, 0030, 0031, 0040, 0050, 0051, 0060, 0061, 1010A, 1020B, 1110A, 1310B, 1311, 1312, 1320, 1330A, 9010C, 9012B, 9040C, 9045D, 9060A, 9070A (uses EPA Method 1664, Rev. A), 9071B, and 9095B. Methods used must meet Performance Based Measurement System Criteria in which the Data Quality Objectives demonstrate that representative samples of the Shell-Deer Park multi-source landfill leachate are collected and meet the delisting levels in paragraph (1).</p> <p>(A) Initial Verification Testing: After EPA grants the final exclusion, Shell Oil Company must do the following:</p> <p>(i) Within 60 days of this exclusions becoming final, collect four samples, before disposal, of the multi-source landfill leachate.</p> <p>(ii) The samples are to be analyzed and compared against the delisting levels in paragraph (1).</p> <p>(iii) Within sixty (60) days after this exclusion becomes final, Shell Oil Company will report initial verification analytical test data for the multi-source landfill leachate, including analytical quality control information for the first thirty (30) days of operation after this exclusion becomes final. If levels of constituents measured in the samples of the multi-source landfill leachate that do not exceed the levels set forth in paragraph (1) are also non-hazardous in two consecutive quarters after the first thirty (30) days of operation after this exclusion become effective, Shell Oil Company can manage and dispose of the multi-source landfill leachate according to all applicable solid waste regulations.</p> <p>(B) Subsequent Verification Testing: Following written notification by EPA, Shell Oil Company may substitute the testing conditions in (3)(B) for (3)(A). Shell Oil Company must continue to monitor operating conditions, and analyze one representative sample of the multi-source landfill leachate for each quarter of operation during the first year of waste generation. The sample must represent the waste generated during the quarter. After the first year of analytical sampling verification sampling can be performed on a single annual sample of the multi-source landfill leachate. The results are to be compared to the delisting levels in paragraph (1).</p> <p>(C) Termination of Testing:</p> <p>(i) After the first year of quarterly testing, if the delisting levels in paragraph (1) are being met, Shell Oil Company may then request that EPA not require quarterly testing. After EPA notifies Shell Oil Company in writing, the company may end quarterly testing.</p> <p>(ii) Following cancellation of the quarterly testing, Shell Oil Company must continue to test a representative sample for all constituents listed in paragraph (1) annually.</p> <p>(4) Changes in Operating Conditions: If Shell Oil Company significantly changes the process described in its petition or starts any processes that generate(s) the waste that may or could significantly affect the composition or type of waste generated as established under paragraph (1) (by illustration, but not limitation, changes in equipment or operating conditions of the treatment process), it must notify EPA in writing; it may no longer handle the wastes generated from the new process as nonhazardous until the wastes meet the delisting levels set in paragraph (1) and it has received written approval to do so from EPA.</p> <p>(5) Data Submittals: Shell Oil Company must submit the information described below. If Shell Oil Company fails to submit the required data within the specified time or maintain the required records on-site for the specified time, EPA, at its discretion, will consider this sufficient basis to reopen the exclusion as described in paragraph 6. Shell Oil Company must:</p> <p>(A) Submit the data obtained through paragraph 3 to the Section Chief, Region 6 Corrective Action and Waste Minimization Section, EPA, 1445 Ross Avenue, Dallas, Texas 75202-2733, Mail Code, (6PD-C) within the time specified.</p> <p>(B) Compile records of operating conditions and analytical data from paragraph (3), summarized, and maintained on-site for a minimum of five years.</p> <p>(C) Furnish these records and data when EPA or the state of Texas request them for inspection.</p> <p>(D) Send along with all data a signed copy of the following certification statement, to attest to the truth and accuracy of the data submitted:</p> <p>Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. 1001 and 42 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete.</p> <p>As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.</p>

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

Facility	Address	Waste description
		<p>If any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion.</p> <p>(6) Reopener:</p> <p>(A) If, anytime after disposal of the delisted waste, Shell Oil Company possesses or is otherwise made aware of any environmental 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 for the delisting verification testing is at a level higher than the delisting level allowed by the Division Director in granting the petition, then the facility must report the data, in writing, to the Division Director within 10 days of first possessing or being made aware of that data.</p> <p>(B) If the annual testing of the waste does not meet the delisting requirements in paragraph 1, Shell Oil Company must report the data, in writing, to the Division Director within 10 days of first possessing or being made aware of that data.</p> <p>(C) If Shell Oil Company fails to submit the information described in paragraphs (5),(6)(A) or (6)(B) or if any other information is received from any source, the Division Director will make a preliminary determination as to whether the reported information requires EPA action to protect human health and/or the environment. Further action may include suspending, or revoking the exclusion, or other appropriate response necessary to protect human health and the environment.</p> <p>(D) If the Division Director determines that the reported information does require action, he will notify the facility in writing of the actions the Division 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 the facility with an opportunity to present information as to why the proposed action by EPA is not necessary. The facility shall have 10 days from the date of the Division Director's notice to present such information.</p> <p>(E) Following the receipt of information from the facility described in paragraph (6)(D) or if no information is presented under paragraph (6)(D), the Division Director will issue a final written determination describing the actions that are necessary to protect human health and/or the environment. Any required action described in the Division Director's determination shall become effective immediately, unless the Division Director provides otherwise.</p> <p>(7) Notification Requirements: Shell Oil Company must do the following before transporting the delisted waste. Failure to provide this notification will result in a violation of the delisting petition and a possible revocation of the decision.</p> <p>(A) Provide a one-time written notification to any state regulatory agency to which or through which it will transport the delisted waste described above for disposal, 60 days before beginning such activities.</p> <p>(B) Update the one-time written notification if it ships the delisted waste into a different disposal facility.</p> <p>(C) Failure to provide this notification will result in a violation of the delisting exclusion and a possible revocation of the decision.</p>

[FR Doc. 05-16688 Filed 8-22-05; 8:45 am]
 BILLING CODE 6560-50-P

COMMISSION OF FINE ARTS

45 CFR Part 2102

Procedures and Policies Amendment

AGENCY: The Commission of Fine Arts.
ACTION: Final rule.

SUMMARY: This document amends the procedures and policies governing the administration of the U.S. Commission of Fine Arts. This document serves to establish a Consent Calendar and to clarify the functions and requirements of a Consent Calendar and Appendices for the review of projects submitted to the Commission in order to address more efficiently the needs of the Federal government and the public.

DATES: Effective September 1, 2005.

FOR FURTHER INFORMATION CONTACT: Thomas Luebke, Secretary, (202) 504-2200.

SUPPLEMENTARY INFORMATION: As established by Congress in 1910, the Commission of Fine Arts is a small independent advisory body made up of seven Presidentially appointed "well qualified judges of the arts" whose primary role is architectural review of designs for buildings, parks, monuments and memorials erected by the Federal or District of Columbia governments in Washington, DC. In addition to architectural review, the Commission considers and advises on the designs for coins, medals and U.S. memorials on foreign soil. The Commission also advises the District of Columbia government on private building projects within the Georgetown Historic District, the Rock Creek Park perimeter and the

Monumental Core area. The Commission advises Congress, the President, Federal agencies, and the District of Columbia government on the general subjects of design, historic preservation and on orderly planning on matters within its jurisdiction.

The regulations amended with this rule were last published in the **Federal Register** on January 31, 1997 (45 CFR Parts 2101, 2102, 2103). Specific items this document amends include providing the current address and telephone number of the agency, and clarifying a series of procedural functions. Therefore, as these changes clarify established and new procedures, and are minor in nature, the Commission determines that notice and comment are unnecessary and that, in accordance with 5 U.S.C. 553(b)(B), good cause to waive notice and comment is established.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL - 1 1998

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MEMORANDUM

SUBJECT: National Policy for Hazardous Waste Delistings
FROM: Elizabeth A. Cotsworth, Acting Director
Office of Solid Waste

TO: Regional RCRA Senior Policy Advisors

As you know, the Administrator redelegated the delisting program to the Regional Administrators on October 25, 1995. I understand that the redelegation has proceeded smoothly and am very pleased with this result. You and your staff should be congratulated for this successful transition. Delisting was and will continue to be an evolving program as substantive technical and policy issues continued to develop. While working jointly with the Regions on a number of issues, we found it is important to have and maintain an appropriate level of national consistency among the Regional delisting programs.

The purpose of this memorandum is to transmit to you a national policy for the hazardous waste delisting program. It covers two important elements. First, the policy contains a "conditional delisting" element, designed to ensure that delisted wastes are managed in a manner consistent with the risk evaluation that supports the delisting decision. Second, the policy provides a delisting "reopener" element, designed to provide the Agency with a mechanism for immediate response to new information or data indicating conditions exist that may alter the Agency's position on the approval of a delisting. I recommend the application of each of these elements of this national policy to ensure the EPA delisting program remains safe and effective in protecting human health and the environment and at the same time achieves the goal of allowing the exit of certain wastes from the hazardous waste management system. The principles of this policy have been discussed among the Regional delisting coordinators during a series of monthly conference calls.

Background

In considering whether to exclude a particular solid waste from the list of hazardous wastes contained in 40 CFR 261.31 and 261.32, the Agency has historically considered disposal in an unlined landfill or surface impoundment to be representative of the reasonable worst-case

management scenarios for such waste. The Agency believes that it is appropriate to consider the worst-case management scenario because it is extremely difficult to project all potential management scenarios that can occur once the waste is delisted. Thus, the Agency generally has only modeled the risks related to these two disposal practices. The generic risk assessment model currently used (i.e., EPACML) or the model delisting may soon adopt (i.e., EPACMTP) are designed only to predict groundwater impacts for these two disposal scenarios (i.e., an unlined landfill and an unlined surface impoundment). These two models, as adapted to delisting, cannot predict risks resulted from exposures to wastes that are managed in other non-disposal scenarios, including uses constituting disposal and other recycling practices.

However, the Agency has generally not restricted how a delisted waste could subsequently be managed, provided it was managed in accordance with the applicable state's nonhazardous waste management requirements. Therefore, generators could decide to manage their waste in another, perhaps riskier, manner, and so the potential exposure from another and different management practice could pose greater environmental risks than the exposure scenarios modeled. For unconditionally delisted wastes, there is typically no legal impediment to these changes in management.

Conditional Delisting Policy

To reduce the uncertainty caused by the potential unrestricted use or management to delisted waste, it is important that new delistings apply only to wastes managed in the type of unit (e.g., "a landfill") modeled in the delisting risk assessment. For example, if the delisting determination modeled risks associated with disposal in landfills, the delisting would specify that the waste is delisted conditioned on disposal solely in a landfill. If the generator places the waste anywhere other than a landfill, the waste is a "hazardous waste" subject to RCRA Subtitle C regulation, unless otherwise exempted from regulation (i.e., 40CFR 266.20). The regulations in 40 CFR 266.20, which apply to recyclable materials (i.e., hazardous waste) used in a manner constituting disposal, impose certain requirements on such uses.

In the Agency's view, a conditionally delisted waste would exit the hazardous waste management system at the point it meets the established delisting levels, and would remain outside of the hazardous waste management system so long as the delisted waste generator complies with the conditions placed on the disposal of the delisted waste. The Regions should consider including appropriate mechanisms in conditional delistings that would help ensure that the waste was being managed in accordance with the conditions. For example, the Regions may consider adding a condition that the generator keep records, such as those they keep for business purposes, as to where they sent the waste.

EPA's policy of not considering site-specific factors when applying the fate and transport models remains unchanged. Therefore, at this time. Regions should not conditionally delist a waste based on consideration of protective site-specific hydrogeologic conditions (e.g., underlying clay) or specific landfill designs (e.g., liners, or covers). We would not be

comfortable at this time delisting a waste based on consideration of site-specific hydrogeologic conditions and specific landfill designs that would not be delisted based on a less site-specific analysis. While the Agency may consider a site-specific approach in the future, the Agency is not currently in a position to commit the necessary time and resources such site specific modeling evaluations would require and has not determined that this is an appropriate policy direction to take.

Nevertheless, the Agency realizes that for a relatively small number of petitioned wastes that are not (or will not be) managed under a scenario our generic delisting models can assess, Regions may have to consider site-specific circumstances or consider adding specific conditions, on a case-by-case basis. These cases are likely to raise issues of national significance, therefore, the Region should consult with the Office of Solid Waste.

Delisting Reopener Policy

In light of a recent experience that required the Agency to repeal an existing delisting, we recommend that the Regions include in future delistings, a provision that establishes a mechanism to review the delisting when additional data become available indicating the initial delisting decision was inappropriate or wrong. This is particularly important if the additional data shows that the delisted waste is not behaving in the disposal site as was predicted by the delisting risk assessment model. Therefore, Regions should include the following or similar language in future delisting decisions, unless there are clear rationales not to:

- (a) If, anytime after disposal of the delisted waste, [insert facility name] possesses or is otherwise made aware of any environmental 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 (x) is at a level in the environment (such as in the leachate or in the ground water) higher than the delisting level established in Condition (x), then [insert facility name] must report such data, in writing, to the Regional Administrator 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 Regional Administrator will make a preliminary determination as to whether the reported information requires Agency 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 Regional Administrator determines that the reported information does require Agency action, the Regional Administrator will notify the facility in writing of the actions the Regional Administrator believes are necessary to protect human health and the environment. The notice shall include a statement of the

proposed action and a statement providing the facility with an opportunity to present information as to why the proposed Agency action is not necessary or to suggest an alternative action. The facility shall have 10 days from the date of the Regional Administrator's notice to present such information.

- (d) Following the receipt of information from the facility described in paragraph (c) or (if no information is presented under paragraph (c)) the initial receipt of information described in paragraph (a), the Regional Administrator will issue a final written determination describing the Agency actions that are necessary to protect human health or the environment. Any required action described in the Regional Administrator's determination shall become effective immediately, unless the Regional Administrator provides otherwise.

This language is intended to provide the Agency with a mechanism to review and act expeditiously on information that a previously granted delisting may be causing a threat to human health or the environment that was unknown at the time the Agency acted initially. Use of this language will provide you the ability to reopen, revoke, or otherwise suspend the delisting in a timely manner. Please share this national policy with the states within your Region that are authorized to administer their own delisting programs

This memorandum provides guidance to EPA personnel. The guidance is designed to communicate national policy regarding the RCRA delisting program. The memorandum does not, however, substitute for EPA's statutes or regulations, nor is it a regulation itself. Thus, it cannot impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA may change this guidance in the future, as appropriate.

If you have any question regarding this policy, please feel free to contact David Bussard, Director, Hazardous Waste Identification Division, at (703) 308-8887 or have your staff contact Rick Brandes, Chief, Waste Identification Branch, at (703) 308-8890.

cc: Regional Counsels David Nielsen. OECA

Westlaw

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55 FR 22520-01, 1990 WL 341871 (F.R.)

(Cite as: 55 FR 22520)

RULES and REGULATIONS

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 148, 261, 262, 264, 265, 268, 270,
271, and 302

[EPA/OSW-FR-90-010; SWH-FRL-3751-1]

RIN 2050-AC73

Land Disposal Restrictions for Third Third Scheduled Wastes

Friday, June 1, 1990

***22520** AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: The Environmental Protection Agency (EPA) today is promulgating regulations implementing the last of five Congressionally mandated prohibitions on land disposal of hazardous wastes (the third one-third of the schedule of restricted hazardous wastes, hereafter referred to as the Third Third). This action is taken in response to amendments to the Resource Conservation and Recovery Act (RCRA), enacted in the Hazardous and Solid Waste Amendments (HSWA) of 1984. When fully effective in May 1992, this rule, combined with the previous rulemakings, is expected to require treatment of a total of seven million tons of hazardous waste managed in RCRA-regulated facilities.

EFFECTIVE DATE: This final rule is effective on May 8, 1990.

ADDRESSES: The official record for this rulemaking is identified as Docket Number F-90-LD13-FFFFF, and is located in the EPA RCRA Docket, room 2427, 401 M Street SW., Washington, DC 20460. The docket is open from 9 a.m. to 4 p.m., Monday through Friday, except on Federal holidays. The public must make an appointment to review docket materials by calling (202) 475-9327. The public may copy a maximum of 100 pages from any regulatory document at no cost. Additional copies cost \$.15 per page.

FOR FURTHER INFORMATION CONTACT: For general information contact the RCRA Hotline at: (800) 424-9346 (toll-free) or (202) 382-3000 locally.

For information on specific aspects of this final rule, contact Richard Kinch or

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55 FR 22520-01, 1990 WL 341871 (F.R.)

(Cite as: 55 FR 22520)

Today's rule defines waste treatability groups by waste code, and identifies the Best Demonstrated Available Technology (BDAT) for each waste code within the treatability group (see section III.A.1). Treatment standards are based on the performance levels achievable by the BDAT identified for each waste code. Any technology not otherwise prohibited (e.g., impermissible dilution) may be used to meet the concentration-based treatment standards. Where treatment standards are expressed as a technology, the waste must be treated using the specified technology prior to land disposal.

S. Reformatting of Treatment Standard Tables and Addition of Appendix VII to Part 268, Effective Dates for Prohibited Wastes

The Agency is reformatting all of the tables of treatment standards in 40 CFR part 268 subtitle D and is providing the subpart D treatment standard tables in their entirety, including both previously promulgated standards and the treatment standards being promulgated today. The reformatted tables (i.e., 40 CFR 268.41, 268.42, and 268.43) are arranged according to waste code in alphanumeric order and include the CAS number identifying each regulated constituent, whether the standard is based on analyses of grab or composite samples, cross-references, and several other clarifying features that will make determining applicable treatment standards easier for the reader. The treatment standards finalized for the first time today are included in the tables. No substantive changes are being made to the treatment standards that were previously promulgated in the November 7, 1986, the July 8, 1987, the August 17, 1988, and the June 23, 1989, final rules except as discussed in other preamble sections of today's rule. (As an example, regulated constituents are being added to the wastes K048-K052, as well as F002 and F005, wastes for which certain treatment standards were previously promulgated. See preamble section III.A.4.a. for a discussion of F002 and F005 and section III.A.4.o. for a discussion of K048-K052.)

In addition, the Agency is providing a complete list of waste codes regulated to date under the land disposal restrictions (including the waste codes included in today's rulemaking), as appendix VII to part 268. The appendix is provided for the reader's convenience; no substantive changes have been made to the dates, except as discussed in the preamble of today's rule.

T. Relationship of Hazardous Waste Treatment Council v. EPA to Treatment Standards Promulgated in Today's Final Rule

A number of commenters raised the issue of whether the treatment standards being adopted are below levels at which threats to human health and the environment are minimized, citing portions of the recent opinion *Hazardous Waste Treatment Council v. EPA*, 886 F.2d 355 (D.C. Cir. 1989) (HWTC III). In that case, the Court upheld EPA's existing technology-based approach to establishing treatment standards as a reasonable construction of the statute, but remanded the case to the Agency in order for the Agency to explain properly why it had chosen this approach. EPA's explanation was published in the Federal Register on February 26, 1990, and was accepted by the Court, which dismissed all petitions for review on March 15, 1990

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(Cite as: 55 FR 22520)

The standards EPA is adopting in this rule are also technology-based, which the Agency believes is warranted at this time due to the uncertainties associated with hazardous waste land disposal and the Agency's present inability to quantify precisely de minimis levels of hazardous constituents that would determine when threats to human health and the environment from disposal of prohibited wastes are minimized. 55 FR 6642. Further discussion of this point may be found in section III.A.1.i of today's preamble. As discussed in section III.D, EPA believes that HWTC III is not dispositive on the issue of appropriate treatment standards for characteristic wastes.

III.A. Detailed Discussion of Today's Final Rule

1. Development and Identification of Treatment Standards

Today's rule promulgates treatment standards for the remaining Third Third scheduled wastes, and for the First Third and Second Third wastes which heretofore were subject to the "soft hammer" provisions of 40 CFR 268.8. *22536 Development and identification of the treatment standards are presented on a waste code basis in sections III.A.2. through III.A.5. of today's notice. Section III.A.6. presents the development of treatment standards for wastes identified as F039, multi-source leachate. Section III.A.7. discusses the applicability of today's treatment standards to contaminated soil and debris. Section III.A.8. presents the Agency's approach to regulating radioactive waste that is mixed with hazardous wastes.

The following discussion has appeared in previous preambles and is being repeated here as an aid to the reader's understanding of the land disposal restrictions program. Comments were not solicited in the proposed rule on the following discussion; however, comments were received pertaining to various issues discussed below. These comments, and the Agency's responses, are found in the Response to BDAT-Related Comments Document, Volume 1, in the RCRA Docket.

a. The BDAT Methodology

The first step in the development of treatment standards is to divide the wastes to be regulated into groups based on similar physical and chemical properties. These waste treatability groups take into account differences in the applicability and effectiveness of treatment for those particular wastes. The Agency initially decides how wastes should be grouped by examining whether the wastes are generated by similar industries or from similar processes. This is a valid starting point because the waste characteristics that affect treatment performance are expected to be similar for these wastes even though the wastes themselves are somewhat different.

The next step in the development of treatment standards is to identify the Best Demonstrated Available Technology (BDAT) for each treatability group. A treatment technology is considered to be "demonstrated" primarily based on data from full-scale treatment operations that are currently being used to treat the

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55 FR 6640-01, 1990 WL 336308 (F.R.)

RULES and REGULATIONS

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 260, 261, 262, 264, 265, 268, 270 and
271

[SWH-FRL-3725-8]

Hazardous Waste Management System: Land Disposal Restrictions

Monday, February 26, 1990

AGENCY: Environmental Protection Agency (EPA).

ACTION: Response to court remand.

SUMMARY: On November 7, 1986, EPA promulgated the first set of land disposal restriction regulations, including treatment standards based on the Best Demonstrated Available Technology (BDAT). In doing so, the Agency rejected a proposed approach in which treatment standards would be capped by risk-based screening levels. A number of groups filed petitions for review which challenged EPA's choice of technology-based standards over risk-based screening levels. On September 15, 1989, a panel from the Court of Appeals for the District of Columbia Circuit found that EPA's selection of technology-based treatment standards was reasonable based upon interpretation of section 3004(m) of the Resource Conservation and Recovery Act (RCRA). However, the panel also concluded that EPA failed to adequately explain its policy preference for technology-based standards over risk-based screening levels and the Court remanded the rule to the Agency to either clarify the selection or withdraw the final rule. This notice is the response to the Court's order.

EFFECTIVE DATE: This response is effective on February 26, 1990.

ADDRESSES: The OSW docket is located at the following address, and is open from 9:00 to 4:00, Monday through Friday, excluding Federal holidays: EPA RCRA Docket (M-2427) (OS-305), 401 M Street, SW., Washington, DC 20460. The public must make an appointment to review docket materials by calling (202) 475-9327. The public may copy a maximum of 100 pages from any regulatory docket at no cost. Additional copies cost \$0.20 per page.

FOR FURTHER INFORMATION: Contact the RCRA Hotline for general information at (800) 424-9346 (toll-free) or (202) 382-3000 locally.

For information on specific aspects of this notice, contact Steven Silverman, Office of Solid Waste (OS-333), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460, (202) 382-7706.

SUPPLEMENTARY INFORMATION:

I. Background

On November 7, 1986, EPA promulgated the first set of land disposal restrictions and treatment standards, and further set out the framework of regulations that explained and implemented the Land Disposal Restrictions Program. See 51 FR 40572. Perhaps the most important feature of these regulations was the Agency's determination to base section 3004(m) treatment standards for prohibited hazardous wastes on performance of the Best Demonstrated Available Technology (BDAT), i.e., to adopt treatment standards that are technology-based. At proposal, the Agency had solicited comment on an alternative whereby technology-based treatment standards would be capped by risk-based screening levels, which incorporated initial toxicity levels for hazardous constituents plus predictive modeling based on assumptions of migration to a point of exposure. See 51 FR 1610-12. In rejecting this screening level approach in the final rule, the Agency alluded to the many adverse comments it had received which stressed the uncertainties associated with EPA's proposed screening level approach which would have capped hazardous waste treatment levels with risk-based levels reflecting predictive modeling of waste behavior in land disposal environments. The Agency also referred to legislative history that indicated that the section 3004(m) treatment standards were to be technology-based. EPA then adopted a final rule and methodology whereby treatment standards are to be based on performance of BDAT and are not to be capped in the land disposal restriction regulations by the proposed screening levels. See 51 FR 40578. The Agency stated that "the technology-based approach adopted in the final rule, although not the only approach allowable under the law, better mirrors the intent of Congress." See Administrative Record p. 36, 316 (Response to Comment Background Document). A number of industry petitioners filed petitions for review which challenged the choice of technology-based treatment standards as being contrary to section 3004(m)'s command to establish treatment standards "which substantially diminish the toxicity of the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized." In a recent opinion, a panel from the Court of Appeals for the District of Columbia Circuit held that the literal language of section 3004(m) does not mandate a risk-based approach, and that the Agency's interpretation that the treatment standards were to be technology-based was reasonable. See Hazardous Waste Treatment Council v. EPA, 886 F.2d 355 (D.C. Cir. Sept. 15, 1989) ("HWTC III"), id. at 361-64. The Court concluded further, however, that EPA had failed to adequately explain its policy preference for technology-based treatment standards, over the proposed approach based on screening levels. Id. at 364-66. Judge Silberman, concurring, also found that section 3004(m) does not mandate risk-based treatment standards (id. at 371-72), but would not have addressed the further issue of whether EPA's choice of a technology-based regime was reasonable given the inadequacy of the Agency's explanation of its choice. Id. at 373-74.

The Court consequently remanded the rule to the Agency in order that the Agency either "clarify its reasons for adopting the Final Rule in preference to the Proposed Rule", or to withdraw the Final Rule. Id. at 371. The present Federal Register Notice constitutes EPA's response to the Court's opinion.

***6641 II. EPA's Ultimate Preferred Resolution**

Before addressing the issue of justification of EPA's choice of technology-based BDAT in the final solvents and dioxin rule, EPA wishes to address the ultimate resolution it envisions for the section 3004(m) treatment standards. EPA accepts, and agrees with, the Court's admonition that EPA may not establish treatment standards "wholly without regard to whether there might be a threat to man or nature." See 886 F.2d at 362; also concurring opinion, id. at 372. EPA believes that the best way ultimately to achieve this objective is not to require further treatment of prohibited hazardous wastes containing threshold levels of hazardous constituents at which listed wastes themselves would no longer be deemed hazardous, within the broad meaning of RCRA section 3001. [FN1]

FN1 EPA also agrees with the Court [886 F.2d at 362-64 and 375 (concurring opinion)], that standards developed under statutory provisions that differ from section 3004(m) in that they direct EPA to determine acceptable levels of risk do not automatically circumscribe the permissible level for the section 3004(m) treatment standards. Nor are standards that are applied in particularized circumstances, such as RCRA clean closures, no migration determinations, and delistings, necessarily the same levels that EPA would conclude on a generally-applicable basis minimize threats to human health and the environment.

EPA notes further, that in construing the language of section 3004(m), which requires that treatment assure that "short-term and long-term threats to human health and the environment are minimized", the Agency does not believe that this standard requires the elimination of every conceivable threat posed by disposal of a prohibited hazardous waste. Rather, Congress intended that the treatment standards have some flexibility. See Sen. Chafee's floor statement introducing the amendment that became section 3004(m): "It is not intended that every waste receive repetitive or ultimate levels of treatment, nor must all inorganic constituents be reclaimed." See 130 Cong. Rec. S. 9178 (daily ed. July 25, 1984). (EPA notes in addition, however, the Congressional preference for destruction of organic constituents, see Cong. Rec. S. 9179 (daily ed. July 25, 1984) (statement of Sen. Chafee), and believes that treatment standards based on thermal destruction of organics properly reflect this preference.)

EPA is presently unable to promulgate such levels, however. This is an issue that has bedeviled the Agency for years and one that remains an Agency priority. Many of the very uncertainties discussed below that determine the Agency's policy preference for technology based standards instead of the screening level approach proposed initially likewise have not been resolved fully enough to promulgate threshold concentration levels.

EPA's eventual intention to use threshold hazardous waste levels concurrently under development to cap the section 3004(m) treatment standards still leaves the question of which standards to apply in the interim. (If no treatment standards are in effect, then the various statutory prohibitions in sections 3004 (d), (e), and (on May 8, 1990) (g) ("hammers") would take effect, and most hazardous waste disposal would thus be prohibited unless it occurs in a land disposal unit determined by EPA to satisfy the statutory "no migration" test. Since this would leave most hazardous waste without a legal management option, EPA believes it imperative to have treatment standards in place.) The specific issue requiring resolution is for EPA to explain why in the solvent and dioxin rule it preferred technology-based standards to the proposed screening level approach, or to withdraw the promulgated regulation. See 886 F.2d at 371. EPA has determined that the soundest choice for the interim is to retain its original choice of technology-based treatment standards based on performance of BDAT. The Agency's reasons are based on both legal analysis and the Agency's determination that its choice of options is consistent with and furthers the Congressional intent and policy objectives in promulgating the land disposal restrictions provisions. These points are discussed below.

III. Choice of BDAT Versus the Proposed Screening Level Approach

A. *Legal Analysis*

It is now established that section 3004(m) does not dictate that treatment standards be either technology-based or risk-based. See 886 F.2d at 361- 64. Clearly, the requirement in section 3004(m) that treatment standards minimize threats to human health and the environment is ambiguous as to the precise extent of treatment.

Even more important in the Agency's view, is the indication that Congress expected the Agency to adopt a different approach in establishing treatment standards than the approach used heretofore by the Agency in establishing subtitle C regulatory standards. Those standards implement the statutory directive to establish hazardous waste

management standards at a level "as may be necessary to protect human health and the environment." See, e.g., section 3004(a). EPA has implemented this statutory standard by developing regulations that are based on ascertaining a level of risk that EPA deems acceptable and crafting controls that seek to ensure that this level of risk is not exceeded.

Section 3004(m), in contrast, does not require that treatment standards be protective of human health and the environment, but rather commands that those standards ultimately substantially diminish waste toxicity or mobility in order that "short-term and long-term threats to human health and the environment be minimized." EPA believes that this language can reasonably be interpreted to require more than the normal subtitle C regulatory command that standards be those necessary to protect human health and the environment. This conclusion is reinforced by the many statutory provisions that were part of the 1984 amendments stressing the inherent uncertainties associated with assessing the safety of land disposal of hazardous wastes, RCRA sections 1002(b)(7), 3004(d)(1)(A), 3004(e)(1)(A), 3004(g)(5), and the Congressional determination that the only protective land disposal units are those for which EPA has determined, with a "reasonable degree of certainty," that "there will be no migration of hazardous constituents from the disposal unit for as long as the wastes remain hazardous."

The legislative history of section 3004(m) also provides support for the interpretation that Congress intended something other than treatment standards reflecting EPA-determined acceptable levels of risk normally used in establishing subtitle C regulations. Section 3004(m) was adopted as an amendment to the Senate bill (S. 757). It replaced a provision in the House bill (H.R. 2867) that specifically authorized EPA to make risk-based determinations in deciding whether particular hazardous wastes should be prohibited from land disposal. It also replaced the Senate Committee bill which would have required the Agency to establish methods of treatment "whnch are necessary before such method or methods of disposal of * * * hazardous waste would be protective of human health and the environment." See S. 757, section 3004(b)(7), printed at S. Rep. No. 284, 98th Cong. 2d Sess. 86. The legislative history to the amendment ultimately adopted states instead that "the requisite levels of [sic] methods of treatment established by the Agency should be the best that has [sic] been demonstrated to be achievable * * * The intent here is to require utilization of available technology in lieu of continued land disposal without prior treatment." See 130 Cong. Rec. S. 9178 (daily ed. July 25, 1984) (statement of Sen. Chaffee).

It is true that some of the legislative history is not always specific regarding the extent of pretreatment to be required as a precondition to land disposal. Nowhere in the legislative history, *6642 however, is EPA directed to rely on the normal subtitle C levels of acceptable risk. At a minimum, the materials described here show that Congress did not provide clear guidance on the meaning of 'minimize threats'. Hence, EPA believes that it has discretion to adopt an interpretation that emphasizes the need for certainty in reducing the risks of and disposal of hazardous wastes and that allows EPA to prefer technology-based standards over capping levels that incorporate unacceptable levels of uncertainty.

B. EPA's Policy Preference

EPA's interpretation of section 3004(m) also serves Congress' goals. EPA views Congress' objectives in adopting the Land Disposal Restrictions Program as seeking to assure safety by removing as many of the uncertainties associated with land disposal of hazardous waste as possible, and to a lesser degree as forcing use of existing treatment capacity. See RCRA sections 1002(b)(7), 3004(d)(1), (e)(1), (g)(1), and S. Rep. No. 284, 98th Cong. 1st Sess. at 19. Congress also intended that "reliance on land disposal should be minimized or eliminated, and land disposal, particularly landfill and surface impoundment, should be the least favored method for managing hazardous wastes." See section 1002(b)(7).

These objectives are well served by retaining the technology-based treatment standards

that the Agency has implemented until EPA can establish acceptability certain threshold levels that identify constituent concentration levels at which wastes are not hazardous. The "long-term uncertainties associated with land disposal" (section 3004(d)(1)(A)) are reduced by using treatment technologies whose performance is objective rather than predictive. Technology-based standards also better further the Congressional goal of using existing treatment capacity. This is because the risk-based screening level approach proposed initially would have served to cap treatment, and thus at least to some extent, decreased use of treatment capacity. See 51 FR 1612- 13. For the same reason, use of the screening level approach would not have minimized hazardous waste land disposal to the same extent as technology-based standards because more wastes could permissibly be land disposed without treatment (or with less treatment). The legislative history also shows that another of Congress' objectives was the promulgation of treatment standards that were at least roughly equivalent (in terms of stringency of control) to standards required under the Clean Water Act and the Clean Air Act. The Senate Report provides:

A requirement for treatment of hazardous constituents under other statutes is another factor that may be considered. For example, the Administrator should impose, as a condition of land disposal, a treatment requirement that is consistent with categorical pretreatment standards required pursuant to the Clean Water Act. Increased regulation under the Solid Waste Disposal Act should complement and reciprocally re-enforce regulations under the Clean Water and Clean Air Acts. It make little sense to improve or accelerate regulations under those statutes only to have environmental goals frustrated by loopholes allowing less stringent treatment under the Solid Waste Disposal act. S. Rep. No. 284 at 16.

The categorical pretreatment standards under the Clean Water Act cited above are technology-based regulations. [FN2] The Clean Air Act also establishes regulatory programs--the New Source Performance Standards and Prevention of Significant Deterioration--that are technology based. EPA is concerned that the screening levels proposed in 1986, with their reliance on predictive modelling to simulate dispersion and attenuation in the environment, might result in levels of control that are significantly less stringent than the levels imposed under either of these other programs. Such a result would clearly fail to serve this particular objective.

FN2 Senator Chafee later clarified, however, that section 3004(m) does not mandate a technology-forcing approach such as the Best Available Technology approach of the Clean Water Act. 130 Cong. Rec. S. 9178 (daily ed. July 25, 1984).

There are also other problems with the proposed approach which cause EPA to prefer the technology-based rule adopted. The proposed rule attempted to take into account the waste's behavior in the land disposal environment after it is land disposed. Since promulgation of the final rule in November 1986, EPA has in fact abandoned the predictive model that was used as the basis for screening levels due to inadequacies relating to wastes' migratory potential in landfill environments, and aquifer dispersion characteristics. Because the screening levels proposed in 1986 incorporated a modeling approach to dilution and attenuation in the environment based on a model which EPA now believes is superseded, EPA views promulgation of those levels as insufficiently certain at this time to satisfy Congress' immediate goals for land disposal treatment standards.

Even without predictive modeling, uncertainties currently remain relating to assessing wastes' toxicity. See generally 51 FR at 1714-20 (January 14, 1986). These problems, while not insurmountable over a long term have posed difficulties in developing threshold levels in the short-term that could be used to assess when threats of hazardous waste land disposal are minimized with enough assurance to cap treatment standards. The difficulties that remain involve dealing with the large number of hazardous constituents controlled under the RCRA subtitle C program (which exceed by several times even the extensive list of priority pollutants under the Clean Water Act), assessing and possibly devising exposure scenarios for the air and environmental (rather than human) exposure

pathways, developing analytical detection methods for over 100 hazardous constituents, and determining an approach when threshold levels are less than the pollutant's limit of detection.

EPA must grapple with each of these issues, determining which are substantial enough to play a significant role in the selection of any capping levels, and how to work with the factors that it finds to be significant. Although EPA has begun work on a rule that will consider these issues, that rule is not yet ready for proposal, much less promulgation. EPA prefers to further the statutory objective of assuring safety by eliminating as much of the inherent uncertainty of hazardous waste land disposal by retaining the current approach of technology-based treatment standards until it develops concentration thresholds for determining when wastes are hazardous. It therefore is the Agency's decision to retain treatment standards that are based on performance of BDAT until it develops acceptably certain threshold concentration levels. This approach not only better mirrors Congressional intent, but better fulfills the Congressional objectives in promulgating the land disposal restrictions provisions. [FN3]

FN3 EPA notes further that even if it were to choose to switch immediately to a risk-based approach to establishing treatment standards, the existing treatment standards for solvent and dioxin wastes were not established "wholly without regard to whether there might be a threat to human health and the environment" (886 F.2d at 362), and thus would be permissible. To the best of the Agency's present knowledge, the standards are not established below levels at which there are threats to human health and the environment. The standards for both solvent and dioxin nonwastewaters reflect the level of potentially leachable constituent in the waste (as measured by the Toxicity Characteristic Leaching Procedure (TCLP) protocol). Thus, the standards could allow disposal of wastes containing high concentrations of solvents and dioxins, and further, nonredundant minimization of threats could be achieved by actually destroying the hazardous constituents and removing them from the environment. In addition, with respect to solvents, EPA continues to find that these standards are warranted because solvents (by definition) mobilize other hazardous constituents. In fact, EPA's most widely applicable tool for assessing the hazardousness of toxic wastes, the EP toxicity characteristic (as well as the proposed TCLP), assumes disposal in an environment where a waste is not exposed to solvents (or to chemicals with solvent properties). If solvents in the land disposal environment are not minimized, a fundamental premise of the characteristic is undermined, and land disposed wastes will be exposed to higher concentrations of mobilizing chemicals. See 51 FR 21532 (June 13, 1986). A further factor warranting minimization of land disposed solvents is that they can damage land disposal unit liner systems. See 51 FR 1621. Although the concentration levels, and conditions under which the F001-F005 solvents (either singly or as a group) could mobilize other co-disposed waste constituents or damage land disposal unit liner systems is not reliably established, EPA believes it would be warranted in retaining the present controls to guard against these concerns. Thus, EPA finds that the technology-based treatment standards for solvents do not force treatment below levels at which there is no threat to human health and the environment.

EPA notes further that its existing rules (40 CFR 260.20) allow persons to petition the Agency to amend or promulgate new regulations. These procedures are open to persons believing they can demonstrate that the standards for solvents are established "wholly without regard to whether there might be a threat to human health and the environment."

With respect to the dioxins, the treatment levels are orders of magnitude above levels that warrant listing the wastes as hazardous. See 51 FR 30271 (July 25, 1985); 53 FR 7903 (March 11, 1989); 53 FR 20103 (June 2, 1988); 54 FR 27167 (June 28, 1989), and are thus obviously greater than levels at which the Agency could reasonably determine that threats to human health and the environment are minimized.

*6643 IV. Opportunity for Notice and Comment

Although EPA is issuing this notice without having afforded all interested persons an opportunity for comment, the Agency does not believe that such an opportunity is required or warranted. In the first place, EPA directly solicited comment from all of the parties to the litigation, received their written (and, in some cases, oral) comments, and considered these comments in preparing this response. Second, the Agency does not believe that this notice is a "rule" subject to the Administrative Procedure Act's (APA) notice and comment requirements. The notice creates no new requirements, but reaffirms existing standards and supplies a more fully explicated basis for those standards. Moreover, even if this notice should be considered an APA rule, EPA considers further opportunity to comment to be unnecessary, within the meaning of 5 U.S.C. 553(b)(3)(B), because there was ample opportunity to comment on all of these issues in the underlying 1986 rulemaking. In addition, EPA would be unable to meet the deadline afforded by the Court were it to formally solicit comment and respond to the comment before issuing this notice. Failure to meet the deadline could result in suspension of existing treatment standards and activating the statutory hammer provisions for at least dioxin and solvent wastes, leaving no legal means of land disposing these wastes (except in no-migration land disposal units, presently a virtually null set). RCRA section 3004(e)(1). Consequently, the Agency finds that even if this Notice should constitute a rule, there is a good cause for issuing it without opportunity for prior comment.
Dated: February 12, 1990.

William K. Reilly,

Administrator.

[FR Doc. 90-4287 Filed 2-23-90; 8:45 am]

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55 FR 6640-01, 1990 WL 336308 (F.R.)
END OF DOCUMENT

EPA530-R-04-003a

RCRA, SUPERFUND & EPCRA CALL CENTER MONTHLY REPORT

January 2004

1. Application of LDR to Delisted Wastes

An electroplating facility generates a wastewater treatment sludge that meets the F006 listing description in 40 CFR §261.31 and accumulates it on site in accordance with the Part 262 generator requirements. However, the generator demonstrates that the F006 sludge does not contain any of the Part 261, Appendix VII constituents for which it is listed (i.e., cadmium, hexavalent chromium, nickel, and cyanide). Additionally, the waste does not exhibit a hazardous waste characteristic and is not hazardous for any other reason. Thus, the generator applies for and is granted a site-specific delisting for the F006 sludge per §260.22. Must the generator comply with the land disposal restrictions (LDR) requirements before disposing of the delisted waste?

The generator must comply with the LDR requirements before disposing of the delisted waste because LDR attaches at the point of generation. A delisting only absolves the generator from his obligation of handling the waste as hazardous. If a particular hazardous waste is eligible for a delisting and is granted the delisting prior to generation, then LDR requirements would not apply. Conversely, if a waste is generated and subsequently delisted, the generator would need to comply with the applicable Part 268 requirements before disposal.

Although the generator of the wastewater treatment sludge remains subject to LDR, he or she may file a petition to receive a variance from the LDR requirements per §§268.42(b) or 268.44. For example, the generator may receive a variance from a treatment standard if he or she demonstrates that the waste cannot be treated to the specified LDR treatment standard levels because its physical or chemical properties differ significantly from the waste used to establish the LDR treatment standard (§268.44).

RO 14699

Site and WMU Information

Delisting Petition Number:

DL-

File Name:

Davis Junction LF Only Detects

Petitioner's Name:

BFI Waste Systems of North America, Inc.

Address 1:

26 West 580 Schick Rd.

Address 2:

City, State:

Hanover Park, IL

Zip Code:

60103

Analysis Performed by:

MBM

Date of Analysis:

May-06-2008

Waste Description:

Phase I Landfill Leachate

Waste Code:

F039

WMU Type:

Surface Impoundment

Waste Volume (yd³):

24.75

Active Life (years):

1

Risk Factor:

1.00E-06

HQ Factor:

1.00E+00

Select Chemicals of Concern to be Modeled (Steps 4 5)

Chemical Name	CAS Number	TCLP Concentration (mg/L)	TCLP Detection Limit	Total Concentration (mg/kg)	Total Detection Limit	Maximum Contaminant Level (MCL) (mg/L)	Carcinogenic Slope Factor - Oral (CSFo) (kg-day/mg)	Carcinogenic Slope Factor - Inhalation (CSFi) (kg-day/mg)	Reference Dose - Oral (RFD _o) (mg/kg-day)
Dichloroethane, 1,1-	75-34-3	9.70E-02	0.00E+00	9.70E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-01
Dichloroethane, 1,2-	107-06-2	2.30E-02	0.00E+00	2.30E-02	0.00E+00	5.00E-03	9.10E-02	9.10E-02	0.00E+00
Dioxane, 1,4-	123-91-1	3.30E+01	0.00E+00	3.30E+01	0.00E+00	0.00E+00	1.10E-02	0.00E+00	0.00E+00
Trichlorophenoxypropionic acid, 2,4,5- (Silvex)	93-72-1	8.30E-02	0.00E+00	8.30E-02	0.00E+00	5.00E-02	0.00E+00	0.00E+00	8.00E-03
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	94-75-7	3.90E-01	0.00E+00	3.90E-01	0.00E+00	7.00E-02	0.00E+00	0.00E+00	1.00E-02
Dimethylphenol, 2,4-	105-67-9	1.40E-01	0.00E+00	1.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-02
Acetone	67-64-1	2.00E+01	0.00E+00	2.00E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.00E-01
Trichloroethylene	79-01-6	5.30E-01	0.00E+00	5.30E-01	0.00E+00	5.00E-03	1.10E-02	6.00E-03	6.00E-03
Vanadium	7440-62-2	3.60E-02	0.00E+00	3.60E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.00E-03
Vinyl chloride	75-01-4	4.40E-01	0.00E+00	4.40E-01	0.00E+00	2.00E-03	1.50E+00	3.10E-02	3.00E-03
Arsenic	7440-38-2	5.40E-02	0.00E+00	5.40E-02	0.00E+00	1.00E-02	1.50E+00	1.51E+01	3.00E-04
Xylenes (total)	1330-20-7	1.10E+00	0.00E+00	1.10E+00	0.00E+00	1.00E+01	0.00E+00	0.00E+00	2.00E-01
Zinc	7440-66-6	1.40E+00	0.00E+00	1.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-01
Barium	7440-39-3	1.30E+00	0.00E+00	1.30E+00	0.00E+00	2.00E+00	0.00E+00	0.00E+00	7.00E-02
Dichlorobenzene, 1,4-	106-46-7	1.30E-02	0.00E+00	1.30E-02	0.00E+00	7.50E-01	2.40E-02	2.40E-02	0.00E+00
Heptachlor	76-44-8	5.30E-04	0.00E+00	5.30E-04	0.00E+00	4.00E-04	4.50E+00	4.55E+00	5.00E-04
Methylene chloride	75-09-2	5.80E-01	0.00E+00	5.80E-01	0.00E+00	5.00E-03	7.50E-03	1.64E-03	6.00E-02
Methyl isobutyl ketone	108-10-1	1.80E+00	0.00E+00	1.80E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-02
Naphthalene	91-20-3	3.80E-02	0.00E+00	3.80E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-02
Nickel	7440-02-0	9.50E-01	0.00E+00	9.50E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-02
Selenium	7782-49-2	3.20E-02	0.00E+00	3.20E-02	0.00E+00	5.00E-02	0.00E+00	0.00E+00	5.00E-03

Select Chemicals of Concern to be Modeled (Steps 4 5)

Reference Dose - Inhalation (RFC) (mg/m ³)	Bio-concentration Factor (BCF) (L/kg)	Soil Saturation Level (SOILSAT) (mg/kg)	Toxicity Characteristic Level (TC) (mg/L)	Henry's Law Coefficient (H) (atm-m ³ /mol-K)	Diffusion Coefficient in Water (Dw) (cm ² /sec)	Diffusion Coefficient in Air (Da) (cm ² /sec)	Solubility (SOL) (mg/L)	Landfill Dilution Attenuation Factor (DAFLF)	Surface Impoundment Dilution Attenuation Factor (DAFSI)
5.00E-01	1.36E+01	2.30E+03	0.00E+00	5.75E-03	1.05E-05	7.42E-02	5.06E+03	1.00E+00	3.90E+00
0.00E+00	7.61E+00	2.90E+03	5.00E-01	9.79E-04	1.10E-05	7.19E-02	8.52E+03	1.00E+00	3.90E+00
0.00E+00	3.69E-01	0.00E+00	0.00E+00	4.89E-06	1.05E-05	9.20E-02	1.00E+06	1.80E+01	5.30E+00
0.00E+00	1.30E+02	0.00E+00	1.00E-02	7.83E-11	8.00E-06	8.00E-02	1.40E+02	1.90E+01	4.20E+00
0.00E+00	6.10E+01	0.00E+00	0.00E+00	4.50E-06	6.49E-06	5.88E-02	6.77E+02	1.90E+01	3.90E+00
0.00E+00	3.66E+01	1.10E+04	0.00E+00	3.29E-06	8.69E-06	5.84E-02	7.87E+03	1.90E+01	5.40E+00
0.00E+00	4.00E-01	1.00E+05	0.00E+00	2.88E-05	1.15E-05	1.20E-01	1.00E+06	1.90E+01	3.90E+00
0.00E+00	4.16E+01	1.30E+03	5.00E-01	7.40E-03	1.00E-05	4.27E-02	1.10E+03	1.90E+01	4.80E+00
0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-06	8.00E-02	0.00E+00	8.03E+01	3.19E+01
1.00E-01	4.37E+00	1.20E+03	2.00E-01	7.90E-02	1.19E-05	1.10E-01	2.76E+03	1.90E+01	3.90E+00
0.00E+00	2.00E+01	0.00E+00	5.00E+00	0.00E+00	1.24E-05	1.07E-01	0.00E+00	1.92E+01	7.70E+00
1.00E-01	7.50E+01	4.30E+02	0.00E+00	6.05E-03	8.49E-06	7.69E-02	1.86E+02	1.90E+01	1.30E+01
0.00E+00	6.54E+02	0.00E+00	0.00E+00	0.00E+00	1.36E-05	1.17E-01	0.00E+00	2.49E+01	9.90E+00
5.00E-04	1.00E+00	0.00E+00	1.00E+02	0.00E+00	8.26E-06	7.14E-02	0.00E+00	2.78E+01	1.11E+01
8.00E-01	2.31E+02	2.80E+02	7.50E+00	2.80E-03	8.85E-06	4.14E-02	7.38E+01	1.80E+01	1.40E+01
0.00E+00	0.00E+00	0.00E+00	8.00E-03	5.87E-06	5.69E-06	1.12E-02	1.80E-01	5.00E+10	5.00E+10
8.57E-01	5.30E+00	2.30E+03	0.00E+00	2.38E-03	1.25E-05	8.69E-02	1.30E+04	1.80E+01	5.80E+00
0.00E+00	4.73E+00	1.70E+04	0.00E+00	1.25E-04	8.36E-06	8.59E-02	1.90E+04	1.90E+01	3.90E+00
3.00E-03	2.15E+02	3.80E+02	0.00E+00	4.82E-04	8.92E-06	5.90E-02	3.10E+01	1.90E+01	1.40E+01
0.00E+00	3.08E+02	0.00E+00	0.00E+00	0.00E+00	1.46E-05	1.26E-01	0.00E+00	3.76E+01	1.50E+01
0.00E+00	1.29E+02	0.00E+00	1.00E+00	0.00E+00	1.20E-05	1.03E-01	0.00E+00	1.16E+01	4.60E+00

Select Chemicals of Concern to be Modeled (Steps 4 5)

Time to reach steady state (T*) (hrs)	Skin Permeability Coefficient (K _{pw}) (cm/hr)	Tau (T) (hrs)	Bunge Coefficient (B) (unitless)	Organic/ Inorganic	Bio-accumulation Factor (BAF) (L/kg)	Chronic Ecological Threshold (Aquatic TRV) (mg/L)	Garcinogen/ Noncarcinogen	Molecular Weight (MW) (gm/mol)	Vapor Pressure (Vp) (atm)	Surface Water Partition Coefficient (K _{dsw}) (L/kg)
8.40E-01	8.90E-03	3.50E-01	6.20E-03	1.00E+00	1.00E+00	1.58E+00	Noncarcinogen	9.90E+01	3.00E-01	3.98E+00
8.40E-01	5.20E-03	3.50E-01	3.80E-03	1.00E+00	1.00E+00	2.00E+00	Carcinogen	9.90E+01	1.07E-01	1.47E+00
7.20E-01	2.90E-04	3.00E-01	4.10E-05	1.00E+00	1.00E+00	0.00E+00	Carcinogen	8.81E+01	5.00E-02	6.60E-02
1.90E+01	1.10E-02	3.90E+00	2.60E-01	1.00E+00	1.00E+00	0.00E+00	Noncarcinogen	2.70E+02	6.80E-09	1.71E+02
4.70E+00	7.10E-03	2.00E+00	5.00E-02	1.00E+00	1.00E+00	0.00E+00	Noncarcinogen	2.21E+02	1.40E-05	3.37E+01
1.20E+00	1.60E-02	4.90E-01	2.30E-02	1.00E+00	1.00E+00	2.12E-02	Noncarcinogen	1.22E+02	1.66E-04	9.44E+00
4.70E-01	5.70E-04	2.00E-01	5.80E-05	1.00E+00	1.00E+00	1.50E+00	Noncarcinogen	5.01E+01	2.99E-01	7.13E-02
2.10E-01	1.60E-01	8.70E-02	5.10E-02	1.00E+00	1.00E+00	3.50E-01	Carcinogen	1.31E+02	9.48E-02	9.40E-01
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	1.90E-02	Noncarcinogen	5.09E+01	0.00E+00	5.00E+01
5.10E-01	9.20E-03	2.10E-01	3.20E-03	1.00E+00	1.00E+00	0.00E+00	Carcinogen	6.25E+01	3.68E+00	8.33E-01
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	1.50E-01	Carcinogen	7.49E+01	0.00E+00	2.90E+01
1.30E+00	7.60E-02	3.90E-01	1.50E-01	1.00E+00	1.00E+00	2.70E+00	Noncarcinogen	1.06E+02	1.06E-02	2.33E+01
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	1.20E-01	Noncarcinogen	6.54E+01	0.00E+00	6.20E+00
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	3.90E-03	Noncarcinogen	1.37E+02	0.00E+00	4.10E+01
3.40E+00	6.50E-02	6.90E-01	2.60E-01	1.00E+00	1.00E+00	1.50E-02	Carcinogen	1.47E+02	1.39E-03	4.62E+01
7.80E+01	2.80E-01	1.70E+01	1.80E+02	1.00E+00	8.00E+03	3.80E-06	Carcinogen	3.73E+02	4.29E-07	7.15E+02
6.90E-01	4.50E-03	2.90E-01	1.80E-03	1.00E+00	1.00E+00	1.93E+00	Carcinogen	8.49E+01	4.87E-01	7.50E-01
8.60E-01	3.30E-03	3.60E-01	1.50E-03	1.00E+00	1.00E+00	0.00E+00	Noncarcinogen	1.00E+02	2.50E-02	9.00E-01
2.40E+00	7.70E-02	5.30E-01	2.30E-01	1.00E+00	1.00E+00	6.20E-02	Noncarcinogen	1.28E+02	1.17E-04	8.92E+01
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	5.20E-02	Noncarcinogen	5.87E+01	0.00E+00	6.50E+01
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	5.00E-03	Noncarcinogen	7.90E+01	0.00E+00	4.30E+00

Select Chemicals of Concern to be Modeled (Steps 4 5)

Chemical Name	CAS Number	TCLP Concentration (mg/L)	TCLP Detection Limit	Total Concentration (mg/kg)	Total Detection Limit	Maximum Contaminant Level (MCL) (mg/L)	Carcinogenic Slope Factor - Oral (CSFo) (kg-day/mg)	Carcinogenic Slope Factor - Inhalation (CSFi) (kg-day/mg)	Reference Dose - Oral (RFD _o) (mg/kg-day)
Trichloroethylene	79-01-6	5.30E-01	0.00E+00	5.30E-01	0.00E+00	5.00E-03	1.10E-02	6.00E-03	6.00E-03
Vinyl chloride	75-01-4	4.40E-01	0.00E+00	4.40E-01	0.00E+00	2.00E-03	1.50E+00	3.10E-02	3.00E-03
Benzene	71-43-2	2.70E-02	0.00E+00	2.70E-02	0.00E+00	1.00E-02	2.90E-02	2.90E-02	4.00E-03
Tetrachloroethylene	127-18-4	5.90E-03	0.00E+00	5.90E-03	0.00E+00	5.00E-03	5.20E-02	2.00E-03	1.00E-02
Arsenic	7440-38-2	5.40E-02	0.00E+00	5.40E-02	0.00E+00	5.00E-02	1.50E+00	1.51E+01	3.00E-04
Benzene	71-43-2	2.70E-02	0.00E+00	2.70E-02	0.00E+00	1.00E-02	2.90E-02	2.90E-02	1.00E-03
Cresol, p-	106-44-5	1.60E+00	0.00E+00	1.60E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-03
Phenol	108-95-2	9.10E-01	0.00E+00	9.10E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-01
Styrene	100-42-5	8.70E-02	0.00E+00	8.70E-02	0.00E+00	1.00E-01	0.00E+00	0.00E+00	2.00E-01
Tetrachloroethylene	127-18-4	5.90E-03	0.00E+00	5.90E-03	0.00E+00	5.00E-03	5.20E-02	2.00E-03	1.00E-02
Tin	7440-31-5	1.20E-01	0.00E+00	1.20E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-01
Cadmium	7440-43-9	1.80E-02	0.00E+00	1.80E-02	0.00E+00	5.00E-03	0.00E+00	6.30E+00	5.00E-04
Methylene chloride	75-09-2	5.80E-01	0.00E+00	5.80E-01	0.00E+00	5.00E-03	7.50E-03	1.64E-03	6.00E-02
Dichlorobenzene, 1,4-	106-46-7	1.30E-02	0.00E+00	1.30E-02	0.00E+00	7.50E-01	2.40E-02	2.40E-02	0.00E+00
Heptachlor	76-44-8	5.30E-04	0.00E+00	5.30E-04	0.00E+00	4.00E-04	4.50E+00	4.55E+00	5.00E-04
Toluene	108-88-3	4.70E-01	0.00E+00	4.70E-01	0.00E+00	1.00E+00	0.00E+00	0.00E+00	8.00E-02
TCDD, 2,3,7,8-	1746-01-6	4.40E-09	0.00E+00	4.40E-09	0.00E+00	0.00E+00	1.50E+05	1.50E+05	0.00E+00
Cadmium	7440-43-9	1.80E-02	0.00E+00	1.80E-02	0.00E+00	5.00E-03	0.00E+00	6.30E+00	5.00E-04
Carbon disulfide	75-15-0	6.10E-02	0.00E+00	6.10E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-01
Chromium	7440-47-4	1.20E-01	0.00E+00	1.20E-01	0.00E+00	1.00E-01	0.00E+00	0.00E+00	1.50E+00
Dichloropropene, cis-1,3-	10061-01-5	1.00E-02	0.00E+00	1.00E-02	0.00E+00	0.00E+00	1.75E-01	0.00E+00	0.00E+00

Select Chemicals of Concern to be Modeled (Steps 4 5)

Reference Dose - Inhalation (RFC) (mg/m ³)	Bio- concentration Factor (BCF) (L/kg)	Soil Saturation Level (SOILSAT) (mg/kg)	Toxicity Characteristic Level (TC) (mg/L)	Henry's Law Coefficient (H) (atm-m ³ /mol-K)	Diffusion Coefficient in Water (Dw) (cm ² /sec)	Diffusion Coefficient in Air (Da) (cm ² /sec)	Solubility (SOL) (mg/L)	Landfill Dilution Attenuation Factor (DAFLF)	Surface Impoundment Dilution Attenuation Factor (DAFSI)
0.00E+00	4.16E+01	1.30E+03	5.00E-01	7.40E-03	1.00E-05	4.27E-02	1.10E+03	1.90E+01	4.80E+00
1.00E-01	4.37E+00	1.20E+03	2.00E-01	7.90E-02	1.19E-05	1.10E-01	2.76E+03	1.90E+01	3.90E+00
3.00E-02	2.48E+01	9.00E+02	5.00E-01	5.49E-03	1.02E-05	1.17E-01	1.75E+03	1.80E+01	5.90E+00
0.00E+00	5.06E+01	3.70E+02	7.00E-01	1.84E-02	8.20E-06	7.20E-02	2.00E+02	1.90E+01	5.10E+00
0.00E+00	2.00E+01	0.00E+00	5.00E+00	0.00E+00	1.24E-05	1.07E-01	0.00E+00	1.92E+01	7.70E+00
9.00E-03	2.48E+01	9.00E+02	5.00E-01	5.49E-03	1.02E-05	1.17E-01	1.75E+03	1.80E+01	5.90E+00
0.00E+00	1.75E+01	0.00E+00	2.00E+02	7.99E-07	9.30E-06	6.93E-02	2.15E+04	1.90E+01	4.20E+00
0.00E+00	7.81E+00	2.30E+04	0.00E+00	5.95E-07	1.03E-05	8.27E-02	8.28E+04	1.90E+01	4.20E+00
1.00E+00	9.91E+01	1.70E+03	0.00E+00	3.33E-03	8.77E-06	7.73E-02	3.10E+02	1.90E+01	9.10E+00
0.00E+00	5.06E+01	3.70E+02	7.00E-01	1.84E-02	8.20E-06	7.20E-02	2.00E+02	1.90E+01	5.10E+00
0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-06	8.00E-02	0.00E+00	0.00E+00	7.70E+00
0.00E+00	2.50E+02	0.00E+00	1.00E+00	0.00E+00	9.45E-06	8.16E-02	0.00E+00	3.00E+01	1.20E+01
8.57E-01	5.30E+00	2.30E+03	0.00E+00	2.38E-03	1.25E-05	8.69E-02	1.30E+04	1.80E+01	5.80E+00
8.00E-01	2.31E+02	2.80E+02	7.50E+00	2.80E-03	8.85E-06	4.14E-02	7.38E+01	1.80E+01	1.40E+01
0.00E+00	0.00E+00	0.00E+00	8.00E-03	5.87E-06	5.69E-06	1.12E-02	1.80E-01	5.00E+10	5.00E+10
5.00E+00	6.27E+01	5.20E+02	0.00E+00	6.13E-03	8.23E-06	9.72E-02	5.26E+02	1.90E+01	5.90E+00
0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.60E-05	6.81E-06	1.27E-02	1.93E-05	1.80E+01	1.90E+04
0.00E+00	2.50E+02	0.00E+00	1.00E+00	0.00E+00	9.45E-06	8.16E-02	0.00E+00	3.00E+01	1.20E+01
7.00E-01	1.95E+01	7.20E+02	0.00E+00	3.03E-02	1.29E-05	1.04E-01	1.19E+03	1.90E+01	4.60E+00
0.00E+00	2.83E+02	0.00E+00	5.00E+00	0.00E+00	8.00E-06	8.00E-02	0.00E+00	3.85E+03	1.53E+03
0.00E+00	5.30E+00	1.10E+03	0.00E+00	1.76E-03	1.10E-05	5.85E-02	2.72E+03	3.30E+08	1.80E+08

Select Chemicals of Concern to be Modeled (Steps 4 5)

Time to reach steady state (T*) (hrs)	Skin Permeability Coefficient (Kpw) (cm/hr)	Tau (T) (hrs)	Bunge Coefficient (B) (unitless)	Organic/ Inorganic	Bio- accumulation Factor (BAF) (L/kg)	Chronic Ecological Threshold (Aquatic TRV) (mg/L)	Carcinogen/ Noncarcinogen	Molecular Weight (MW) (gm/mol)	Vapor Pressure (Vp) (atm)	Surface Water Partition Coefficient (Kdsw) (L/kg)
2.10E-01	1.60E-01	8.70E-02	5.10E-02	1.00E+00	1.00E+00	3.50E-01	Noncarcinogen	1.31E+02	9.48E-02	9.40E-01
5.10E-01	9.20E-03	2.10E-01	3.20E-03	1.00E+00	1.00E+00	0.00E+00	Noncarcinogen	6.25E+01	3.68E+00	8.33E-01
6.30E-01	2.10E-02	2.60E-01	1.30E-02	1.00E+00	1.00E+00	4.60E-02	Carcinogen	7.81E+01	1.25E-01	4.65E+00
2.20E+00	1.50E-02	9.00E-01	4.70E-02	1.00E+00	1.00E+00	1.20E-01	Noncarcinogen	1.66E+02	2.42E-02	1.99E+01
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	1.50E-01	Noncarcinogen	7.49E+01	0.00E+00	2.90E+01
6.30E-01	2.10E-02	2.60E-01	1.30E-02	1.00E+00	1.00E+00	4.60E-02	Noncarcinogen	7.81E+01	1.25E-01	4.65E+00
9.60E-01	1.00E-02	4.00E-01	8.90E-03	1.00E+00	1.00E+00	0.00E+00	Noncarcinogen	1.08E+02	1.70E-04	3.46E+00
7.90E-01	5.70E-03	3.30E-01	3.00E-03	1.00E+00	1.00E+00	2.56E-01	Noncarcinogen	9.41E+01	5.74E-04	1.65E+00
9.10E-01	5.40E-02	3.80E-01	8.70E-02	1.00E+00	1.00E+00	0.00E+00	Noncarcinogen	1.04E+02	8.21E-03	6.84E-01
2.20E+00	1.50E-02	9.00E-01	4.70E-02	1.00E+00	1.00E+00	1.20E-01	Carcinogen	1.66E+02	2.42E-02	1.99E+01
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	0.00E+00	Noncarcinogen	1.19E+02	0.00E+00	8.00E+00
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	2.20E-03	Carcinogen	1.12E+02	0.00E+00	4.50E+00
6.90E-01	4.50E-03	2.90E-01	1.80E-03	1.00E+00	1.00E+00	1.93E+00	Noncarcinogen	8.49E+01	4.87E-01	7.50E-01
3.40E+00	6.50E-02	6.90E-01	2.60E-01	1.00E+00	1.00E+00	1.50E-02	Noncarcinogen	1.47E+02	1.39E-03	4.62E+01
7.80E+01	2.80E-01	1.70E+01	1.80E+02	1.00E+00	8.00E+03	3.80E-06	Noncarcinogen	3.73E+02	4.29E-07	7.15E+02
7.70E-01	4.70E-02	3.20E-01	5.60E-02	1.00E+00	1.00E+00	1.30E-01	Noncarcinogen	9.21E+01	3.71E-02	1.05E+01
3.80E+01	1.40E+00	8.10E+00	6.30E+02	1.00E+00	9.16E+05	3.00E-08	Carcinogen	3.22E+02	9.74E-13	2.02E+05
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	2.20E-03	Noncarcinogen	1.12E+02	0.00E+00	4.50E+00
6.10E-01	1.70E-02	2.50E-01	1.00E-02	1.00E+00	1.00E+00	1.00E+00	Noncarcinogen	7.61E+01	4.47E-01	3.86E+00
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	7.40E-02	Noncarcinogen	5.20E+01	0.00E+00	1.80E+06
1.00E+00	1.10E-02	4.20E-01	1.00E-02	1.00E+00	1.00E+00	2.40E-02	Carcinogen	1.11E+02	4.00E-02	6.97E+00

Select Chemicals of Concern to be Modeled (Steps 4 5)

Chemical Name	CAS Number	TCLP Concentration (mg/L)	TCLP Detection Limit	Total Concentration (mg/kg)	Total Detection Limit	Maximum Contaminant Level (MCL) (mg/L)	Carcinogenic Slope Factor - Oral (CSFo) (kg-day/mg)	Carcinogenic Slope Factor - Inhalation (CSFi) (kg-day/mg)	Reference Dose - Oral (RFD _o) (mg/kg-day)
Cobalt	7440-48-4	3.00E+00	0.00E+00	3.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-02
Copper	7440-50-8	2.50E-02	0.00E+00	2.50E-02	0.00E+00	1.30E+00	0.00E+00	0.00E+00	4.00E-02
Diethyl phthalate	84-66-2	5.40E-01	0.00E+00	5.40E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-01
Endrin	72-20-8	1.50E-03	0.00E+00	1.50E-03	0.00E+00	2.00E-03	0.00E+00	0.00E+00	3.00E-04
Ethylbenzene	100-41-4	2.50E-01	0.00E+00	2.50E-01	0.00E+00	7.00E-01	0.00E+00	0.00E+00	1.00E-01
Isobutyl alcohol	78-83-1	3.70E+00	0.00E+00	3.70E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.00E-01
Lead	7439-92-1	1.80E-01	0.00E+00	1.80E-01	0.00E+00	1.50E-02	0.00E+00	0.00E+00	0.00E+00
Mercury	7439-97-6	4.00E-02	0.00E+00	4.00E-02	0.00E+00	2.00E-03	0.00E+00	0.00E+00	1.00E-04
Methanol	67-56-1	1.40E+00	0.00E+00	1.40E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-01
Methyl ethyl ketone	78-93-3	1.20E+01	0.00E+00	1.20E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.00E-01

Select Chemicals of Concern to be Modeled (Steps 4 5)

Reference Dose - Inhalation (RFC) (mg/m ³)	Bio-concentration Factor (BCF) (L/kg)	Soil Saturation Level (SOILSAT) (mg/kg)	Toxicity Characteristic Level (TC) (mg/L)	Henry's Law Coefficient (H) (atm-m ³ /mol-K)	Diffusion Coefficient in Water (Dw) (cm ² /sec)	Diffusion Coefficient in Air (Da) (cm ² /sec)	Solubility (SOL) (mg/L)	Landfill Dilution Attenuation Factor (DAFLF)	Surface Impoundment Dilution Attenuation Factor (DAFSI)
0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-06	8.00E-02	0.00E+00	0.00E+00	7.70E+00
0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	8.00E-06	8.00E-02	0.00E+00	7.01E+03	2.79E+03
0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.48E-07	6.35E-06	2.56E-02	1.08E+03	2.30E+01	6.20E+00
0.00E+00	0.00E+00	0.00E+00	2.00E-02	1.19E-06	5.76E-06	1.07E-02	2.50E-01	6.00E+05	2.40E+06
2.86E-01	1.39E+02	2.30E+02	0.00E+00	7.73E-03	7.80E-06	7.50E-02	1.69E+02	1.90E+01	1.20E+01
0.00E+00	1.00E+00	0.00E+00	0.00E+00	1.20E-05	9.30E-06	8.60E-02	8.50E+04	1.90E+01	3.90E+00
0.00E+00	0.00E+00	0.00E+00	5.00E+00	0.00E+00	6.28E-06	5.43E-02	0.00E+00	5.00E+03	2.00E+03
8.60E-05	0.00E+00	0.00E+00	2.00E-01	7.10E-03	3.01E-05	1.09E-02	5.62E-02	7.45E+01	2.96E+01
0.00E+00	1.70E-01	0.00E+00	0.00E+00	1.44E-04	1.64E-05	1.50E-01	1.00E+06	1.90E+01	3.90E+00
5.00E+00	9.61E-01	3.40E+04	2.00E+02	3.61E-05	1.03E-05	8.10E-02	2.23E+05	1.90E+01	3.90E+00

Select Chemicals of Concern to be Modeled (Steps 4 5)

Time to reach steady state (T*) (hrs)	Skin Permeability Coefficient (Kpw) (cm/hr)	Tau (T) (hrs)	Bunge Coefficient (B) (unitless)	Organic/ Inorganic	Bio- accumulation Factor (BAF) (L/kg)	Chronic Ecological Threshold (Aquatic TRV) (mg/L)	Carcinogen/ Noncarcinogen	Molecular Weight (MW) (gm/mol)	Vapor Pressure (Vp) (atm)	Surface Water Partition Coefficient (Kdsw) (L/kg)
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	0.00E+00	Noncarcinogen	5.89E+01	0.00E+00	0.00E+00
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.00E+00	9.00E-03	Noncarcinogen	6.36E+01	0.00E+00	2.20E+01
4.80E+00	5.00E-03	2.00E+00	3.20E-02	1.00E+00	2.45E+03	2.20E-01	Noncarcinogen	2.22E+02	2.17E-06	6.15E+00
8.90E+01	3.50E-02	1.80E+01	1.10E+01	1.00E+00	8.55E+03	3.60E-05	Noncarcinogen	3.81E+02	7.68E-10	8.10E+02
1.30E+00	7.30E-02	3.90E-01	1.40E-01	1.00E+00	1.00E+00	4.53E-01	Noncarcinogen	1.06E+02	1.26E-02	1.53E-01
5.90E-01	2.30E-03	2.50E-01	5.60E-04	1.00E+00	1.00E+00	0.00E+00	Noncarcinogen	7.41E+01	1.40E-02	4.13E-01
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	8.00E+00	2.50E-03	Noncarcinogen	2.07E+02	0.00E+00	9.00E+02
0.00E+00	1.00E-03	0.00E+00	0.00E+00	0.00E+00	1.02E+06	7.70E-04	Noncarcinogen	2.01E+02	2.63E-06	1.00E+05
3.30E-01	3.80E-04	1.40E-01	1.90E-05	1.00E+00	1.00E+00	0.00E+00	Noncarcinogen	3.20E+01	1.30E-01	3.00E-02
5.80E-01	1.10E-03	2.40E-01	1.90E-04	1.00E+00	1.00E+00	0.00E+00	Noncarcinogen	7.21E+01	1.20E-01	1.76E-01

List of COCs with Altered Chemical Properties

Chemical Name	CAS Number	Parameter Modified	Parameter Symbol	Parameter Units	Original Value	Modified Value
Dichloroethane, 1,1-	75-34-3	Surface Impoundment Dilution Attenuation Factor	DAFSI	L/mg	0	3.9
Dichloroethane, 1,2-	107-06-2	Surface Impoundment Dilution Attenuation Factor	DAFSI	L/mg	0	3.9
Acetone	67-64-1	Oral Reference Dose	RFD _o	mg/kg-day	0.1	0.9
Arsenic	7440-38-2	Maximum Concentration Level	MCL	mg/L	0.05	0.01
Xylenes (total)	1330-20-7	Oral Reference Dose	RFD _o	mg/kg-day	2	0.2
Xylenes (total)	1330-20-7	Inhalation Reference Dose	RFC	mg/m ³	0	0.1
Trichloroethylene	79-01-6	Carcinogenic or Noncarcinogenic	CARCNON	---	Carcinogen	Noncarcinogen
Vinyl chloride	75-01-4	Carcinogenic or Noncarcinogenic	CARCNON	---	Carcinogen	Noncarcinogen
Benzene	71-43-2	Oral Reference Dose	RFD _o	mg/kg-day	0.001	0.004
Benzene	71-43-2	Inhalation Reference Dose	RFC	mg/m ³	0.009	0.03
Tetrachloroethylene	127-18-4	Carcinogenic or Noncarcinogenic	CARCNON	---	Carcinogen	Noncarcinogen
Arsenic	7440-38-2	Carcinogenic or Noncarcinogenic	CARCNON	---	Carcinogen	Noncarcinogen
Benzene	71-43-2	Carcinogenic or Noncarcinogenic	CARCNON	---	Carcinogen	Noncarcinogen
Tin	7440-31-5	Surface Impoundment Dilution Attenuation Factor	DAFSI	L/mg	0	7.7
Cadmium	7440-43-9	Carcinogenic or Noncarcinogenic	CARCNON	---	Noncarcinogen	Carcinogen
Methylene chloride	75-09-2	Carcinogenic or Noncarcinogenic	CARCNON	---	Carcinogen	Noncarcinogen
Dichlorobenzene, 1,4-	106-46-7	Carcinogenic or Noncarcinogenic	CARCNON	---	Carcinogen	Noncarcinogen
Heptachlor	76-44-8	Carcinogenic or Noncarcinogenic	CARCNON	---	Carcinogen	Noncarcinogen
Toluene	108-88-3	Oral Reference Dose	RFD _o	mg/kg-day	0.2	0.08
Toluene	108-88-3	Inhalation Reference Dose	RFC	mg/m ³	0	5
Cobalt	7440-48-4	Surface Impoundment Dilution Attenuation Factor	DAFSI	L/mg	0	7.7

List of COCs with Altered Chemical Properties

Chemical Name	CAS Number	Parameter Modified	Parameter Symbol	Parameter Units	Original Value	Modified Value
Methyl ethyl ketone	78-93-3	Inhalation Reference Dose	RFC	mg/m ³	1	5

Limiting Pathways

Detection Limit Analysis - Toxicity of Petitioned Waste cannot be confirmed if Detection Limits fall below maximum allowable concentration					
Chemical Name	CAS Number	Maximum Allowable TCLP Concentration (mg/L)	Maximum Allowable TCLP Pathway	Maximum Allowable Total Concentration (mg/Kg)	Maximum Allowable Total Pathway
Dichloroethane, 1,1-	75-34-3	9.98E+01	Groundwater Ingestion	1.65E+07	Air Volatile Inhalation
Dichloroethane, 1,2-	107-06-2	2.13E-02	Groundwater Ingestion	2.34E+03	Air Volatile Inhalation
Dioxane, 1,4-	123-91-1	2.40E-01	Groundwater Ingestion	1.08E+05	Air Volatile Inhalation
Trichlorophenoxypropionic acid, 2,4,5- (Silvex)	93-72-1	1.43E+00	MCL	---	Not Applicable
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	94-75-7	1.86E+00	MCL	---	Not Applicable
Dimethylphenol, 2,4-	105-67-9	2.76E+01	Groundwater Ingestion	---	Not Applicable
Acetone	67-64-1	8.98E+02	Groundwater Ingestion	---	Not Applicable
Trichloroethylene	79-01-6	1.64E-01	MCL	3.70E+04	Air Volatile Inhalation
Vanadium	7440-62-2	5.71E+01	Groundwater Ingestion	---	Not Applicable
Vinyl chloride	75-01-4	1.30E-03	Groundwater Ingestion	6.35E+03	Air Volatile Inhalation
Arsenic	7440-38-2	2.56E-03	Groundwater Ingestion	---	Not Applicable
Xylenes (total)	1330-20-7	1.60E+02	Groundwater Inhalation	3.79E+06	Air Volatile Inhalation
Zinc	7440-66-6	7.60E+02	Groundwater Ingestion	---	Not Applicable
Barium	7440-39-3	1.51E+02	MCL	---	Not Applicable
Dichlorobenzene, 1,4-	106-46-7	2.91E-01	Groundwater Ingestion	1.01E+04	Air Volatile Inhalation

Limiting Pathways

		Detection Limit Analysis - Toxicity of Petitioned Waste cannot be confirmed if Detection Limits fall below maximum allowable concentration			
Chemical Name	CAS Number	Maximum Allowable TCLP Concentration (mg/L)	Maximum Allowable TCLP Pathway	Maximum Allowable Total Concentration (mg/Kg)	Maximum Allowable Total Pathway
Heptachlor	76-44-8	4.45E+05	Groundwater Adult Dermal	8.01E+02	Air Volatile Inhalation
Methylene chloride	75-09-2	1.98E-01	MCL	1.17E+05	Air Volatile Inhalation
Methyl isobutyl ketone	108-10-1	7.98E+01	Groundwater Ingestion	---	Not Applicable
Naphthalene	91-20-3	6.51E+00	Groundwater Inhalation	1.16E+05	Air Volatile Inhalation
Nickel	7440-02-0	7.68E+01	Groundwater Ingestion	---	Not Applicable
Selenium	7782-49-2	1.57E+00	MCL	---	Not Applicable
Trichloroethylene	79-01-6	1.64E-01	MCL	---	Not Applicable
Vinyl chloride	75-01-4	5.32E-02	MCL	3.02E+06	Air Volatile Inhalation
Benzene	71-43-2	1.01E-01	Groundwater Ingestion	7.55E+03	Air Volatile Inhalation
Tetrachloroethylene	127-18-4	1.74E-01	MCL	---	Not Applicable
Arsenic	7440-38-2	5.91E-01	Groundwater Ingestion	---	Not Applicable
Benzene	71-43-2	4.02E-01	MCL	3.02E+05	Air Volatile Inhalation
Cresol, p-	106-44-5	5.37E+00	Groundwater Ingestion	---	Not Applicable
Phenol	108-95-2	6.45E+02	Groundwater Ingestion	---	Not Applicable
Styrene	100-42-5	6.20E+00	MCL	3.72E+07	Air Volatile Inhalation

Limiting Pathways

Detection Limit Analysis - Toxicity of Petitioned Waste cannot be confirmed if Detection Limits fall below maximum allowable concentration					
Chemical Name	CAS Number	Maximum Allowable TCLP Concentration (mg/L)	Maximum Allowable TCLP Pathway	Maximum Allowable Total Concentration (mg/Kg)	Maximum Allowable Total Pathway
Tetrachloroethylene	127-18-4	4.89E-02	Groundwater Ingestion	1.26E+05	Air Volatile Inhalation
Tin	7440-31-5	1.18E+03	Groundwater Ingestion	---	Not Applicable
Cadmium	7440-43-9	4.09E-01	MCL	---	Not Applicable
Methylene chloride	75-09-2	1.98E-01	MCL	2.53E+07	Air Volatile Inhalation
Dichlorobenzene, 1,4-	106-46-7	7.16E+01	MCL	2.98E+07	Air Volatile Inhalation
Heptachlor	76-44-8	1.36E+08	MCL	---	Not Applicable
Toluene	108-88-3	4.02E+01	MCL	1.94E+08	Air Volatile Inhalation
TCDD, 2,3,7,8-	1746-01-6	1.47E-06	Groundwater Adult Dermal	9.38E-03	Air Volatile Inhalation
Cadmium	7440-43-9	4.09E-01	MCL	---	Not Applicable
Carbon disulfide	75-15-0	1.18E+02	Groundwater Ingestion	2.00E+07	Air Volatile Inhalation
Chromium	7440-47-4	1.04E+03	MCL	---	Not Applicable
Dichloropropene, cis-1,3-	10061-01-5	5.12E+05	Groundwater Ingestion	1.21E+03	Air Volatile Inhalation
Cobalt	7440-48-4	1.18E+02	Groundwater Ingestion	---	Not Applicable
Copper	7440-50-8	2.47E+04	MCL	---	Not Applicable
Diethyl phthalate	84-66-2	1.27E+03	Groundwater Ingestion	---	Not Applicable

Limiting Pathways

		Detection Limit Analysis - Toxicity of Petitioned Waste cannot be confirmed if Detection Limits fall below maximum allowable concentration			
Chemical Name	CAS Number	Maximum Allowable TCLP Concentration (mg/L)	Maximum Allowable TCLP Pathway	Maximum Allowable Total Concentration (mg/Kg)	Maximum Allowable Total Pathway
Endrin	72-20-8	3.27E+04	MCL	---	Not Applicable
Ethylbenzene	100-41-4	5.72E+01	MCL	1.15E+07	Air Volatile Inhalation
Isobutyl alcohol	78-83-1	2.99E+02	Groundwater Ingestion	---	Not Applicable
Lead	7439-92-1	2.04E+02	MCL	---	Not Applicable
Mercury	7439-97-6	2.20E-01	Groundwater Inhalation	1.44E+03	Air Volatile Inhalation
Methanol	67-56-1	4.99E+02	Groundwater Ingestion	---	Not Applicable
Methyl ethyl ketone	78-93-3	5.99E+02	Groundwater Ingestion	2.76E+08	Air Volatile Inhalation

Maximum Allowable TCLP Concentrations - Groundwater Exposure Pathways

Chemical Name Risk Factor = 1.00E-06 HQ Factor = 1.00E+00 * = Detection Limit	Waste Stream TCLP Concentration (mg/L)	Dilution Attenuation Factor (DAF)	Waste Volume Adjusted DAF	Maximum Allowable Concentration (mg/L)	DL	Max. Allowable Concentration Based on Groundwater Ingestion Pathway	Max. Allowable Concentration Based on Groundwater Inhalation Pathway	Max. Allowable Concentration Based on Adult Groundwater Dermal Absorption Pathway	Max. Allowable Concentration Based on Child Groundwater Dermal Absorption Pathway
Ethylbenzene	2.50E-01	1.20E+01	8.18E+01	5.72E+01		3.07E+02	4.33E+02	4.87E+02	2.24E+02
Styrene	8.70E-02	9.10E+00	6.20E+01	6.20E+00		4.66E+02	1.12E+03	1.01E+03	4.65E+02
Dichloropropene, cis-1,3-	1.00E-02	1.80E+08	1.23E+09	5.12E+05		5.12E+05	7.97E+05	6.68E+06	1.53E+07
Dimethylphenol, 2,4-	1.40E-01	5.40E+00	3.68E+01	2.76E+01		2.76E+01	---	1.79E+02	8.20E+01
Cresol, p-	1.60E+00	4.20E+00	2.86E+01	5.37E+00		5.37E+00	---	6.15E+01	2.82E+01
Dichlorobenzene, 1,4-	1.30E-02	1.40E+01	9.54E+01	2.91E-01		2.91E-01	4.73E-01	5.00E-01	1.15E+00
Dichlorobenzene, 1,4-	1.30E-02	1.40E+01	9.54E+01	2.91E-01		2.91E-01	4.73E-01	5.00E-01	1.15E+00
Dichloroethane, 1,2-	2.30E-02	3.90E+00	2.66E+01	2.13E-02		2.13E-02	3.54E-02	6.45E-01	1.48E+00
Methyl isobutyl ketone	1.80E+00	3.90E+00	2.66E+01	7.98E+01		7.98E+01	---	2.92E+03	1.34E+03
Toluene	4.70E-01	5.90E+00	4.02E+01	4.02E+01		1.21E+02	3.66E+03	3.29E+02	1.51E+02
Phenol	9.10E-01	4.20E+00	2.86E+01	6.45E+02		6.45E+02	---	1.42E+04	6.54E+03
Dioxane, 1,4-	3.30E+01	5.30E+00	3.61E+01	2.40E-01		2.40E-01	1.47E+01	1.40E+02	3.22E+02
Tetrachloroethylene	5.90E-03	5.10E+00	3.48E+01	4.89E-02		4.89E-02	2.04E+00	3.19E-01	7.32E-01
Tetrachloroethylene	5.90E-03	5.10E+00	3.48E+01	4.89E-02		4.89E-02	2.04E+00	3.19E-01	7.32E-01
Xylenes (total)	1.10E+00	1.30E+01	8.86E+01	1.60E+02		6.65E+02	1.60E+02	1.01E+03	4.66E+02
TCDD, 2,3,7,8-	4.40E-09	1.90E+04	1.29E+05	1.47E-06		6.31E-05	1.39E-03	1.47E-06	3.38E-06
Methanol	1.40E+00	3.90E+00	2.66E+01	4.99E+02		4.99E+02	---	2.54E+05	1.14E+05
Acetone	2.00E+01	3.90E+00	2.66E+01	8.98E+02		8.98E+02	---	2.55E+05	1.17E+05
Benzene	2.70E-02	5.90E+00	4.02E+01	1.01E-01		1.01E-01	1.53E-01	8.79E-01	2.02E+00
Benzene	2.70E-02	5.90E+00	4.02E+01	1.01E-01		1.01E-01	1.53E-01	8.79E-01	2.02E+00
Endrin	1.50E-03	2.40E+06	1.64E+07	3.27E+04		1.84E+05	---	8.98E+04	4.12E+04

Maximum Allowable TCLP Concentrations - Groundwater Exposure Pathways

Max. Allowable Concentration Based on MCL
5.72E+01
6.20E+00

7.16E+01
7.16E+01
1.33E-01

4.02E+01

1.74E-01
1.74E-01
8.86E+02

4.02E-01
4.02E-01
3.27E+04

Maximum Allowable TCLP Concentrations - Groundwater Exposure Pathways

Chemical Name Risk Factor = 1.00E-06 HQ Factor = 1.00E+00 * = Detection Limit	Waste Stream TCLP Concentration (mg/L)	Dilution Attenuation Factor (DAF)	Waste Volume Adjusted DAF	Maximum Allowable Concentration (mg/L)	DL	Max. Allowable Concentration Based on Groundwater Ingestion Pathway	Max. Allowable Concentration Based on Groundwater Inhalation Pathway	Max. Allowable Concentration Based on Adult Groundwater Dermal Absorption Pathway	Max. Allowable Concentration Based on Child Groundwater Dermal Absorption Pathway
Lead	1.80E-01	2.00E+03	1.36E+04	2.04E+02		---	---	---	---
Mercury	4.00E-02	2.96E+01	2.02E+02	2.20E-01		7.57E-01	2.20E-01	---	---
Nickel	9.50E-01	1.50E+01	1.02E+02	7.68E+01		7.68E+01	---	---	---
Tin	1.20E-01	7.70E+00	5.25E+01	1.18E+03		1.18E+03	---	---	---
Arsenic	5.40E-02	7.70E+00	5.25E+01	2.56E-03		2.56E-03	---	---	---
Arsenic	5.40E-02	7.70E+00	5.25E+01	2.56E-03		2.56E-03	---	---	---
Barium	1.30E+00	1.11E+01	7.56E+01	1.51E+02		1.99E+02	---	---	---
Cadmium	1.80E-02	1.20E+01	8.18E+01	4.09E-01		1.54E+00	---	---	---
Cadmium	1.80E-02	1.20E+01	8.18E+01	4.09E-01		1.54E+00	---	---	---
Chromium	1.20E-01	1.53E+03	1.04E+04	1.04E+03		5.87E+05	---	---	---
Cobalt	3.00E+00	7.70E+00	5.25E+01	1.18E+02		1.18E+02	---	---	---
Copper	2.50E-02	2.79E+03	1.90E+04	2.47E+04		2.85E+04	---	---	---
Vanadium	3.60E-02	3.19E+01	2.17E+02	5.71E+01		5.71E+01	---	---	---
Zinc	1.40E+00	9.90E+00	6.75E+01	7.60E+02		7.60E+02	---	---	---
Vinyl chloride	4.40E-01	3.90E+00	2.66E+01	1.30E-03		1.30E-03	8.72E-02	2.85E-02	6.55E-02
Vinyl chloride	4.40E-01	3.90E+00	2.66E+01	1.30E-03		1.30E-03	8.72E-02	2.85E-02	6.55E-02
Methylene chloride	5.80E-01	5.80E+00	3.95E+01	1.98E-01		8.90E+01	5.54E+02	2.66E+03	1.22E+03
Methylene chloride	5.80E-01	5.80E+00	3.95E+01	1.98E-01		8.90E+01	5.54E+02	2.66E+03	1.22E+03
Carbon disulfide	6.10E-02	4.60E+00	3.13E+01	1.18E+02		1.18E+02	3.34E+02	1.00E+03	4.60E+02
Dichloroethane, 1,1-	9.70E-02	3.90E+00	2.66E+01	9.98E+01		9.98E+01	2.22E+02	1.37E+03	6.30E+02
Heptachlor	5.30E-04	5.00E+10	3.41E+11	4.45E+05		5.53E+06	3.22E+08	4.45E+05	1.02E+06

Maximum Allowable TCLP Concentrations - Groundwater Exposure Pathways

Max. Allowable Concentration Based on MCL
2.04E+02
4.03E-01

2.62E+00
5.25E-01
1.51E+02
4.09E-01
4.09E-01
1.04E+03

2.47E+04

5.32E-02
5.32E-02
1.98E-01
1.98E-01

1.36E+08

Maximum Allowable TCLP Concentrations - Groundwater Exposure Pathways

Chemical Name Risk Factor = 1.00E-06 HQ Factor = 1.00E+00 * = Detection Limit	Waste Stream TCLP Concentration (mg/L)	Dilution Attenuation Factor (DAF)	Waste Volume Adjusted DAF	Maximum Allowable Concentration (mg/L)	DL	Max. Allowable Concentration Based on Groundwater Ingestion Pathway	Max. Allowable Concentration Based on Groundwater Inhalation Pathway	Max. Allowable Concentration Based on Adult Groundwater Dermal Absorption Pathway	Max. Allowable Concentration Based on Child Groundwater Dermal Absorption Pathway
Heptachlor	5.30E-04	5.00E+10	3.41E+11	4.45E+05		5.53E+06	3.22E+08	4.45E+05	1.02E+06
Selenium	3.20E-02	4.60E+00	3.13E+01	1.57E+00		5.88E+00	---	---	---
Isobutyl alcohol	3.70E+00	3.90E+00	2.66E+01	2.99E+02		2.99E+02	---	1.88E+04	8.65E+03
Methyl ethyl ketone	1.20E+01	3.90E+00	2.66E+01	5.99E+02		5.99E+02	1.37E+04	8.04E+04	3.69E+04
Trichloroethylene	5.30E-01	4.80E+00	3.27E+01	1.64E-01		7.37E+00	---	1.07E+01	4.81E+00
Trichloroethylene	5.30E-01	4.80E+00	3.27E+01	1.64E-01		7.37E+00	---	1.07E+01	4.81E+00
Diethyl phthalate	5.40E-01	6.20E+00	4.23E+01	1.27E+03		1.27E+03	---	1.30E+04	5.96E+03
Naphthalene	3.80E-02	1.40E+01	9.54E+01	6.51E+00		7.16E+01	6.51E+00	9.25E+01	4.25E+01
Trichlorophenoxypropionic acid 2,4,5- (Silvex)	8.30E-02	4.20E+00	2.86E+01	1.43E+00		8.60E+00	---	2.86E+01	1.31E+01
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	3.90E-01	3.90E+00	2.66E+01	1.86E+00		9.98E+00	---	7.19E+01	3.30E+01

Maximum Allowable TCLP Concentrations - Groundwater Exposure Pathways

Max. Allowable Concentration Based on MCL
1.36E+08
1.57E+00

1.64E-01
1.64E-01

1.43E+00
1.86E+00

**Dioxin Congener Analysis
Davis Junction Landfill - Phase I
Delisting Petition**

<u>Constituent</u>	<u>Concentration (mg/L)*</u>	<u>TEQ**</u>	<u>Concen * TEQ</u>
Octachlorodibenzodioxin (OCDD)	0.0000023	0.001	2.3E-09
1,2,3,4,6,7,8 - HpCDD	0.0000021	0.01	2.1E-09
			4.4E-09

mg/L = total TEQ for delisting sample (entered into DRAS)

*Reported by laboratory in February 2002 (see Appendix C in Technical Support Document).

**Source of TEQ: Section 4.2.5.4 of RCRA Delisting Technical Support Document, dated 4/15/02.

Constituent	CAS No.	Max. Allowable Concn. Based on GW Ingestion ^a (mg/L)	Max. Allowable Concn. Based on MCL ^a (mg/L)	Limiting Pathway ^b	Applicable Groundwater Ingestion Pathway Limit ^c (mg/L)	Max. Allowable Concn. Based on GW Inhalation ^a (mg/L)	Max. Allowable Concn. Based on Adult Groundwater Dermal ^a (mg/L)	Max. Allowable Concn. Based on Child Groundwater Dermal ^a (mg/L)	Delisting Level ^d (mg/L)	Maximum Detected Concn. in Leachate (mg/L)
Arsenic*	7440-38-2	0.00256	0.525	Groundwater Ingestion	0.525	--	--	--	0.525	0.054
Barium	7440-39-3	199	151	MCL	151	--	--	--	151	1.3
Benzene*	71-43-2	0.101	0.402	Groundwater Ingestion/MCL**	0.101	0.153	0.879	2.02	0.101	0.027
Cadmium*	7440-43-9	1.54	0.409	MCL	0.409	--	--	--	0.409	0.018
Carbon Disulfide	75-15-0	118	--	Groundwater Ingestion	118	334	1,003	460	118	0.061
Chromium	7440-47-4	587,000	1040	MCL	1,040	--	--	--	1,040	0.12
Dichloropropene, cis-1,3-	10061-01-05	512,000	--	Groundwater Ingestion	512,000	797,000	6,680,000	15,300,000	512,000	0.01
Cobalt	7440-48-4	118	--	Groundwater Ingestion	118	--	--	--	118	3.0
Copper	7440-50-8	28,500	24,700	MCL	24,700	--	--	--	24,700	0.025
Diethyl phthalate	84-66-2	1270	--	Groundwater Ingestion	1,270	--	13,000	5,960	1,270	0.54
Endrin	72-20-8	184,000	32,700	MCL	32,700	--	89,800	41,200	32,700	0.0015
Ethylbenzene	100-41-4	307	57.2	MCL	57.2	433	487	224	57.2	0.25
Isobutyl alcohol	78-83-1	299	--	Groundwater Ingestion	299	--	18,800	8,650	299	3.7
Lead	7439-92-1	--	204	MCL	204	--	--	--	204	0.18
Mercury	7439-97-6	0.757	0.403	Groundwater Ingestion	0.757	0.22	--	--	0.22	0.04
Methanol	67-56-1	499	--	Groundwater Ingestion	499	--	254,000	114,000	499	1.4
Methyl ethyl ketone	78-93-3	599	--	Groundwater Ingestion	599	13,700	80,400	36,900	599	12
Methylene chloride*	75-09-2	89	0.198	MCL	0.198	554	2,660	1,220	0.198	0.58
Methyl isobutyl ketone	108-10-1	79.8	--	Groundwater Ingestion	79.8	--	2,920	1,340	79.8	1.8
Naphthalene	91-20-3	71.6	--	Groundwater Ingestion	71.6	6.51	92.5	42.5	6.51	0.038
Nickel	7440-02-0	76.8	--	Groundwater Ingestion	76.8	--	--	--	76.8	0.95
Cresol, p-	106-44-5	5.37	--	Groundwater Ingestion	5.37	--	61.5	28.2	5.37	1.6
Phenol	108-95-2	645	--	Groundwater Ingestion	645	--	14,200	6,540	645	0.91
Selenium	7782-49-2	5.88	1.57	MCL	1.57	--	--	--	1.57	0.032
Styrene	100-42-5	466	6.2	MCL	6.2	1,120	1,010	465	6.2	0.087
Tetrachloroethylene	127-18-4	0.0489	0.174	MCL	0.174	2.04	0.319	0.732	0.174	0.0059
Tin	7440-31-5	1,180	--	Groundwater Ingestion	1,180	--	--	--	1,180	0.12
Toluene	108-88-3	121	40.2	MCL	40.2	3,660	329	151	40.2	0.47
Trichloroethylene*	79-01-6	7.37	0.164	MCL	0.164	--	10.7	4.81	0.164	0.53
Vanadium	7440-62-2	57.1	--	Groundwater Ingestion	57.1	--	--	--	57.1	0.036
Vinyl chloride*	75-01-4	0.0013	0.0532	Groundwater Ingestion/MCL**	0.0013	0.0872	0.0285	0.0655	0.2 ^e	0.44
Xylenes (total)	1330-20-7	665	886	Groundwater Inhalation	665	160	1011	466	160	1.1
Zinc	7440-66-6	760	--	Groundwater Ingestion	760	--	--	--	760	1.4
Dichloroethane, 1,1-	75-34-3	99.8	--	Groundwater Ingestion	99.8	222	1370	630	99.8	0.097
Dichloroethane, 1,2-	107-06-2	0.0213	0.133	Groundwater Ingestion	0.133	0.0354	0.645	1.48	0.0354	0.023
Dichlorobenzene, 1,4-*	106-46-7	0.291	71.6	Groundwater Ingestion/MCL**	0.291	0.473	0.5	1.15	0.291	0.013
Dioxane, 1,4-	123-91-1	0.24	--	Groundwater Ingestion	0.24	14.7	140	322	100 ^f	33.0
Heptachlor*	76-44-8	5,530,000	136,000,000	Groundwater Adult Dermal/MCL**	5,530,000	322,000,000	445,000	1,020,000	445,000	0.00053
TCDD, 2,3,7,8-	1746-01-06	0.0000631	--	Groundwater Adult Dermal	0.0000631	0.00139	0.00000147	0.00000338	0.00000147	0.0000000044 ^g
Trichlorophenoxypropionic acid, 2,4, 5- (Silvex)	93-72-1	8.6	1.43	MCL	1.43	--	28.6	13.1	1.43	0.083
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	94-75-7	9.98	1.86	MCL	1.86	--	71.9	33	1.86	0.39
Dimethylphenol, 2,4-	105-67-9	27.6	--	Groundwater Ingestion	27.6	--	179.0	82.0	27.6	0.14
Acetone	67-64-1	898	--	Groundwater Ingestion	898	--	255,000	117,000	898	20

*Both carcinogenic and noncarcinogenic effects modeled in DRAS (delisting levels were same for each constituent under both scenarios).

**Limiting Pathways Output from DRAS lists two limiting pathways (one for carcinogen and one for non-carcinogen effects) - lowest delisting value proposed to be utilized.

-- No delisting level provided by DRAS.

^a From Maximum Allowable TCLP Concentrations - Groundwater Exposure Pathways Output from DRAS.

^b From Limiting Pathways DRAS Output.

^c In accordance with Sec. 4.2.5.7 of RCRA Delisting Technical Support Document, when DRAS indicates that groundwater ingestion is the limiting groundwater pathway, the user has the option of considering either of the groundwater ingestion pathway delisting levels: the risk-based maximum acceptable TCLP concentration or the MCL-based maximum allowable TCLP concentration. If the groundwater ingestion pathway is the limiting pathway, then the greater of the risk-based maximum acceptable TCLP concentration and the MCL-based concentration is listed in this column.

^d Pursuant to Section 4.2.3 of the Delisting Technical Support Document, Delisting Level is lower of Applicable Groundwater Ingestion Pathway Limit and the maximum allowable concentrations based on groundwater inhalation, adult groundwater dermal, and child groundwater dermal (value shown in **bold**).

^e 40 CFR 261.24 Maximum Concentration of Contaminants For the Toxicity Characteristic used as Delisting Level.

^f See Section 9.2.4 of Delisting Petition for description of derivation of delisting level.

^g Pursuant to pg. 15 of DRAS User's Guide dated 8/31/00, Toxicity Equivalent Quotient (TEQ) for 2,3,7,8-TCDD entered into DRAS and used for comparison to delisting level (see attached calculation).