

ILLINOIS POLLUTION CONTROL BOARD  
December 4, 2008

IN THE MATTER OF: )  
)  
PETITION OF BFI WASTE SYSTEMS OF ) AS 08-5  
NORTH AMERICA, INC. FOR WASTE ) (Adjusted Standard – RCRA)  
DELISTING )

PATRICIA F. SHARKEY OF MCGUIRE WOODS LLC APPEARED ON BEHALF OF BFI WASTE SYSTEMS OF NORTH AMERICA, INC; and

WILLIAM D. INGERSOLL APPEARED ON BEHALF OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.

OPINION AND ORDER OF THE BOARD (by T.E. Johnson):

BFI Waste Systems of North America, Inc. (BFI) petitioned the Board for an adjusted standard to “delist” certain material from the Resource Conservation and Recovery Act (RCRA) list of hazardous wastes. The material at issue is leachate generated at the closed Phase I unit of BFI’s Davis Junction Landfill in Ogle County. “Leachate” is defined as “any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.” 35 Ill. Adm. Code 721.110. BFI’s leachate falls within the category of F039 listed hazardous waste under RCRA. The Illinois Environmental Protection Agency (IEPA) ultimately stated that it does not object to the Board granting the requested delisting. For the reasons in this opinion, the Board grants the adjusted standard, delisting the Phase I unit leachate, subject to the conditions set forth in the order following the opinion.

In this opinion, the Board first provides an overview of the legal framework for today’s decision. Next, the Board describes the procedural background of this case before making its findings of fact. The Board then analyzes the issues and renders its legal conclusions

**LEGAL FRAMEWORK**

Section 22.4 of the Environmental Protection Act (Act) (415 ILCS 5/22.4 (2006)) requires the Board to adopt regulations that are “identical in substance” to federal RCRA regulations. The Board’s regulations identifying hazardous wastes are found in 35 Ill. Adm. Code 721. Generally, under the regulations, a solid waste is considered a hazardous waste if it exhibits a “characteristic” of hazardous waste (ignitability, corrosivity, reactivity, or toxicity) or if it is “listed” as hazardous waste; a characteristic hazardous waste remains a hazardous waste as long as it exhibits a characteristic, but a listed hazardous waste remains a hazardous waste until it is delisted. 35 Ill. Adm. Code 721.103, 721.Subparts C, D.

USEPA lists wastes as hazardous because (1) the wastes “typically and frequently exhibit one or more of the characteristics of hazardous wastes”; (2) the wastes meet the criteria for

listing (*i.e.*, contain significant levels of toxic or carcinogenic constituents, or cause specific detrimental effects on the environment); 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 . . . the ‘mixture’ or ‘derived from’ rules, respectively.” 69 Fed. Reg. 77690, 77692 (Dec. 28, 2004); *see also* “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 5-6, USEPA Region 6 (Mar. 23, 2000). USEPA has acknowledged, however, that “a specific waste from an individual facility may not be hazardous” even though it constitutes a listed waste. 69 Fed. Reg. 77690, 77692 (Dec. 28, 2004). USEPA explained:

Individual wastes may vary depending on raw materials, industrial processes, and other factors. Therefore, 40 CFR §§ 260.20 and 260.22 contain a procedure whereby anyone can petition [US]EPA to exclude or “delist” such a listed waste.

Originally, the overall intent of the delisting process was to ease the regulatory burden on handlers of listed waste improperly captured by the broad listing definitions. Delisting has since evolved to also include listed wastes that are sufficiently treated such that they no longer pose a health threat. “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 6, USEPA Region 6 (Mar. 23, 2000).

Once delisted, petitioned waste is no longer considered a listed hazardous waste, and may be managed as a non-hazardous solid waste. The generator would remain obligated, however, to determine whether the waste is characteristically hazardous waste. “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 9, USEPA Region 6 (Mar. 23, 2000). “Delisting” is a “term of art that refers to the action of excluding a waste or treated waste residue from regulation as a hazardous waste.” Petition of Envirite Corporation for an Adjusted Standard from 35 Ill. Adm. Code 721 Subpart D: List of Hazardous Substances, Appendix I, AS 94-10, slip op. at 1 n.2 (Dec. 14, 1994); *see also* Petition of Keystone Steel and Wire Co. for Hazardous Waste Delisting, AS 91-1, slip op. at 18 (Feb. 6, 1992) (delisted waste “is nonhazardous, as defined in 35 Ill. Adm. Code 721”).

Subpart D of Part 721 sets forth the lists of hazardous wastes. Section 721.131 includes a list of hazardous wastes from non-specific sources (35 Ill. Adm. Code 721.131). *See* 40 C.F.R. §261.31(a). In that list, USEPA hazardous waste number F039 refers to:

Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under Subpart D. 35 Ill. Adm. Code 721.131.

The F039 listing has the hazard code “T,” which refers to “toxic waste,” the basis for its listing. *Id.*; *see also* 35 Ill. Adm. Code 721.130(b)(1). The leachate from the Phase I unit of the Davis Junction Landfill is considered F039 listed hazardous waste.

Appendix G of Part 721 identifies the constituents that caused USEPA to list the waste as a toxic waste (T) in Section 721.131. 35 Ill. Adm. Code 721.130(b)(2). For F039, the hazardous constituents for which the waste is listed are: “All constituents for which treatment standards are

specified for multi-source leachate (wastewaters and nonwastewaters) under Table B to 35 Ill. Adm. Code 728 (Constituent Concentrations in Waste).” 35 Ill. Adm. Code 721.Appendix G (40 C.F.R. 261.Appendix VII). In turn, Table B of Part 728 refers to Table T of Part 728, which sets forth the F039 constituents and corresponding treatment standards for land disposal. *See* 35 Ill. Adm. Code 728.140, 728.Tables B, T (40 C.F.R. §§268.40, 268.41).

Under Section 720.122(n) of the Board’s hazardous waste regulations (35 Ill. Adm. Code 720.122(n)), delistings that have not been adopted by USEPA can be proposed to the Board by way of an adjusted standard petition. Adjusted standard petitions must satisfy Section 28.1 of the Act (415 ILCS 5/28.1 (2006)) and Part 104.Subpart D of the Board’s procedural rules (35 Ill. Adm. Code 104.Subpart D). In accordance with Section 28.1(a) of the Act, persons seeking a RCRA waste delisting must justify the request consistent with Section 27(a) of the Act. Section 27(a) provides:

In promulgating regulations under this Act, the Board shall take into account the existing physical conditions, the character of the area involved, including the character of surrounding land uses, zoning classifications, the nature of the existing air quality, or receiving body of water, as the case may be, and the technical feasibility and economic reasonableness of measuring or reducing the particular type of pollution. 415 ILCS 5/27(a) (2006).

In accordance with Section 28.1(b) of the Act (415 ILCS 5/28.1(b) (2006)), the Board has further specified the level of justification for hazardous waste delistings in Section 720.122 of the Board’s regulations (35 Ill. Adm. Code 720.122). Section 720.122 is substantively identical to the USEPA delisting regulation at 40 C.F.R. §260.22. Section 720.122(n) states that the justification for the adjusted standard “is as specified in subsections (a) through (g) of this Section, as applicable to the waste in question.” 35 Ill. Adm. Code 720.122(n). The Board notes below several of the key requirements under subsections (a) through (g) of Section 720.122.

Subsection (a) of Section 720.122 provides that the Board will grant the delisting petition if the following occur:

- 1) The petitioner demonstrates that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or acute hazardous waste; and
- 2) The Board determines that there is 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, that such factors do not warrant retaining the waste as a hazardous waste. A Board determination under the preceding sentence must be made by reliance on, and in a manner consistent with, “EPA RCRA Delisting Program-- Guidance Manual for the Petitioner,” incorporated by reference in Section

720.111(a).<sup>1</sup> A waste that is so excluded, however, still may be a hazardous waste by operation of Subpart C of 35 Ill. Adm. Code 721 [characteristics of hazardous waste]. 35 Ill. Adm. Code 720.122(a).

For waste that is listed with a “T” for “toxic waste,” as is F039, subsection (d) of Section 720.122 provides:

- 1) The petitioner must demonstrate that the waste fulfills the following criteria:
  - A) It does not contain the constituent or constituents (as defined in Appendix G of 35 Ill. Adm. Code 721) that caused USEPA to list the waste; or
  - B) Although containing one or more of the hazardous constituents (as defined in Appendix G of 35 Ill. Adm. Code 721) that caused USEPA to list the waste, the waste does not meet the criterion of 35 Ill. Adm. Code 721.111(a)(3) when considering the factors used in 35 Ill. Adm. Code 721.111(a)(3)(A) through (a)(3)(K) under which the waste was listed as hazardous.
- 2) Based on a complete petition, the Board will determine, if it 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 hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste.
- 3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics, defined in 35 Ill. Adm. Code 721.121 [ignitability], 721.122 [corrosivity], 721.123 [reactivity], or 721.124 [toxicity], using any applicable methods prescribed in those Sections.
- 4) A waste that is so excluded, however, may still be a hazardous waste by operation of Subpart C of 35 Ill. Adm. Code 721 [characteristics of hazardous waste].<sup>2</sup> 35 Ill. Adm. Code 720.122(d).

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<sup>1</sup> “EPA RCRA Delisting Program--Guidance Manual for the Petitioner,” USEPA Region 6 (Mar. 23, 2000). *See* USEPA Region 6 Delisting Guidance Manual at [http://www.epa.gov/region6/6pd/rcra\\_c/pd-o/dlistpdf.htm](http://www.epa.gov/region6/6pd/rcra_c/pd-o/dlistpdf.htm) (last updated Apr. 26, 2007).

<sup>2</sup> As USEPA has noted, “[a]lthough wastes which are ‘delisted’ (i.e., excluded) have been evaluated to determine whether or not they exhibit any of the characteristics of hazardous waste, generators remain obligated under RCRA to determine whether or not their waste remains non-hazardous based on the hazardous waste characteristics.” 60 Fed. Reg. 6054, 6055 (Feb. 1, 1995).

As discussed later in this opinion, because BFI's leachate contains hazardous constituents that caused USEPA to list F039, BFI has proceeded under subsection (d)(1)(B) of Section 720.122, rather than subsection (d)(1)(A). Accordingly, the factors used in 35 Ill. Adm. Code 721.111(a)(3)(A) through (a)(3)(K) are relevant here. Section 721.111(a) reads as follows:

- a) USEPA stated in corresponding federal 40 CFR 261.11 that it lists a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

\* \* \*

- 3) Toxic waste. The solid waste contains any of the toxic constituents listed in Appendix H of this Part and, after considering the following factors, USEPA concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed:

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- A) The nature of the toxicity presented by the constituent;
- B) The concentration of the constituent in the waste;
- C) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in subsection (a)(3)(G) of this Section;
- D) The persistence of the constituent or any toxic degradation product of the constituent;
- E) The potential for the constituent or any toxic degradation product of the constituent to degrade into nonharmful constituents and the rate of degradation;
- F) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems;
- G) The plausible types of improper management to which the waste could be subjected;
- H) The quantities of the waste generated at individual generation sites or on a regional or national basis;
- I) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of the wastes containing the constituent;

- J) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent; and
- K) Such other factors as may be appropriate. 35 Ill. Adm. Code 721.111(a).

Though BFI acknowledges that the Phase I unit leachate contains some of the constituents for which F039 was listed as a hazardous waste, BFI maintains that its analysis demonstrates that the leachate does not contain concentrations of those constituents that meet the criterion for listing F039 as a toxic waste under 35 Ill. Adm. Code 721.111(a)(3). Br. at 2.

In addition to the “EPA RCRA Delisting Program--Guidance Manual for the Petitioner,” USEPA Region 6 (Mar. 23, 2000), the Board has looked to whether the petitioner addressed USEPA’s Delisting Risk Assessment Software (DRAS) when the Board has considered a delisting request. *See* Petition of BP Products North America, Inc. For RCRA Waste Delisting Under 35 Ill. Adm. Code 720.122, AS 07-1, slip op. at 7-9 (Feb. 15, 2007). DRAS is a computer program that that predicts potential risks to human health and the environment posed by wastes if they are delisted and disposed of in an unlined Subtitle D landfill or surface impoundment.<sup>3</sup>

For a given waste stream, DRAS calculates the waste’s cumulative cancer risks and non-carcinogenic hazard indices, as well as back-calculates each waste constituent’s maximum allowable waste constituent concentration permissible for delisting. The use of DRAS is not a regulatory requirement when evaluating a petitioned waste, and DRAS risk assessment results are but one factor the Board may consider in its delisting decision. *See* BP Products North, AS 07-1, slip op. at 6 n.2; USEPA Region 6 RCRA-Risk Assessment Program at [http://www.epa.gov/earth1r6/6pd/rcra\\_c/pd-o/midlo.htm#risk](http://www.epa.gov/earth1r6/6pd/rcra_c/pd-o/midlo.htm#risk) (last updated Sept. 10, 2007); PC 2 at 1.

The Board has also relied upon USEPA’s “RCRA Delisting Technical Support Document,” USEPA Region 6, EPA906-D-98-001 (Aug. 1, 2000). *See* BP Products, AS 07-1, slip op. at 7. The Delisting Technical Support Document delineates all chemical release, exposure, and risk assessment algorithms used by DRAS. *See* USEPA Region 6 Delisting Technical Support Document at [http://www.epa.gov/earth1r6/6pd/rcra\\_c/pd-o/dtsd.htm](http://www.epa.gov/earth1r6/6pd/rcra_c/pd-o/dtsd.htm) (last updated Apr. 26, 2007).

### **PROCEDURAL BACKGROUND**

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<sup>3</sup> A “surface impoundment” is “a facility or part of a facility that is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials) that is designed to hold an accumulation of liquid wastes or wastes containing free liquids and which is not an injection well. Examples of surface impoundments are holding, storage, settling and aeration pits, ponds, and lagoons.” 35 Ill. Adm. Code 720.110.

On November 21, 2007, BFI filed its adjusted standard petition for waste delisting (Pet.), accompanied by a Technical Support Document (Att. 1) prepared by BFI's consultant, Weaver Boos Consultants North Central, LLC (Weaver Boos). On December 10, 2007, BFI filed a certificate of publication, documenting that notice of the petition was published on November 28 and 29, 2007, in *The Rockford Register Star*. As discussed below, effective December 30, 2007, "BFI Waste Systems of North America, Inc.," a Delaware corporation registered to do business in Illinois, became the Delaware limited liability company "BFI Waste Systems of North America, LLC."

On January 10, 2008, the Board issued an order finding that BFI had met the adjusted standard notice requirements of the Act and the Board's procedural rules (415 ILCS 5/28.1(d)(1) (2006); 35 Ill. Adm. Code 104.408(a)). In the same order, the Board accepted the delisting petition for hearing (35 Ill. Adm. Code 104.422).

IEPA filed a recommendation on March 28, 2008 (Rec.). IEPA recommended that the Board deny BFI's adjusted standard request. By order of April 4, 2008, the Board's hearing officer directed BFI to respond to a number of attached questions prepared by Board staff. On April 14, 2008, BFI filed a response to IEPA's recommendation (Resp.), along with a motion to amend the petition, attaching the amendment (1st Am. Pet.).

On April 17, 2008, the Board issued an order granting BFI's motion to amend the original petition and accepting the first amendment for consideration. On April 24, 2008, IEPA filed an amended recommendation (Am. Rec.), stating that IEPA does not object to BFI's waste delisting request after taking into account BFI's first amendment. On May 6, 2008, BFI submitted prefiled testimony (PFT) in response to the questions posed through the hearing officer order of April 4, 2008.

The Board's hearing officer held a public hearing in this case on May 15, 2008, at the Ogle County Judicial Center in Oregon. The hearing was transcribed (Tr.). Three witnesses testified on behalf of BFI: Elizabeth A. Steinhour, a Senior Project Manager with Weaver Boos; Michael B. Maxwell, a Senior Project Manager with Weaver Boos; and Patricia F. Sharkey of McGuire Woods LLC. Tr. at 5, 14-15, 33-34; Pet., App. I. Mark L. Crites, a hazardous waste permit reviewer with IEPA, testified on behalf of IEPA. Tr. at 88. No exhibits were offered at hearing.

On June 30, 2008, BFI filed a post-hearing brief (Br.). Also on June 30, 2008, BFI filed a motion to amend its adjusted standard petition, attaching the second amendment (2nd Am. Pet.). The Board grants BFI's motion to amend and accepts the second amendment. On July 14, 2008, IEPA filed a response brief (Resp. Br.), stating that IEPA does not object to BFI's waste delisting request after taking into account BFI's second amendment.

On July 24, 2008, BFI filed a reply brief (Reply Br.) and a notice of corporate conversion and name change (Corp. Notice). On the same date, BFI filed a motion to amend its adjusted standard petition, attaching the third amendment (3rd Am. Pet.). IEPA made no filing in response to this motion, which is granted. Also on July 24, 2008, BFI filed a motion to correct the hearing transcript. IEPA has not responded to this motion, which is granted.

Two public comments were entered into the record: an e-mail of May 6, 2008, to Board staff from Todd D. Ramaly, Environmental Scientist, RCRA Programs Section, USEPA Region 5, with attachments (PC 1); and a letter of July 16, 2008, to Board staff from Dale Meyer, Chief, RCRA Programs Section, USEPA Region 5 (PC 2).

## **FACTS**

### **Davis Junction Landfill**

The Davis Junction Landfill is located at 8902 N. Route 251, which is in Ogle County, approximately one mile south of the Winnebago County line. Pet. at 1, 9, Att. 1 at 2, 8. The closest town is Davis Junction, which is located about two miles to the south. Roughly four miles to the north is Illinois Highway 20 and the City of Rockford, and approximately two miles to the east is Interstate 39. The Davis Junction Landfill adjoins Illinois Route 251. The truck entrance for the landfill is on Scott Road, just west of Route 251. Pet. at 9, Att. 1, Fig. 1, 2. The landfill occupies approximately 160 acres and is surrounded predominantly by farmland. Pet. at 9, Att. 1, Fig. 1.

### **Phase I Landfill Unit and Leachate**

The Phase I unit of the Davis Junction Landfill operated from December 1976 to January 1983 and was certified closed in December 1984. Pet. at 7, Att. 1 at 6, 7. The Phase I unit was a combined municipal solid waste (MSW) and RCRA Subtitle C hazardous waste disposal facility. Pet., Att. 1 at 6. The area of the Phase I unit occupies approximately 29.5 acres. *Id.*

The Davis Junction Landfill includes two other closed landfill units, Phase II and Phase III. Phases II and III accepted only MSW. The Phase I unit at issue in this adjusted standard request is separated from the two closed MSW units (Phases II and III) by a clay berm and has separate leachate collection and storage systems. Pet. at 1, n.1, Att. 1 at 6. The Phase II unit covers about 21.2 acres, while Phase III covers approximately 22.7 acres. Pet., Att. 1 at 8.

During the Phase I unit's active life, 87% of the waste received was general municipal refuse, 11% was special waste,<sup>4</sup> and less than 2% was considered hazardous waste. Pet., Att. 1 at 6; Tr. at 15-16. The total volume of waste placed in Phase I is estimated at 1,900,000 cubic yards, with approximately 26,000 cubic yards defined under current federal criteria as hazardous waste. Roughly 96% of the 26,000 cubic yards consisted of heavy metal sludges; the remaining 4% consisted primarily of spent solvent still bottoms, spent solvent sludges, petroleum refining residues, rodenticides, glycol, polystyrene, and phthalic anhydride. BFI provided a 23-page list that includes a description of the hazardous waste disposed of in Phase I, its waste code, its volume, and in most instances, the generator's name. Pet., App. A.; Tr. at 15-16

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<sup>4</sup> "Special waste" means "*any hazardous waste, and any industrial process waste or pollution control waste which has not been declassified pursuant to Section 808.245.*" 35 Ill. Adm. Code 808.110 (quoting in italics 415 ILCS 5/3.45 (2006)).

Leachate from the Phase I unit is considered hazardous because of the historic disposal of hazardous wastes within the unit. The leachate itself is typically a cloudy liquid of brownish color, and is estimated to contain less than 0.5% solids. Pet., Att. 1 at 6, 21. The leachate is collected within a leachate collection system and mechanically pumped through pipes in the unit to an on-site, 20,000-gallon aboveground storage tank. The leachate is then disposed of off-site on a regular “as needed” basis via 5,000-gallon tanker trucks. *Id.* at 6, 8-9, 16; Tr. at 132. The original leachate collection system began operating in 1982. Installing the current upgraded leachate collection and extraction system was undertaken in 1998-99. Pet., Att. 1 at 7-9. Specifically, a new cover system was installed consisting of a 36-inch thick final cover protective layer; a geotextile filter fabric; a geonet drainage layer; a 40-mil polyethylene geomembrane; and a 24-inch compacted clay layer. When constructing the improved cover, a dual leachate/gas extraction system consisting of extraction wells, head wells, and a header system was also installed in Phase I. *Id.* at 9.

Phase I has 15 leachate extraction wells. Pet., Att. 1 at 9. The leachate is removed from each well by a submersible pump and conveyed in header piping buried in the cover. Before being routed into the storage tank, the leachate is fed to the leachate and gas condensate sumps. *Id.* The storage tank is a dedicated hazardous waste storage tank installed in a secondary containment structure made of concrete. In an effort to contain potential leaks or spills during loading, the loading of leachate occurs within a concrete load out pad. *Id.* Improvements were made to the efficiency of the leachate extraction system in 2004 and 2006, increasing the volume of leachate extracted. *Id.* (e.g., well replacement and new force main (Pet. at 5)).

BFI transports the leachate to a RCRA liquid hazardous waste treatment facility for disposal. Pet. at 8. There have been no spills during the transport of leachate from the Davis Junction Landfill for treatment. Tr. at 66-67. At the time of BFI’s original petition, the closest RCRA liquid hazardous waste treatment facility and the one used by BFI was the CID Recycle and Disposal facility (CID), located at 138th and Bishop Ford Expressway in Calumet City, over 100 miles away. Pet. at 2-3, 12. The leachate volume hauled to CID in 2002, 2003, 2004, 2005, and 2006 was, respectively, 468,300 gallons, 290,000 gallons, 221,100 gallons, 294,000 gallons, and 335,650 gallons. Pet., Att. 1 at 7, Table 1. CID later notified BFI that CID no longer had the capacity to accept the leachate. PFT at 8. BFI then began transporting to the next closest facility, located in Vickery, Ohio, approximately 268 miles from Davis Junction Landfill. To do so, BFI has incurred costs of \$2,250 per 5,000-gallon tanker truck. Since the time of the hearing, CID informed BFI that CID can once again accept the leachate, but BFI has no assurance as to how long CID will continue to accept the waste. Br. at 6-7.

If the waste is delisted, BFI plans to haul the leachate to Interstate Pollution Control, Inc. (IPC), which is a waste water treatment facility (WWTF) located some seven miles away, or another similarly equipped local facility. Pet. at 3, 12. BFI estimates the maximum volume of leachate would be less than 500,000 gallons per year. *Id.* at 2. The cost of transporting and disposing of F039 hazardous waste leachate is approximately \$0.338 per gallon, compared to \$0.045 per gallon for leachate designated as non-hazardous special waste. *Id.*

Both CID and IPC subject leachate to treatment processes. CID uses a basic aerobic biological treatment process. Pet., Att. 1 at 7. IPC uses a series of chemicals for treatment,

including aluminum sulfide, calcium chloride, ferric chloride, and a polymer for flocculation. *Id.* IPC then discharges to a publicly owned treatment works (POTW), the Rock River Water Reclamation Treatment Facility, which monitors its discharge for compliance with both federal pretreatment and National Pollutant Discharge Elimination System (NPDES) permit requirements. Pet. at 21, Att. 1 at 37; Br. at 3. Before 1997, the Phase I unit leachate was transported to Louisiana for deep well injection. Pet., Att. 1 at 7.

The Phase I unit's post-closure care period under the RCRA Part B permit is to end, at the earliest, on December 5, 2014. The leachate collection and removal system must continue operating throughout the post-closure care period until pumpable levels of leachate are no longer present. Pet., Att. 1 at 6, App. H (RCRA permit). BFI anticipates the remaining RCRA post-closure period to be seven years, although the period could be extended by IEPA if pumpable levels of leachate exist after seven years. Pet. at 1. The volume of leachate has generally declined since the new cap was installed in 1998-99. *Id.* at 3-4; Pet., Att. 1 at 11; Tr. at 16.

### **Sampling**

#### **Initial List of Constituents of Concern**

For purposes of its delisting petition, BFI arrived at an "initial list" of constituents of concern (CoCs) from those compounds that are part of the regular annual sampling of Phase I unit leachate (35 Ill. Adm. Code 724.Appendix I "Groundwater Monitoring List"), coupled with the parameters of a supplemental sampling and analysis plan (SAP). Pet., Att. 1 at 11.

Under the facility RCRA Part B permit, sampling and laboratory analysis of the leachate has been conducted annually for over 230 constituents listed in 35 Ill. Adm. Code 724.Appendix I (40 C.F.R. 264.Appendix IX). Pet., Att. 1 at 11, App. C. BFI provided nine years of data, collected during the period from 1999-2007, with 1999 being the year during which the upgraded final cover installation was completed. *Id.*; Tr. at 16.

BFI submitted a supplemental SAP to IEPA in 2004, which included (1) constituents previously observed at concentrations exceeding F039 treatment standards; (2) toxicity characteristic constituents (Table 1—Maximum Concentration of Contaminants for the Toxicity Characteristic, 35 Ill. Adm. Code 721.124(b) (40 C.F.R. §261.24(b)); and (3) the characteristics of ignitability, reactivity, or corrosivity. Pet., Att. 1 at 11-12. The supplemental SAP was implemented over five sampling events during April, May, and June 2005. *Id.* at 12.

In all, BFI conducted 15 sampling events covering over 10,000 data points and approximately 300 constituents. Pet., Att. 1, App. D; Tr. at 19.

#### **Final List of Constituents of Concern**

BFI's first proposed "final list" of constituents to be monitored for compliance with delisting levels consisted generally of all detected metals and organics from the toxicity characteristics list (35 Ill. Adm. Code 721.124), together with all additional constituents that

were detected at any time during the nine years of sampling for the “initial list” of constituents. Pet., Att. 1 at 12. These 39 constituents of concern were:

<b>Metals</b>			
Arsenic	Chromium	Lead	Tin
Barium	Cobalt	Mercury	Vanadium
Cadmium	Copper	Nickel	Zinc

<b>Volatile Organic Compounds (VOCs)</b>			
1,1 -Dichloroethane	Carbon Disulfide	Methyl ethyl ketone	Toluene
1,2-Dichloroethane	Cis- 1,3-Dichloropropylene	Methylene chloride	Trichloroethylene
1,4-Dioxane	Ethylbenzene	Methyl-iso-butyl ketone	Vinyl chloride
Acetone	Isobutyl alcohol	Styrene	Xylenes (total)
Benzene	Methanol	Tetrachloroethylene	

<b>Semi-Volatile Compounds</b>		
2,4-Dimethylphenol	Naphthalene	p-Cresol
Diethyl phthalate	Phenol	

<b>Herbicides</b>	
2,4,5-TP (Silvex)	2,4-D

<b>Pesticides</b>
Endrin

Pet., Att. 1 at 21-22.

After Board staff questioning about constituents in BFI’s data having been detected but not included in BFI’s initially proposed final list of 39 CoCs, BFI added the following compounds to that list:

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

PFT at 9-10.

### **Delisting Levels**

Primarily through the use of DRAS, BFI developed a delisting level for each of the 43 final constituents of concern. Pet., Att. 1 at 31-36, App. D, Table III; PFT at 9-10, 16-18, 19-22,

Att. 2-4; Br. at 22-24, Att. 7; Tr. at 38-39. The proposed delisting levels and the sources used by BFI to derive the concentrations are identified in the table beginning at page 32 of this opinion.

### **Corporate Conversion and Name Change**

Effective December 30, 2007, “BFI Waste Systems of North America, Inc.,” a Delaware corporation registered to do business in Illinois, was converted into a Delaware limited liability company and changed its name to “BFI Waste Systems of North America, LLC.” Corp. Notice at 1, Att. A. BFI Waste Systems of North America, LLC was granted approval to transact business in Illinois on January 15, 2008. *Id.*

## **DISCUSSION**

### **Delisting Request**

Through its adjusted standard petition for a RCRA waste delisting, BFI seeks permission to allow leachate generated at its closed Davis Junction Landfill Phase I unit to be treated as non-hazardous special waste under circumstances described by BFI as “very limited.” Br. at 1. As proposed, the leachate would not be considered delisted unless disposed of in a waste water treatment facility (WWTF) in Illinois with a pretreatment program approved by USEPA. Accordingly, if the leachate is disposed of elsewhere, or if a release occurs from the tanker truck before delivery to the WWTF, the delisting would not apply and the leachate would be subject to RCRA Subtitle C hazardous waste regulation. *Id.* at 1-2, 4; Tr. at 20-23, 25, 28. Absent the adjusted standard, the Phase I unit leachate is regulated as a “listed hazardous waste,” classified by the waste code F039, hazard code “T” for “toxic waste,” under 35 Ill. Adm. Code 721.131 (hazardous waste from nonspecific sources). Pet. at 2.

The proposed duration of the adjusted standard is “limited . . . to the time during which a RCRA Post-Closure Permit requires operation of a leachate collection system.” Pet. at 17. BFI anticipates that this timeframe will be approximately seven years, but requests “no absolute time limit be established in the Adjusted Standard because Illinois EPA may require that the leachate collection system continue to operate for a longer period of time.” *Id.*

As proposed, the on-site handling and storage of the Phase I unit leachate would remain subject to RCRA hazardous waste requirements and pollution control equipment. Pet. at 10. The adjusted standard’s scope would be limited to leachate generated while the Phase I unit is subject to a RCRA Post-Closure Permit, which prohibits disposal of any new waste, requires maintenance of the existing landfill cap and liner, and requires operation of a leachate collection system. Pet. at 16. The adjusted standard would also assure that the leachate would be hard-piped from the collection system to the RCRA-permitted on-site storage tank prior to off-site transportation. The proposed language for the delisting prohibits the leachate from being stored or managed in a surface impoundment, conveyed by ditches, or otherwise managed before being hauled for off-site disposal. BFI states that the adjusted standard therefore will not allow the leachate to be managed in any way that “could result in contamination of the leachate and/or a release of the leachate directly to the environment.” *Id.* at 17. The leachate would not be

considered delisted until it is loaded into the truck. Br. at 19; Tr. at 28, 31; *see also* proposed condition (i) below.

BFI seeks to delist the leachate so that BFI may dispose of the leachate as non-hazardous special waste at a WWTF, saving BFI up to an estimated \$146,500 annually for transport and disposal. Pet. at 1, 3, 12. Specifically, BFI estimates the maximum volume of leachate would be less than 500,000 gallons per year. *Id.* at 2. The cost of transporting and disposing of F039 hazardous waste leachate is approximately \$0.338 per gallon, compared to \$0.045 per gallon for leachate designated as non-hazardous special waste. *Id.* at 12. Annual cost savings resulting from the delisting would be approximately \$29,300 for every 100,000 gallons generated or, at the estimated maximum volume of 500,000 gallons per year, a savings of \$146,500 annually in disposal and transportation costs. *Id.*

The adjusted standard would be conditional upon the Phase I unit leachate being transported only in Illinois and disposed of in Illinois as an Illinois special waste pursuant to 35 Ill. Adm. Code 809. As BFI explains, this “assures that the leachate will be tracked from the landfill to disposal by way of a Special Waste manifest” and be subject to “Special Waste hauler permitting,” as is the leachate generated at the Davis Junction Phase II and III units. Pet. at 10-11, 19; Tr. at 21-22. The Board further notes that Part 809 imposes recordkeeping requirements on special waste generators:

Every generator who delivers special waste to a special waste transporter, every person who accepts special waste from a special waste transporter and every special waste transporter shall retain their respective parts of the special waste manifest as a record of all special waste transactions. These parts shall be retained for three years and will be made available at reasonable times for inspection and photocopying by [IEPA]. 35 Ill. Adm. Code 809.501(g).

In addition, the adjusted standard would require that compliant leachate test results and the WWTF’s name be provided to IEPA at least 30 days before transporting the first load.

Along with enabling BFI to dispose of the Phase I unit leachate as a non-hazardous special waste, the adjusted standard would allow BFI to transport the leachate over a shorter distance. The WWTF, IPC (where the leachate from the non-hazardous Phase II and Phase III units is disposed), is located less than 10 miles from the Davis Junction Landfill. The closest liquid hazardous waste disposal facility, CID (where the Phase I unit leachate is currently disposed), is located over 100 miles away. Br. at 1; Pet. at 3, 12-13. The current long distance to transport the Phase I unit leachate is “energy inefficient and generates excess air pollution in the form of diesel emissions, including carbon dioxide, nitrogen oxide, volatile organics, particulate, Hazardous Air Pollutants, and soot.” Pet. at 21. BFI continues:

Based on simple mathematics, hauling the leachate over ten times further to CID generates over 90% more emissions and uses 90% more fuel than hauling the leachate to the IPC facility. It also results in an increased potential for highway accidents resulting in releases to the environment. *Id.*

Steinhour of Weaver Boos, BFI's consultant, testified that the consultant's analysis showed no statistically significant difference between the leachate from the hazardous (Phase I) and non-hazardous (Phases II and III) units at the landfill. Tr. at 18; *see also* Pet., App. D. Maxwell of Weaver Boos confirmed at hearing that IPC has had no concerns with the discharge from its treatment process after having accepted leachate from Phases II and III. Tr. at 82-83. BFI's consultants testified they have already shared Phase I unit leachate data with IPC personnel, and IPC has indicated the leachate could be treated at its plant. Tr. at 25, 86.

Additionally, the WWTF is expected to provide "equal or better treatment than this leachate is currently receiving as a listed hazardous waste." Br. at 1, citing Tr. at 83. CID uses a biological treatment system to achieve its NPDES discharge limits. IPC uses a chemical treatment process and discharges to a POTW. Pet. at 21. Accordingly, wastewater from the WWTF would be discharged not to the environment, but rather to a POTW, itself subject to NPDES permit requirements. Br. at 3; Pet., Att. 1 at 37; Tr. at 91-92. At hearing, BFI's attorney, Sharkey of McGuire Woods LLC, emphasized that the Phase I unit leachate is "not only going to be pretreated at a pretreatment plant at IPC, it will then go to POTW where it will be treated again. So it's going to get double treatment as opposed to those others [USEPA delistings] that are land disposal." Tr. at 65. Steinhour added that not only will BFI be assessing the leachate, but so will the receiving facilities of IPC and the Rock River Reclamation District, both of which are independent entities. Tr. at 84; *see also* Br. at 19.

BFI maintains that under these circumstances, the modeling it has performed and the delisting levels it has proposed "should be considered very conservative." Br. at 3-4. BFI modeled the risk of a worst-case spill on route to the WWTF. Though no direct land application of the leachate is allowed under the proposed adjusted standard, BFI evaluated USEPA's DRAS model assuming a worst-case scenario of direct land disposal into an unlined surface impoundment. Pet., Att. 1 at 4. In addition, BFI used the highest level of the constituents detected over its nine years of data collection, a  $10^{-6}$  cancer risk level, and a hazard index of 1.0. *Id.*, citing PFT at 4-8, Tr. at 37-38, 69-78. The highest measured data points for two constituents, vinyl chloride and 1,4-dioxane, exceeded the calculated DRAS limits. For vinyl chloride, BFI proposes USEPA's characteristic toxicity limit as the delisting level. For the 1,4-dioxane, BFI proposes a delisting level based on a site-specific and constituent-specific risk analysis, akin to a Tier 2 Tiered Approach to Corrective Action Objectives (TACO) assessment. Br. at 4, citing Pet., Att. 1 at 32-36; PFT at 16-18; Tr. at 40-43, 119-123.

BFI considered alternatives to the requested relief, in addition to continued disposal at a liquid hazardous waste treatment facility. Other "theoretically available" alternatives for disposal include (1) constructing, operating, and permitting an on-site treatment facility or underground injection well and (2) constructing a sewer system to convey the leachate to a WWTF. Pet. at 13. These options, BFI asserts, are "potentially risky" and would necessitate "substantial capital and operating expenditures." *Id.* For example, underground injection wells, which require the presence of suitable geologic formations, can adversely impact drinking water resources. Building an on-site hazardous waste treatment unit would wastefully duplicate the nearby WWTF's treatment technologies, and all for a relatively small volume of leachate coming from a closed landfill "with a limited remaining post-closure period." *Id.* at 13-14. BFI maintains that these expenses are especially unwarranted in light of the similarity between the

Phase I leachate and Phase II and III leachate, the latter of which is disposed of at IPC without pretreatment or other capital expenditures. *Id.* at 14. The Davis Junction Landfill's rural location rules out any economical construction of a sanitary sewer system. Tr. at 17

### **IEPA's Recommendations and BFI's Petition Amendments**

IEPA initially recommended that the Board deny BFI's delisting request. IEPA expressed concern over the prospects for land disposal of BFI's Phase I unit leachate resulting from a release prior to delivery. Rec. at 2-3. IEPA wanted assurances that the delisting would be conditioned upon the leachate being disposed of at a WWTF located in Illinois that has a pretreatment program approved by USEPA. *Id.* at 3. IEPA also wanted the adjusted standard language to require more sampling events during the first 12 months of the delisting than BFI's then-proposed quarterly leachate sampling alone. *Id.*

In response, BFI filed its first amendment to the petition, clarifying that the delisting would only apply to leachate that is transported to and received by a permitted WWTF, located in Illinois, with a USEPA-approved pretreatment program. 1st Am. Pet. at 2. BFI also proposed IEPA's suggested sampling language, including the additional requirement of taking a representative sample from the first three truckloads of leachate hauled under the delisting. *Id.* at 3-4.

IEPA then filed an amended recommendation stating that BFI's proposed revisions addressed IEPA's concerns, including the concern about "the release of the leachate while in transport prior to delivery to a waste water treatment facility." Am. Rec. at 2. IEPA therefore stated that it "does not object to the adjusted standard requested by BFI." *Id.*; *see also* Tr. at 87-91.

BFI filed a post-hearing brief, together with a second amendment to its petition. BFI proposes further amending the delisting language, this time proposing that the initial sampling be performed before leachate transport rather than sampling from the first three truckloads of leachate hauled under the delisting. Specifically, BFI proposes that at least thirty days before transporting the first load of delisted leachate, BFI would submit to IEPA the test results of a representative sample of the leachate demonstrating compliance with the adjusted standard requirements. Br. at 26; 2nd Am. Pet. at 2. The sample would be obtained from the RCRA-regulated leachate storage tank instead of from individual tanker trucks, as had been proposed. Br. at 26.

IEPA in turn filed a response brief stating that the newly-proposed adjusted standard language in BFI's second amendment "addressed the Illinois EPA's concerns with the requested adjusted standard and the Illinois EPA does not object to the requested adjusted standard." Resp. Br. at 2.

With its reply brief, BFI filed a motion to amend (Mot. Amend) its adjusted standard petition, attaching the third amendment. IEPA did not respond to the motion, which the Board granted above. With this amendment, BFI addresses, among other things, the corporate conversion and name change from "BFI Waste Systems of North America, Inc." to "BFI Waste

Systems of North America, LLC.” Mot. Amend at 3. Counsel for BFI represents that she discussed this conversion and name change with counsel for IEPA, “who agreed that these changes do not affect the Petition in this case.” *Id.* BFI explains:

As a matter of law, BFI Waste Systems of North America, LLC succeeds to all of the rights and obligations of BFI Waste Systems of North America, Inc. It also maintains the same FEIN number. All representations made in the Petition . . . remain unchanged. Amendments to the Adjusted Standard language proposed today are designed to reflect this change in the corporate form and name of BFI and to clarify that the Adjusted Standard applies to the leachate generated at Phase I Unit of the Davis Junction Landfill and the permitted post-closure operator of the closed Phase I Unit at the Davis Junction Landfill, regardless of this or any future change in corporate ownership, form or name. *Id.*

IEPA has filed no amended recommendation in response to the third amendment of BFI’s petition.

### **Conditional Delisting**

The type of relief sought by BFI is considered a “conditional delisting” under USEPA guidance. Br. at 1, Att. 1. USEPA described the nature of a conditional delisting:

In [USEPA’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. “National Policy for Hazardous Waste Delistings” at 2, Memorandum from Elizabeth A. Cotsworth, Acting Director, Office of Solid Waste, to Regional RCRA Senior Policy Advisors, RO 14282 (July 1, 1998) [http://www.epa.gov/region6/6pd/rcra\\_c/pd-o/dlistpol.pdf](http://www.epa.gov/region6/6pd/rcra_c/pd-o/dlistpol.pdf).

USEPA has stated that it grants conditional exclusions “when the petitioned waste meets the criteria for delisting, yet we believe the waste may exhibit future variability that may be of concern.” “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 7, USEPA Region 6 (Mar. 23, 2000). Accordingly, USEPA imposes “post-exclusion testing requirements that the petitioner must meet prior to waste disposal.” *Id.* USEPA 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.” “National Policy for Hazardous Waste Delistings” at 2, Memorandum from Elizabeth A. Cotsworth, Acting Director, Office of Solid Waste, to Regional RCRA Senior Policy Advisors, RO 14282 (July 1, 1998). A conditional delisting “reduce[s] the uncertainty caused by the potential unrestricted use or management to delisted waste.” *Id.*

BFI’s leachate would exit the hazardous waste management system under specified circumstances and, in some instances, could re-enter the hazardous waste management system. Specifically, before being loaded into the tanker truck, the leachate would remain subject to the

RCRA Subtitle C hazardous waste program. During transport, the leachate would be regulated by the Illinois special waste manifest program. Before discharge from the WWTF, the leachate would be subject to the Clean Water Act pretreatment and NPDES discharge requirements for treatment. If the leachate is not disposed of in a permitted and approved pretreatment WWTF, or if a release occurs from the tanker truck prior to delivery to the WWTF, the delisting would not apply and the leachate would be subject to RCRA Subtitle C hazardous waste regulation. Br. at 1-2.

As BFI explains its delisting request:

if the leachate were transported somewhere else, spilled along the way, or otherwise disposed of, it would not be covered by the delisting and would be considered a listed hazardous waste subject to all applicable requirements of the Resource Conservation and Recovery Act (“RCRA”) program. Among other things, this clarification assures that the RCRA program corrective action clean-up requirements will be triggered in the unlikely event that a spill occurs during the transport of the leachate to the wastewater treatment facility. 1st Am. Pet. at 3.

BFI characterizes its proposal as a “cradle to grave” approach in that the leachate would always be “covered by a regulatory program” (*i.e.*, RCRA Subtitle C, Illinois special waste manifesting, or Clean Water Act pretreatment and NPDES). Br. at 2.

### **Proposed Adjusted Standard Language**

BFI’s proposed adjusted standard language reads as follows:

Leachate generated at the closed Phase I Unit at the BFI Waste Systems of North America Davis Junction Landfill in Davis Junction, Ogle County, Illinois, RCRA ID No. ILD980700751, shall not be deemed a hazardous waste pursuant to 35 Ill. Adm. Code 721 under the following circumstances:

- a. The Phase I Unit is subject to an Illinois Environmental Protection Agency RCRA Post-Closure Permit which prohibits the disposal of any new solid or liquid waste in the Phase I Unit, requires maintenance of the landfill cap and liner, and requires operation of a leachate collection system;
- b. The leachate is hard-piped directly from the landfill to an on-site storage tank which is regulated under the RCRA Post-Closure Permit and is not stored or managed in a surface impoundment, conveyed by ditches or otherwise managed prior to transportation for off-site disposal;
- c. The leachate does not exhibit any characteristic of hazardous waste as defined in 35 Ill. Adm. Code 721.121, 721.122, 721.123 and 721.124 and also does not exceed the delisting level concentrations in Table A below.

Other than for the toxicity characteristics which are reflected in the delisting level concentrations in Table A below, compliance with a hazardous characteristic may be demonstrated based upon the operator's knowledge of the leachate characteristics.

- d. Prior to commencing initial transportation and disposal of the leachate pursuant to this Adjusted Standard, and quarterly thereafter for the first 12 months following the effective date of this Adjusted Standard, the operator shall test a representative sample of the leachate and submit test results demonstrating compliance with the requirements of paragraph (c) above to the Illinois Environmental Protection Agency. Quarterly sampling shall continue until such time as the operator has demonstrated compliance (including, if necessary, a compliance demonstrated by a verification test) in four consecutive quarters. Thereafter, such testing shall continue on a semi-annual basis. For any such initial, quarterly, or annual testing, if an original sample fails to meet the requirements of paragraph (c), then a verification sample will be collected within 7 days and Verification Testing shall be performed for the constituent(s) which failed to meet the requirements of paragraph (c). A verified failure to meet the requirements in paragraph (c) will be deemed present if both the original and verification sample fail to meet such requirements.
- e. If a failure to meet the requirements in paragraph (c) is verified pursuant to the verification procedures in paragraph (d), the operator shall notify the Illinois EPA and the leachate shall not be transported or disposed of except as a hazardous waste until such time as it is demonstrated by the Confirmatory Testing procedures below to meet the requirements of paragraph (c). Prior to re-initiating transportation and disposal pursuant to this Adjusted Standard, the operator must perform Confirmatory Testing, including testing of a minimum of four representative samples taken over not less than a 14 day period, each of which confirms that the leachate meets the requirements of paragraph (c), and the operator shall submit such results to the Illinois Environmental Protection Agency with a notification it intends to re-initiate transportation and disposal pursuant to the Adjusted Standard.
- f. The leachate is transported in compliance with the requirements applicable to an Illinois Special Waste (35 Ill. Adm. Code Part 809) to and received by a permitted waste water treatment facility located in Illinois which has a Pretreatment Program which has been approved by the United States Environmental Protection Agency.
- g. At least 30 days prior to transporting the first load of delisted leachate, the operator shall provide the Illinois Environmental Protection Agency with the results of a test of a representative sample of the leachate demonstrating compliance with the requirements of paragraph (c) and a

one-time written notification stating that it intends to commence transportation of delisted leachate pursuant to this delisting and the name of the waste water treatment facility to which the leachate will be transported. If the operator changes disposal facilities, it shall provide to Illinois Environmental Protection Agency a one-time written notification of such change; and

- h. The operator shall not transport the leachate pursuant to this Adjusted Standard outside of the State of Illinois.
- i. This adjusted standard waste delisting shall apply once the leachate is loaded for transport at the Davis Junction Landfill in Davis Junction, Ogle County, Illinois and during any subsequent transportation and handling, but shall not apply to any leachate from the Davis Junction facility which is released from the tanker truck to the environment (at the Davis Junction facility or at any other location) prior to delivery to a permitted waste water treatment facility as described in paragraph (f) above.
- j. Any such leachate released to the environment as described in paragraph (i) above shall be considered a Resource Conservation and Recovery Act ("RCRA) listed hazardous waste and any such released leachate shall be addressed in accordance with applicable RCRA requirements.

**Table A**

<b>Constituent of Concern</b>	<b>Delisting Level (mg/L)<sup>5</sup></b>
Arsenic	0.525
Barium	100
Benzene	0.153
Cadmium	0.409
Carbon Disulfide	118
Chromium	5.0
Dichloropropene, cis-1, 3-	1,206
Cobalt	60.2
Copper	24,700
Diethyl phthalate	1,270
Endrin	32,700
Ethylbenzene	57.2
Isobutyl alcohol	299
Lead	5.0
Mercury	0.2
Methanol	499
Methyl ethyl ketone	200
Methylene chloride	0.198

<sup>5</sup> Milligrams per liter (mg/L).

Methyl isobutyl ketone	79.8
Naphthalene	6.51
Nickel	76.8
Cresol, p-	5.37
Phenol	645
Selenium	1.57
Styrene	6.2
Tetrachloroethylene	0.174
Tin	602
Toluene	40.2
Trichloroethylene	0.164
Vanadium	57.1
Vinyl chloride	0.2
Xylenes (total)	160
Zinc	760
Dichloroethane, 1,1-	99.8
Dichloroethane, 1,2-	0.0354
Dichlorobenzene, 1,4-	0.473
Dioxane, 1,4-	100
Heptachlor	0.008
TCDD, 2,3,7,8-	0.00000147
Trichlorophenoxypropionic acid, 2,4, 5- (Silvex)	1.0
Dichlorophenoxyacetic acid, 2,4- (2,4- D)	1.86
Dimethylphenol, 2,4-	27.6
Acetone	898

3rd Am. Pet. at 1-4.

### **Required Demonstration**

To be eligible for a delisting exclusion, the petitioner must demonstrate that the listed waste:

1. Does not meet the criteria for which it was listed; and
2. Does not exhibit any of the characteristics of hazardous waste. “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 6 USEPA Region 6 (Mar. 23, 2000); *see also* 35 Ill. Adm. Code 35 Ill. Adm. Code 720.122(a)(1), (d)(3) (set forth at pages 3 and 4 of this opinion).

“In addition, a listed waste must not exhibit any other factors (including additional constituents) that could cause the waste to be a hazardous waste, unless . . . such factors do not warrant characterizing the waste as hazardous.” “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 6 USEPA Region 6 (Mar. 23, 2000); *see also* 35 Ill. Adm. Code 35 Ill. Adm. Code 720.122(a)(2), (d)(2) (set forth at pages 3 and 4 of this opinion).

For waste that is listed based on toxicity, the petitioner must demonstrate that the waste either (1) does not contain the constituents that caused USEPA to list the waste or, (2) although containing one or more of the constituents that caused its listing, the waste is not capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed, considering the factors used to list the waste as hazardous. 35 Ill. Adm. Code 720.122(d)(1), 721.111(a)(3). The factors (35 Ill. Adm. Code 721.111(a)(3)(A) through (a)(3)(K)) are set forth at pages 5 and 6 of this opinion.

### **Initial List of Constituents of Concern**

BFI’s Phase I unit of the landfill was a combined municipal solid waste and RCRA Subtitle C hazardous waste disposal facility. Pet., Att. 1 at 6. BFI provided information regarding the generators and quantities of hazardous waste disposed of in Phase I. Pet., Att. 1, App. A. Complete process and raw material information, however, is not available for the wastes. USEPA advises that such facilities should assume all or most of the delisting constituents of concern (CoCs) are present in the waste. “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 31, USEPA Region 6 (Mar. 23, 2000).

Generally, the delisting CoCs to be addressed by a petitioner are those listed in 35 Ill. Adm. Code 721.Appendix H (“Hazardous Constituents”) (40 C.F.R. 261.Appendix VIII), as well as acetone, ethylbenzene, isophorone, 4-methyl-2-pentanone, styrene, and xylenes (total). “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 26, 30-31, USEPA Region 6 (Mar. 23, 2000). A petitioner “should demonstrate that these delisting constituents of concern are not present in [the] waste at hazardous levels based on analytical data, mass balance demonstrations, or other appropriate information.” *Id.* at 26. Petitioner should provide information regarding the hazardous constituents used as the criteria for listing the petitioned waste and all of the hazardous waste characteristics. *Id.* USEPA also generally requests the

following analyses: total oil and grease, total cyanide, total sulfide, and total constituent levels of all inorganic and organic constituents of concern. *Id.*

USEPA Region 6, the drafter of the Guidance Manual, identifies “the minimum constituent list for initial analysis” as the list at 40 C.F.R. 264.Appendix IX (35 Ill. Adm. Code 724.Appendix I “Groundwater Monitoring List”), adding that this list should be augmented to include any other constituents for which the waste was listed and any other hazardous constituents known to have been managed at the site. “EPA RCRA Delisting Program--Guidance Manual for the Petitioner,” App. H, Region 6, Att. 2 at 1, USEPA Region 6 (Mar. 23, 2000). BFI’s original petition contained analyses for initial CoCs that included all of the 40 C.F.R. 264.Appendix IX (35 Ill. Adm. Code 724.Appendix I) contaminants, as well as total oil and grease.

As set forth above, Section 720.122(a)(1) requires BFI to demonstrate that the waste “does not meet any of the criteria under which the waste was listed as a hazardous or acute hazardous waste.” 35 Ill. Adm. Code 720.122(a)(1). The hazardous constituents for which F039 is listed are “[a]ll constituents for which treatment standards are specified for multi-source leachate (wastewaters and nonwastewaters) under Table B to 35 Ill. Adm. Code 728 (Constituent Concentrations in Waste).” 35 Ill. Adm. Code 721.Appendix G (40 C.F.R. 261.Appendix VII). Table B of Part 728 in turn refers to Table T of Part 728 (Treatment Standards for Hazardous Wastes). 35 Ill. Adm. Code 728.Tables B and T. Table T provides the constituents for which F039 is listed.

Most of the Table T constituents were not detected in BFI’s leachate. Pet., Att. 1 at 28. Table T includes ten F039 constituents that were not addressed in the BFI’s original petition:

- Dibenz(a,e)pyrene
- 1,4-Dinitrobenzne
- 1,2-Diphenylhydrazine
- Ethyl acetate
- Ethyl ether
- Ethylene oxide
- 4,4-Methylene bis(2-chloroaniline)
- Phthalic anhydride
- 1,1,2-Trichloro-1,2,2-trifluoroethane
- Tris(2,3-Dibromopropyl) phosphate

BFI explains that it had not realized the laboratory did not include these F039 constituents in the analyses. Upon BFI’s inquiries, the laboratory BFI normally uses, as well as two other laboratories, informed BFI that these constituents are deemed unusual and not normally analyzed when a customer requests analysis for F039 constituents. 2nd Am. Pet. at 21; Tr. at 96-98. BFI states that “all of the normally analyzed landfill constituents were analyzed,” adding that the analyses based on 40 C.F.R. 264, Appendix IX (35 Ill. Adm. Code 724.Appendix I “Groundwater Monitoring List”) “was intended to encompass all constituents likely to be found in hazardous waste landfill leachate or groundwater during compliance monitoring.” PFT at 8-9.

BFI's RCRA hazardous waste landfill permit requires that it analyze its leachate for the Appendix IX constituents. *Id.* at 8; Tr. at 97.

Of the three laboratories BFI contacted, no single lab was technologically capable of analyzing all of the F039 constituents. PFT at 9. Maxwell of Weaver Boos, BFI's consultant, testified that:

Generally, good technical policy is you would prefer to limit the number of laboratories involved in a project. Even though standard methods are utilized, they're – oftentimes inconsistencies are introduced as a result of the laboratory. One would rather not have different laboratories involved if one could help. Tr. at 100; *see also* Reply Br. at 2.

Of the ten F039 constituents not analyzed initially, phthalic anhydride was documented as being included in the hazardous waste accepted at the Phase I unit. Pet., Att. 1 at 6; Tr. at 100-102. After hearing, BFI provided two laboratory reports for six of the ten above F039 constituents from the laboratory it normally uses, including phthalic anhydride. The laboratory, however, was not able to determine an analysis for the three of the six constituents.

• Phthalic anhydride	Below Detection Limit
• 1,4-Dinitrobenzene	Below Detection Limit
• 1,2-Diphenylhydrazine	Below Detection Limit
• Dibenzo(a,e)pyrene	Searched for but not detected
• 4,4'-Methylene-bis(2-chloroaniline)	Searched for but not detected
• Tris(2,3-Dibromopropyl) phosphate	Searched for but not detected

Br., Att. 6.

For the latter three analytes, the laboratory report noted, "Compound searched for but not detected. Standard was unavailable to determine retention time and detection limit." Br., Att. 6; Reply Br. at 3-5, Att. B. BFI also did not provide laboratory data on the other remaining F039 constituents:

- Ethyl acetate
- Ethyl ether
- Ethylene oxide
- 1,1,2-Trichloro-1,2,2-trifluoroethane

BFI indicated it made several good faith efforts to obtain an analysis of all of the F039 listed constituents, but found comparable valid information from different labs was difficult to obtain. Reply Br. at 5. The Board notes that the Act provides for a laboratory accreditation process to "*establish and enforce minimum standards for the operation of laboratories relating to analyses and laboratory tests . . .*" 35 Ill. Adm. Code 186.105 (quoting 415 ILCS 5/4(n) (2006)). IEPA regulations on laboratory accreditation require compliance with the National Environmental Laboratory Accreditation Conference (NELAC) standards and the Test Methods for Evaluating Solid Waste, SW-846. 35 Ill. Adm. Code 186.110(a), 186.180(b)(3). All of the

F039 constituents not analyzed by BFI have been determined by SW-846 methods.<sup>6</sup> The Board appreciates BFI's concerns but as a general matter, omitting analyses is not preferable to obtaining them from multiple laboratories, each properly accredited.

Here, however, the Board finds that the analyses in question are not essential to today's decision. USEPA granted the delisting petition of Shell Oil Company (Shell Oil) (Deer Park, Texas) in 2005 for the company's multisource landfill leachate without requiring Shell Oil to address the F039 constituents that were not also included in 40 C.F.R. 264.Appendix IX (35 Ill. Adm. Code 724.Appendix I "Groundwater Monitoring List"). Br. at 21-22, Att. 4 at 41 (Shell Oil delisting petition, Deer Park, Texas (Jan. 20, 2003)); Reply Br. at 5; 70 Fed. Reg. 49187 (Aug, 23, 2005); 69 Fed. Reg. 77692-93 (Dec. 28, 2004). Shell Oil's sampling and analysis plan included only the F039 constituents that were already included in Appendix IX. Br., Att. 4 at 41; 69 Fed. Reg. 77692-93 (Dec. 28, 2004).

Citing Shell Oil (Deer Park, Texas), BFI states that "USEPA has not required testing for unusual constituents which are unlikely to be present in a particular leachate." Br. at 21-22. BFI emphasizes that consistent with USEPA precedent, the Board can adopt the proposed delisting without analytical data on these "few unusual F039 constituents." Reply Br. at 5.

Moreover, BFI's database covers a period of nine years, fifteen sampling events, and several thousand data points. Pet. at 4, 22, Att. 1, App. D; PFT at 3. Steinhour of Weaver Boos testified:

The reason we looked back nine years, I also wanted to clarify, was because in 1998, '99 the landfill had put a new liner on -- over the phase one unit, and they put a dual leachate gas extraction system within the landfill. So we felt that the past nine years has been representative of the conditions as they stand today and will stand until final closure of these final post-closure activities. Tr. at 16.

In contrast, Shell Oil provided USEPA with data from four monitoring events (four samples of primary leachate; four samples of secondary leachate) performed over a period of approximately five months. PFT at 3; Br. at 10; Tr. at 59.

Consistent with the USEPA Guidance Manual and USEPA's leachate delisting for Shell Oil (Deer Park, Texas), the Board finds that BFI's analytical characterization in this record provides a reasonable basis for identifying a final list of constituents of concern to be monitored for compliance with delisting levels.

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<sup>6</sup> Dibenzo(a,e)pyrene (SW-846 Method 8270D); 4,4'-Methylene-bis(2-Chloroaniline) (SW-846 Method 8270D); Tris(2,3-Dibromopropyl) phosphate (SW-846 Method 3620C); Ethyl acetate (SW-846 Method 8015C); Ethyl ether (SW-846 Method 8015C); Ethylene oxide (SW-846 Method 8015C); Tris(2,3-Dibromopropyl) phosphate (SW-846 Method 3620C); 1,1,2-Trichloro-1,2,2-trifluoroethane (SW-846 Method 8261A).

### Final List of Constituents of Concern

After conducting the initial analysis, USEPA elaborates that “a final list of constituents can be prepared to include only the metals and organics from the 40 CFR 261.24 [35 Ill. Adm. Code 721.124] Toxicity Characteristics list [maximum concentration of contaminants for the toxicity characteristic] plus all additional constituents that were detected . . . .” “EPA RCRA Delisting Program--Guidance Manual for the Petitioner,” App. H, Region 6, Att. 2 at 1, USEPA Region 6 (Mar. 23, 2000).

BFI’s originally-proposed final list of CoCs numbered 39, consisting generally of all detected metals and organics from the toxicity characteristics list (35 Ill. Adm. Code 721.124), together with all additional constituents detected during the nine years of sampling for the “initial list.” The following constituents, however, were detected but not included in BFI’s original first final list:

- 1,2,3,4,6,7,8,9-OCDD (2/27/02)
- 1,2,3,4,6,7,8-HpCDD (2/27/02)
- 1,2,4 Trimethylbenzene (3/14/01)
- 1,4-Dichlorobenzene (3/14/01)
- Fluoride (11/4/99)
- Heptachlor, TCLP<sup>7</sup> (2/18/04)
- Selenium, Total (3/13/01)
- Sulfide as S (11/4/99)

Pet., Att. 1 at 21-22, App. C, D.

BFI concedes that these detected constituents were inadvertently omitted from the final list of constituents of concern. PFT at 9. BFI re-ran the DRAS program to include the following from the above list, also adding these constituents to its proposed delisting levels, for a total of 43 chemicals:

- 1,2,3,4,6,7,8,9-OCDD and 1,2,3,4,6,7,8-HpCDD (expressed as the Toxicity Equivalent Quotient 2,3,7,8-TCDD)<sup>8</sup>
- 1,4-Dichlorobenzene
- Heptachlor
- Selenium

PFT at 9-10; Tr. at 39.

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<sup>7</sup> “TCLP” refers to the “Toxicity Characteristic Leaching Procedure.”

<sup>8</sup> 1,2,3,4,6,7,8,9-OCDD and 1,2,3,4,6,7,8-HpCDD 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.” PFT at 9 n.3.

BFI indicated that the other three constituents (1,2,4 trimethylbenzene, fluoride, and sulfide) are not included in DRAS. BFI accordingly reviewed other potentially available health-based standards to assess the risk associated with each of these constituents. PFT at 9-10.

Specifically, BFI considered Class I groundwater quality standards, USEPA secondary contaminant levels, and USEPA's Integrated Risk Information System (IRIS). For 1,2,4 trimethylbenzene, BFI points out that no federal primary or secondary drinking water standard is available, and the maximum detected concentration was below the Class I "Groundwater Remediation Objectives for Chemicals Not Listed in TACO," IEPA Toxicity Assessment Unit (May 1, 2007). PFT at 10. For fluoride, BFI notes that no TACO groundwater remediation objective exists, and the maximum detected concentration is below the federal secondary maximum contaminant level (MCL). For sulfide, BFI found neither published groundwater standards nor a reference in USEPA's IRIS database, "one of the more comprehensive databases of human health effects that may result from exposure to various substances found in the environment." *Id.* at 11. BFI believes that the concentrations of these three constituents in the leachate will not represent a significant threat to human health or the environment. *Id.* at 10-11.

The Board agrees with BFI. The constituents 1,2,4 trimethylbenzene, fluoride, and sulfide are absent from DRAS and TACO. Both 1,2,4 trimethylbenzene and fluoride have maximum detected concentrations below available health-based standards, while sulfide is absent from IRIS. Under these circumstances, the three constituents need not be included in the final list of CoCs to be monitored for compliance with delisting levels.

### Use of DRAS

DRAS was developed by USEPA to compute the risks and hazards associated with a specific waste stream for which a delisting petition has been submitted. DRAS assesses the toxicity of a petitioned waste by calculating (1) screening exit values (delisting levels) and (2) cumulative carcinogenic risks and noncarcinogenic hazard indices. "User's Guide for the U.S. EPA Region 6 Delisting Risk Assessment Software (DRAS)" at 1, USEPA Region 6, EPA906-D-98-001 (Aug. 31, 2000). As noted above, the Board has found that using the DRAS program may be appropriate in evaluating delisting petitions. *See BP Products*, AS 07-1, slip op. at 8. As USEPA Region 5 points out, however, the use of DRAS is not a requirement: "[T]he State of Illinois has been authorized to conduct delistings for wastes disposed of within Illinois and is free to evaluate the waste and the criterion in 40 C.F.R. 261.11(a)(3) [35 Ill. Adm. Code 721.111(a)(3)] using DRAS or any other appropriate assessment approach." PC 2 at 1.

BFI's database covers a period of nine years, fifteen sampling events, and several thousand data points. Pet. at 4, 22, Att. 1, App. D; PFT at 3. The vast majority of the constituents for which BFI tested have never been detected. Pet. at 22. For those constituents that were detected, BFI modeled the risk and hazard using DRAS<sup>9</sup> to assist in deriving delisting levels. As USEPA indicated that DRAS version 3 is not yet in general release to the public, BFI

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<sup>9</sup> Except for 1,2,4 Trimethylbenzene, fluoride, and sulfide, as discussed in the text above.

re-evaluated DRAS with updated information provided by USEPA for use with DRAS version 2. PC 1; PC 2; User Alert for DRAS version 2.

Modeling risk and hazard using a “reasonable worst-case management scenario” is consistent with USEPA policy:

In considering whether to exclude a particular solid waste from the list of hazardous wastes contained in 40 CFR 261.31 and 261.32, [USEPA] has historically considered disposal in an unlined landfill or surface impoundment to be representative of the reasonable worst-case management scenarios for such waste. [USEPA] believes 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, [USEPA] generally has only modeled the risks related to these two disposal practices. “National Policy for Hazardous Waste Delistings” at 1-2, Memorandum from Elizabeth A. Cotsworth, Acting Director, Office of Solid Waste, to Regional RCRA Senior Policy Advisors, RO 14282 (July 1, 1998).

BFI defined the reasonable worst-case management scenario as an accidental “instantaneous release of 5,000 gallons from a tanker truck.” Pet., Att. 1 at 29-30. BFI’s consultant, Weaver Boos, states that “the only plausible scenario for direct ‘disposal’ of the leachate on the land would be as a result of an accidental spill of the leachate during transit from the landfill to the treatment facility.” *Id.* at 29. Five thousand gallons (24.75 cubic yards) is the maximum capacity of the tanker trucks historically used to transport leachate from the landfill. *Id.* Weaver Boos entered information into DRAS “to estimate fate and transport of the constituents in the leachate following the accidental release of an entire tanker load of leachate.” *Id.* at 30. It was assumed that the 5,000 gallons of leachate were left “exposed to the environment for an extended timeframe (as if disposed in a surface impoundment).” *Id.* at 29. “Because we’re dealing with a liquid, we assumed that we’re dealing with a surface impoundment scenario as opposed to a landfill, which typically would receive solids.” Tr. at 37 (Maxwell). The evaluation used one year for the waste management unit’s active life, which is “the shortest duration that was allowed to be modeled in DRAS to match up with the assumed catastrophic tanker spill.” Tr. at 38; Pet., Att. 1 at 30.

In its proposed adjusted standard language, BFI includes conditions that would make the delisting inapplicable to leachate that is disposed of in a landfill or surface impoundment or spilled. Spilled F039, for example, would be subject to RCRA Subtitle C hazardous waste regulation. *See, e.g.*, Tr. at 20-21. The delisting would apply only to leachate that is transported to and received by a permitted waste water treatment facility that is located in Illinois and that has a pretreatment program approved by USEPA. 3rd Am. Pet. at 1-4.

BFI distinguishes its circumstances, where land disposal is not allowed, from those considered by USEPA when USEPA approved delistings of F039 waste in 2005 for both Shell Oil (Deer Park, Texas) (70 Fed. Reg. 49187 (Aug. 23, 2005)) and the United States Department of Energy (Hanford Facility, Richland, Washington) (70 Fed. Reg. 44496 (Aug. 3, 2005)). Br. at 7. These multi-year delistings require or allow management of the delisted waste in a land-based

unit. *Id.* at 8, 11. Shell Oil’s delisting petition sought to allow the F039 waste to be managed in an on-site surface impoundment, referred to as the North Effluent Treater (NET), followed by discharge of the treated effluent through an NPDES permitted outfall. Br., Att. 4 at 4, 9. The Department of Energy petitioned USEPA to delist F039 waste generated from a proposed Effluent Treatment Facility (ETF) that would be discharged to a Washington State-approved land disposal site. Br., Att. 3 (60 Fed. Reg. 6054, 6055, 6061 (Feb. 1, 1995); 70 Fed. Reg. 44496, 44499 (Aug. 3, 2005)).

BFI observed that in the Shell Oil and Department of Energy cases, USEPA assumed that 100% of the delisted waste could potentially be disposed of on land at one location. Br. at 11. BFI believes that in the case of its F039 waste, such a scenario would be “far-fetched,” necessitating the assumption that “all of these tanker trucks were involved in accidents that resulted in the release of all of this leachate at the same location.” PFT at 6. Where land-based disposal is allowed under a delisting, BFI maintains that it is appropriate to assume that 100% of the delisted waste will be disposed of in an unlined landfill or surface impoundment. BFI notes that although the Shell Oil delisting anticipated ultimate disposal of the leachate under Shell Oil’s NPDES permit, it also involved on-site land-based treatment beforehand. This makes the “conservative assumption that the leachate might percolate into the ground through the landbased treatment units” appropriate. Br. at 18-19. BFI contrasts its proposed delisting, which “does not authorize any contact of the leachate with land.” *Id.* at 19.

BFI recognizes that its 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.” PFT at 6; Br. at 28. The Board notes, however, that USEPA:

realizes that for a relatively small number of petitioned wastes that are not (or will not be) managed under a scenario [USEPA’s] generic delisting models can assess, Regions may have to consider site-specific circumstances or consider adding specific conditions, on a case-by-case basis. “National Policy for Hazardous Waste Delistings” at 3, Memorandum from Elizabeth A. Cotsworth, Acting Director, Office of Solid Waste, to Regional RCRA Senior Policy Advisors, RO 14282 (July 1, 1998).

Among the factors the Board is to consider are the “plausible types of improper management to which the waste could be subjected.” 35 Ill. Adm. Code 721.111(a)(3)(G). As USEPA explained:

In our technical evaluation, we often use appropriate fate and transport models that rely on waste-specific information (e.g., waste volume, constituent concentration data) to predict the potential environmental impact of the petitioned waste. In selecting appropriate models, we choose a reasonable worst-case management scenario and consider plausible exposure routes for the hazardous constituents found to be present. “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 12-13, USEPA Region 6 (Mar. 23, 2000).

Here, BFI used DRAS to model a plausible worst-case land disposal scenario, *i.e.*, the release of the entire 5,000-gallon volume of a tanker truck. PFT at 5. The Board agrees with BFI that it is “extremely unlikely that there would be a spill of two tanker trucks at the exact same location,” let alone of every single truck hauling BFI’s leachate over the approximately seven-year duration of the RCRA post-closure care period. Br. at 19; *see also* Tr. at 73-74. In fact, there have been no spills during the hauling of leachate from the Davis Junction Landfill, even when the leachate has been transported over 100 miles for treatment. It must also be emphasized that a land-disposal scenario was used by BFI even though this delisting would not permit management in a land-based unit, in contrast with, for example, the Shell Oil and Department of Energy delistings discussed above. Moreover, BFI’s adjusted standard would not apply if the leachate were spilled in transit to the WWTF.

BFI’s proposed conditions ensure that the delisting would apply only to leachate transported to and received by a permitted WWTF located in Illinois with a USEPA-approved pretreatment program. Under these circumstances, the Board finds that BFI’s one-tanker-load spill scenario is appropriate to use as the reasonable worst-case management scenario in DRAS.

### **Delisting Levels**

The “delisting level” is “the maximum allowable concentration of a waste constituent that will not exceed the target risk level for that compound.” “User’s Guide for the U.S. EPA Region 6 Delisting Risk Assessment Software (DRAS)” at 13, USEPA Region 6, EPA906-D-98-001 (Aug. 31, 2000). As described, BFI modeled the detected constituents using DRAS. Pet. at 24. DRAS takes into account numerous risk factors, including constituent concentrations in the waste, health-based standards, and the waste volume that may be released in a plausible “worst-case” scenario. *Id.* at 22.

For each of the 43 modeled constituents, DRAS generated a delisting level. BFI compared the DRAS delisting levels to the maximum concentration of each constituent detected over the last nine years. “[A]ll but four of the constituents were consistently found in concentrations below the ‘delisting levels.’” Pet. at 23. Four constituents exceeded their corresponding DRAS delisting levels: methylene chloride; trichloroethylene; vinyl chloride; and 1,4-dioxane. *Id.* at 23-24; Tr. at 39.

For methylene chloride and trichloroethylene, one result out of eight samples from the Phase I unit leachate exceeded the respective delisting levels calculated through DRAS. Pet., Att. 1 at 32. Weaver Boos describes methylene chloride as a “common laboratory contaminant,” which:

accounts for the likely source of this concentration of this compound (0.58 mg/l) in excess of the DRAS limit (0.198 mg/l) in one sample collected in April 2003. In the other seven sampling events, methylene chloride was either below the detection limits or below the MCL by an order of magnitude. *Id.*

The mean of the methylene chloride data is 0.095 milligrams per liter (mg/L). Br. at 17, Att. 5. The one data point from April 2003 is therefore over six times greater than the mean and

appropriately considered an outlier, not representative of the pattern established by the many other data points. *Id.*

The highest trichloroethylene concentration (0.53 mg/L) occurred in March 2006. The DRAS delisting level for trichloroethylene is 0.164 mg/L. Weaver Boos states that the March 2006 trichloroethylene result is an “anomaly” compared to the concentrations observed in the seven other sample events between 1999 and 2007. Pet., Att. 1 at 32. In those seven other samplings, trichloroethylene in the Phase I unit leachate either was not detected or was more than an order of magnitude less than the March 2006 concentration. *Id.* The mean of the trichloroethylene data is 0.089 mg/L. Br. at 17, Att. 5. Accordingly, the one data point from March 2006 is nearly six times greater than the mean and appropriately considered an outlier, not representative of the pattern established over the balance of the considerable data set. *Id.*

BFI proposes the DRAS-generated delisting levels as the delisting levels for both methylene chloride and trichloroethylene because the one occurrence of concentrations greater than the respective DRAS delisting levels is “not representative of the actual leachate concentrations” and because the seven other samplings show that these constituents meet the DRAS-derived delisting levels. Pet., Att. 1 at 32. Weaver Boos concludes that “at these DRAS delisting levels, neither methylene chloride nor trichloroethylene pose a substantial present or potential hazard to human health or the environment under the criteria for listing in 35 Ill. Adm. Code 721.111(a)(3)(A)-(K).” *Id.* at 32-33; Tr. at 39-40.

For vinyl chloride, BFI proposes using the toxicity characteristic value of 0.2 mg/L (40 C.F.R. §261.24; 35 Ill. Adm. Code 721.124) for the delisting level instead of the DRAS-derived value of 0.0285 mg/L. Pet., Att. 1 at 33; Br. at 4; Tr. at 40-41. During the nine-year data collection period, the DRAS vinyl chloride delisting level was exceeded three times in the Phase I unit leachate, with the highest concentration (0.44 mg/L) occurring in March 2006. Pet., Att. 1 at 33. Based on the seven other sampling results obtained before and after the March 2006 sample, Weaver Boos describes the March 2006 vinyl chloride concentration as an “anomaly.” Pet., Att. 1 at 33. The mean of the vinyl chloride data is 0.118 mg/L. Br. at 17, Att. 5. The one data point from March 2006 is therefore nearly four times higher than the mean and appropriately considered an outlier, not representative of the pattern established by the many other data points in the set. *Id.*

Moreover, Weaver Boos performed a statistical analysis to evaluate whether the concentrations of vinyl chloride in the listed Phase I unit leachate were statistically different than those in the non-listed Phase II and III leachate. The analysis did not identify a statistically significant difference between the concentrations in the leachate from the hazardous waste landfill unit and the leachate from the non-hazardous waste landfill units. Pet., Att. 1 at 33; Tr. at 122-23.

Weaver Boos further notes that when USEPA adopted the toxicity characteristic limits of Section 261.24, Table 1, USEPA analyzed vinyl chloride and the other constituents deemed to present a toxicity risk, and

determined that a solid waste containing vinyl chloride at a concentration of 0.2 mg/L need not be managed as a hazardous waste (see 55 Fed. Reg. 11798, 11811, March 29, 1990). As toxicity is both the basis of the F039 listing and the basis of concern for vinyl chloride as a hazardous constituent, the 35 Ill. Adm. Code 721.124 (40 CFR 261.24) toxicity limit established by [US]EPA after a full and extensive technical rulemaking is an appropriate delisting limit for this constituent. Pet., Att. 1 at 33.

As further support, BFI notes that in establishing the 40 C.F.R. § 261.24 toxicity characteristic list and concentrations, USEPA used a “very similar approach to the approach employed in the DRAS model.” PFT at 17, citing 55 Fed. Reg. 11798 (Mar. 29, 1990). For example, USEPA first identified:

health-based concentration thresholds. Where drinking water MCL’s were available, as was the case for vinyl chloride, [US]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.” PFT at 17, citing 55 Fed. Reg. 11798, 11813-11814 (Mar. 29, 1990).

For 1,4-dioxane, concentrations in the Phase I unit leachate ranged from non-detection to one sampling event of 33 mg/L. The delisting level calculated through DRAS is 2.4 mg/L. Pet., Att. 1 at 33. Weaver Boos derived a 1,4-dioxane delisting level based on (1) the local geology (physical soil and groundwater characteristics in the vicinity of the Davis Junction Landfill and the area of northern Illinois in which the delisted leachate would be transported for disposal); (2) a half-life for 1,4-dioxane of six months; and (3) the IEPA Toxicity Assessment Unit’s groundwater remediation objective of 0.001 mg/L. Pet., Att. 1 at 33-36; Br. at 4; Tr. at 41-42. According to Weaver Boos:

This more focused modeling, using known conditions rather than [DRAS’] generic assumptions, is similar to a Tier 2 risk analysis under Illinois’ Tiered Approach to Corrective Action Objectives (TACO) regulations under 35 Ill. Adm. Code 742. Like the DRAS model, this analysis is a means of determining whether the criteria for listing in 35 Ill. Adm. Code 721.111(a)(3)(A)-(K) will be met. Pet., Att. 1 at 34.

Weaver Boos calculated a leachate delisting concentration that “will assure the attainment of the groundwater quality standard within the uppermost aquifer at a worst case hypothetical accidental spill location.” Pet., Att. 1 at 33-34. Specifically, Weaver Boos calculated a delisting level of  $4.5 \times 10^{12}$  mg/L, a value “greater than the maximum possible value of 1,000,000 mg/L of a chemical dissolved in water.” *Id.* at 36. Weaver Boos explains:

Although a delisting standard could safely be set at a much higher concentration, BFI is conservatively proposing that the delisting level for 1,4-dioxane under this Adjusted Standard be set at 100 mg/L, a level that is approximately three times the highest level detected in the Phase I Unit leachate. *Id.*

In its proposed adjusted standard language, BFI includes a final list of constituents and associated delisting levels as Table A. 3rd Am. Pet. at 3-4. In general, BFI proposes the lesser (*i.e.*, more stringent) of the values derived by DRAS or the Toxicity Characteristic (TC) Rule of 35 Ill. Adm. Code 721.24 (40 C.F.R. §261.24). The proposed delisting levels were “derived from the DRAS model, [US]EPA published MCLs and toxicity standards, and a site and constituent specific risk assessment.” Pet. at 18. USEPA has stated that delisting levels cannot exceed the TC regulatory levels. 67 Fed. Reg. 42187, 42191 n.7 (June 21, 2002). The sources used by BFI to derive its proposed delisting levels for the constituents are summarized in the table below.

<b>CONSTITUENT OF CONCERN</b>	<b>PROPOSED DELISTING LEVEL (mg/L)</b>	<b>SOURCE</b>	<b>DRAS<sup>a</sup> v.2 Derived Delisting Level for TCLP (mg/L)</b>
Arsenic	0.525 <sup>d, g</sup>	DRAS	0.00256 <sup>c</sup> , 0.525 <sup>d</sup>
Barium	100	TC Rule <sup>b</sup>	151 <sup>d</sup>
Benzene	0.153 <sup>c</sup>	DRAS	0.101 <sup>c</sup> , 0.402 <sup>d</sup> , 0.153 <sup>e</sup>
Cadmium	0.409	DRAS	0.409 <sup>d</sup>
Carbon disulfide	118	DRAS	118 <sup>c</sup>
Chromium	5.0	TC Rule	1040 <sup>d</sup>
Dichloropropene, cis-1, 3-	1,206	DRAS v. 2 User Alert	512,000 <sup>c</sup>
Cobalt	60.2	DRAS	60.2 <sup>c</sup>
Copper	24,700	DRAS	24,700 <sup>d</sup>
Diethyl phthalate	1,270	DRAS	1,270 <sup>c</sup>
Endrin	32,700	DRAS	32,700 <sup>d</sup>
Ethylbenzene	57.2	DRAS	57.2 <sup>d</sup>
Isobutyl alcohol	299	DRAS	299 <sup>c</sup>
Lead	5.0	TC Rule	204 <sup>d</sup>
Mercury	0.2	TC Rule	0.22 <sup>e</sup>
Methanol	499	DRAS	499 <sup>c</sup>
Methyl ethyl ketone	200	TC Rule	599 <sup>c</sup>
Methylene chloride	0.198	DRAS	0.198 <sup>d</sup>
Methyl isobutyl ketone	79.8	DRAS	79.8 <sup>c</sup>
Naphthalene	6.51	DRAS	6.51 <sup>e</sup>
Nickel	76.8	DRAS	76.8 <sup>c</sup>
Cresol, p-	5.37	DRAS	5.37 <sup>c</sup>
Phenol	645	DRAS	645 <sup>c</sup>
Selenium	1.57	DRAS	1.57 <sup>d</sup>
Styrene	6.2	DRAS	6.2 <sup>d</sup>
Tetrachloroethylene	0.174 <sup>g</sup>	DRAS	0.174 <sup>d</sup> , 0.0489 <sup>c</sup>
Tin	602	DRAS	602 <sup>c</sup>
Toluene	40.2	DRAS	40.2 <sup>d</sup>
Trichloroethylene	0.164	DRAS	0.164 <sup>d</sup>

Vanadium	57.1	DRAS	57.1 <sup>c</sup>
Vinyl chloride	0.2	TC Rule	0.0013 <sup>c</sup> , 0.0532 <sup>d</sup>
Xylenes (total)	160	DRAS	160 <sup>e</sup>
Zinc	760	DRAS	760 <sup>c</sup>
Dichloroethane, 1,1-	99.8	DRAS	99.8 <sup>c</sup>
Dichloroethane, 1,2-	0.0354	DRAS	0.0354 <sup>e</sup>
Dichlorobenzene, 1,4-	0.473	DRAS	0.291 <sup>c</sup> , 71.6 <sup>d,g</sup> , 0.473 <sup>e</sup>
Dioxane, 1,4-	100	Derived by Weaver Boos based on site- and constituent-specific factors. (Pet., Att. 1 at 33-36.)	0.24 <sup>c</sup>
Heptachlor	0.008	TC Rule	445,000 <sup>f</sup> ; 136,000,000 <sup>d</sup>
TCDD, 2,3,7,8-	0.00000147	DRAS	0.00000147 <sup>f</sup>
Trichlorophenoxypropionic Acid, 2,4, 5- (Silvex)	1.0	TC Rule	1.43 <sup>d</sup>
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	1.86	DRAS	1.86 <sup>d</sup>
Dimethylphenol, 2,4-	27.6	DRAS	27.6 <sup>c</sup>
Acetone	898	DRAS	898 <sup>c</sup>

## Footnotes:

- <sup>a</sup> “DRAS” references are to DRAS version 2 (v.2) with updates provided by USEPA
- <sup>b</sup> “TC Rule” refers to Table 1 -- Maximum Concentration of Contaminants for the Toxicity Characteristic in 40 C.F.R. §261.24 (35 Ill. Adm. Code 721.24).
- <sup>c</sup> Maximum allowable concentration based on groundwater ingestion pathway
- <sup>d</sup> Maximum allowable concentration based on MCL
- <sup>e</sup> Maximum allowable concentration based on groundwater inhalation pathway
- <sup>f</sup> Maximum allowable concentration based on groundwater adult dermal pathway
- <sup>g</sup> “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 [Toxicity Characteristic Leaching Procedure] 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.” Reply Br., Att. D n.c.

As noted above, during the course of this proceeding, BFI re-evaluated DRAS based on several updates provided by USEPA for use with DRAS version 2. Some of the updates were provided in a letter from Dale Meyer, Chief of the RCRA Programs Section for USEPA Region 5 (PC 2). Meyer included updated dilution attenuation factors (DAFs) for four of the constituents evaluated by BFI. PC 2 at 2. Consistent with Meyer’s letter, BFI re-evaluated

DRAS with the new DAF for cobalt and tin because the new DAF (3.92) is less than the DAF originally used by BFI (7.7). Reply Br. at 6-7, Att. C. As BFI explains:

the lower the DAF, the less dilution is included in the model and hence the lower the delisting levels. Conversely, a higher DAF results in more modeled dilution of the source concentrations and higher delisting levels. Reply Br. at 6-7.

BFI's re-analysis led to lower DRAS delisting levels for cobalt and tin, reflected in the table above and proposed for Table A of the adjusted standard. *Id.*, Att. D. The maximum concentrations of cobalt and tin detected in Phase I unit leachate over the nine years were well below these new delisting levels. Reply Br. at 7.

Although Meyer's letter provided a revised DAF for 1,2-dichloroethane of 5.3, the DAF value of 3.9 used previously by Weaver Boos was not updated in the re-run of DRAS. The Board notes that the delisting level proposed by BFI for 1,2-dichloroethane of 0.0354 mg/L is based on the groundwater inhalation pathway. 3rd Am. Pet., Att. C. However, under the "Maximum Allowable Concentration" in the DRAS output, the delisting level for 1,2-dichloroethane is 0.0213 mg/L and is based on the groundwater ingestion pathway. *Id.* The "RCRA Delisting Technical Support Document" states:

The delisting levels for each waste constituent are the maximum concentrations (total and TCLP) allowed for the constituent in any batch of the petitioned waste, based on the most sensitive pathway associated with exposure dependent on the TCLP waste constituent concentration and the waste constituent total concentration. Although the DRAS calculated a delisting level . . . for each of the groundwater pathways, only the most sensitive pathway for each constituent is selected as that constituent's TCLP delisting level. USEPA's "RCRA Delisting Technical Support Document," USEPA Region 6, EPA906-D-98-001, at 4-10 (Aug. 1, 2000).

Based on this record, the Board will revise BFI's proposed delisting level in Table A for 1,2-dichloroethane from 0.0354 mg/L to 0.0213 mg/L, consistent with the most sensitive pathway, groundwater ingestion. This DRAS delisting level was exceeded once during eight sampling events (0.023 mg/L on 4/3/03). In the three samples before the 4/3/03 exceedence (11/4/99, 3/13/01, 2/27/02) and the four samples after the 4/3/03 exceedence (2/18/04, 2/16/05, 3/22/06, 1/29/07), any concentrations of 1,2-dichloroethane were below the detection limit of either 0.005 mg/L or 0.01 mg/L. Pet., Att. 1, App. D. If BFI would like the Board to consider an alternative to the 1,2-dichloroethane delisting level of 0.0213 mg/L, BFI may present any supporting information through a motion to reconsider or modify. *See* 35 Ill. Adm. Code 101.520.

Several of the delisting levels proposed by BFI exceed the Universal Treatment Standards (UTS) of the Land Disposal Restrictions (LDRs). *See* 35 Ill. Adm. Code 728.Tables T, U. Under 35 Ill. Adm. Code 728.140 (40 C.F.R. §268.40), an F039 waste may be land disposed only if it meets the requirements in the Section 728.Table T "Treatment Standards for Hazardous Wastes" (35 Ill. Adm. Code 728.Table T). During the evaluation process in past

delistings, USEPA has considered the applicability of the LDR program's UTS. For example, in the delisting for Nissan North America, Inc. (Smyrna, Tennessee), USEPA decided not to set delisting levels based on the LDRs' UTS. The delisting specified disposal in a Subtitle D solid waste landfill. 67 Fed. Reg. 42187, 42192, 42196 (June 21, 2002). BFI asserts that the LDRs' UTS requirements do not apply here.

BFI points out that the LDRs' treatment standards were established on a different basis and for a different purpose than the listing and delisting standards. PFT at 12. UTS are "technology-based standards that must be met before the waste can be applied to the land," but listing and delisting levels are "risk-based and focus on the specific health and environmental criteria" of Sections 720.122 and 721.111 (35 Ill. Adm. Code 720.122, 721.111). *Id.* In promulgating the LDRs' treatment standards, USEPA found they should be technology-based because of:

the uncertainties associated with hazardous waste land disposal and [USEPA'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, 22535 (June 1, 1990).

USEPA distinguished requiring broad generally applicable treatment standards like "best demonstrated available technology" for categories of waste types from "standards that are applied in particularized circumstances, such as RCRA clean closures, no migration determinations, and delistings." 55 Fed. Reg. 6640, 6641 n.1 (Feb. 26, 1990).

BFI adds that the toxicity listing factors of 35 Ill. Adm. Code 721.111(a)(3)(A) through (a)(3)(K) do not include the treatability of the waste. PFT at 14. Instead, those factors concentrate 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. *Id.*

BFI further notes that while Part 728 houses the constituents for which F039 leachate is listed and Table T of that Part lists the UTS for those constituents, nothing in the USEPA or Board regulations "states that the UTS are to be used as listing or delisting levels." PFT at 13. The UTS have an "entirely different purpose," BFI continues, namely to ensure safe disposal in land units such as by protecting the integrity of a landfill's liner. *Id.* This is in contrast to the listing and delisting regulations, which "establish health and environmental risk-based criteria, and are not tied to land disposal." *Id.* BFI concedes that if a delisted waste is to be land disposed, "it is reasonable to conclude that the delisted waste must meet the LDR universal

treatment standards.” *Id.* at 14. BFI’s proposed conditional delisting, however, does not permit land disposal, and the leachate “will only be considered delisted as long as it is transported to and received by a wastewater treatment facility.” *Id.*

BFI also cited a USEPA statement published as an answer to a question posed to the RCRA Call Center:

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. PFT at 15, Att. 7 (“RCRA, Superfund & EPCRA Call Center Monthly Report,” EPA530-R-04-003a, RO 14699 (Jan. 2004)).

BFI maintains that this USEPA RCRA Call Center response indicates the LDRs’ requirements would not apply here because BFI’s F039 waste would be delisted prior to generation. PFT at 15.

As stated earlier, although the Board has looked to DRAS when evaluating delisting petitions (*e.g.*, BP Products, AS 07-1), there is no regulatory requirement to use DRAS, and the Board may use other appropriate assessment approaches (PC 2 at 1). For wastes that will not be managed under the generic scenario of the delisting model, the Board may consider site-specific circumstances and add conditions on a case-by-case basis. “National Policy for Hazardous Waste Delistings” at 3, Memorandum from Elizabeth A. Cotsworth, Acting Director, Office of Solid Waste, to Regional RCRA Senior Policy Advisors, RO 14282 (July 1, 1998).

Except for vinyl chloride and 1,4-dioxane, the Board finds that it is appropriate to use as the delisting levels the lesser (*i.e.*, more stringent) of the values derived from the TC Rule of 35 Ill. Adm. Code 721.24 (40 C.F.R. §261.24) and the maximum allowable TCLP concentrations for the limiting pathways derived by DRAS. For the two exceptions, the Board finds BFI’s alternate delisting levels for vinyl chloride and 1,4-dioxane acceptable based on the site-specific, constituent-specific, and statistical analyses provided by BFI, as well as the conditions of the adjusted standard language. The Board also finds that BFI properly did not rely on the LDRs’ UTS to derive delisting levels because the proposed delisting does not permit land disposal and would not apply if the leachate were land disposed.

The petitioned F039 waste is listed with code “T” in Subpart D of 35 Ill. Adm. Code 721 for “toxic waste.” 35 Ill. Adm. Code 721.130(b)(1)(F). For wastes listed with code “T,” Section 720.122(d)(1) requires the petitioner to demonstrate that the waste either does not contain the constituents that caused USEPA to list the waste or, although containing one or more of the constituents, the waste does not meet the criterion of 35 Ill. Adm. Code 721.111(a)(3) when considering the factors used in 35 Ill. Adm. Code 721.111(a)(3)(A) through (K). 35 Ill. Adm. Code 720.122(d)(1). Additionally, based on a complete petition, the Board must determine

whether there is any reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed warrant retaining the waste as a hazardous waste. 35 Ill. Adm. Code 720.122(d)(2).

According to BFI, it has demonstrated that the constituents detected in the leachate “will not pose a risk to health or the environment even at the highest concentrations detected over the last nine years and even in a worst case release scenario.” Pet. at 20. BFI maintains that its leachate is not capable of posing a substantial present or potential hazard to human health or the environment under the reasonable worst-case scenario of disposal directly on the land through an accidental spill of the entire 5,000-gallon contents of a tanker truck. Pet. at 22-23, Att. 1 at 27-28. BFI’s database on the Phase I unit leachate “goes well beyond the constituents which formed the basis of [US]EPA’s F039 listing.” Pet. at 23. BFI cites nine years of sampling data for the 40 C.F.R. 264.Appendix IX list of hazardous constituents (35 Ill. Adm. Code 724.Appendix I “Groundwater Monitoring List”). BFI also cites its “supplemental sampling for any ignitability, reactivity, and corrosivity, and additional toxicity characteristic constituents listed in Table 1 of 35 Ill. Adm. Code 721.124(b) (40 CFR 261.24(b))” (discussed below). *Id.* at 23-24. From the results from this broad sampling, BFI asserts, there is “no other reasonable basis to believe that the Phase I Unit leachate should be maintained as a hazardous waste.” *Id.* at 24.

Based on this record, the Board finds that the F039 leachate from the Phase I unit at the Davis Junction landfill does not meet any of the criteria under which it was listed as a hazardous waste. Further, there is no reasonable basis to believe that factors other than those for which the waste was listed warrant retaining the leachate as a hazardous waste. The Phase I unit leachate contains some of the hazardous constituents that caused USEPA to list the waste. The Board finds, however, that this leachate does not pose a substantial present or potential threat to human health or the environment when considering all of the factors, including the “reasonable worst-case scenario” of an accident in transit resulting in a 5,000-gallon spill to an unlined surface impoundment. The Board’s decision today takes into account BFI’s risk assessment, which includes USEPA’s DRAS, and the conditions crafted for the adjusted standard’s language, which are further discussed below.

The Board emphasizes that in the Shell Oil (Deer Park, Texas) delisting, USEPA noted that the “limits described here [delisting levels] do not relieve Shell Oil Company of its duty to comply with discharge limits in its TPDES [Texas Pollutant Discharge Elimination System] permit.” 69 Fed. Reg. 77690, 77695 (Dec. 28, 2004). Similarly, the delisting levels in BFI’s adjusted standard do not relieve the receiving facilities of their duties to comply with pretreatment or discharge limits.

### **Characteristics of Hazardous Waste**

To receive a delisting, the petitioner must demonstrate that the waste does not exhibit any of the characteristics of hazardous waste, *i.e.*, ignitability, corrosivity, reactivity, or toxicity. 35 Ill. Adm. Code 720.122(d)(3). BFI asserts that test data and generator knowledge demonstrate that the Phase I unit leachate does not exhibit any hazardous waste characteristic. Pet. at 24. For the reasons below, the Board agrees.

Weaver Boos notes initially that none of the samples collected exhibited the hazardous waste characteristics of ignitability, corrosivity, or reactivity (35 Ill. Adm. Code 721.121, 721.122, 721.123; 40 C.F.R. §§261.21, 261.22, 261.23). *Id.*, Att. 1 at 20, App. D, Table I. A solid waste exhibits the characteristic of ignitability if a representative sample “is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume, and has a flash point less than 60°C (140°F).” 35 Ill. Adm. Code 721.121(a)(1). As Weaver Boos points out, “numerous historical samples have indicated that the flashpoint of the petitioned waste is greater than 200 degrees F.” Pet., Att. 1 at 20.

A solid waste exhibits the characteristic of corrosivity if a representative sample either (1) is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, or (2) is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55° C (130° F). 35 Ill. Adm. Code 721.122(a)(1), (2). Historical pH values for the leachate do not fall within this range and the steel leachate storage tank, which has been in use for over ten years, has had “no corrosion issues.” Pet., Att. 1 at 20.

A solid waste exhibits the characteristic of reactivity if a representative sample (1) is normally unstable and readily undergoes violent change without detonating; (2) reacts violently with water; (3) forms potentially explosive mixtures with water; (4) when mixed with water, generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment; (5) is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment; (6) is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement; (7) is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure; or (8) is a forbidden explosive, as defined in 49 C.F.R. §173.54, or a Division 1.1, 1.2, or 1.3 explosive, as defined in 49 C.F.R. §173.50. 35 Ill. Adm. Code 721.123(a). BFI’s leachate, based on generator knowledge, does not exhibit any of these properties. Pet., Att. 1 at 21. Cyanide has not been detected in the leachate and “the trace concentrations of sulfide detected do not generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.” *Id.*

A solid waste exhibits the characteristic of toxicity if, using the TCLP, the extract from a representative sample contains any of the contaminants listed in the table below at a concentration equal to or greater than the respective value given in the table. Where the waste contains less than 0.5 % filterable solids, the waste itself, after filtering, is considered to be the extract. 35 Ill. Adm. Code 721.124(a).

<b>Contaminant</b>	<b>Regulatory Level (mg/L)</b>
Arsenic	5.0
Barium	100.0
Benzene	0.5
Cadmium	1.0
Carbon tetrachloride	0.5

Chlordane	0.03
Chlorobenzene	100.0
Chloroform	6.0
Chromium	5.0
o-Cresol	200.0
m-Cresol	200.0
p-Cresol	200.0
Cresol	200.0
2,4-D	10.0
1,4-Dichlorobenzene	7.5
1,2-Dichloroethane	0.5
1,1-Dichloroethylene	0.7
2,4-Dinitrotoluene	0.13
Endrin	0.02
Heptachlor (and its epoxide)	0.008
Hexachlorobenzene	0.13
Hexachlorobutadiene	0.5
Hexachloroethane	3.0
Lead	5.0
Lindane	0.4
Mercury	0.2
Methoxychlor	10.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
Pentachlorophenol	100.0
Pyridine	5.0
Selenium	1.0
Silver	5.0
Tetrachloroethylene	0.7
Toxaphene	0.5
Trichloroethylene	0.5
2,4,5-Trichlorophenol	400.0
2,4,6-Trichlorophenol	2.0
2,4,5-TP (Silvex)	1.0
Vinyl chloride	0.2

35 Ill. Adm. Code 721.124(b).

Weaver Boos states that because the Phase I unit leachate is expected to contain less than 0.5% solids, the concentrations obtained from the liquid portion of the sample are considered the TCLP result, rather than subjecting the sample to a leaching test. Pet., Att. 1 at 21. Other than a single sample for trichloroethylene and vinyl chloride collected on the same day in March 2006, none of the constituent concentrations in the leachate exceeded the regulatory levels for toxicity. *Id.* As discussed above, the lone elevated results for trichloroethylene and vinyl chloride are

anomalous based on the other data collected before and afterwards and over a nine-year period. *Id.*

### Testing

Under the proposed adjusted standard, to not be deemed a hazardous waste, the leachate must not exceed any of the delisting level concentrations. 3rd Am. Pet. at 1-2. The landfill operator must test one representative sample of the Phase I unit leachate for constituents of concern once prior to initial transportation, quarterly until compliance is demonstrated for four consecutive quarters, and then semi-annually. At least thirty days before transporting the first load, BFI must submit to IEPA the test results of a representative leachate sample demonstrating compliance with the requirements of the adjusted standard.

If an original sample (initial, quarterly, or semi-annual) fails to meet any of the delisting level concentrations in Table A of the adjusted standard, BFI's proposed conditions would require that a verification sample be collected within seven days and that verification testing be performed for any constituent that failed to meet a delisting level. Failure would be verified if both the original and verification samples failed to meet the delisting level. Br. at 27-28; 3rd Am. Pet. at 2.

If failure is verified, the operator must notify IEPA and the leachate cannot be transported or disposed of except as a hazardous waste. For the operator to re-initiate transportation and disposal of the leachate as non-hazardous special waste, the operator would be required to perform confirmatory testing, including a minimum of four representative samples taken over not less than a 14-day period, each of which is compliant. 3rd Am. Pet. at 2.

BFI asserts that its proposed testing regimen is "consistent with, and in fact more stringent than, the initial quarterly and subsequent annual testing that U.S.EPA has required in similar delistings." Pet. at 17. Under USEPA's delisting for the Shell Oil (Deer Park, Texas) F039 waste, initial and subsequent verification testing was required. Before Shell Oil could manage and dispose of its leachate as non-hazardous, Shell Oil had to perform initial verification testing consisting of four samples followed by two consecutive quarterly samples, none of which could exceed the delisting levels. In subsequent verification testing, if delisting levels were being met after the first year of quarterly testing, Shell Oil could test annually with USEPA permission. 70 Fed. Reg. 49187, 49192 (Aug. 23, 2005). Moreover, unlike BFI's leachate, Shell Oil's leachate was generated from an "active landfilling operation," and therefore "potentially subject to far more variation than is BFI's leachate," according to BFI. PFT at 2; *see also* Tr. at 57-58 (Shell Oil's waste stream generated by an "ongoing process"); Br. at 9.

USEPA explains that conditional exclusions may be granted when:

the waste may exhibit future variability that may be of concern. Under a conditional exclusion, we [USEPA] set up post-exclusion testing requirements that the petitioner must meet prior to waste disposal. \*\*\* Only those batches that meet the conditions provided in the final exclusion could be managed as non-hazardous waste; the remainder must either be re-treated or managed as

hazardous. “EPA RCRA Delisting Program--Guidance Manual for the Petitioner” at 7-8, USEPA Region 6 (Mar. 23, 2000).

BFI emphasizes that although it seeks a conditional exclusion, the F039 leachate is not generated by a “multiple batch” operation, but rather continually from a “single, static source.” PFT at 3. “This is a single source, a continual source, that is generating leachate. It’s the landfill. \*\*\* The fact that we are taking it out in 5,000-gallon batches does not convert this to being a batch source.” Tr. at 60 (Sharkey). BFI states that for leachate, USEPA has not required sampling and analysis of every load. PFT at 3-4; Br. at 8. According to BFI, future waste variability in constituents and contaminant levels is not present in this case. PFT at 2. BFI characterizes its leachate as being generated in a closed landfill that has not received any hazardous waste for over 25 years. *Id.* BFI adds that a low permeability cap has been in place for some ten years, and the monitoring since then indicates the leachate has little variability in chemical character. *Id.* at 3.

Weaver Boos performed a statistical analysis to assess the variability in data for the F039 leachate from the years 1999 to 2007. PFT at 15. Weaver Boos calculated the variance and standard deviation for each parameter in the historical record. *Id.* The average variance of all parameters slightly exceeded 1.0 mg/L. Br. at 15. BFI notes that 9 of over 250 constituents exhibited a variance greater than 1.0 mg/L, the highest variance values belonging to 1,4-dioxane and isobutyl alcohol. PFT at 15.

CONSTITUENT	VARIANCE (mg/L)	NOTE
1,4-Dioxane	111.049	Will be monitored
2,4-D (TCLP)	2.869	Will be monitored
Acetone	5.162	Will be monitored
Cobalt (Total)	1.405	Will be monitored
Hexachlorophene	11.286	Not detected
Isobutyl alcohol	46.322	Will be monitored
Methyl ethyl ketone	13.942	Will be monitored
Sulfide (as S)	13.335	No delisting level
Zinc (Total)	10.805	Will be monitored

PFT, Att. 5; 3rd Am. Pet.

Except for sulfide and hexachlorophene, all of the constituents with variances greater than 1.0 mg/L would be monitored under the proposed adjusted standard. If monitored concentrations are confirmed to exceed the proposed delisting levels, the leachate would not qualify for the delisting. PFT at 16. As stated earlier, BFI did not include a delisting level for sulfide because the company found neither published groundwater standards nor a reference in USEPA’s IRIS database for the constituent. *Id.* at 10-11. For hexachlorophene, leachate data indicates that it was never reported above the detection limit, and BFI suggests the non-detected constituents are unlikely to present a significant concern. *Id.* at 16, Att. 5.

Given the USEPA precedent of Shell Oil (Deer Park, Texas) and the Weaver Boos statistical analysis, the Board finds that the proposed initial and subsequent verification testing schedule is appropriate for BFI's petitioned waste. Although BFI's proposed initial verification testing of a single representative sample may not be as rigorous as that adopted in the Shell Oil delisting, BFI has already provided nine years of leachate analytical data, consisting of thousands of data points. Further, BFI proposes more frequent subsequent verification testing than provided in the Shell Oil delisting. In addition, the annual volume of the Shell Oil F039 waste is approximately 3.36 million gallons. 70 Fed. Reg. 49187, 49189 (Aug. 23, 2005); Br., Att. 4 at 7-8, 59. The annual waste volume for BFI is predicted to be less than 500,000 gallons per year. Pet. at 2.

Besides conditioning the delisting on Phase I unit leachate concentrations being less than or equal to the Table A delisting levels, this delisting would be conditional on the leachate not exhibiting any characteristic of hazardous waste (35 Ill. Adm. Code 721.121, 721.122, 721.123, 721.124). Br. at 28; Tr. at 135. The toxicity characteristic is reflected in the Table A delisting level concentrations. Compliance with the other hazardous characteristics (*i.e.*, ignitability, corrosivity, reactivity) may be demonstrated based upon the operator's knowledge. Br. at 27.

### **Modifications to Relief and Conditions**

In addition to amending the delisting level for 1,2-dichloroethane as discussed at pages 34 and 35 of this opinion, the Board has made a number of changes to BFI's proposed adjusted standard language. First, consistent with Board precedent, the Board has specified that the date of this order, December 4, 2008, is the effective date of the delisting. *See, e.g., Keystone Steel and Wire*, AS 91-1, slip op. at 18 (Feb. 6, 1992).

Second, the Board has modified the proposed adjusted standard's paragraph (d) concerning the timing of initial testing. Proposed paragraph (d) describes when the operator must submit compliant test results to IEPA: "[p]rior to commencing initial transportation and disposal of the leachate." To describe the same obligation, however, proposed paragraph (g) uses the language "[a]t least 30 days prior to transporting the first load of leachate." For consistency and greater specificity, the Board amended paragraph (d) to reflect the wording of paragraph (g).

Third, the Board has modified proposed paragraph (d) regarding verification testing. BFI has represented that all original samples collected pursuant to the adjusted standard will be tested not only for the Table A constituent concentrations, but also for the characteristics of hazardous waste. Br. at 27-28; Tr. at 135. However, BFI's proposed verification testing refers only to "constituent(s)" failing to meet the requirements of paragraph (c). Proposed paragraph (c) provides that the leachate must not exceed any Table A constituent and must not be characteristic. The Board has changed the language of paragraph (d) to read that "Verification Testing shall be performed for the characteristic(s) or constituent(s) which failed to meet the requirements of paragraph (c)."

Fourth, BFI's proposed language for paragraph (d) would make the delisting conditional upon each of quarterly testing results for the first 12 months of the adjusted standard

demonstrating compliance with the requirements of paragraph (c). This proposed wording, taken literally, would effectively void the relief if any one of the first year's quarterly test results do not meet paragraph (c). It is plain from the record, however, that quarterly sampling is (1) to be performed during the first year of the adjusted standard and (2) to continue, as necessary, until four consecutive compliant test results are obtained. The Board amends this provision accordingly. *See, e.g.*, Pet. at 5, 15, 17; Tr. at 20, 56; Br. at 27.

Fifth, the language proposed by BFI explicitly requires the submission of test results to IEPA for some but not all types of sampling events. Submittal of all data is routinely required in delistings. Consistent with Board and USEPA precedent, the Board adds a new paragraph (k) requiring that all data collected pursuant to this adjusted standard be submitted to IEPA. *See, e.g.*, Envirite, AS 94-10, slip op. at 3 (Dec. 19. 1996); 70 Fed. Reg. 49187, 49192 (Aug. 23, 2005) (Shell Oil, Deer Park, Texas). Also in accordance with prior Board and USEPA delistings, the Board adds familiar provisions on required testing methodologies, recordkeeping, and data submittal certification. *See, e.g.*, Keystone Steel and Wire, AS 91-1, slip op. at 5-7 (Apr. 23, 1992); 35 Ill. Adm. Code 721.Appendix I, Table B (Conversion Systems, Inc. Horsham, Pennsylvania (Sterling, Illinois operations)); 70 Fed. Reg. 49187, 49192-93 (Aug. 23, 2005) (Shell Oil, Deer Park, Texas).

The other amendments made by the Board are minor. If BFI or IEPA disagrees with any of the language changes made by the Board, either party may file a motion to reconsider or modify. *See* 35 Ill. Adm. Code 101.520(a). A timely-filed motion for reconsideration or modification would stay the effect of today's order until the Board disposes of the motion. *See* 35 Ill. Adm. Code 101.520(c).

### **CONCLUSION**

Under the specific circumstances presented in this record, the Board finds that BFI has proven that the leachate generated by the closed Phase I unit of the Davis Junction Landfill in Ogle County is not a RCRA hazardous waste. The Board therefore grants BFI's petition to delist from the list of hazardous wastes the Phase I unit F039 leachate, subject to the conditions set forth in the order below.

This record demonstrates that (1) the leachate does not meet any of the criteria under which it was listed as a hazardous waste; (2) there is no reasonable basis to believe that factors other than those for which the waste was listed warrant retaining the leachate as a hazardous waste; and (3) the leachate exhibits no characteristics of hazardous waste. The Board finds that the leachate from the closed Phase I unit does not pose a substantial present or potential threat to human health or the environment.

As indicated, this delisting is site-specific, waste stream-specific, and conditional. Only if the conditions of the adjusted standard are met can BFI dispose of the leachate as non-hazardous special waste. To qualify, the Phase I unit leachate must not exhibit any hazardous waste characteristic and must not exceed any of the delisting level concentrations for the 43 chemicals set forth in Table A of the order below. BFI must perform initial, quarterly, and semi-annual testing of the leachate for compliance. Non-compliant results trigger verification testing.

Verified non-compliance means the leachate cannot be transported or disposed of except as hazardous waste, until confirmatory testing demonstrates a return to compliance. Moreover, the leachate will not be considered delisted unless disposed of in a waste water treatment facility in Illinois with a pretreatment program approved by USEPA. RCRA Subtitle C hazardous waste regulations would immediately apply to any release of the leachate during transport. This delisting will be added to 35 Ill. Adm. Code 721. Appendix I, Table D. *See* 35 Ill. Adm. Code 720.122(n)(3).

### **ORDER**

Effective December 4, 2008, leachate generated at the closed Phase I Unit at the BFI Waste Systems of North America Davis Junction Landfill in Ogle County, Illinois, Resource Conservation and Recovery Act (RCRA) ID No. ILD980700751, shall not be deemed a hazardous waste pursuant to 35 Ill. Adm. Code 721, subject to the following conditions:

- a. The Phase I Unit is subject to an Illinois Environmental Protection Agency (IEPA) RCRA Post-Closure Permit which prohibits the disposal of any new solid or liquid waste in the Phase I Unit, requires maintenance of the landfill cap and liner, and requires operation of a leachate collection system;
- b. The leachate is hard-piped directly from the landfill to an on-site storage tank which is regulated under the RCRA Post-Closure Permit and is not stored or managed in a surface impoundment, conveyed by ditches, or otherwise managed prior to transportation for off-site disposal;
- c. The leachate does not exhibit any characteristic of hazardous waste as defined in 35 Ill. Adm. Code 721.121, 721.122, 721.123, and 721.124 and also does not exceed any delisting level concentration in Table A. Other than for the toxicity characteristic which is reflected in the delisting level concentrations in Table A, whether the leachate exhibits a characteristic of hazardous waste may be demonstrated based upon the operator's knowledge of the leachate characteristics;
- d. At least 30 days prior to transporting the first load of leachate pursuant to this Adjusted Standard Waste Delisting, the operator shall test a representative sample of the leachate and submit to IEPA test results demonstrating compliance with the requirements of paragraph (c). Thereafter, such testing shall continue on a quarterly basis until such time as the operator has demonstrated compliance with the requirements of paragraph (c) (including, if necessary, compliance demonstrated by a verification test) in four consecutive quarters. Thereafter, such testing shall continue on a semi-annual basis. For any such initial, quarterly, or semi-annual testing, if an original sample fails to meet the requirements of paragraph (c), then a verification sample shall be collected within 7 days and Verification Testing shall be performed for the characteristic(s) or constituent(s) which failed to meet the requirements of paragraph (c). A verified failure to meet the requirements of paragraph (c) will be deemed present if both the original and verification sample fail to meet such requirements;

- e. If a failure to meet the requirements in paragraph (c) is verified pursuant to the verification procedures in paragraph (d), the operator shall notify IEPA in writing and the leachate shall not be transported or disposed of except as a hazardous waste until such time as it is demonstrated by the Confirmatory Testing procedures below to meet the requirements of paragraph (c). Prior to re-initiating transportation and disposal pursuant to this Adjusted Standard Waste Delisting, the operator shall perform Confirmatory Testing, including testing of a minimum of four representative samples taken over not less than a 14-day period, each of which confirms that the leachate meets the requirements of paragraph (c), and the operator shall submit such results to IEPA with a written notification that the operator intends to re-initiate transportation and disposal pursuant to the Adjusted Standard Waste Delisting;
- f. The leachate is transported in compliance with the requirements applicable to an Illinois Special Waste (35 Ill. Adm. Code Part 809) to and received by a permitted waste water treatment facility located in Illinois which has a Pretreatment Program which has been approved by the United States Environmental Protection Agency;
- g. At least 30 days prior to transporting the first load of leachate pursuant to this Adjusted Standard Waste Delisting, the operator shall provide IEPA with a one-time written notification stating that the operator intends to commence transportation of leachate pursuant to this Adjusted Standard Waste Delisting and the name of the waste water treatment facility to which the leachate will be transported. If the operator changes disposal facilities, it shall provide to IEPA a one-time written notification of such change;
- h. The operator shall not transport the leachate pursuant to this Adjusted Standard Waste Delisting outside of the State of Illinois;
- i. This Adjusted Standard Waste Delisting shall apply once the leachate is loaded for transport at the Davis Junction Landfill and during any subsequent transportation and handling, but shall not apply to any such leachate which is released from the tanker truck to the environment (at the Davis Junction Landfill or at any other location) prior to delivery to a permitted waste water treatment facility as described in paragraph (f);
- j. Any such leachate released to the environment as described in paragraph (i) shall be considered a RCRA listed hazardous waste and any such released leachate shall be addressed in accordance with applicable RCRA requirements; and
- k. All analyses pursuant to paragraphs (d) and (e) shall be performed according to SW-846 methodologies incorporated by reference in 35 Ill. Adm. Code 720.111. The resulting analytical data shall be compiled and maintained at the Davis Junction Landfill for a minimum of three years. These data shall be made

available for inspection by any representative of the State of Illinois. All data must be submitted to IEPA within the time period specified in paragraph (d) or (e), as applicable. All data submittals to IEPA must be accompanied by the following certification statement:

Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations, I certify that the information contained in or accompanying this document is true, accurate, and complete.

As to any identified section of this document for which I cannot personally verify its truth, accuracy, or completeness, I certify, as the operator's official having supervisory responsibility for the person(s) who, acting under my direct instructions, made the verification, that this information is true, accurate, and complete.

In the event that any of this information is determined by the Board or a court of law to be false, inaccurate, or incomplete, I recognize and agree that this exclusion of waste will be void as if it never had effect or to the extent directed by the Board or court and that the operator will be liable for any actions taken in contravention of the operator's obligations under RCRA or the Comprehensive Environmental Response, Compensation and Liability Act or corresponding provisions of the Environmental Protection Act premised upon the operator's reliance on the void exclusion.

\_\_\_\_\_  
(Name of certifying person)

\_\_\_\_\_  
(Title of certifying person)

\_\_\_\_\_  
(Date)

Table A

Constituent of Concern	Delisting Level (mg/L)
Arsenic	0.525
Barium	100
Benzene	0.153
Cadmium	0.409
Carbon disulfide	118
Chromium	5.0
Dichloropropene, cis-1, 3-	1,206
Cobalt	60.2
Copper	24,700
Diethyl phthalate	1,270
Endrin	32,700
Ethylbenzene	57.2
Isobutyl alcohol	299
Lead	5.0
Mercury	0.2
Methanol	499
Methyl ethyl ketone	200
Methylene chloride	0.198
Methyl isobutyl ketone	79.8
Naphthalene	6.51
Nickel	76.8
Cresol, p-	5.37
Phenol	645
Selenium	1.57
Styrene	6.2
Tetrachloroethylene	0.174
Tin	602
Toluene	40.2
Trichloroethylene	0.164
Vanadium	57.1
Vinyl chloride	0.2
Xylenes (total)	160
Zinc	760
Dichloroethane, 1-1-	99.8
Dichloroethane, 1,2-	0.0213
Dichlorobenzene, 1,4-	0.473
Dioxane, 1,4-	100
Heptachlor	0.008
TCDD, 2,3,7,8-	0.00000147
Trichlorophenoxypropionic acid, 2,4, 5- (Silvex)	1.0
Dichlorophenoxyacetic acid, 2,4- (2,4-D)	1.86

Dimethylphenol, 2,4-	27.6
Acetone	898

IT IS SO ORDERED.

Section 41(a) of the Environmental Protection Act provides that final Board orders may be appealed directly to the Illinois Appellate Court within 35 days after the Board serves the order. 415 ILCS 5/41(a) (2006); *see also* 35 Ill. Adm. Code 101.300(d)(2), 101.906, 102.706. Illinois Supreme Court Rule 335 establishes filing requirements that apply when the Illinois Appellate Court, by statute, directly reviews administrative orders. 172 Ill. 2d R. 335. The Board's procedural rules provide that motions for the Board to reconsider or modify its final orders may be filed with the Board within 35 days after the order is received. 35 Ill. Adm. Code 101.520; *see also* 35 Ill. Adm. Code 101.902, 102.700, 102.702.

I, John Therriault, Assistant Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on December 4, 2008, by a vote of 5-0.



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John Therriault, Assistant Clerk  
Illinois Pollution Control Board