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STATE OF ILLINOIS
Pollution Control Board

ILLINOIS POLLUTION CONTROL BOARD
April 4, 2008

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

HEARING OFFICER ORDER

On March 12, 2008, and again on March 18, 2008, all parties participated in telephonic status conferences with the hearing officer. A hearing date was requested by BFI Waste Systems of North America, Inc. (BFI) and a hearing date of May 15, 2008, was scheduled.

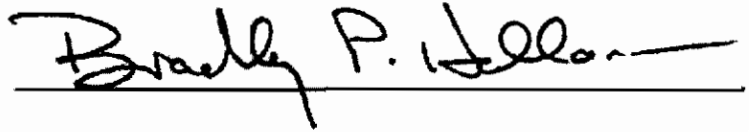
The parties were informed that any questions that the Board's technical personnel may have regarding BFI's petition would be forwarded to the respective parties in a hearing officer order prior to the hearing. To that end, the hearing officer directs BFI to address the issues set forth in Attachment A to this order. BFI may provide its responses through an amended petition, pre-filed testimony, and/or post-hearing brief, as it believes appropriate. Any evidence not presented in an amended petition, however, must be presented in the form of pre-filed testimony. Any pre-filed testimony must be filed by May 6, 2008. The "mailbox rule" (35 Ill. Adm. Code 101.300(b)(2)) does not apply to this filing of pre-filed testimony. Accordingly, the Clerk's Office must *receive* any pre-filed testimony by the May 6, 2008 deadline. The filing of an amended petition may necessitate delaying the scheduled hearing.

On March 28, 2008, the Clerk's Office received the Illinois Environmental Protection Agency's recommendation that the Board deny the requested adjusted standard.

The parties are reminded that pursuant to the hearing officer order of March 18, 2008, a telephonic status conference with the hearing officer is scheduled for April 7, 2008, at 9:30 a.m. The telephonic status conference must be initiated by BFI, but each party is nonetheless responsible for its own appearance. At the status conference, the parties must be prepared to

discuss the status of the above-captioned matter and their readiness for hearing.

IT IS SO ORDERED.

A handwritten signature in black ink, reading "Bradley P. Halloran", is written over a solid horizontal line.

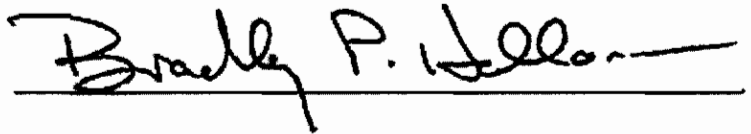
Bradley P. Halloran
Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center, Suite 11-500
100 West Randolph
Chicago, Illinois 60601
312.814.8917

CERTIFICATE OF SERVICE

It is hereby certified that true copies of the foregoing order were mailed, first class, on April 4, 2008, to each of the persons on the attached service list.

It is hereby certified that a true copy of the foregoing order was hand delivered to the following on April 4, 2008:

John T. Therriault
Illinois Pollution Control Board
James R. Thompson Center
100 W. Randolph St., Ste. 11-500
Chicago, Illinois 60601

A handwritten signature in black ink, reading "Bradley P. Halloran", is written over a solid horizontal line.

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ATTACHMENT A
to April 4, 2008 Hearing Officer Order

AS 08-5, Petition of BFI Waste Systems of North America, Inc.
for Waste Delisting

1. **Monitoring Frequency**

Board regulations at 35 Ill. Adm. Code 720.122 rely on the federal framework for waste delistings set forth in USEPA's March 23, 2000 "EPA RCRA Delisting Program—Guidance Manual for the Petitioner" (Manual). According to the Manual, one-time delistings or single-batch exclusions apply to discrete volumes of waste that were typically generated in the past. Multi-year or multiple-batch delistings apply to waste that is currently generated and/or will be generated in the future. Manual at 7-8, App. H, Att. 5; USEPA's RCRA Delisting Technical Support Document EPA906-D-98-001 (RCRA TSD) at 1-7, 1-8. "A one-time delisting does not require the Agency to establish monitoring concentrations that must be met by each batch of waste to be managed under a promulgated exclusion." RCRA TSD at 1-8, 1-9. "Delisting levels are established for multiple batch delistings. The delisting level is the maximum concentration allowed for a waste constituent for any given waste batch . . ." Manual, App. H, Att. 5.

The adjusted standard petition of BFI Waste Systems of North America, Inc. (BFI) proposes monitoring the leachate on a quarterly and semi-annual basis instead of monitoring each batch (truckload) of waste. The Board previously addressed the issue of on-going monitoring. *See* Petition of Waste Management of Illinois, Inc. for an Adjusted Standard from Subpart D of 35 Ill. Adm. Code 721 and for RCRA Waste Delisting Under 35 Ill. Adm. Code 720.122 for Treatment Residual of CID Recycling and Disposal Facility Biological Liquid Treatment Center, AS 05-7, slip op. at 8-9 (Dec. 15, 2005). Please elaborate on the adequacy of quarterly and semi-annual leachate monitoring to demonstrate that each batch of leachate meets the proposed delisting levels.

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

According to the Manual, one-time delistings or single-batch exclusions apply to discrete volumes of waste that were typically generated in the past. Manual at 7. Multi-year or multiple-batch delistings apply to waste that is currently generated and/or will be generated in the future. Manual at 7-8, App. H, Att. 5; RCRA TSD at 1-7, 1-8.

The Board previously addressed the issue of single versus multiple batch delisting. *See* Petition of BP Products North America Inc. for an Adjusted Standard Pursuant to 35 Ill. Adm. Code 720.122, AS 07-1 (Feb. 15, 2007); Petition of Waste Management of Illinois, Inc. for an Adjusted Standard from Subpart D of 35 Ill. Adm. Code 721 and for RCRA Waste Delisting Under 35 Ill. Adm. Code 720.122 for Treatment Residual of CID Recycling and Disposal Facility Biological Liquid Treatment Center, AS 05-7 (Dec. 15, 2005). BFI's petition used DRAS to derive delisting levels more consistent with a one-time delisting approach rather than a multi-year delisting approach. For the DRAS input

parameters, BFI used values consistent with a one-time disposal by entering a waste volume equal to the volume of one tanker truck (5000 gallons/year) and a waste management unit active life of 1 year. Pet. at 29-30.

The DRAS User's Guide explains, "If the waste to be delisted will be disposed of in multiple batches over more than one year, the user should select the Multi-year batch option button." User's Guide for the U.S. EPA Region 6 Delisting Risk Assessment Software (DRAS), April 2002, EPA906-D-98-001 (DRAS User's Guide) at 10. The DRAS User's Guide defines the Waste Volume parameter as the "maximum annual volume of the petitioned waste for a multi-batch delisting". DRAS User's Guide at 6. BFI predicts a maximum annual volume for leachate of 500,000 gallons. Pet. at 5. For the DRAS parameter of Waste Management Unit Active Life, the guide explains this is the "number of years the petitioned waste is projected to be generated." DRAS User's Guide at 6. BFI requests the delisting apply "over the remaining RCRA Post-Closure Period which is anticipated to be seven years", but acknowledges that may be extended. Pet. at 1-2.

In light of the above, please explain BFI's rationale for not utilizing the multi-year approach to derive the delisting levels using the multi-year values of 500,000 gallons/year and 7-year anticipated closure period.

3. **Constituents of Concern**

BFI's analysis for initial constituents of concern includes all of the 40 CFR 264 App. IX contaminants as well as total oil and grease. "BFI has tested for a far broader list of hazardous constituents, including all F039 constituents." Att. 1 at 7. Appendix D to the petition contains analytical results for most but not all of the F039 constituents. Please elaborate on the test results for those F039 constituents, listed below, that do not seem to appear in Appendix D.

F039 Waste Code (40 CFR 268.40) Constituents not in AS 08-5 Petition App. D:

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

4. **Final List of Constituents of Concern**

USEPA Region 6 states that after conducting the initial analysis for the constituents of

concern, “a final list of constituents can be prepared to include only the metals and organics from the 40 CFR 261.24 Toxicity Characteristics list plus all additional constituents that were detected” Manual, App. H, Att. 2.

BFI’s proposed final list includes 39 constituents that were detected. Att. 1 at 21-22. A review of Appendices C and D of the petition shows the following constituents were detected but not included in BFI’s proposed final list (Att. 1 at 21-22):

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 Trimethyl benzene (3/14/01)
 1,4-dichlorobenzene (3/14/01)
 Fluoride (11/4/99)
 Heptachlor, TCLP (2/18/04)
 Selenium, Total (3/13/01)
 Sulfide as S (11/4/99)

Please elaborate on BFI’s reasons for not including the above constituents in the final list of constituents of concern.

5. **Land Disposal Restrictions for F039 Constituents**

The Illinois Environmental Protection Agency’s recommendation expressed concern that the proposed delisting level of the F039 constituent 1,4-dioxane was above the Land Disposal Restriction (LDR) treatment standard found in 35 Ill. Adm. Code 728. Table T. See IEPA Recommendation at 2 (received Mar. 28, 2008).

As shown in the table below, in addition to 1,4-dioxane, numerous delisting levels derived by BFI using DRAS for the constituents that were included in BFI’s assessment exceed the LDRs in 35 Ill. Adm. Code 728. Tables T and U. The LDRs are identical in substance to the 40 CFR 268.40 Treatment Standards for Hazardous Wastes and 40 CFR 268.48 Universal Treatment Standards (UTS).

F039 Constituent of Concern	BFI-derived DRAS Delisting Level (mg/L) (Att. 1 at 15-16)	35 IAC 728. Tables T & U (40 CFR 268.40/.48) Treatment Standards (mg/L)
Barium	151	1.2
Benzene	0.153	0.14
Carbon Disulfide	118	3.8
Chromium	1040	2.77
Dichloropropene, cis-1, 3- (Cis-1,3- dichloropropylene)	1,000,000	0.036
Diethyl phthalate	1270	0.20

Endrin	32,700	0.0028
Ethylbenzene	57.2	0.057
Isobutyl alcohol	299	5.6
Lead	204	0.69
Mercury	0.22	0.15
Methanol	499	5.6
Methyl ethyl ketone	599	0.28
Methylene chloride	0.198	0.089
Methyl isobutyl ketone	79.8	0.14
Napthalene	6.51	0.059
Nickel	76.8	3.98
Cresol, p-	5.37	0.77
Phenol	645	0.039
Tetrachloroethylene	0.174	0.056
Toluene	40.2	0.08
Trichloroethylene	0.164	0.054
Vanadium	57.1	4.3
Xylenes (total)	886	0.32
Zinc	760	2.61
Dichloroethane, 1,1-	99.8	0.059
Dioxane, 1,4-	100	12.0
Silvex	1.43	0.72
2,4-D	1.86	0.72
Dimethylphenol, 2,4-	27.6	0.036
Acetone	99.8	0.28

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

6. **Delisting Levels and Toxicity Characteristic Levels**

The delisting level for vinyl chloride of 0.0285 mg/L produced by BFI's DRAS analysis was lower than the Maximum Concentration of Contaminants for the Toxicity Characteristic of 0.2 mg/L in 40 CFR 261.24. Instead of using the lower value, "BFI is proposing that the delisting level for vinyl chloride in the Adjusted Standard be established at 0.2 mg/L." Att. 1 at 33. USEPA has required the lower value be used for the delisting level. *See* 67 Fed. Reg. 42193 (June 21, 2002) ("Although there is understandable confusion between the definition of hazardous waste and the delisting process, EPA has decided to use the DRAS EPACMTP as the basis for the delisting levels in the TCLP extract of Nissan's waste.").

In light of this, please explain BFI's rationale for not proposing the lower DRAS value as the delisting level for vinyl chloride.

In addition, BFI proposes a delisting level of 204 mg/L for lead based on the BFI's DRAS derivation. Pet. at 16, Att. 1, App. D. USEPA has stated, "Delisting levels cannot exceed the Toxicity Characteristic (TC) regulatory levels." 67 Fed. Reg. 42192 (June 21, 2002). The TC regulatory level for lead is 5.0 mg/L. 40 CFR 261.24.

Please clarify whether BFI's proposed delisting level for lead, which is greater than the toxicity characteristic limit for lead at 40 CFR 261.24, is consistent with USEPA policy.

7. **Detection Limits**

The DRAS User's Guide at 11 states, "In some cases the reported [detection limit] for a chemical may exceed its delisting level at the target risk level. In such a case, the user may wish to discuss this issue with the lab to find out if there is another available analysis method with a lower [detection limit]." When entering the detection limit in DRAS, "all risk assessments are conducted twice: once including those chemicals specified with concentrations that are [detection limits] and once omitting them. This enables the user to know if these non-detects are driving the results of the risk assessment." DRAS User's Guide at 11. BFI's petition does not demonstrate that the detection limits do not exceed the delisting levels at the target risk level of 10^{-6} . Please provide a demonstration that the detection limits do not exceed delisting levels at the target risk level.

8. **User Alert for DRAS Version 2**

Attachment 1 to BFI's petition notes, "The chemical database in DRAS did not have a value for the surface impoundment dilution attenuation factor (DAF) for the following constituents: 1,1-Dichloroethane; 1,1-Dichloroethane; Cobalt; Tin. However a non zero value is required for DRAS to calculate a delisting level." Att. 1 at 30. BFI's consultant therefore selected conservative DAF values as input parameters for the DRAS analysis. Att. 1 at 30.

In a "User Alert for DRAS Version 2," USEPA acknowledged problems with DRAS version 2, including some incorrect DAF values, and identified certain corrections. The User Alert provides correct DAF values for the four constituents listed on page 30 of Attachment 1 to BFI's petition. The User Alert, a scanned copy of which is attached, previously appeared at <http://www.epa.gov/epaoswer/hazwaste/id/f019/pdf/0038-2.pdf>. In addition, toxicity values recently updated in USEPA's Integrated Risk Information System (IRIS), <http://www.epa.gov/iriswebp/iris/>, are not reflected in DRAS Version 2.0

Please comment on whether the information in the User Alert or updates to the IRIS toxicity values warrants any changes in BFI's DRAS analysis. Questions on delisting, including DRAS, may be directed to Todd Ramaly, USEPA RCRA Programs Section, Land and Chemicals Division, Mail Code LR-8J, 77 W. Jackson Blvd., Chicago, IL 60604, 312/353-9317.

www.epa.gov/epaoswer/hazwaste/id/f019/pdf/0038-2.pdf

User Alert for DRAS Version 2

In using Delisting Risk Assessment Software (DRAS) version 2, EPA has identified certain problems and is currently developing version 3 to address these known problems. The model can still be used for its intended purpose by user over-rides to the input variables and in some cases, performing necessary correction calculations by hand. However, EPA would like users to be aware of the following:

(1) Incorrect Landfill Dilution and Attenuation Factors for 13 constituents:

Constituent	DRAS ver. 1.1 DAF	DRAS ver. 2.0 DAF	Correct DAF
Cobalt	10	0	10
Iron	10	0	10
Magnesium	10	0	10
Manganese	10	0	10
Molybdenum	10	0	10
Tin	10	0	10
Allyl chloride	10	0	18
Chloro-1,3 butadiene, 2-chloropropene	10	0	18
methyl chloride (chloromethane)	10	0	18
2-nitropropane	10	0	18
1,1-dichloroethane	1	1	18
1,2-dichloroethane	1	1	18
dimethyl phthalate	1	1	18

(2) When selecting chemicals of concern (COCs) in steps 4 and 5, COCs with both carcinogenic and noncarcinogenic effects need to be entered twice. After doing so, you must scroll to the right along the row of that COC's properties until you get to a drop-down menu near the end that allows you to select *noncarcinogen* or *carcinogen*. Make sure there is one of each for COCs with both effects. Also note that the default for this drop down box is *noncarcinogen*, so in the case of something like dioxin (where we only have toxicological data for carcinogenic effects) you must correct the selection to *carcinogen*.

(3) The backward calculations are not working for the fish ingestion and air volatiles pathways. Since the limiting pathways screen is based on the backward calculations, do not use the limiting pathways screen. Instead, review the pathways listed on the hazard quotient and risk results

screens instead of relying on the limiting pathways screen. If the fish ingestion or air volatiles pathways are represented as part of the calculated hazard quotient or risk, use the following technique to calculate the delisting level corresponding to the forward calculations:

The observed concentration's relationship to the DRAS-calculated hazard quotient or risk level is the same as the "allowable level" concentration's relationship to the target hazard quotient or risk level. Thus, a simple ratio relationship exists, as shown in the equation on the next page. Solving for the unknown allowable level means multiplying the target hazard quotient or risk level by the observed concentration, and then dividing by the DRAS-forward-calculated hazard quotient or risk level, as follows:

(5) A unit conversion error occurred in the air volatiles pathway equations. Equation 2-33 in RCRA Delisting Technical Support Document contains a conversion from square centimeters to square meters ($1 \text{ cm}^2 = 10^4 \text{ m}^2$), which it should not contain. The net result is that the estimated volatile emissions from the landfill are lower than they should be, by a factor of 10,000. DRAS version 2 users may adjust for this error by using the model in forward-calculate mode only, manually adjusting the air volatiles pathway results by increasing them by a factor of 10,000, and then continuing with the pathway analysis and associated delisting levels. For many constituents no change in the final results will be needed.

(6) A unit conversion error occurred in the surface water body water column concentration equations, which affects the dissolved phase constituent concentration estimates. However, this error affects only back-calculated values, so using the DRAS Version 2 model in forward calculate mode does not cause incorrect results.