

Background Document for Land Disposal Restrictions — Organobromine Production Wastes (Final Rule)

Capacity Analysis and Response to Capacity- Related Comments

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CHAPTER 1 INTRODUCTION

This document presents the capacity analysis that EPA conducted to support the land disposal restrictions (LDRs) for newly listed organobromine production wastes. The LDRs for these wastes were proposed in the Phase III LDR proposed rule (60 *FR* 11702, March 2, 1995).

EPA conducts capacity analyses to evaluate the need for national capacity variances from the land disposal prohibitions.¹ The capacity analysis provides estimates of the quantities of wastes that will require alternative commercial treatment prior to land disposal as a result of the LDRs and estimates alternative commercial treatment capacity available to manage wastes restricted from land disposal. In this rule, EPA is finalizing LDRs for certain wastes listed and identified since November 1984 that were not covered in previous LDR rulemakings. The wastes covered by this rule are summarized in Exhibit 1-1.

EXHIBIT 1-1 WASTES FOR WHICH TREATMENT STANDARDS ARE BEING FINALIZED

Waste Code	Description
Organobromine Production Wastes (K140, U408)	Waste solids and spent filter cartridges from the production of 2,4,6-tribromophenol (K140), and discarded 2,4,6-tribromophenol commercial chemical product (U408)

1.1 BACKGROUND

The Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA), enacted on November 8, 1984, set basic new priorities for hazardous waste management. Land disposal, which had been the most widely used method for managing hazardous waste, is now the least preferred option. Under HSWA, EPA must promulgate regulations restricting the land disposal² of hazardous wastes according to a strict statutory schedule. As of the effective date of each regulation, land disposal of untreated wastes covered by that regulation is prohibited unless it can be demonstrated that there will be no migration of hazardous constituents from the disposal unit for as long as the waste remains hazardous.

¹ The LDRs are effective when promulgated unless the Administrator grants a national capacity variance from the otherwise applicable date and establishes a different date (not to exceed two years beyond the statutory deadline) based on: "... the earliest date on which adequate alternative treatment, recovery, or disposal capacity which protects human health and the environment will be available" (RCRA section 3004(h)(2)).

² RCRA defines land disposal "to include, but not be limited to, any placement of such hazardous waste in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, or underground mine or cave" (RCRA section 3004(k)).

Under the LDR Program, EPA must identify levels or methods of treatment that substantially reduce the toxicity of a waste or the likelihood of migration of hazardous constituents from the waste. Whenever possible, the Agency prefers to define treatment in terms of performance (i.e., levels of treatment, expressed as a concentration of hazardous constituents in residuals from treatment) rather than in terms of specific treatment methods and thus provide the regulated community with flexibility in complying with the LDRs. EPA's standards are generally based on the performance of the best demonstrated available technology (BDAT), as documented by treatment data collected at well-designed and well-operated systems using that technology, or are based on data derived from the treatment of similar wastes that are as difficult or more difficult to treat.

The LDRs are effective immediately upon promulgation unless the Agency grants a national capacity variance from the statutory date because of a lack of available treatment capacity (see RCRA section 3004(h)(2)). For every waste, EPA considers, on a national basis, both the capacity of commercially available treatment technologies and the quantity of restricted wastes currently sent to land disposal for which on-site treatment capacity is not available. If EPA determines that adequate alternative commercial treatment capacity is available for a particular waste, the land disposal restriction goes into effect immediately. If not, the Agency establishes an alternative effective date based on the earliest date on which adequate treatment capacity will be available, or two years, whichever is less. Once the variance expires, the wastes must meet the LDR treatment standards prior to being placed on the land.

RCRA also allows generators to apply for extensions to the LDRs on a case-by-case basis for specific wastes generated at a specific facility (RCRA section 3004(h)(3)). EPA may grant case-by-case extensions to applicants who can demonstrate that: (1) no capacity currently exists anywhere in the U.S. to treat a specific waste, and (2) a binding contractual commitment is in place to construct or otherwise provide alternative capacity, but due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the effective date (40 CFR 268.5).

HSWA's schedule divided hazardous wastes into three broad categories: solvent and dioxin wastes; California list wastes;³ and "scheduled" wastes. EPA restricted surface disposed solvents and dioxins from land disposal on November 7, 1986 and deep well injected solvents and dioxins from land disposal on July 26, 1988. The final rule for California List wastes, which was issued on July 8, 1987, covers wastes originally listed by the State of California and adopted intact within HSWA. The "scheduled" wastes consist of all wastes that were identified or listed as hazardous prior to November 8, 1984 but were not included in the first two categories listed above. HSWA's statutory timetable required that EPA restrict one-third of these wastes by August 8, 1988, two-thirds by June 8, 1989, and the remaining third by May 8, 1990. For hazardous wastes that are newly identified or listed after November 8, 1984, EPA is required to promulgate land disposal prohibitions within six months of the date of identification or listing

³ The "California list" comprises the following classes of wastes: liquid hazardous wastes with a pH of less than or equal to 2.0 (acidic corrosive wastes); all liquid hazardous wastes containing free cyanides, various metals, and polychlorinated biphenyls (PCBs) exceeding statutory concentration levels; and all wastes (liquid, sludge, or solid) containing halogenated organic compounds (HOCs) in concentrations greater than or equal to specified statutory levels.

(RCRA section 3004(g)(4)). However, the statute does not provide an automatic prohibition of land disposal of such wastes if EPA fails to meet this deadline. Exhibit 1-2 summarizes the previous LDR rulemakings and their respective promulgation dates.

EXHIBIT 1-2
SUMMARY OF PREVIOUS LAND DISPOSAL RESTRICTIONS RULEMAKINGS

Rulemaking	Federal Register Notice	Promulgation Date
Solvents and Dioxins (surface disposed)	51 <i>FR</i> 40572	November 7, 1986
Solvents and Dioxins (deep well injected)	53 <i>FR</i> 28188	July 26, 1988
California List (surface disposed)	52 <i>FR</i> 25760	July 8, 1987
California List (deep well injected)	53 <i>FR</i> 30908	July 26, 1988
First Third Rule	53 <i>FR</i> 31138	August 8, 1988
First Third Rule (deep well injected)	54 <i>FR</i> 25416	June 7, 1989
Second Third Rule	54 <i>FR</i> 26594	June 8, 1989
Third Third Rule	55 <i>FR</i> 22520	May 8, 1990
Newly Listed and Identified Wastes (Phase I)	57 <i>FR</i> 37194	June 30, 1992
Interim Final Rule for Vacated Treatment Standards	58 <i>FR</i> 29860	May 24, 1993
Organic TC Wastes and Newly Listed Wastes (Phase II)	59 <i>FR</i> 47982	September 19, 1994
Carbamate Wastes and Spent Aluminum Potliner Wastes (Phase III)	61 <i>FR</i> 15566	April 8, 1996
Emergency Revision of the Treatment Standards for Listed Hazardous Wastes from Carbamate Production (Phase III - Final Rule)	61 <i>FR</i> 43924	August 26, 1996
Emergency Extension of the K088 Capacity Variance (Phase III - Final Rule)	62 <i>FR</i> 1992	January 14, 1997
Treatment Standards for Wood Preserving Wastes, Paperwork Reduction and Streamlining, Exemptions from RCRA for Certain Processes Materials, and Miscellaneous Hazardous Waste Provisions (Phase IV - Final Rule)	62 <i>FR</i> 25998	May 12, 1997

1.2 CAPACITY ANALYSIS METHODOLOGY

In evaluating the need for national capacity variances, EPA estimates the quantities of waste requiring alternative commercial treatment as a result of the LDRs and the capacity available at commercial treatment facilities to manage the restricted wastes.⁴ By comparing the required capacity with the available commercial treatment capacity, EPA can identify capacity shortfalls and make determinations concerning national capacity variances. This section provides an overview of EPA's methodology in estimating required and available commercial treatment capacity.

1.2.1 Determination of Required Commercial Treatment Capacity

Required commercial treatment capacity represents the quantity of wastes currently being land disposed that cannot be treated on site and, consequently, will need commercial treatment to meet the LDR treatment standards. Required commercial capacity also includes the residuals generated by treatment of these wastes (i.e., the quantity of generated residuals that will need treatment prior to land disposal).

EPA identifies the waste streams potentially affected by the LDRs by types of land disposal units, including surface impoundment, waste pile, land treatment unit, landfill, and underground injection well. Salt dome formations, salt bed formations, and underground mines and caves are additional methods of land disposal that are affected by the LDRs; however, because generation and management of these wastes is limited to a very small universe, not all of these methods are addressed in the analysis of required alternative capacity.

To determine the type of alternative capacity required to treat the affected wastes, EPA conducts a "treatability analysis" of each waste stream. Based on the waste's physical and chemical form and information on prior management practices, EPA assigns the quantity of affected waste to an appropriate technology (i.e. a technology that can meet the treatment standards). Mixtures of RCRA wastes (i.e., waste streams described by more than one waste code) present special treatability concerns because they often contain constituents (e.g., organics and metals) requiring different types of treatment. To treat these wastes, EPA develops a treatment train that can treat all waste types in the group (e.g., incineration followed by stabilization of the incinerator ash). In these cases, the Agency estimates the amount of residuals

⁴ EPA also derived estimates of affected facilities and waste quantities for the regulatory impact analysis (RIA). However, the goals of a capacity analysis and an RIA are very different, which often results in reasonable differences in methodologies, data, and results. A first step to satisfying the goals of a capacity analysis is to make a "threshold" determination concerning whether a national treatment capacity variance is needed for up to two years following promulgation of a waste's LDR treatment standards, or not at all. Thus, EPA estimates the required and available commercial treatment capacity for all affected wastes and facilities, but often only to the extent needed to make this threshold determination. For example, when upper-bound estimates of required capacity are well below lower-bound estimates of available capacity, then generally a variance is not needed and the analysis can stop. Results that are ambiguous during this first step generally require EPA to conduct further analyses. In contrast to the capacity analysis' focus on required and available capacity during the next two years and its initial focus on threshold determinations, the RIA concentrates on estimating specific potential significant (or dominant) long-term costs and benefits of the LDR treatment standards. Thus, the RIA does not conduct a threshold analysis of treatment capacity. Furthermore, the RIA evaluates affected facilities and wastes over a much longer time frame.

that would be generated by treatment of the original quantity of waste and includes these residuals in the quantities requiring alternative treatment capacity.

EPA identifies the quantities of waste requiring alternative treatment on a facility level basis; if the appropriate treatment technology is not available on site, or if adequate available capacity is not present to manage the waste, then the appropriate quantity of waste requiring alternative treatment is aggregated into a national demand for commercial capacity. EPA excludes from the estimates of required commercial capacity those wastes that are managed in on-site treatment systems that comply with Subtitle C requirements.

1.2.2 Determination of Available Commercial Treatment Capacity

The analyses conducted to determine available commercial treatment capacity focuses on treatment capacity projected to be available in 1998, starting from the baseline capacity identified in the final Phase IV LDR “mini-rule” (see 62 *FR* 25998, Treatment Standards for Wood Preserving Wastes, Paperwork Reduction and Streamlining, Exemptions from RCRA for Certain Processes Materials, and Miscellaneous Hazardous Waste Provisions, May 12, 1997).⁵

The determination of available capacity focuses on commercial facilities. Consequently, all estimates of capacity presented in this document represent commercially available capacity.⁶ In order to determine whether to grant a national capacity variance for newly listed and identified wastes that would be regulated in today's rule, EPA analyzed available commercial capacity for alternative treatment technologies capable of meeting the LDR treatment standards. This capacity analysis generally included estimating the maximum or design capacity for appropriate waste management systems and the amount of waste currently going to these systems (utilized capacity). Available capacity was estimated as the difference between maximum and utilized capacity. For today's final rule, EPA analyzed commercial capacity for hazardous waste combustion (including incineration and reuse as fuel) of solids and sludges, and stabilization of treatment residuals as BDATs.

1.2.3 Comment Response

EPA reviews all comments submitted in response to the proposed LDR rule and, for purposes of this background document, identifies those related to treatment capacity. Relevant comments are then summarized and categorized according to type of waste, treatment technology, issue, etc. Data from the comments are identified and incorporated into the capacity

⁵ Given the relatively small quantities of waste affected by this rule, information on the available capacity was obtained from the *Background Document for Capacity Analysis for Land Disposal Restrictions – Wood Preserving Wastes (Final Rule), Capacity Analysis and Response to Capacity-Related Comments* (US EPA, April 1997).

⁶ Available treatment capacity can be categorized by facility status into four groups: (1) commercial capacity - capacity at facilities that manage waste from any facility; (2) on-site (private capacity) - capacity at facilities that manage only waste generated on-site; (3) captive capacity - capacity at facilities that manage only waste from other facilities under the same ownership; and (4) limited commercial capacity - capacity at facilities that manage waste from a limited number of facilities not under the same ownership. For all capacity analyses, estimates on available capacity reflect available commercial capacity.

analysis. Next, the Agency develops responses to each comment category, as appropriate. Finally, the comment summaries, copies of the verbatim comment text, and the responses are compiled into a background document. (For organobromine wastes, the capacity analysis and comment response documents are combined into one document.)

1.3 SUMMARY OF CAPACITY ANALYSIS AND COMMENT RESPONSE FOR TODAY'S RULE

The total estimated quantity of organobromine production wastes, including soil and debris, that will require alternative commercial treatment capacity as a result of this rule is less than 50 tons per year. Based on information from the generator of these wastes and from the waste treatment industry, EPA has determined that there will be adequate commercial capacity upon the effective date of the treatment standards. Also, EPA estimates that the quantity of mixed radioactive wastes containing organobromine production wastes to be zero and therefore is not granting a national capacity variance for mixed waste, either.

1.4 ORGANIZATION OF BACKGROUND DOCUMENT

EPA has prepared this background document to present the capacity analysis and response to comments developed for the LDRs for newly listed organobromine wastes. This document is organized into three chapters and one appendix, as described below:

Chapter 1: Introduction. Provides background, general methodology, and a summary of the analysis.

Chapter 2: Capacity Analysis. Describes the capacity analysis for the newly listed organobromine production wastes (K140, U408).

Chapter 3: Response to Capacity-related Comments. Provides public comments and the Agency's responses.

Appendix A. Presents the telephone logs for the available commercial capacity analysis.

CHAPTER 2 CAPACITY ANALYSIS

This chapter presents EPA's analysis of required and available alternative commercial treatment capacity for newly listed organobromine production wastes that are currently being land-disposed (K140, U408).

2.1 DATA SOURCES AND METHODOLOGY

EPA used several data sources for conducting the capacity analysis for these newly listed organobromine wastes, including the RCRA §3007 survey of the organobromine production industry conducted in 1991 and 1992 and public comments on the proposed rule.

EPA's assessment of required alternative commercial capacity was based on an analysis of the most current generation and management of these wastes. To determine how each individual waste stream will be affected by the final rule, EPA first considered whether a waste stream is currently land disposed. If a waste is not currently land disposed or is land disposed in a unit that has received a no-migration petition, or is managed in a RCRA-exempt unit, it would not be subject to the LDRs. EPA assumed that all land-disposed wastes will require commercial alternative treatment.

These land-disposed waste quantities were assigned the technology on which the Agency based the final LDR treatment standards or other appropriate technology which is able to meet the treatment standards. EPA compared the required capacity for a particular treatment process to the available commercial capacity to determine whether a capacity variance would be warranted. Given the relatively small quantities of waste affected by this rule, information on the available capacity was obtained from the *Background Document for Capacity Analysis for Land Disposal Restrictions – Wood Preserving Wastes (Final Rule), Capacity Analysis and Response to Capacity-Related Comments* (US EPA, April 1997). For thermal treatment, this document contains data based on a 1993 survey results from the Hazardous Waste Treatment Council (HWTC) and the Cement Kiln Recycling Coalition (CKRC). As described in more detail in the Phase IV Background Document, the survey data has since been updated with new information received in comments to the various proposed rules and Notice of Data Availability (NODA) associated with Phase IV LDRs. Available stabilization capacity described in this Background Document is also based on the data and analyses conducted for the Phase IV rule (Treatment Standards for Wood Preserving Wastes).

2.2 CAPACITY ANALYSIS AND RESULTS

Using the RCRA §3007 survey data and public comments on the proposed rule, EPA estimates that less than 50 tons of organobromine wastes per year, including contaminated soil and debris, will be affected by this final listing and LDR rule. From the survey data, approximately 60 percent of these wastes are currently being sent to a Subtitle C landfill; the remaining wastes are sent to a Subtitle D landfill. In comments submitted by Great Lakes Chemical Corporation in response to the proposed Phase III rule, Great Lakes stated that they

currently send solid wastes generated from the production of 2,4,6-tribromophenol to a Subtitle C landfill facility. As these wastes are not expected to meet UTS standards as generated, all organobromine wastes affected by this rule may require alternative treatment as a result of the LDRs.⁷

The treatment standards for these newly-listed organobromine production wastes are concentrations which are based on bromine recovery unit (BRU) as the BDAT. Additionally, EPA believes that incineration and thermal destruction technologies are available to meet these treatment standards. The Great Lakes Chemical Corporation (GLCC), which operates a BRU, maintains that it would be very difficult, if not impossible (both technically and legally), to meet the proposed treatment standards using their BRU. Nevertheless, EPA believes that several commercial treatment facilities are permitted to treat brominated wastes. For example, one commenter to the proposed rule, Chemical Waste Management (CWM), has informed the Agency that it has at least two incinerators currently permitted to use thermal destruction technologies on brominated wastes (see Appendix A).

Furthermore, as shown in Chapter 2 in the *Background Document for Capacity Analysis for Land Disposal Restrictions – Wood Preserving Wastes (Final Rule)*, *Capacity Analysis and Response to Capacity-Related Comments* (US EPA, April 1997), there are at least 100,000 tons per year (up to approximately 430,000 mt/yr) of available combustion capacity for sludges, solids, and soils.⁸ Also, as described in Section 2.3 of the same Background Document, at least 1 million tons per year of stabilization capacity is available. The Agency believes that incineration followed by stabilization of incinerator ash (if necessary for stabilization) is viable for these wastes; therefore, there is more than adequate available treatment capacity for less than 50 tons per year of organobromine wastes.

Because EPA determines that there is adequate commercial treatment capacity to meet the treatment requirements of surface-disposed organobromine production wastes, including soil and debris, EPA is not granting a national capacity variance for these wastes. EPA received no comments about any capacity problem for meeting wastewater standards for these wastes. Also, EPA does not exclude any other treatment/recovery technologies as long as the concentration standards are met, so long as the treatment is not considered impermissible dilution. The Agency

⁷ As part of the listing determination, the Agency evaluated other organobromine wastes generated by the industry that were sent to underground injection. After review of the data and associated risks, no-list determinations were made with the following rationales: 1) Wastes were sent to underground injection with an approved no-migration petition, 2) Wastes were already listed, or 3) Wastes pose no threat to human health or the environment. Therefore the only wastes addressed by this capacity analysis are K140 floor sweepings waste, and discarded U408 2,4,6-tribromophenol waste.

⁸ These numbers were based on the previous analysis done for the LDR Phase IV “mini rule” for wood preserving wastes (May 12, 1997). EPA received and reviewed some more data following promulgation of the 1997 LDR Phase IV “mini rule.” Therefore, an updated treatment capacity analysis is being done to support the LDR Phase IV final rule for newly identified TC metal wastes and mineral processing wastes -- a capacity analysis which will be finalized after this Listing/LDR final rule for organobromine production wastes. The analysis methodology and other details can be found in Chapter 2 (Available Treatment Capacity) of the Background Document for Capacity Analysis for Land Disposal Restrictions -- Phase IV; Newly Identified Toxicity Characteristic Metal Wastes and Mineral Processing Wastes (Final Rule) (USEPA, April, 1998).

has also examined whether mixed radioactive organobromine production wastes are generated or any wastes are underground injected and at this time has not found any quantities. In addition, the Agency received no comments concerning mixed radioactive wastes or any underground injected wastes in response to the proposed rule. Therefore, EPA is not granting a two-year national capacity variance for any forms of organobromine production wastes that may exist. Thus, the treatment standards for these wastes become effective six months from the promulgation of the listing. This delay should provide sufficient time to address logistical concerns and to identify appropriate treatment for these wastes. Furthermore, special situations may allow facilities to petition for case-by-case extensions under 40 CFR section 268.5, or for a treatability variance under 40 CFR section 268.44.

CHAPTER 3 RESPONSE TO CAPACITY-RELATED COMMENTS

The LDRs for organobromine wastes were originally proposed in the Phase III LDR, which also included carbamate wastes, spent potliner wastes, and addressed other issues. However, the organobromine waste listing was not finalized by the time the Phase III LDR rule was finalized. EPA received 148 comment letters on the Phase III LDR Proposed Rule. Three of these letters address organobromine production wastes: Great Lakes Chemical Corporation (GLCC); Environmental Technology Council (ETC); and Chemical Waste Management, Inc. (CWM).

This chapter summarizes and responds to only two of these comments, GLCC and CWM, because only these two commenters address capacity. Each comment is represented in two ways: (1) in summary form, and (2) verbatim. Throughout the summaries and responses, the source for each comment is indicated by the comment number followed by the page(s) of the letter on which the specific comment appears.

These commenters are organized as follows:

- **Section 3.1:** Adequate capacity does not exist.
- **Section 3.2:** Adequate capacity exists.

3.1 ADEQUATE CAPACITY DOES NOT EXIST

Summary:

GLCC (20) believes that its plants are the only facilities in the country to be affected by the listing of organobromine production wastes. GLCC acknowledged that solid wastes from organobromine production are disposed in a Subtitle C landfill. Additionally, the commenter stated that the Agency's assumption that they can manage organobromine wastes in a bromine recovery unit (BRU) is wrong and would be very difficult to achieve if not impossible (both technically and legally). Finally, GLCC stated that even if it could manage the organobromine wastes in its BRU, it could not do so without incurring substantial costs associated with complying with the halogen acid furnace (HAF) regulations and modifying the BRU to accept organobromine floor sweeping solids.

Response:

EPA acknowledges the commenter's concern about the management of 2,4,6-tribromophenol wastes in a BRU but believes that sufficient incineration capacity exists for the current volume of K140 and U408, as discussed in Chapter 2. Therefore, EPA is not granting a capacity variance for K140 and U408. However, there will be, in effect, a six month delay associated with the treatment standards because they do not take effect until six months after publication of this final rule (simultaneous effective dates for both LDRs and the listing of K140

and U408). This delay should provide sufficient time to address logistical concerns and to identify appropriate treatment for these wastes. Furthermore, special situations may allow facilities to petition for case-by-case extensions under 40 CFR§268.5, or for a treatability variance under 40 CFR §268.44.

Comment:

Great Lakes Chemical Corporation (20-pp. 1, 3-5)

Commenter: Great Lakes Chemical Corporation
Comment Number: 20
Page Number: 1

Great Lakes Chemical Corporation and its subsidiaries BioLab, Inc. and QO Chemicals, Inc. (GLCC) appreciate the opportunity to comment on the proposed rule regarding land disposal restrictions for decharacterized wastewaters, carbamate and organobromine wastes, and spent potliners. 60 Fed. Reg. 11702 (March 2, 1995). GLCC believes that the proposal of universal treatment standards (UTS) and best demonstrated available technology (BDAT) for 2,4,6-tribromophenol (TBP) is premature. GLCC believes that the final rule should allow neutralization of corrosive hazardous waste managed in underground injection wells and the final rule should not require additional treatment of constituents in this neutralized waste.

Commenter: Great Lakes Chemical Corporation
Comment Number: 20
Page Number: 3

In its comments on the proposed TBP listing, GLCC pointed out various errors in the Agency's factual assumptions concerning the TBP waste that GLCC generates. EPA apparently did not consider the impact of these faulty factual assumptions in the development of proposed treatment standards for TBP. In addition, EPA's assumption that TBP waste generated by GLCC is currently managed in a bromine recovery unit (BRU) is wrong. Treatment of TBP in the existing BRU would be very difficult, if not impossible (both technically and legally). Accordingly, the proposed TBP treatment standard is flawed.

Commenter: Great Lakes Chemical Corporation
Comment Number: 20
Page Number: 4

GLCC's comments also included correction of factual errors in the TBP listing proposal. These inaccuracies include substantial errors in the description of TBP waste quantities and management activities, the classification of underground injection wells located at the GLCC facilities, the accuracy of sampling results used to make the listing determination, and the regulatory status of BRUs at the Central Plant and the South Plant. These factual errors substantially impact EPA's rulemaking assumptions.

EPA failed to take GLCC's comments into account in the current proposed treatment standards for TBP. See 60 Fed. Reg. 11702, 11722 (March 2, 1995). By proposing a treatment standard before considering GLCC's comments and determining whether TBP should be a listed hazardous waste, EPA has acted prematurely, arbitrarily and capriciously. If EPA were to adopt the proposal without adequately responding to these issues, the final regulations would be legally invalid.

EPA's again proposes to use QSAR data to establish a regulatory standard for TBP, despite the serious problems with QSAR pointed out by GLCC and others in their comments on the TBP listing proposal. EPA should refrain from setting a treatment standard for TBP until it determines whether or not TBP is even a hazardous waste, a determination that cannot be based upon the flawed QSAR relationships.

EPA also failed to take GLCC's corrections to EPA's factual assumptions in the TBP listing proposal into account in proposing a treatment standard for TBP. Most importantly, EPA is mistaken in its assumption that TBP wastes, which would be subject to the proposed standards, are currently managed in a BRU regulated as a halogen acid furnace (HAF) under 40 CFR Part 266, Subpart H. As stated in GLCC's comments, the liquid and vapor wastes from TBP production are currently managed in Class I nonhazardous underground injection wells and the solid TBP wastes are managed in a Subtitle C disposal facility. None of the TBP production wastes are managed in a BRU or HAF.

As a further point of clarification, GLCC also informed the Agency that the BRUs at GLCC's South and Central Plants are not regulated as HAFs under the RCRA regulations. Instead, these BRUs are exempt from hazardous waste regulation through a technical correction to the boiler and industrial furnace (BIF) rule. See 40 C.F.R. '261.2(d)(2)(ii). EPA issued the

Commenter: Great Lakes Chemical Corporation
Comment Number: 20
Page Number: 5

correction because the BRU feedstocks are not discarded and, therefore, are not wastes. Pursuant to the correction, BRU feedstocks that meet specified criteria and operating conditions are deemed not to be solid wastes. One of these criteria is that BRU feedstock materials must contain less than one percent of Appendix VIII constituents. 40 C.F.R. '261.1(d)(2)(ii). Another requirement is that the process producing the feedstock be connected to the BRU by direct conveyance. 40 C.F.R. '261.1(d)(2)(iii). In accordance with these requirements, and contrary to EPA's assumption, the BRUs do not burn any listed spent solvents or listed still bottoms. See 60 Fed. Reg. at 11722.

Even if EPA ultimately decides to list TBP as a hazardous waste, GLCC could not manage the TBP in a BRU. The TBP material currently managed by GLCC in a Subtitle C landfill is a solid which contains dirt and other impurities that make it unsuitable for use as a BRU feedstock. Even if TBP floor sweepings were suitable for use as a BRU feedstock, their addition to the BRU feedstock would result in a greater than one percent Appendix VIII constituents. These floor sweepings also are ineligible for use as BRU feedstocks under current regulation because floor sweepings from the TBP process are not connected to the BRU by direct conveyance.

In summary, GLCC cannot manage the TBP material in its BRU without incurring substantial costs associated with complying with the HAF regulations and modifying the BRU to accept TBP floor sweeping solids. These costs would be incurred solely as a consequence of the management of TBP wastes. The TBP wastes would constitute less than one-tenth of one percent (0.1%) of the total feedstock to the BRU. GLCC therefore would need to incur these additional costs even though EPA has already recognized that the BIF regulations do not apply to what would be the other 99.9% of the BRU feedstock.

3.2 ADEQUATE CAPACITY EXISTS

Summary:

CWM (76) supports the Agency's proposed treatment standards for both wastewater and nonwastewater forms of K140 and U408. Additionally, the commenter supports the listing of the one new constituent tribromophenol and its proposed universal treatment standard limit. In a follow-up telephone interview, CWM stated that they have adequate treatment capacity to incinerate the quantities of K140 and U408 affected by today's rule.

Response:

EPA acknowledges the commenters support regarding the treatment standard for K140 and U408. In addition, based on the Agency's determination that incineration is an appropriate treatment technology for these wastes, the Agency believes there is more than adequate available treatment capacity for these wastes (See Chapter 2 of this document).

Comments:

Chemical Waste Management, Inc. (76-pg. 8)

Commenter: Chemical Waste Management, Inc.

Comment Number: 76

Page Number: 8

C. Treatment Standards for Organobromines (60 Fed. Reg. at 11.722)

The Agency has proposed treatment standards for both wastewater and nonwastewater forms of organobromine wastes with the following waste codes: K140 and U408, which are numerically equivalent to the Universal Treatment Standards (UTS) in effect for the constituent (i.e., toluene) selected for regulation in these wastes. In addition, one new constituent (i.e., 2,4,6-tribromophenol) has a proposed UTS limit.

CWM supports the Agency's proposed treatment standards associated with organobromine wastes.

APPENDIX A

**TELEPHONE LOG FOR THE
AVAILABLE COMMERCIAL CAPACITY ANALYSIS**

TELEPHONE LOG

Company Name: Chemical Waste Management, Inc. (CWM)

Contact Name: Pat O'Shea

Telephone Number: (603) 218-1619

Date: October 3 and , October 17, 1996

ICF Contact Name: William E. Freudenberg

Mr. O'Shea confirmed that CWM could easily incinerate the small amount of solid K140 and U408 that GLCC currently produces. Additionally, Mr. O'Shea stated that CWM now operates two incinerators permitted to burn brominated wastes. He also stated that CWM could incinerate K140 and U408 in both the liquid and sludge/solid states.