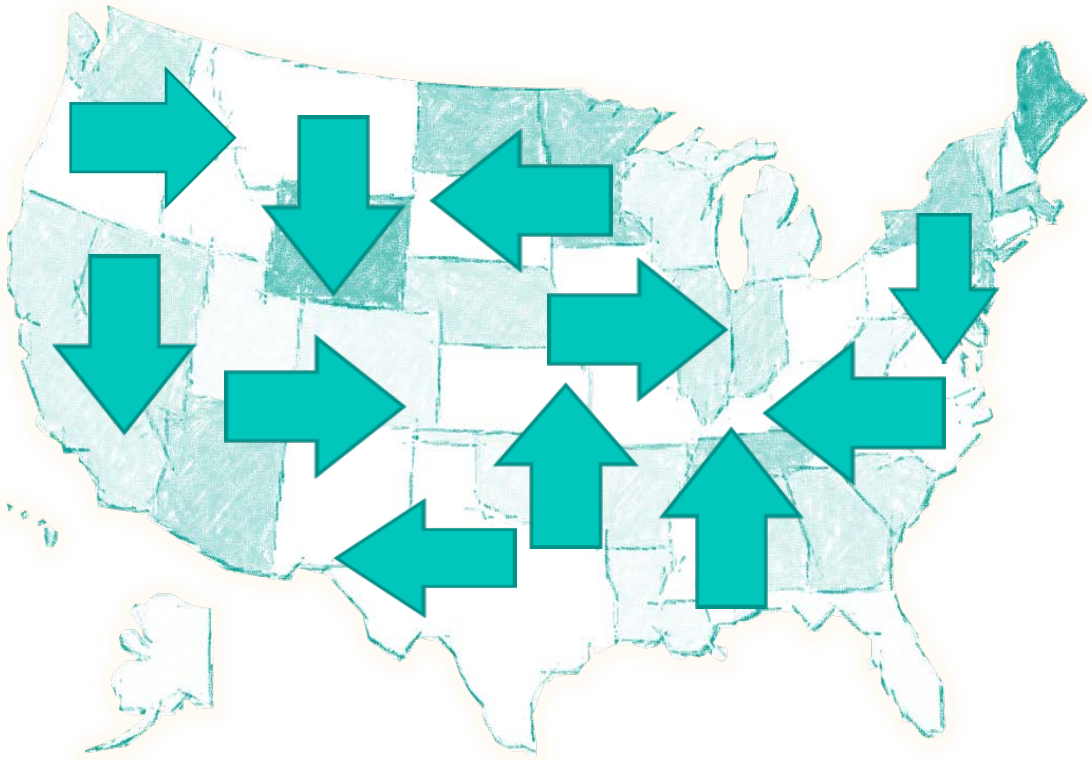
National Capacity Assessment Report

Pursuant to CERCLA Section 104(c)(9)



December 17, 2019

U.S. Environmental Protection Agency

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Acronyms Used in this Report

BIFs	Boilers and Industrial Furnaces
BR	Biennial Report or Hazardous Waste Report
BTU	British Thermal Unit
CA	Cooperative Agreement
CAP	Capacity Assurance Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
EPA ID	EPA Identification Number
FR	*Federal Register*
GM Form	Waste Generation and Management Form
LQG	Large Quantity Generator
RCRA	Resource Conservation and Recovery Act, as amended
SARA	1986 Superfund Amendments and Reauthorization Act
SQG	Small Quantity Generator
SSC	State Superfund Contract
TSDFs	Treatment, Storage, and Disposal Facilities
VSQG	Very Small Quantity Generator
WR Form	Waste Received from Offsite Form

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Executive Summary

The need for Capacity Assurance is driven by Section 104(c)(9) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or Superfund law. The provision, enacted in the 1986 Superfund Amendments and Reauthorization Act (SARA), requires that, prior to the U.S. Environmental Protection Agency (EPA) providing funding for any remedial actions, a state must assure the availability of hazardous waste treatment or disposal facilities that have adequate capacity to manage the hazardous waste expected to be generated within the state over 20 years. The Congressional intent of this requirement is to assure that hazardous waste management capacity is available to avoid improper disposal and waste management issues.

To help states fulfill this statutory requirement, a planning process was developed by a workgroup comprised of state, EPA, regulated industry, and environmental representatives. The planning process begins with EPA collecting data on waste treatment and disposal capacity, and the demand for this capacity nationwide. EPA refers to the Hazardous Waste Report (also known as the Biennial Report or BR), permit data in the RCRAInfo data system[1], hazardous waste export data, and Internet research results. EPA also communicates directly with a limited number of the hazardous waste management facilities being examined to verify and supplement its data and estimates. EPA then compares the national hazardous waste treatment and disposal capacity to the demand for this capacity. EPA examines wastes managed onsite and shipped offsite for management at facilities under the same ownership (captive) and at commercial management facilities.

The Agency's 2019 assessment focuses on the nation's capacity for energy recovery, incineration, and landfilling at commercial facilities because such facilities are often costly, difficult to permit, and are essential for managing much of the nation's hazardous waste.[2] The assessment indicates that there exists adequate capacity nationwide through December 31, 2044. Therefore, the assurance that there exists adequate capacity to manage 20 years of hazardous waste generation would expire on December 31, 2024.

The statutory planning exercise to assess the capacity for the treatment and disposal of hazardous waste generated for the next 20 years goes well beyond the normal permitting periods, which are typically 5 to 10 years. The uncertainties of the permitting and permit renewal processes are inherent in any long-term projected needs for capacity. Because states typically permit the treatment and disposal facilities, and are also required to provide the CERCLA assurance to EPA, it is critical that states be engaged in the ongoing analysis of national capacity. EPA also believes that involvement by all stakeholders, including the public and the waste generation and management sectors, at both the national and state level is important regarding issues related to hazardous waste management practices and the development of hazardous waste management programs. **For these reasons, EPA has provided the 2019 national capacity assessment, the analytical methodology, and data used in the analysis on EPA's Capacity Assurance Planning web page to solicit comments for consideration in future capacity assessments. Documents used as the basis for the national capacity assessment are also posted on the web page.**

[1] RCRAInfo is a national database used by EPA to track entities regulated under Subtitle C of RCRA.

[2] In recent years, several companies have chosen to shut down onsite waste management operations, so the commercial hazardous waste management industry is integral to many manufacturing and service sectors which rely on the ability of the commercial hazardous waste management sector to properly treat and dispose of wastes generated when producing products and providing important services here in the U.S.

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1. Introduction

Background

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or Superfund law, was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986. These amendments include the provisions under Section 104(c)(9) that require states to assure the availability of hazardous waste treatment or disposal facilities that have adequate capacity to manage the hazardous waste reasonably expected to be generated within the state over 20 years prior to the President providing funding for any remedial actions. The President delegated the authority to determine adequacy to the EPA Administrator. The capacity assurance requirement took effect three years after the enactment of SARA and must be provided in any State Superfund Contract (SSC) or Cooperative Agreement (CA) entered into between the state and EPA. Therefore, after October 17, 1989, no new Superfund remedial actions have been funded using federal remedial action resources without a state first entering into an agreement providing an assurance of capacity deemed adequate by EPA.

CERCLA Section 104(c)(9)

(9) Siting. Effective 3 years after the enactment of the Superfund Amendments and Reauthorization Act of 1986, the President shall not provide any remedial actions pursuant to this section unless the State in which the release occurs first enters into a contract or cooperative agreement with the President providing assurances deemed adequate by the President that the State will assure the availability of hazardous waste treatment or disposal facilities which –

(A) have adequate capacity for the destruction, treatment, or secure disposition of all hazardous wastes that are reasonably expected to be generated within the State during the 20-year period following the date of such contract or cooperative agreement and to be disposed of, treated, or destroyed,

(B) are within the State or outside the State in accordance with an interstate agreement or regional agreement or authority,

(C) are acceptable to the President, and

(D) are in compliance with the requirements of Subtitle C of the Solid Waste Disposal Act

Under the program that EPA implemented in 1989, states submitted Capacity Assurance Plans (CAPs) to the Agency as the basis of their assurance. Through these CAPs, each state had to demonstrate that it had enough in-state capacity or agreements with other states to share capacity for 20 years. Because of concerns raised by the states over the 1989 capacity assurance planning process (refer to *Hazardous Waste Management in the States: A Review of the Capacity Assurance Process*, 1992) and several court decisions, the Agency worked closely with the states to develop a planning process that would first focus on an assessment of national capacity. The assessment of national capacity is intended to better reflect the reality of waste flows and needs for future management capacity.

EPA finalized the national capacity planning process in 1993 and documented the approach in guidance (refer to *Guidance for Capacity Assurance Planning*, May 1993; hereafter referred to as the 1993 Guidance). The 1993 Guidance presents a phased approach for states to assure the future availability of hazardous waste treatment and disposal capacity. The initial phase of the planning process involves developing data to determine the demand for commercial management, and commercial capacity available nationwide. If capacity is projected to exist after assessing the 20-year demand for capacity, then all states have met the assurance requirement. If shortages are predicted nationwide, states that have a demand exceeding their supply of capacity in a shortfall management category are expected to address the shortages through waste minimization efforts in Phase 2 and capacity development in Phase 3 of the national planning process.

After the 1993 Guidance was issued, states had one year to prepare the CAP data submissions needed for the first phase of the national planning process. The data submissions demonstrated the state's knowledge of its existing hazardous waste management systems, provided the projections of the state's process or "recurrent" waste demand for commercial management, and provided the commercial management capacity available within the state. This data submission also included information about the state's waste minimization program so the state could justify a 10 percent reduction in projected demand. The data submission did not include projected demand from cleanup or "one-time" waste due to complexity and consistency issues. In January 1995, EPA published the *One-time Waste Estimates for Capacity Assurance Planning* document. This document provided estimates for Superfund remedial actions, Superfund removal actions, Resource Conservation and Recovery Act (RCRA) corrective actions, underground storage tank cleanups, along with state and private cleanups.

Once the EPA regions reviewed the data submitted by the states for consistency and accuracy, EPA Headquarters then calculated the total national demand on commercial management by aggregating the states' projected demand and projected commercial capacity through the year 2013. The first national assessment was finalized in November 1996, which was over three and a half years after states initiated the planning process by developing their data. The results of this undertaking are presented in a document titled *National Capacity Assessment Report: Capacity Planning Pursuant to CERCLA Section 104(c)(9)*, November 1996.

When the final assessment was published in the *Federal Register* (62 *FR* 2156, January 15, 1997)[3], EPA stated that it would periodically evaluate hazardous waste generation and management information. The primary source of these evaluations has been the Hazardous Waste Report (also known as the Biennial Report or BR). The BR must be completed by large quantity generators (LQGs)[4] and treatment, storage, and disposal facilities (TSDFs)[5] every two years. The types of information requested in the BR on hazardous waste include the quantity, nature, disposition, and the efforts taken to reduce the volume and toxicity of hazardous waste. In addition to reviewing the BR data, EPA has conducted a variety of analyses that have examined hazardous waste generation and management throughout the years to support rulemaking activities. The BR data and the

[3] Available at https://www.govinfo.gov/content/pkg/FR-1997-01-15/pdf/97-984.pdf.

[4] An LQG is a facility that generates 1,000 kilograms (2,200 pounds) or more of hazardous waste in any single calendar month, or more than 1 kilogram (2.2 pounds) of acute hazardous waste in any single calendar month, or more than 100 kilograms (220 pounds) of acute hazardous waste spill clean-up material in any single calendar month.

[5] A TSDF is any facility that treats, stores, or disposes of RCRA hazardous waste, regardless of the quantity managed. The term "TSDF" does not include facilities that generate and accumulate hazardous wastes onsite for a limited amount of time without a TSDF permit. The amount of time that hazardous wastes can be stored onsite without a TSDF permit varies depending upon the facility's hazardous waste generator status. For example, LQGs may store their hazardous wastes onsite for no more than 90 days [40 CFR 262.17(a)].

rulemaking analyses have not indicated any drastic changes in management behavior that could affect the future availability of hazardous waste management capacity.

To gather more information about current and projected management behavior, EPA made the decision in 2014 to reassess the national capacity situation using the 1993 Guidance. This national assessment indicated that adequate national capacity for the treatment and disposal of hazardous waste existed through the year 2039.[6] Because there is the potential for unforeseen circumstances that could affect the future availability of management capacity (e.g., new federal regulations, permit denials, changing market conditions), EPA is once again reassessing the national capacity situation.

Purpose and Organization of Report

This Report describes the data, analyses and conclusions needed for the capacity assurance. The Report focuses on the national capacity for energy recovery, incineration, and landfilling at commercial facilities because such facilities are often costly, difficult to permit, and are essential for managing much of the nation's hazardous waste.[7] The remainder of this Report is organized in four sections:

- Section 2 – Data Development discusses the development and modification of data used in estimating the demand for and available capacity of treatment and disposal facilities in this current 2019 national capacity assessment.
- Section 3 – Methodology Issues describes some issues related to the assessment's methodology and how they were resolved.
- Section 4 – Discussion of the National Capacity Assessment presents the national, aggregated data used to estimate the national demand and capacity.
- Section 5 - Conclusions presents EPA's conclusions about the availability of national capacity.
- Section 6 - References lists the reference sources used in preparing the assessment.

Refer to Appendices A through F for supplemental information on the Agency's assessment.

2. Data Development

To develop the data to assess hazardous waste management demand and capacity at a national level, EPA referred to the 1993 Guidance as an initial step. This guidance provides instructions for developing six data tables using BR as the primary source of data. The data tables include demand for onsite management units, demand for captive management units (management units at facilities under the same ownership) along with the demand and capacity for commercial management units. These demand data are compiled into 12 CAP management categories.[8] The 1993 Guidance also outlines issues to consider and the methods to project the future availability of capacity for different

[6] Available at https://www.epa.gov/sites/production/files/2016-01/documents/nationl_capacity_assessmnt_032515.pdf.

[7] In recent years, several companies have chosen to shut down onsite waste management operations, so the commercial hazardous waste management industry is integral to many manufacturing and service sectors which rely on the ability of the commercial hazardous waste management sector to properly treat and dispose of wastes generated when producing products and providing important services here in the U.S.

[8] See Appendix C for examples of the various types of management technologies for each category.

waste management categories. The projection tables are focused entirely on future demand for commercial management capacity. The commercial management category is where shortfalls could be projected because waste managed onsite and waste shipped offsite for management at facilities under the same ownership (captive) could be shifted to commercial management. The methodology for commercial management addresses any projected shortfalls in the metals, organics, and inorganics recovery categories by reallocating shortage quantities to destruction and disposal CAP management categories. Therefore, EPA conducted detailed data gathering efforts targeted on commercial energy recovery units (i.e., boilers and industrial furnaces), incinerators, and landfills. See the Discussion of National Aggregated Data by EPA section of this report for data on commercial energy recovery, incinerators, and landfills.

The 2019 assessment involved some slight modifications to the approach used in 1993 when states submitted the six data tables to EPA for aggregation and assessment of future capacity. The 1993 Guidance was developed based on the criterion that states lacked access to a data system that included consistent information for all facilities in the nation and to software capable of handling complex data manipulations for large volumes of information. Twenty years ago, most states only had access to hazardous waste generation and management data for their individual state. Often, both the hardware and software for the old data systems were unreliable, causing some states to use manual manipulation of their data to produce the six tables for their CAP data submission. Today, states have access to EPA's RCRAInfo system, a national data system used to track entities regulated under Subtitle C of RCRA (i.e., hazardous waste handlers).[9]

The following paragraphs provide an overview of the BR and the data development process used in the 2019 assessment. Appendix D describes the technical computing aspects of the modified methodology used to develop the data tables necessary for conducting the national assessment. For more detailed information about the general CAP process, see the 1993 Guidance and the National Assessment Report finalized in November 1996.

Biennial Report Overview

The primary source of data used in conducting the national capacity assessment is the BR. The BR contains data reported by a hazardous waste handler and must be submitted by LQGs and TSDFs every two years. It consists of several forms, including: the Waste Generation and Management (GM) Form and the Waste Received from Offsite (WR) Form. The GM Form must be filed by generators (i.e., LQGs) to report hazardous waste generation and management activities during the reporting year. The WR Form must be filed by off-site waste handlers (i.e., TSDFs) to report hazardous wastes received from other hazardous waste sites and the method(s) used to manage them on their sites during the reporting year. Taken together, these forms provide the following information:

- Facility information (e.g., EPA ID number, name, location, industry sector);
- Waste characterization (e.g., type of process/activity generating the waste, waste form, hazardous waste code(s) representing the waste);
- Management method(s) (e.g., metals recovery, incineration); and

[9] RCRAInfo includes data on general handler information, waste generation and management, permit or closure status, financial assurance, compliance with federal and state regulations, and cleanup activities.

- Quantity of hazardous waste generated and/or managed.

To report some of the above information, the BR instructions provide a coding structure that waste handlers must use. For example, the BR instructions require the use of management method codes to describe the type of hazardous waste management system used to treat or dispose of a hazardous waste. The management method codes reported in the BR forms are key to conducting the national capacity assessment because they are the basis for allocating wastes into the various CAP management categories.

It is important to mention that each BR data collection cycle includes a rigorous data quality process implemented by states before they submit any data to EPA. For the 2017 BR data, EPA and the states conducted additional data quality checks on the national BR data set to ensure readiness for the capacity analyses. Specifically, EPA and the states conducted additional quality checks on the waste shipment data such as: (1) typographical errors in EPA Identification Numbers (EPA IDs); (2) differences in management method codes between the shipment and receiving facilities; and (3) differences in shipment quantities between the shipping and receiving facilities. See Appendix F for more on the enhanced data quality effort for the 2017 BR data.

Baseyear Data

In developing demand data for the national assessment, EPA first generated "baseyear" demand data. For the 2019 assessment, the year 2017 is the "baseyear" for the demand data because, at the time the analysis was conducted, this was the most recent year for which BR data were available. EPA used the 2017 BR data to estimate the quantity of hazardous waste management by the following categories:

- **Onsite management.** This includes waste managed in units at the facility generating the waste, which are permitted as not accepting waste from offsite.

- **Captive management.** This includes waste shipped offsite for management at facilities owned by the same company as the generator but located at a different site.

- **Commercial management.** This includes wastes shipped by generators to unaffiliated management facilities through private contracts or agreements. EPA considered all demand for management in units permitted as “accepting waste from offsite” as commercial, including demand reported as onsite management by the commercial management facilities. This assignment is reasonable because wastes managed onsite by commercial facilities reduce the capacity that is commercially available at the facilities. For example, if a commercial landfill facility disposes of its own onsite wastes at the landfill, the amount of landfill capacity used for that waste will not be available for facilities that send their waste for disposal at the commercial landfill.

The 2017 baseyear waste quantities for onsite, captive, and commercial management are compiled into 12 CAP management categories and represent the baseyear amount of “demand” for each of the 12 CAP management categories.

Baseyear capacity information is gathered for commercial management facilities because the commercial management category is where shortfalls could be projected given that onsite and captive demand could be shifted to commercial management. The capacity information was gathered in mid-2019 and thus, 2019 is considered the baseyear for the capacity data. To gather information on available commercial hazardous waste management capacity, EPA used several

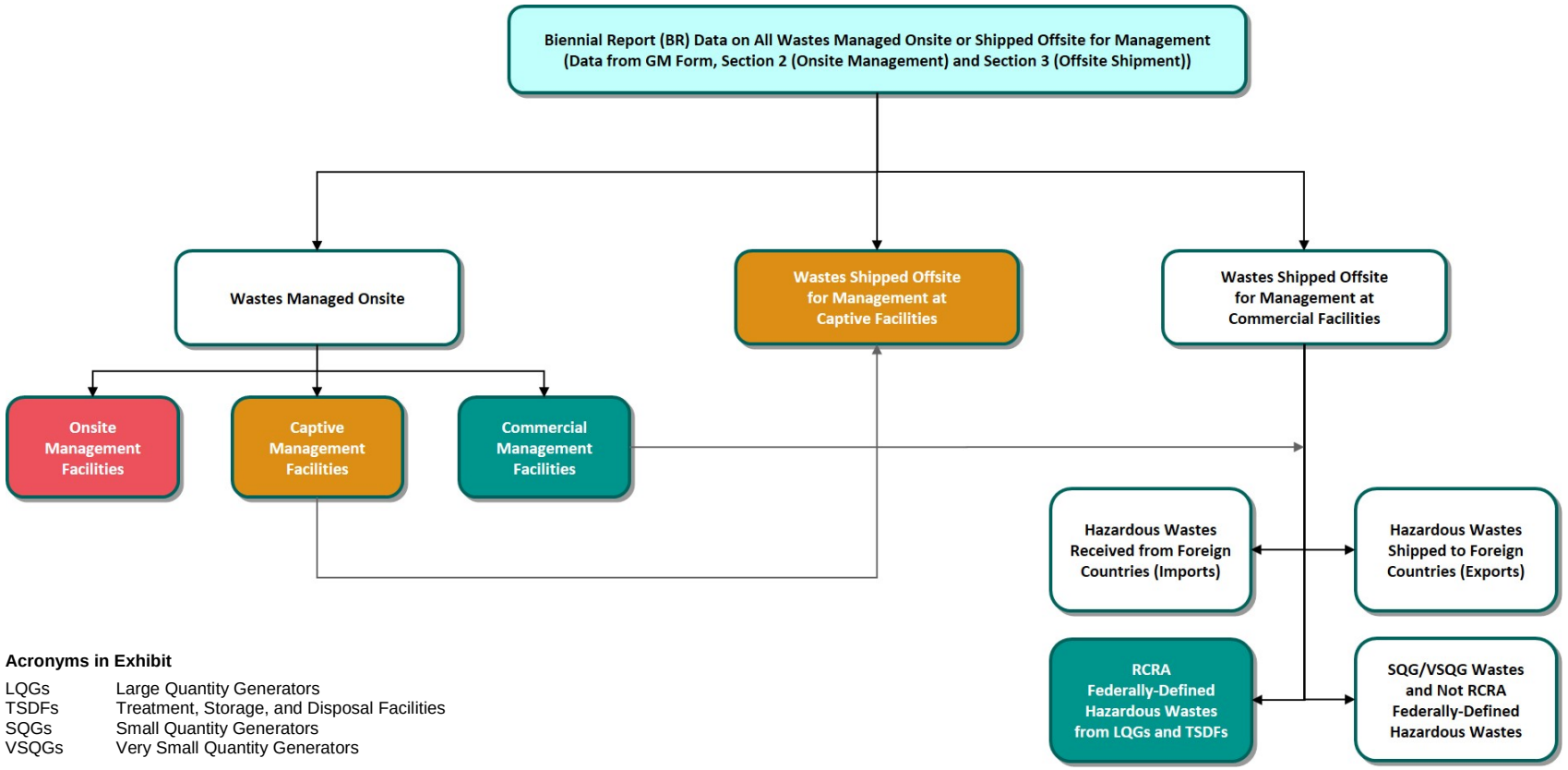
sources, including RCRAInfo's Permit Module; limited consultations with commercial hazardous waste management facilities; and other data sources, such as the results of Internet research. Appendix A to this Report presents commercial capacity data used in the analysis. Appendix B presents a list of commercial hazardous waste management facilities (as well as a list of onsite and captive hazardous waste management facilities) and descriptions for the BR management codes captured by each CAP management category. See Appendix C for examples of the various types of management technologies for each category.

In analyzing the demand for commercial hazardous waste management, an important analytical quality consideration was to evaluate the BR data for any double counting of waste demand. To do this, EPA first removed foreign export and import waste quantities from the baseyear BR data to avoid the potential of double counting of additional waste demands. Data on foreign exports and imports are incorporated separately in the last step of the assessment. (For additional information on this step, refer to Demand from Foreign Exports and Imports in the "Methodology Issues" section of this report.)

Following this, EPA identified wastes considered to meet the federal regulatory definition of hazardous.[10] EPA relied on indicators or flags that implementers (i.e., states and EPA regions) set when they upload the BR data into RCRAInfo. These "Yes" or "No" flags are referred to as "Include in National Report" flags. The purpose of the "Include in National Report" flags is to be able to identify RCRA federally-defined hazardous wastes reported by sites that are federal LQGs or TSDFs. The use of the flags is important because states may store federally required data as well as state-only data in the RCRAInfo system. Thus, the "Include in National Report" flags provide a way to differentiate the RCRA federally-defined hazardous wastes from state regulatory-defined wastes (i.e., wastes from requirements that are more stringent or broader in scope than federal requirements). These steps were also necessary to avoid double counting of waste demand because waste demand from both wastes not defined hazardous wastes under the federal RCRA program and waste generated by generators not federally defined as *LQGs* are incorporated in the last steps of the capacity assessment. **See Exhibit 1 for an overview of baseyear data development using the BR data.**

[10] To be considered a hazardous waste, a material first must be classified as a solid waste (40 CFR 261.2). If a waste is considered solid waste, it must then be determined if it is hazardous waste (40 CFR 262.11). Wastes are defined as hazardous by EPA if they are specifically named on one of four lists of hazardous wastes located in 40 CFR Part 261, Subpart D (F, K, P, U) or if they exhibit one of four characteristics located in 40 CFR Part 261, Subpart C (characteristic wastes).

Exhibit 1
Baseyear Demand Data Development Using the Biennial Report Data



Acronyms in Exhibit

LQGs	Large Quantity Generators
TSDFs	Treatment, Storage, and Disposal Facilities
SQGs	Small Quantity Generators
VSQGs	Very Small Quantity Generators

Legend

- Biennial Report Data from the Generation and Management (GM) Forms
- Onsite Management Baseyear Demand
- Captive Management Baseyear Demand
- Commercial Management Baseyear Demand – RCRA Federally-Defined Hazardous Wastes from LQGs and TSDFs

Baseline Data

After compiling the baseyear demand data into the CAP management categories for Tables I through Table III, EPA adjusted demand represented by the 2017 BR data to the current year of 2019. This adjusted set of data is referred to as "baseline data," and was used as the starting point for projecting future annual demand for commercial management. Baseline and projected demand estimates represent the demand for management capacity for the entire year.

For the 2019 baseline demand data for commercial management, EPA separated process waste demand from cleanup waste demand because the Guidance discusses that these different sources of waste generation should consider different factors when determining projected waste demand quantities. For example, process wastes are typically generated on a continual, recurring basis while cleanup wastes can be a one-time event so generation can fluctuate over time. To address this issue, EPA averaged two report cycles of BR data to derive the cleanup waste estimates for the 2019 baseline demand. The process and cleanup waste distinction is also important if there is ever a need to address future capacity shortages in Phase 2 as process wastes are typically more amenable to targeted waste reduction and waste minimization efforts.

In 1993, states were asked to incorporate the effect of new regulations (e.g., BIF rulemaking, Land Disposal Restrictions, Hazardous Waste Listings, expiration of treatment variances) on management behavior when adjusting from baseyear to the baseline and projecting into future years. However, because the RCRA program is a more stable regulatory program than it was 20 years ago, no adjustments for new regulations from the 2017 baseyear data were made to the 2019 baseline.

To estimate 2019 baseline capacity, EPA obtained available, permitted capacity data directly from commercial energy recovery, incineration, and landfill facilities operating nationwide in 2019. EPA also verified information in RCRAInfo concerning the status of RCRA permits and the management of RCRA federally-defined hazardous wastes. These facilities also provided information about not RCRA federally-defined hazardous wastes managed in their commercial units. Because the available, permitted capacity data were obtained during 2019, EPA depleted landfill capacity to reflect consumption of available landfill capacity for the year as part of adjusting capacity data to 2019 baseline data. Because baseline demand estimates represent the demand for management capacity for an entire year, baseline capacity estimates represent the capacity available at the end of the year. Therefore, baseline capacity for landfills is the quantity estimated to be available on December 31, 2019.

Projection Data

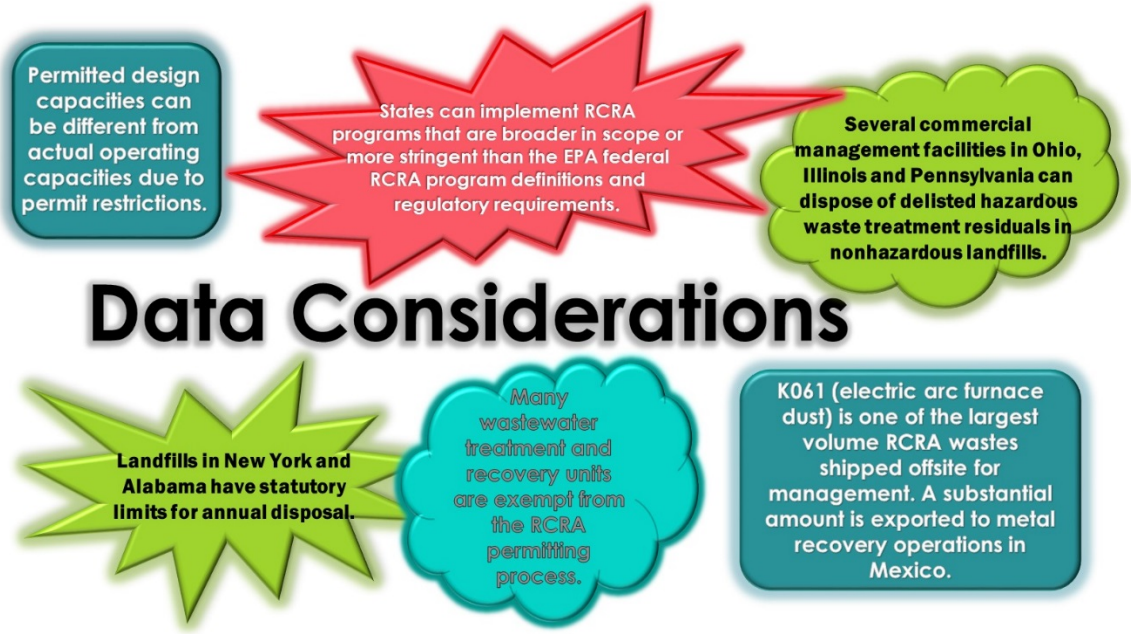
Capacity planning estimates for future capacity needs and waste generation are based on historical data and current knowledge. After developing the 2019 baseline data, EPA developed data for the 5-year projection (through 2024), and the 20-year projection (through 2039), pursuant to the 1993 Guidance. The projection years are intended to account for shifts in the management of wastes and incorporate changes in the operating status of hazardous waste facilities. EPA does not believe that any current hazardous waste regulatory activities will substantially alter management behaviors within the next five years. In addition, projected changes in demand can be due to plant closures and the opening of new facilities. However, EPA knows of no facilities closing or opening that would substantially affect the future demand for hazardous waste capacity.

Because EPA knows of no commercial management facilities closing or opening that would affect the future availability of national capacity, capacity was held constant except for landfills. Because landfill capacity is consumed over time, EPA depleted the amount of available commercial landfill capacity over the projection period and also determined the last projected full year in which currently permitted commercial hazardous waste landfill capacity would be available (through 2044). EPA's estimated depletion of landfills accounts for demand from RCRA federally-defined hazardous wastes from LQGs and TSDFs. It also accounts for demand from RCRA federally-defined hazardous wastes from Small Quantity Generators/Very Small Quantity Generators (SQGs/VSQGs)[11], foreign imports, foreign exports, and wastes that are not federally-defined as RCRA hazardous wastes (i.e., hazardous wastes regulated solely by state programs that are more stringent or broader in scope than the RCRA federal program).

In addition, EPA took into account state-imposed caps on annual receipts at landfills in Alabama (600,000 tons) and New York (425,000 tons) by examining typical annual demand for these landfills. The landfill in New York is currently in the RCRA permit process to open new cells. At this time, the future capacity is unknown so EPA considered the capacity to be zero for this facility.

3. Methodology Issues

As mentioned earlier, EPA developed baseyear demand data that includes only RCRA federally-defined hazardous waste. EPA recognizes that such wastes represent only a portion of the demand for RCRA Subtitle C management capacity and that many other types of wastes and materials also constitute demand for commercial management units. In the following paragraphs, EPA discusses some of these additional wastes, as well as some capacity estimating challenges, and how they were resolved for this assessment. Most of the Agency's resolutions result in overestimating demand and underestimating capacity.



[11] SQGs generate more than 100 kilograms but less than 1,000 kilograms of hazardous waste per month. VSQGs may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Compilation of Permitted Operating Capacity Data

The Agency found that some capacity information in RCRAInfo concerning permits issued under RCRA Subtitle C authority is of limited use for capacity planning purposes. In most cases, the reported capacity for the permit was the ideal, maximum design, or theoretical capacity of the unit, not the practical, real-time operating capacity. Using the theoretical capacity and not the practical capacity can overestimate the amount of readily available capacity.

A related challenge is converting all capacity estimates reported by facilities into consistent units of measurement. Theoretical design capacity estimates are often used for purposes of permit approvals and expansions of hazardous waste management units. These theoretical amounts are measured in units such as British Thermal Units (BTUs) per hour for incinerators and total cubic yards or acres for landfills. Because "tons of waste per year" was the common measurement unit selected for aggregating all CAP information, many facility capacities had to be converted to tons of waste per year. This was done by making assumptions about operating conditions and average waste characteristics. For example, when an incinerator designed on a BTU per hour basis is converted to tons per year, assumptions about average waste heating value and density need to be made.

To evaluate available operating capacity for the facilities, the Agency calculated a practical operating capacity reflecting real-time operational limitations, such as downtime, permit restrictions, and the optimization of operation for profit. EPA based its calculations on limited consultations with the hazardous waste management facilities in question. Through these consultations, the Agency was able to obtain remaining permitted capacity at commercial hazardous waste landfills, as well as information that was used to develop assumptions for real-time operation of BIFs and incinerators (e.g., waste heating value, hours or days of operation in a year). Appendix A to this document presents capacity information obtained through consultations with commercial hazardous waste management facilities.

Demand from Hazardous Wastes Requiring Specialty Management

Some wastes, such as explosive wastes, require management in units specifically designed for the unique management required by these wastes. These units typically are permitted to meet the exact specifications of the unique waste stream and not available for management of all waste types. In particular, one commercial incinerator currently operating has been designed exclusively for treatment of explosive wastes. In addition, one permitted incinerator has capacity in the permit designated primarily for the management of spent potliners from primary aluminum reduction (i.e., EPA listed K088 waste). These units were identified as "specialty operations" and the capacity was not assumed to be available for all wastes types (refer to Appendix A for additional information on these commercial management facilities).

Demand from Facilities Generating Small Amounts of Hazardous Wastes

Demand on commercial hazardous waste capacity from SQGs/VSQGs is difficult to estimate for several reasons, including reporting limitations. All LQGs are required to submit BR data but SQGs/VSQGs are not required by federal law to complete a BR so information on their demand is not readily available. Many states do have state reporting regulations that are broader in scope than federal regulations and require that facilities generating small amounts of waste submit BR data. However, states may not always load the SQG/VSQG data into EPA's RCRAInfo system.

Given these challenges, EPA conducted an analysis to estimate the demand on commercial capacity from SQGs/VSQGs. To conduct this analysis, EPA referred to information submitted in WR Forms

by commercial hazardous waste management facilities that received hazardous waste from offsite. Using these forms, EPA developed a list of all facilities shipping wastes to commercial hazardous waste management facilities (e.g., landfill facilities, incinerator facilities). The Agency deleted from this list the generators who submitted a GM Form indicating that they shipped waste offsite for management. The Agency then used information from commercial facilities who reported receiving waste from the remaining list of generators (i.e., the potential SQGs/VSQGs and transfer/storage facilities that manage SQG/VSQG wastes) to determine how SQG/VSQG wastes were managed. The Agency's analysis of this demand appears in Table VI under the column "SQG/VSQG Wastes" and Appendix D describes the methodology used in estimating the demand.

Demand from Foreign Imports and Exports

EPA analyzed the data from foreign imports and exports of hazardous wastes separately from the process and cleanup waste. Pursuant to the 1993 Guidance, EPA assumed these wastes place a demand on commercial capacity within the U.S. and thus have been incorporated into this assessment of available commercial capacity as a separate step.

A site required to file a BR must submit a GM Form for all hazardous waste that was used to determine the site's generator status, including hazardous wastes imported from a site located in a foreign country. In addition, if a site received hazardous waste directly from a generator located in a foreign country, the site must complete a WR Form for the waste treated, recovered, or disposed at the site. Thus, to compile hazardous waste import data at the national level, EPA referred to data reported on the GM and WR Forms. (Refer to Appendix E for additional information on the process used by EPA to compile the hazardous waste import data used in this assessment.) The Agency's analysis of this demand appears in Table VI under the column "Wastes Received from Foreign Countries."

Unless required by their state, hazardous waste exporters are not required to submit a BR for the hazardous waste that was exported directly out of the U.S. to a site located in a foreign country. Thus, to compile hazardous waste export data at the national level, EPA referred to Annual Export Reports submitted to the Agency under 40 CFR 262.83(g). (Refer to Appendix E for additional information on the process used by EPA to compile the hazardous waste export data used in this assessment.) The Agency's analysis of demand from RCRA federally-defined hazardous wastes exported to foreign countries appears in Table VI under the column "Wastes Shipped to Foreign Countries."

Demand from Wastes that are Not RCRA Federally-Defined Hazardous Wastes

Wastes are defined as hazardous by EPA if they are specifically named on one of four lists of hazardous wastes located in 40 CFR Part 261, Subpart D (F, K, P, U) or if they exhibit one of four characteristics located in 40 CFR Part 261, Subpart C (characteristic wastes). Because state hazardous waste programs can be broader in scope or more stringent than the federal regulations, some states regulate non-federal hazardous wastes as hazardous, such as used oil and polychlorinated biphenyl (PCB) cleanup wastes. For purposes of this analysis, those wastes are considered as wastes that are "not RCRA federally-defined hazardous wastes."

The overall management trend for not RCRA federally-defined hazardous wastes is disposal in landfills meeting RCRA Subtitle D requirements; however, many RCRA Subtitle C TSDFs reported receiving substantial amounts of such wastes for management. This may be due to state hazardous waste regulations, which can be broader in scope and more stringent than the federal regulations. Regardless, the management of these wastes under Subtitle C requirements is relevant to EPA's

assessment because they represent demand for Subtitle C management units, such as landfills whose capacity depletes over time. EPA was able to broadly estimate demand from not RCRA federally-defined hazardous wastes through limited consultations with commercial hazardous waste management facilities (refer to Appendix A) and other data sources. Much of the demand is from PCB cleanup wastes according to information obtained from the commercial hazardous waste landfills. The Agency's analysis of this demand appears in Table VI under the column "Not RCRA Federally-Defined Hazardous Wastes."

4. Discussion of the National Capacity Assessment

Aggregation of National Baseyear Data

Tables I through III of this Report show EPA's aggregation of baseyear data on RCRA federally-defined hazardous waste demand and capacity:

- Table I, "2017 National Baseyear Data Representing Hazardous Waste Generated and Managed Onsite," shows a national aggregation of 2017 baseyear demand data for waste managed onsite. (Exhibit B-1 in Appendix B presents a list of key facilities for the analyses.)

- Table II, "2017 National Baseyear Data Representing Management of Hazardous Waste at Captive Facilities," presents wastes managed at captive facilities. Captive facilities are facilities owned by the same company as the generator but which are at a different physical location. Their capacity can only be used by generators under the same ownership. (Exhibit B-2 in Appendix B presents a list of key facilities for the analyses.)

- Table III, "2017 National Baseyear Data Representing Management of Hazardous Waste at Commercial Facilities," shows wastes managed at commercial facilities. National demand estimates for the baseyear include RCRA federally-defined hazardous wastes managed onsite and shipped offsite for management at commercial facilities. The table also includes maximum operational commercial hazardous waste management capacity representing the 2019 baseyear data. (Exhibit B-3 in Appendix B presents a list of key facilities for the analyses.)

Exhibit 2 shows the location of key commercial management facilities on a map. The lists that follow provide baseyear capacity information for commercial energy recovery, incineration, and landfill facilities that manage RCRA federally-defined hazardous wastes.

Table I
2017 National Baseyear Data Representing Hazardous Waste Generated and Managed Onsite [a, b, c, d]

CAP Management Category	Hazardous Waste Managed Onsite (Tons)
RECOVERY	
Metals Recovery	34,400
Organics Recovery	45,000
Inorganics Recovery	48,900
Energy Recovery	366,300
TREATMENT	
Fuel Blending	6,600
Incineration	226,100
Wastewater Treatment	41,025,100
Sludge Treatment/Stabilization/Encapsulation	15,400
DISPOSAL	
Land Treatment or Application	26,700
Landfill	78,300
Deepwell or Underground Injection	25,163,200

[a] Exhibit excludes wastes generated and managed onsite by captive and commercial hazardous waste management facilities. Those wastes are included in Table II and Table III, which present baseyear data for captive and commercial management, respectively.

[b] Waste quantities include RCRA federally-defined hazardous wastes, not RCRA federally-defined hazardous wastes, and hazardous wastes received from foreign countries for management in the U.S.

[c] Per the BR instructions, facilities must report the management method code that best identifies the last substantive purpose/operation performed at the site. Facilities are not allowed to report transfer/storage as the last substantive purpose/operation performed at the site. Therefore the table does not include the transfer/storage CAP management category.

[d] All estimates are rounded to the nearest hundred. Refer to Appendix D for information on the derivation of these estimates.

Table II
2017 National Baseyear Data Representing Management of Hazardous Waste at Captive Facilities [a]

CAP Management Category	Hazardous Waste Managed at Captive Facilities (Tons)
RECOVERY	
Metals Recovery	3,000
Organics Recovery	20,100
Inorganics Recovery	1,268,300
Energy Recovery	86,700
TREATMENT	
Fuel Blending	100
Incineration	459,100
Wastewater Treatment	7,908,700
Sludge Treatment/Stabilization/Encapsulation	1,200
DISPOSAL	
Land Treatment or Application	5,900
Landfill	28,900
Deepwell or Underground Injection	3,213,500
TRANSFER/STORAGE	
Transfer/Storage	4,100

[a] Waste quantities include RCRA federally-defined hazardous wastes and not RCRA federally-defined hazardous wastes.

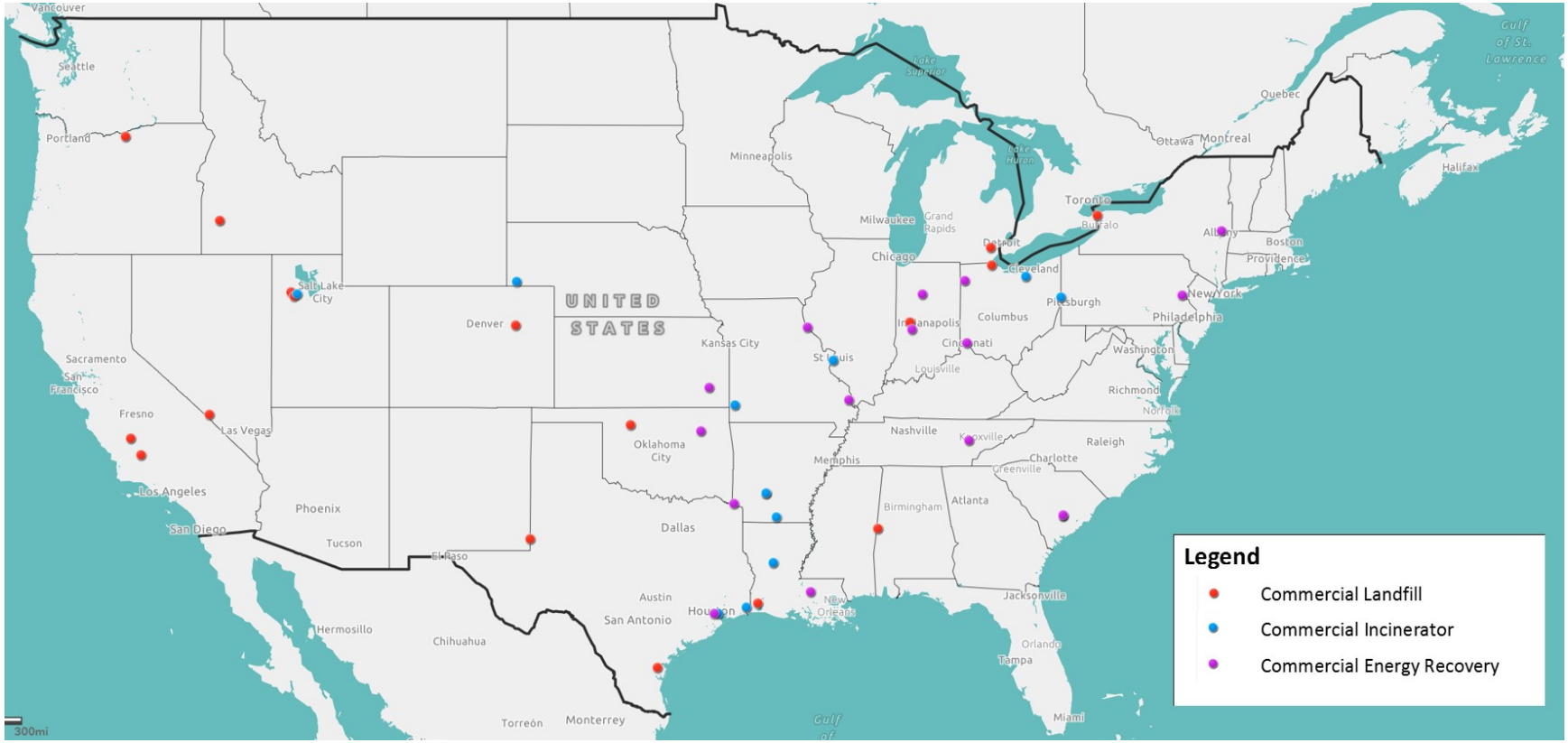
Table III
2017 National Baseyear Data Representing Management of Hazardous Waste at Commercial Facilities

CAP Management Category	Demand for Commercial Hazardous Waste Management Capacity [a]		Maximum Operational Commercial Hazardous Waste Management Capacity Baseyear Data (Tons/Year)
	Process Waste (Tons)	Cleanup Waste (Tons)	
RECOVERY			
Metals Recovery	1,044,400	8,400	2,400,000
Organics Recovery	169,800	1,300	2,500,000
Inorganics Recovery	120,300	3,000	526,000
Energy Recovery	964,900	9,400	1,900,000
TREATMEN			
Fuel Blending	541,700	1,500	4,300,000
Incineration	481,000	25,800	1,400,000
Wastewater Treatment	938,800	21,700	12,000,000
Sludge Treatment/Stabilization/Encapsulation	451,500	226,800	8,100,000
DISPOSAL [b]			
Landfill	916,200	45,100	87,000,000 (Total permitted tons)
Deepwell or Underground Injection	661,900	15,500	3,300,000
TRANSFER/STORAGE			
Transfer/Storage	335,700	14,600	

[a] Demand waste quantities include RCRA federally-defined hazardous wastes only.

[b] There are no commercial land treatment/application facilities. Therefore, the table does not include the land treatment/application CAP management category.

Exhibit 2
Commercial Hazardous Waste Energy Recovery, Incineration, and Landfill Facilities



List of Commercial Energy Recovery (16 Facilities)

EPA ID	Site Name	Type of Process Unit	Permitted Energy Recovery Capacity (Tons)	Operational/Practical Energy Recovery Capacity (Tons)
ARD981512270	ASH GROVE CEMENT COMPANY	Cement Kiln	183,960 [b]	183,960 [b]
IND005081542	LEHIGH CEMENT COMPANY	Cement Kiln	277,200 [b]	277,200 [b]
IND006419212	LONE STAR GREENCASTLE WDF	Cement Kiln	87,500 [b]	87,500 [b]
KSD031203318	ASH GROVE CEMENT COMPANY	Cement Kiln	141,540 [b]	141,540 [b]
LAD008161234	ECO SERVICES OPERATIONS	Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid	186,000	186,000
MOD054018288	GREEN AMERICA RECYCLING	Cement Kiln	110,888	110,888
MOD981127319	LONE STAR INDUSTRIES	Cement Kiln	75,695 [b]	75,695 [b]
NYD080469935	NORLITE	Aggregate Kiln	1,015	1,015
OHD987048733	HOLCIM (US) INC	Cement Kiln	162,086 [c, d]	162,086 [c, d]
OKD064558703	TULSA CEMENT	Cement Kiln	89,810 [b]	89,810 [b]
PAD002389559	KEYSTONE CEMENT COMPANY	Cement Kiln	254,040	103,368
SCD003351699	GIANT CEMENT COMPANY	Cement Kiln	254,040	131,400
SCD003368891	HOLCIM US INC GEOCYCLE	Cement Kiln	293,125 [c]	293,125 [c]
TND982109142	DIVERSIFIED SCIENTIFIC SERVICES INC. (DSSI)	Boiler	4,499 [b, d]	4,499 [b, d]
TXD008099079	ECO SERVICES OPERATIONS HOUSTON	Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid	94,615	94,615
		Total	**2,216,013**	**1,942,701**
		Rounded Total	**2,200,000**	**1,900,000**
Specialty Operations (Capacity Not Available to All Waste Codes) [e]				
OHD083377010	ENVIRONMENTAL ENTERPRISES	Other Treatment	Not Available	Not Available

[a] Unless otherwise noted, information was verified/obtained through limited consultations conducted in May-June 2019.
[b] RCRAInfo Permit Module. Data current as of July 28, 2019. Capacity estimate based on 7,000 operating hours/unit/year.
[c] RCRAInfo Permit Module. Data current as of July 28, 2019. Capacity estimate based on 335 operating days/unit/year.
[d] RCRAInfo Permit Module. Data current as of July 28, 2019. Capacity estimate based on 1 gallon equals 0.0042 short tons.
[e] This facility offers limited capacity (i.e., energy recovery capacity is not available to all EPA waste codes/types of wastes) and thus, are not included in the available commercial incineration capacity estimate.

List of Commercial Incinerators (11 Facilities) [a]

Handler ID	Handler Name	Permitted Incineration Capacity (Tons)	Operational/Practical Incineration Capacity (Tons)
ARD069748192	CLEAN HARBORS EL DORADO	378,170	378,170
ILD098642424	VEOLIA ES TECHNICAL SOLUTIONS	82,865	30,000
NED981723513	CLEAN HARBORS ENV SERVICES	92,111	92,111
OHD048415665	ROSS INCINERATION SERVICES	105,140	105,140
OHD980613541	HERITAGE THERMAL SERVICES	125,611	125,611
TXD000838896	VEOLIA ES TECHNICAL SOLUTIONS	150,000	60,000
TXD055141378	CLEAN HARBORS DEER PARK	468,870	468,870
UTD981552177	CLEAN HARBORS ARAGONITE	162,410	162,410
	Total	**1,565,177**	**1,422,312**
	Rounded Total	**1,500,000**	**1,400,000**
Specialty Operations (Capacity Not Available to All Waste Codes) [c]			
ARD006354161	REYNOLDS METALS COMPANY	310,800	310,800
LAD981055791	CLEAN HARBORS OF COLFAX LLC	1,225 [b]	1,225 [b]
MOD985798164	EBV EXPLOSIVES ENVIRONMENTAL COMPANY	8,625	8,625
	Total	**320,650**	**320,650**
	Rounded Total	**320,000**	**320,000**

[a] Unless otherwise noted, information was verified/obtained through limited consultations conducted in May-June 2019.

[b] RCRAInfo Permit Module. Data current as of August 14, 2019. Capacity estimate based on 2,000 pounds/short ton and 7,000 operating hours/unit/year.

[c] These facilities offer limited capacity (i.e., incineration capacity is not available to all EPA waste codes) and thus, are not included in the available commercial incineration capacity estimate.

List of Commercial Landfills (18 Facilities)

Handler ID	Handler Name	Available Permitted Landfill Capacity [a] (Tons)
ALD000622464	CHEMICAL WASTE MANAGEMENT (EMELLE)	5,680,000
ARD006354161	REYNOLDS METALS COMPANY LLC GUM SPRINGS PLANT	1,039,150
CAD980675276	CLEAN HARBORS BUTTONWILLOW	5,943,000
CAT000646117	CHEMICAL WASTE MANAGEMENT (KETTLEMAN)	3,798,051
COD991300484	CLEAN HARBORS DEER TRAIL	2,298,800
IDD073114654	US ECOLOGY IDAHO SITE B	8,409,100
IND980503890	HERITAGE ENVIRONMENTAL SERVICES	11,388,157
LAD000777201	CHEMICAL WASTE MANAGEMENT (LAKE CHARLES)	4,120,904
MID048090633	US ECOLOGY WAYNE DISPOSAL	10,770,000
NVT330010000	US ECOLOGY NEVADA	8,200,000
NYD049836679	CWM CHEMICAL SERVICES (MODEL CITY) [b]	0
OHD045243706	ENVIROSAFE SERVICES OF OHIO [c]	90,000
OKD065438376	CLEAN HARBORS LONE MOUNTAIN	3,847,973
ORD089452353	CHEMICAL WASTE MANAGEMENT OF THE NW	5,171,964
TXD069452340	US ECOLOGY TEXAS	9,850,000
TXD988088464	WASTE CONTROL SPECIALISTS	1,597,787
UTD982598898	ENERGYSOLUTIONS CLIVE FACILITY	957,268
UTD991301748	CLEAN HARBORS GRASSY MOUNTAIN	3,847,973
	Total	**87,010,127**
	Rounded Total	**87,000,000**

[a] Unless otherwise noted, information was verified/obtained through limited consultations conducted in May-June 2019.

[b] Landfill unit filled to capacity in 2015 and was capped in 2016.

[c] Facility did not participate in consultations. Current capacity estimate based on permit modification information (https://presspublications.com/content/ohio-epa-approves-permit-envirosafe-expand-landfill).

National Assessment of Future Capacity

For the national assessment of future capacity, EPA first projected remaining commercial hazardous waste capacity not utilized by RCRA federally-defined hazardous waste. This is the maximum commercial hazardous waste management capacity projected through December 31, 2044 from Table V minus the projected demand through December 31, 2044 from Table IV.

- Table IV, "National Baseline and Projected Demand for Commercial Hazardous Waste Management Capacity," reports projected demand of RCRA federally-defined hazardous wastes generated by LQGs and TSDFs for commercial capacity. Demand is projected for both process and cleanup wastes.

- Table V, "National Baseline and Projected Maximum Commercial Hazardous Waste Management Capacity," shows capacity data for the baseline and projection years.

The national assessment of hazardous waste capacity over the next 20 years is presented in Table VI, “National Capacity Assessment of Projected Remaining Commercial Hazardous Waste Management Capacity.” As discussed earlier, the assessment includes all RCRA federally-defined hazardous wastes and wastes that are not RCRA federally-defined hazardous wastes potentially placed into a treatment or disposal unit. In addition, the assessment focuses on commercial management for energy recovery, incineration, and landfilling because these management types are often the costliest to operate and most difficult to permit.

As shown in Table VI, there is adequate capacity through December 31, 2044 for all CAP management categories, this represents 25 years of available capacity.

Exhibits 3 through 5 provide graphic illustrations of the capacity assessments for the management categories that include the facilities in the lists provided previously in this section. As mentioned above, the national assessment of hazardous waste capacity focused on the commercial energy recovery, incineration, and landfill facilities.

Table IV
National Baseline and Projected Demand for Commercial Hazardous Waste Management Capacity
Data represents projected demand from only Large Quantity Generators (LQGs) and Treatment Storage and Disposal Facilities (TSDFs)

CAP Management Category	Projected Demand for Commercial Hazardous Waste Management Capacity [a]							
	2019 Baseline		2024		2039		2044	
	Process Waste (Tons)	Cleanup Waste (Tons)	Process Waste (Tons)	Cleanup Waste (Tons)	Process Waste (Tons)	Cleanup Waste (Tons)	Process Waste (Tons)	Cleanup Waste (Tons)
RECOVERY								
Metals Recovery	1,044,400	4,300	1,044,400	4,300	1,044,400	4,300	1,044,400	4,300
Organics Recovery	169,800	1,000	169,800	1,000	169,800	1,000	169,800	1,000
Inorganics Recovery	120,300	2,900	120,300	2,900	120,300	2,900	120,300	2,900
Energy Recovery	964,900	8,400	964,900	8,400	964,900	8,400	964,900	8,400
TREATMENT								
Fuel Blending	541,700	1,700	541,700	1,700	541,700	1,700	541,700	1,700
Incineration	481,000	16,200	481,000	16,200	481,000	16,200	481,000	16,200
Wastewater Treatment	938,800	81,100	938,800	81,100	938,800	81,100	938,800	81,100
Sludge Treatment/ Stabilization/Encapsulation	451,500	182,000	451,500	182,000	451,500	182,000	451,500	182,000
DISPOSAL								
Landfill	916,200	71,600	916,200	71,600	916,200	71,600	916,200	71,600
Deepwell or Underground Injection	661,900	40,900	661,900	40,900	661,900	40,900	661,900	40,900

[a] Baseline and projected demand estimates represent demand for commercial management capacity for the entire year. For example, for 2019 (the baseline year), it is assumed that landfill demand is 856,600 tons of process waste and 68,600 tons of cleanup wastes between January 1 and December 31, 2019.

Table V
National Baseline and Projected Maximum Commercial Hazardous Waste Management Capacity [a]

CAP Management Category	Baseline [b], 2019 (Tons/Year)	Maximum Commercial Hazardous Waste Management Capacity [c]		
		2024 (Tons/Year)	2039 (Tons/Year)	***2044 (Tons/Year)***
RECOVERY				
Metals Recovery	2,400,000	2,400,000	2,400,000	***2,400,000***
Organics Recovery	2,500,000	2,500,000	2,500,000	***2,500,000***
Inorganics Recovery	526,000	526,000	526,000	***526,000***
Energy Recovery	1,900,000	1,900,000	1,900,000	***1,900,000***
TREATMENT				
Fuel Blending	4,300,000	4,300,000	4,300,000	***4,300,000***
Incineration	1,400,000	1,400,000	1,400,000	***1,400,000***
Wastewater Treatment	12,000,000	12,000,000	12,000,000	***12,000,000***
Sludge Treatment/ Stabilization/Encapsulation	8,100,000	8,100,000	8,100,000	***8,100,000***
DISPOSAL				
Landfill	83,800,000 (Total permitted tons)	79,848,800 (Total permitted tons)	65,031,800 (Total permitted tons)	***60,092,800 (Total permitted tons)***
Deepwell or Underground Injection	3,300,000	3,300,000	3,300,000	***3,300,000***

[a] Estimates do not take into account capacity not currently permitted but potentially available for operation.

[b] Baseyear to baseline adjustment reflects a year of landfill consumption from RCRA federally-defined hazardous wastes, SQG/VSQG wastes, hazardous waste exports, hazardous waste imports, and not RCRA federally-defined hazardous wastes.

[c] For landfills, the projection year estimates only show consumption from RCRA federally-defined hazardous wastes.

Table VI
National Capacity Assessment of Projected Remaining Commercial Hazardous Waste Management Capacity through December 31, 2044 [a, b]

CAP Management Category	*Data from Table V: Projected Remaining Commercial Hazardous Waste Capacity Not Utilized by LQGs and TSDFs (Tons/Year)* [c]	Estimated Additional Demand for Commercial Capacity				Assessment of Continued Availability of Commercial Capacity through December 31, 2044
		SQG/VSQG Wastes (Tons)	Wastes Shipped to Foreign Countries (Tons)	Wastes Received from Foreign Countries (Tons)	Not RCRA Federally-Defined Hazardous Wastes (Tons)	
RECOVERY						
Metals Recovery	***1,351,300***	85,100	961,500	22,700	2,700	Sufficient Capacity
Organics Recovery	***2,329,200***	25,700	34,700	100	3,800	Sufficient Capacity
Inorganics Recovery	***402,800***	14,600	29,700	8,300	345,900	Sufficient Capacity
Energy Recovery	***926,700***	54,500	14,500	4,900	13,800	Sufficient Capacity
TREATMENT						
Fuel Blending	***3,756,600***	115,800	1,300	4,700	2,900	Sufficient Capacity
Incineration	***902,800***	65,400	88,100	700	131,100	Sufficient Capacity
Wastewater Treatment	***10,980,100***	3,511,500	500	8,800	29,200	Sufficient Capacity
Sludge Treatment/ Stabilization/Encapsulation	***7,466,500***	60,700	35,200	800	400	Sufficient Capacity
DISPOSAL						
Landfill	***60,092,800 (Total permitted tons remaining after depleting demand from LQGs and TSDFs)***	Annual 112,700 25-Year Total 2,817,500	Annual 142,700 25-Year Total 3,567,500	Annual 12,000 25-Year Total 300,000	Annual 2,002,000 25-Year Total 50,050,000	Sufficient Capacity
Deepwell or Underground Injection	***2,597,200***	16,900	0	2,000	0	Sufficient Capacity

[a] There are no commercial land treatment/application facilities. Therefore, the table does not include the land treatment/application CAP management category.

[b] The table presents the last substantive purpose/operation performed at a commercial hazardous waste management facility. Therefore the table does not include the transfer/storage CAP management category.

[c] Estimates obtained by subtracting annual process and cleanup waste demand from LQGs and TSDFs (Table III) as of December 31, 2044 from the maximum commercial hazardous waste management capacity as of December 31, 2044 (Table V).

Exhibit 3
Commercial Energy Recovery Capacity Assessment

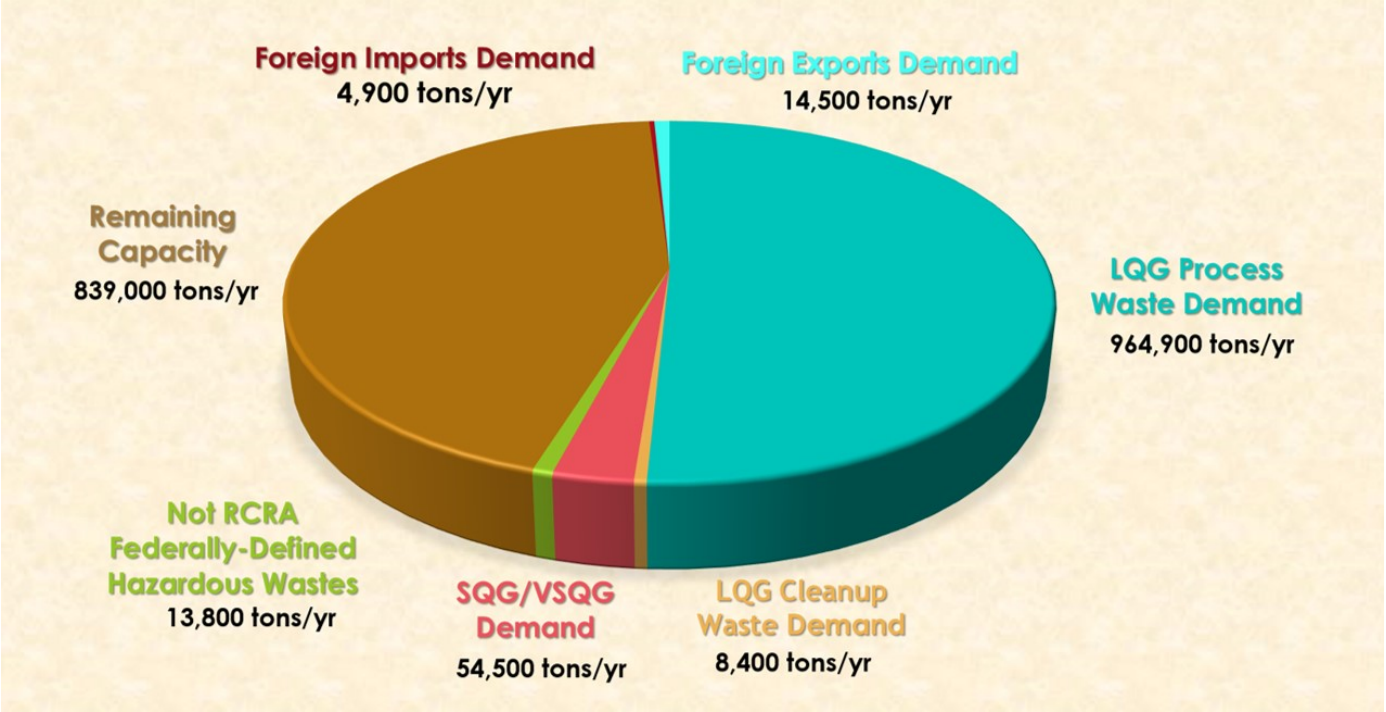
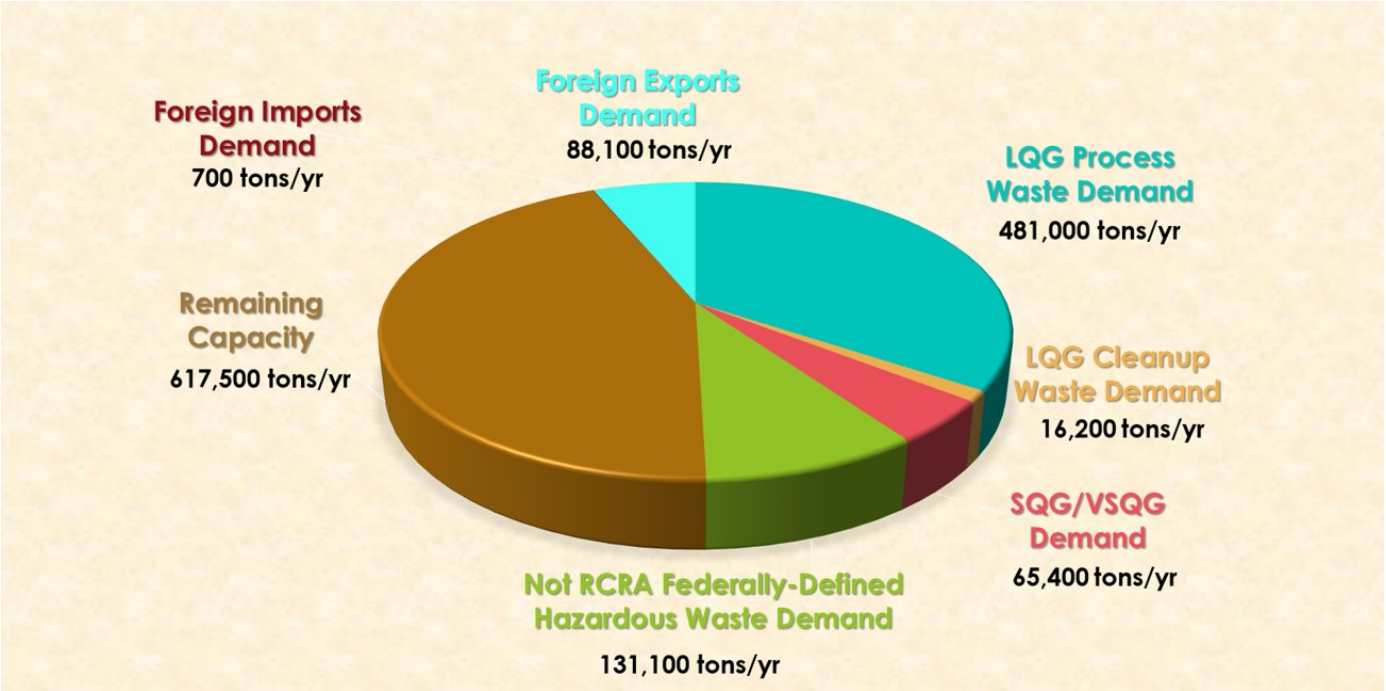
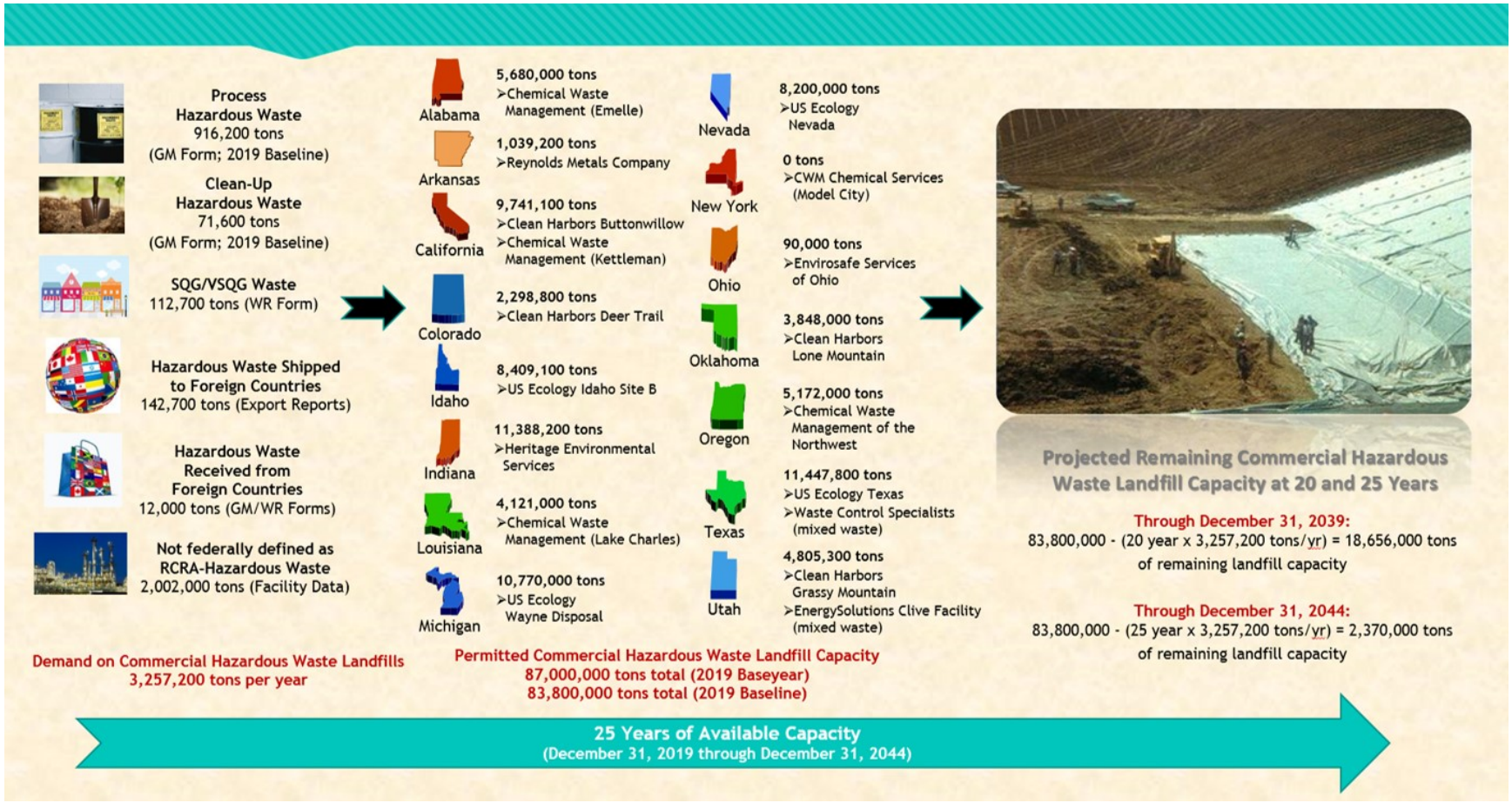


Exhibit 4
Commercial Incineration Capacity Assessment [a]



[a] Exhibit excludes capacity for Reynolds Metals Company and EBV Explosives Environmental Company because these facilities offer limited capacity and is not included in commercial incineration capacity that can accept all waste codes.

Exhibit 5
Data Development for the Landfill CAP Management Category [a]



[a] Graphics in the exhibit were obtained from the following web sites: (1) http://www.clemson.edu/research/safety/hazardouswaste/; (2) http://mymontys.com/wordpress/?tag=soil-test; (3) http://www.hubspot.com/small-business-marketing-hub; (4) http://www.darkecounty.com/news/image-grants-for-export-assistance.aspx; (5) http://www.123rf.com/photo_11840279_world-trade-and-global-commerce-as-an-international-symbol-of-business-trading-in-exports-and-import.html; (6) https://www.egonline.com/Industries-We-Serve/Refining-Petrochemical-Chemical.aspx; and (7) http://www.golder.com/in/modules.php%3Fname%3DProjects%26sp_id%3D80%26sector_id%3D44. All web sites last accessed on December 15, 2014.

5. Conclusions

EPA has updated the national assessment of capacity for the treatment and disposal of hazardous wastes for the next 20 years. Based on its analyses of the data presented in this Report, the Agency has determined that adequate national capacity for the treatment and disposal of hazardous waste exists for the next 20 years (i.e., through year 2039) and through the year 2044. Although EPA believes there is national capacity, states and regional groupings of states should continue hazardous waste management planning activities to ensure that adequate capacity continues to exist into the future.

While currently there is adequate hazardous waste treatment and disposal capacity, there is the potential for unforeseen circumstances (e.g., new federal regulations, permit denials, taxes on management, statutory limitations on landfills, changing market conditions) that could affect the future availability of management capacity. Nationally, the industry is consolidating and restructuring as indicated by the existence of fewer landfills, incinerators, and energy recovery facilities permitted under RCRA Subtitle C requirements than reported in the 1993 CAP data submissions. The dynamic hazardous waste market and the uncertainty of the permitting process make it difficult to guarantee that the current surpluses of hazardous waste management capacity will continue to exist.

Although the Agency believes the information presented in this Report demonstrates the future availability of treatment and disposal capacity, the Agency will continue to periodically collect and evaluate data to ensure that the requirements of CERCLA 104(c)(9) are satisfied. Assuring adequate capacity requires active planning on the part of all parties, including states, tribal governments, industry, and commercial management facilities. This necessitates that all states periodically examine their capacity situations, identify areas of concern, and develop plans that consider future needs. These planning exercises will add to states' knowledge of their hazardous waste management systems, help them implement waste minimization programs, and encourage companies to replace inefficient treatment technologies with safer and more innovative technologies. This can be especially important if studies of hazardous waste management data show capacity issues for specific waste streams anticipated to be generated within a state's borders.

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U.S. Environmental Protection Agency (EPA), Office of Solid Waste and Emergency Response (OSWER); *One-time Waste Estimates for Capacity Assurance Planning: Capacity Planning Pursuant to CERCLA Section 104(c)(9)*, EPA530-R-94-002; January 1995. Available at https://www.epa.gov/hwpermitting/capacity-assurance-twenty-year-planning-tool-future-management-hazardous-waste.

U.S. Environmental Protection Agency (EPA), Office of Solid Waste and Emergency Response (OSWER); *Guidance for Capacity Assurance Planning*, OSWER Directive 9010.02; May 1993. Available at https://www.epa.gov/hwpermitting/capacity-assurance-twenty-year-planning-tool-future-management-hazardous-waste.

Appendix A
Commercial Hazardous Waste Management Facility Data

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Commercial Hazardous Waste Management Facility Data

This appendix provides commercial hazardous waste management facility data used in conducting the national capacity assessment. In particular, this appendix provides the following information:

- Summary of demand and capacity data for:
  - Boilers and industrial furnaces (BIFs)/energy recovery
  - Incineration
  - Landfills
  - Metals recovery
  - All other CAP management categories

Click on any of the above links for quick access to specific sections of the appendix.

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Exhibit A-1
Commercial Hazardous Waste Energy Recovery Facilities

Handler ID	Handler Name	Total Annual Recovered Quantity			Capacity Information		Permit Information for Units Operating and Actively Managing Hazardous Waste [c]	
		RCRA Federally-Defined Hazardous Wastes [a] (Tons)	Not RCRA Federally-Defined Hazardous Wastes [b] (Tons)	Total Hazardous Wastes (Tons)	Permitted Capacity (Tons/Year)	Operational/ Practical Capacity (Tons/Year)	Expiration Date	Permit Renewal
ARD981512270	ASH GROVE CEMENT COMPANY	159,700	Not Available	159,700	184,000	184,000	1/2/2028	In 2028
IND005081542	LEHIGH CEMENT COMPANY	86,500	Not Available	86,500	277,200	277,200	7/5/2018	In progress
IND006419212	LONE STAR GREENCASTLE WDF	120,400	Not Available	120,400	87,500	87,500	11/21/2022	In 2022
KSD031203318	ASH GROVE CEMENT COMPANY	71,000	Not Available	71,000	141,600	141,600	7/20/2020	In 2020
LAD008161234	ECO SERVICES OPERATIONS	16,000	4,500	20,500	186,000	186,000	5/26/2019	Not Available
MOD054018288	GREEN AMERICA RECYCLING	73,500	0	73,500	110,900	110,900	Not Available	Not Available
MOD981127319	LONE STAR INDUSTRIES	92,900	Not Available	92,900	75,700	75,700	2/16/2009	In progress
NYD080469935	NORLITE	20,700	1,200	21,800	1,100	1,100	12/31/2020	In 2020
OHD987048733	HOLCIM (US) INC	91,500	Not Available	91,500	162,100	162,100	Not Available	In progress
OKD064558703	TULSA CEMENT	48,100	Not Available	48,100	89,900	89,900	8/7/2021	In 2021
PAD002389559	KEYSTONE CEMENT COMPANY	13,300	600	13,800	254,100	103,400	7/9/2019	In progress
SCD003351699	GIANT CEMENT COMPANY	57,100	7,500	64,600	254,100	131,400	5/25/2015	In progress
SCD003368891	HOLCIM US INC GEOCYCLE	94,900	Not Available	94,900	293,200	293,200	3/3/2025	In 2025
TND982109142	DIVERSIFIED SCIENTIFIC SERVICES INC.	300	Not Available	300	4,500	4,500	10/1/2017	In progress
TXD008099079	ECO SERVICES OPERATIONS HOUSTON	11,900	0	11,900	94,700	94,700	9/5/2022	In 2022
Specialty Operations (Capacity Not Available to All Waste Codes) [d]								
OHD083377010	ENVIRONMENTAL ENTERPRISES	400	Not Available	400	Not Available	Not Available	9/30/2019	In 2019

[a] RCRAInfo, 2017 Hazardous Waste Report, Generation and Management (GM) Form, Sections 2 and 3; data current as of November 10, 2019.

[b] Information was verified/obtained through limited consultations conducted in May-June 2019.

[c] RCRAInfo, Permit Module; data current as of July 28, 2019.

[d] This facility offers limited capacity (i.e., energy recovery capacity is not available to all EPA waste codes/types of wastes) and thus, are not included in the available commercial incineration capacity estimate.

Exhibit A-2
Commercial Hazardous Waste Incineration Facilities [a]

Handler ID	Handler Name	Total Annual Incinerated Quantity			Capacity Information		Permit Information for Units Operating and Actively Managing Hazardous Waste [d]	
		RCRA Federally-Defined Hazardous Wastes [b] (Tons)	Not RCRA Federally-Defined Hazardous Wastes [c] (Tons)	Total Hazardous Wastes (Tons)	Permitted Capacity (Tons/Year)	Operational/ Practical Capacity (Tons/Year)	Expiration Date	Permit Renewal
ARD069748192	CLEAN HARBORS EL DORADO	77,000	300	77,200	378,200	378,200	6/27/2028	In 2028
ILD098642424	VEOLIA ES TECHNICAL SOLUTIONS	18,500	8,900	27,300	82,900	30,000	12/2/2019	In 2019
NED981723513	CLEAN HARBORS ENV SERVICES	42,100	23,200	65,200	92,200	92,200	11/30/2020	In 2020
OHD048415665	ROSS INCINERATION SERVICES	500	11,000	11,400	105,200	105,200	1/29/2024	In 2024
OHD980613541	HERITAGE THERMAL SERVICES	60,600	20,000	80,600	125,700	125,700	1/17/2029	In 2029
TXD000838896	VEOLIA ES TECHNICAL SOLUTIONS	46,900	26,300	73,200	150,000	60,000	5/24/2029	In 2029
TXD055141378	CLEAN HARBORS DEER PARK	105,400	28,200	133,600	468,870	468,900	8/21/2028	In 2028
UTD981552177	CLEAN HARBORS ARAGONITE	59,600	13,200	72,800	162,500	162,500	9/28/2022	In 2022
Specialty Operations (Capacity Not Available to All Waste Codes) [e]								
ARD006354161	REYNOLDS METALS COMPANY	9,500	0	9,500	310,800	310,800	6/18/2020	In 2020
LAD981055791	CLEAN HARBORS OF COLFAX	400	Not Available	400	1,300	1,300	10/26/2017	In progress
MOD985798164	EBV EXPLOSIVES ENVIRONMENTAL CO.	2,500	0	2,500	8,700	8,700	10/23/2012	In progress

[a] Open burning/open detonation (OB/OD) units are considered to be part of the incineration management category. Currently, there is one commercial OB/OD facility: Clean Harbors Colfax (EPA ID LAD981055791).
[b] RCRAInfo, 2017 Hazardous Waste Report, Generation and Management (GM) Form, Sections 2 and 3; data current as of November 10, 2019.
[c] Information was verified/obtained through limited consultations conducted in May-June 2019.
[d] RCRAInfo, Permit Module; data current as of July 28, 2019.
[e] These facilities offer limited capacity (i.e., incineration capacity is not available to all EPA waste codes) and thus, are not included in the available commercial incineration capacity estimate.

Exhibit A-3
Commercial Hazardous Waste Landfill Facilities

Handler ID	Handler Name	Total Annual Landfilled Quantity			Total Currently Available and Permitted Capacity (Tons)	Permit Information for Units Operating and Actively Managing Hazardous Waste [c]	
		RCRA Federally-Defined Hazardous Wastes [a] (Tons)	Not RCRA Federally-Defined Hazardous Wastes [b] (Tons)	Total Hazardous Wastes (Tons)		Expiration Date	Permit Renewal
ALD000622464	CHEMICAL WASTE MANAGEMENT (EMELLE)	69,200	109,600	178,700	5,680,000	10/20/2021	In 2021
ARD006354161	REYNOLDS METALS COMPANY LLC GUM SPRINGS PLANT	85,100	0	85,100	1,039,200	6/18/2020	In 2020
CAD980675276	CLEAN HARBORS BUTTONWILLOW	29,600	331,200	360,700	5,943,000	4/6/2006	In progress
CAT000646117	CHEMICAL WASTE MANAGEMENT (KETTLEMAN)	25,500	358,500	384,000	3,798,100	6/16/2013	In progress
COD991300484	CLEAN HARBORS DEER TRAIL	12,900	36,900	49,800	2,298,800	4/15/2018	In progress
IDD073114654	US ECOLOGY IDAHO SITE B	20,300	101,500	121,800	8,409,100	7/28/2026	In 2026
IND980503890	HERITAGE ENVIRONMENTAL SERVICES	121,300	87,000	208,300	11,388,200	10/15/2019	In 2019
LAD000777201	CHEMICAL WASTE MANAGEMENT (LAKE CHARLES)	44,400	162,200	206,600	4,121,000	8/10/2020	In 2020
MID048090633	US ECOLOGY WAYNE DISPOSAL	164,200	279,300	443,500	10,770,000	5/4/2022	In 2022
NVT330010000	US ECOLOGY NEVADA	49,812	131,600	181,400	8,200,000	12/8/2016	In progress
NYD049836679	CWM CHEMICAL SERVICES (MODEL CITY)	0	0	0	0	8/20/2018	In progress
OHD045243706	ENVIROSAFE SERVICES OF OHIO	200	0	200	90,000	9/30/2026	In 2026
OKD065438376	CLEAN HARBORS LONE MOUNTAIN	76,000	128,300	204,200	3,848,000	4/1/2021	In 2021
ORD089452353	CHEMICAL WASTE MANAGEMENT OF THE NW	52,700	68,800	121,500	5,172,000	8/10/2016	In progress
TXD069452340	US ECOLOGY TEXAS	61,700	103,200	164,900	9,850,000	3/25/2023	In 2023
TXD988088464	WASTE CONTROL SPECIALISTS	100	0	100	1,597,800	5/20/2024	In 2024
UTD982598898	ENERGYSOLUTIONS CLIVE FACILITY	1,700	1,500	3,100	957,300	4/4/2013	In progress
UTD991301748	CLEAN HARBORS GRASSY MOUNTAIN	81,600	102,100	183,700	3,848,000	9/28/2022	In 2022

[a] RCRAInfo, 2017 Hazardous Waste Report, Generation and Management (GM) Form, Sections 2 and 3; data current as of November 10, 2019.
[b] Information was verified/obtained through limited consultations conducted in May-June 2019.
[c] RCRAInfo, Permit Module; data current as of July 28, 2019.

Exhibit A-4
Commercial Capacity Data for Metals Recovery [a]

Handler ID	Handler Name	Maximum Operational Commercial Hazardous Waste Management Capacity (Tons/Year)
ALD046481032	SANDERS LEAD COMPANY INCORPORATED	262,713 [d]
ALR000042754	STEEL DUST RECYCLING, LLC	240,000 [d]
AZ0000337360	VEOLIA ES TECHNICAL SOLUTIONS, LLC	500 [b]
CAD066233966	QUEMETCO INC	201,000 [d]
CAD069124717	GLENCORE RECYCLING LLC	1,313 [c]
CAD088504881	KINSBURSKY BROTHERS SUPPLY INC	25,371 [d]
FL0000207449	VEOLIA ES TECHNICAL SOLUTIONS LLC	800 [b]
ILD005121439	SIPI METALS CORP	25,000 [d]
ILD040891368	AMERICAN ZINC RECYCLING CORP	778,000 [d]
IN0000351387	LIGHTING RESOURCES INCORPORATED	1,265 [b]
IND000199653	QUEMETCO INCORPORATED	2,200 [d]
MAD980915755	COMPLETE RECYCLING SOLUTIONS LLC	175 [b]
MND006148092	GOPHER RESOURCE	130,000 [d]
MOD059200089	BUICK RESOURCE RECYCLING FACILITY LLC	224,000 [c]
OHR000034025	LAMPS INC DBA ENVIRONMENTAL RECYCLING	85 [b]
PA0000453084	BETHLEHEM APPARATUS CO INC	500 [b]
PAD002390961	BETHLEHEM APPARATUS CO INC	1,000 [b]
PAD002395887	AMERICAN ZINC RECYCLING CORP	184,920 [c]
PAD087561015	THE INTL METALS RECLAMATION CO INC	50,000 [d]
PAD987367216	AERC RECYCLING SOLUTIONS	83 [b]
SCR000771618	AMERICAN ZINC RECYCLING CORP	180,000 [d]
TND982144099	AMERICAN ZINC RECYCLING CORP.	100,000 [d]
WID988566543	VEOLIA ES TECHNICAL SOLUTIONS LLC	3,400 [b]
WIR000000356	WM MERCURY WASTE INC	2,000 [b]
	Total	**2,414,325**
	Rounded Total	**2,400,000**

[a] Exhibit was developed using readily available capacity data. The exhibit does not include a comprehensive list of commercial hazardous waste metals recovery facilities.

[b] Information was verified/obtained through limited consultations conducted in February-March 2016.

[c] RCRAInfo, Permit Module; data current as of December 2, 2019.

[d] Based on information available at company's web site or other readily available data sources (e.g., state agency or company websites, published literature).

Exhibit A-5
Commercial Capacity Data for All Other CAP Management Categories

CAP Management Category	Maximum Operational Commercial Hazardous Waste Management Capacity (Tons/Year) [a]
RECOVERY	
Organics Recovery	2,500,000
Inorganic Recovery	526,000 [b]
TREATMENT	
Fuel Blending	4,300,000
Wastewater Treatment	12,000,000 [c]
Sludge Treatment/ Stabilization/Encapsulation	8,100,000
DISPOSAL	
Deepwell or Underground Injection	3,300,000

[a] Unless otherwise noted, capacity estimate obtained from EPA's *National Capacity Assessment Report: Capacity Planning Pursuant ·to CERCLA Section· 104(c)(9)* (i.e., the 1996 capacity assessment report), EPA530-R-95-016, p. 21, November 1996. This is the most recent estimate of national capacity for this CAP management category.

[b] Capacity estimate based on demand in 2011 for management of wastes using inorganics recovery technologies.

[c] Capacity estimate obtained from the 1996 capacity assessment report was decreased by 28,000,000 tons to account for the reduction in wastewater treatment capacity associated with the decision of DuPont Chamber Works to stop accepting wastewaters from outside companies.

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Appendix B
RCRA Federally-Defined Hazardous Waste Management Facilities

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RCRA Federally-Defined Hazardous Waste Management Facilities

This appendix lists facilities that managed RCRA federally-defined hazardous wastes commercially in 2017. These facilities comprise the capacity reported in the national assessment. The list includes Subtitle C permitted and interim status facilities, and RCRA-exempt facilities. Facilities identified on this list will not necessarily correspond to facilities currently operating and actively managing RCRA-regulated waste because some facilities may have opened or closed between·2017 and 2019.

The type of management at each facility is identified by CAP management category. Each CAP management category is comprised of a number of waste management technologies that are generally interchangeable for managing broad types of wastes (e.g., organics, inorganics including metals, and wastewaters), based on treatment performance. The CAP management categories are comprised of the following management method codes, as defined in the 2017 BR instructions and forms contained in U.S. Environmental Protection Agency's *RCRA Subtitle C Reporting Instructions and Forms: EPA Forms 8700-12, 8700-13 A/B, 8700-23 (OMB #2050-0024*).

RECOVERY

Metals Recovery

H010 Metals recovery including retorting, smelting, chemical, etc.

Organics Recovery

H020 Solvents recovery (distillation, extraction, etc.)

Inorganics Recovery

H039 Other recovery or reclamation for reuse including acid regeneration, organics recovery, etc. (specify in comments)

Energy Recovery

H050 Energy recovery at this site – used as fuel (includes on-site fuel blending before energy recovery; report only this code)

TREATMENT

Fuel Blending

H061 Fuel blending prior to energy recovery at another site (waste generated on-site or received from off-site)

Incineration

H040 Incineration – thermal destruction other than use as a fuel (includes any preparation prior to burning)

Wastewater Treatment

H070 Chemical treatment (reduction/destruction/oxidation/precipitation); do not include immediate treatment in an exempt wastewater treatment unit with discharge to a NPDES-POTW (unless required by State)

H081 Biological treatment; do not include immediate treatment in an exempted wastewater treatment unit with discharge to a NPDES-POTW (unless required by State)

H100 Physical treatment only (adsorption/absorption/separation/stripping/dewatering); do not include immediate treatment in an exempted wastewater treatment unit with discharge to a NPDES-POTW (unless required by State)

Wastewater Treatment (continued)

H120	Combination of chemical, biological, and/or physical treatment; do not include immediate treatment in an exempted wastewater treatment unit with discharge to a NPDES-POTW (unless required by State)
H121	Neutralization only (no other treatment)
H122	Evaporation (as the major component of treatment; not reportable as H070, H081, H100 or H120)
H129	Other treatment that does not include onsite disposal (specify in comments)
H130	Surface Impoundment that will be closed as a landfill (with prior treatment and/or stabilization meeting LDR treatment standard)
H135	Discharge to sewer/POTW or NPDES with prior management (e.g., storage or transported prior to discharge to POTW or by NPDES)

Sludge Treatment/ Stabilization/Encapsulation

H110	Stabilization prior to land disposal at another site (encapsulation/stabilization/fixation)

DISPOSAL

Land Treatment or Application

H131	Land treatment or application (with any prior treatment and/or stabilization)

Landfill

H132	Landfill (with prior treatment and/or stabilization)

Deepwell or Underground Injection

H134	Deepwell or underground injection (with or without treatment; this waste was counted as hazardous waste)

Transfer/Storage

H141	The site receiving this waste stored/bulked and transferred the waste with no reclamation, recovery, destruction, treatment or disposal at that site. [Do not use this code in Item 1.D (source code G25) or Item 2 (On-site Management) of Form GM]. For Form WR, linked to source code G61 on Form GM.

Exhibit B-1
Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
AKD000643239	BP EXPLORATION ALASKA PRUDHOE BAY											X
AKD991281023	CONOCOPHILLIPS ALASKA INC - KUPARUK OIL FIELD							X				
AL3640090004	TVA ENVIRONMENTAL RESEARCH CENTER		X									
AL7210020742	U.S. ARMY REDSTONE ARSENAL						X					
ALD031490501	BALDWIN POLE & PILING CO INC							X				
ALD046481032	SANDERS LEAD COMPANY INCORPORATED										X	
ALD052065117	CONTINENTAL MOTORS, INC.		X									
ALD077657427	MUELLER COMPANY		X									
ALD095687786	LP LOCKHART							X				
ALR000001966	GENERAL DYNAMICS OTS ANNISTON							X				
AR0000885889	SOLIMIDE FOAMS DIV OF BOYD CORPORATION					X						
AR0213820707	PINE BLUFF ARSENAL							X				
AR3750030956	U.S. FDA NATIONAL CENTER FOR TOXICOLOGICAL RESEARCH		X									
ARD000021998	LION OIL COMPANY DBA DELEK US - EL DORADO REFINERY										X	
ARD005072079	LACROIX PRECISION OPTICS		X									
ARD006338537	BALDOR ELECTRIC CO.					X						
ARD006344972	BALL METAL FOOD CONTAINER, LLC					X						
ARD006351464	GRANGES AMERICAS							X				
ARD006352389	GERBER PRODUCTS COMPANY					X	X	X				
ARD006354161	REYNOLDS METALS COMPANY LLC GUM SPRINGS PLANT					X		X				
ARD007028913	MUELLER COPPER TUBE PRODUCTS, INC.		X									
ARD035486745	SINES BODY SHOP INC.		X									
ARD043195429	GREAT LAKES CHEMICAL CENTRAL PLANT											X

Exhibit B-1
Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
ARD044299808	ROCKLINE INDUSTRIES, INC.							X				
ARD050928696	FIRESTONE BUILDING PRODUCTS CO., LLC					X	X					
ARD055602098	CRIDER AIRCRAFT PAINTING, INC.							X				
ARD058076811	ARKANSAS POLY, INC		X									
ARD059636456	FRIT INDUSTRIES, INC.	X										
ARD062139076	LAKE CATHERINE FOOTWEAR DIV OF MUNRO & COMPANY, INC.					X						
ARD069748192	CLEAN HARBORS EL DORADO, LLC										X	
ARD071247365	EATON AEROQUIP INC.		X		X							
ARD075669416	ARKANSAS CHILDREN'S HOSPITAL		X									
ARD077389393	SLOAN VALVE COMPANY										X	
ARD082577602	GRACE MANUFACTURING, INC.							X				
ARD086635018	FM STRUCTURAL PLASTICS TECHNOLOGY INC.		X									
ARD089234884	FUTUREFUEL CHEMICAL COMPANY				X		X					
ARD091683045	MAFCO INC.		X									
ARD091688283	AEROJET ROCKETDYNE, INC.							X				
ARD091691261	ARKANSAS STEEL ASSOCIATES L.L.C.	X										
ARD092923184	THE BRYCE COMPANY, LLC		X									
ARD093410009	UNILIN NORTH AMERICA LLC- MELBOURNE PLANT		X									
ARD093417525	AUSTIN POWDER COMPANY							X				
ARD118889229	ARKANSAS DEMOCRAT-GAZETTE							X				
ARD131031916	NEXANS AMERCABLE		X					X				
ARD155769342	BAPTIST HEALTH MEDICAL CENTER - LITTLE ROCK		X									
ARD980621320	NORAC ADDITIVES, LLC.						X					

Exhibit B-1
Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
ARD982283913	ENTERPRISE TE PRODUCTS PIPELINE COMPANY LLC - LITTLE ROCK PUMP STATION						X					
ARD982286874	THE DOW CHEMICAL COMPANY											X
ARD982758997	SOLDER PLATING, LLC DBA B&W PLATING							X				
ARD983266487	ROSE AIRCRAFT FINISHES							X				
ARD983267105	EZ LOADER CUSTOM BOAT TRAILERS, INC.		X									
ARD983273590	CRANE COMPOSITES, INC		X									
ARR000000752	ARMSTRONG FLOORING, INC.		X									
ARR000006379	GRACE TRAILER SERVICE, INC.		X		X	X	X					
ARR000010900	ASHLEY LIGHTING INC.							X				
ARR000013664	INDUSTRIAL IRON WORKS, INC.		X									
ARR000017566	HINO MOTORS MANUFACTURING U.S.A., INC.						X	X				
ARR000017574	CHEMOURS EL DORADO PLANT							X				
ARR000018010	LM WIND POWER BLADES		X									
ARR000025684	SPECTRUM PAINT CO					X						
ARR000025833	TRINITYRAIL MAINTENANCE SERVICES		X		X	X	X					
ARR000026294	DESERT NDT, DBA SHAWCOR INSPECTION SERVICES	X										
ARR000028597	SIG SAUER, INC.							X				
ARR000028993	FMH CONVEYORS AMERICAS		X									
ARR000029348	SOUTHWESTERN BELL TELEPHONE COMPANY OF ARKANSAS							X				
AZ4570024055	DAVIS-MONTHAN AFB							X				
AZ5213820991	USARMY - YUMA PROVING GROUNDS						X					
AZD041456872	PAS TECHNOLOGIES							X				
AZD981669989	GOLD TECH INDUSTRIES							X				

Exhibit B-1
Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
AZD982435166	PRINTPACK INC		X									
AZR000501650	FREEPORT-MCMORAN - CENTRAL ANALYTICAL SERVICE CENTER		X									
AZR000504118	BRIGHT INTERNATIONAL							X				
AZR000513069	FREEPORT TECHNOLOGY CENTER TUCSON							X				
CA0000909523	HEADWAY TECHNOLOGIES							X				
CA0001037902	SIERRA ALUMINUM CO							X				
CA1170090020	POINT LOMA COMPLEX (NAVAL SUBMARINE BASE)							X				
CA2170023152	NAVAL AIR WEAPONS STATION CHINA LAKE						X					
CA9170023130	NAVAL AMPHIBIOUS BASE CORONADO							X				
CA9570025149	DEPT OF AIR FORCE VANDENBERG AFB							X				
CAD000086686	VACCO INDUSTRIES							X				
CAD008252157	ARMTEC DEFENSE PRODUCTS COMPANY INC							X				
CAD008330318	RAMCAR BATTERIES INC	X										
CAD008506065	QUAKER CITY PLATING & SILVERSMITH							X				
CAD009220898	PACIFIC SCIENTIFIC ENERGETIC MATERIALS CO							X				
CAD009679077	LOCKHEED MARTIN AERONAUTICS COMPANY							X				
CAD021774559	A B & I	X										
CAD041844002	WEST COUNTY LANDFILL INC							X				
CAD045521184	EME INC		X					X				
CAD047896097	KYOCERA INTERNATIONAL INC							X				
CAD059270975	AOC LLC							X				
CAD076528678	THE DOW CHEMICAL CO						X					
CAD077233658	S T & I INC							X				

Exhibit B-1
Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
CAD077966349	PACIFIC GAS & ELECTRIC/ DIABLO CANYON							X				
CAD085310415	SANTA CLARA VALLEY MEDICAL CENTER		X					X				
CAD093245645	DUCOMMUN AEROSTRUCTURES							X				
CAD093361079	HUNTSMAN ADVANCED MATERIALS AMERICAS INC		X									
CAD107944019	AVK INDUSTRIAL PRODUCTS							X				
CAD980818488	EPZ INC							X				
CAD981388408	HOAG HOSPITAL NEWPORT BEACH					X	X				X	
CAD981388846	CONTAINER SUPPLY CO, INC		X									
CAD981399959	ELCON PRECISION LLC							X				
CAD981420821	ANALOG DEVICES INC							X				
CAD981462377	GOODRICH CORP							X				
CAD981630205	SAINT GOBAIN SOLAR GARD LLC		X									
CAD981635741	PRIME PLATING							X				
CAD982030678	SIERRA ALUMINUM CO							X				
CAD982498651	A & E ANODIZING INC							X				
CAD983652835	EXCELLO CIRCUITS, INC.							X				
CAL000110141	DAVID H FELL AND COMPANY INC	X										
CAL000289181	JCW CO					X						
CAL000361543	REAL PLATING INC.							X				
CAL000399648	VSP INC DBA VSP ONE SACRAMENTO							X				
CAR000007468	SANTIER INC							X				
CAR000009878	SAFE PLATING INC							X				
CAR000045997	FENDER MUSICAL INSTRUMENTS CORP		X									

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
CAR000050302	PALO ALTO MEDICAL FOUNDATION		X									
CAR000067256	PALM SPRING PLATING			X								
CAR000098921	SUN SURFACE TECHNOLOGY							X				
CAR000113274	HUGHES CIRCUITS INC	X										
CAR000141127	CALTEST ANALYTICAL LABORATORY							X				
CAR000147041	CREATIVE METAL INDUSTRIES INC					X					X	
CAR000155408	II-VI OPTICAL SYSTEMS INC	X										
CAR000155887	US CIRCUIT INC							X				
CAR000160879	HEADWAY TECHNOLOGIES INC. STT BLDG. 5							X				
CAR000167114	CALIFORNIA INSTITUTE FOR BIOMEDICAL RESEARCH					X						
CAR000170472	CARTEL ELECTRONICS INC							X				
CAR000191486	JB RADIATOR SPECIALTIES INC							X				
CAR000205997	ARCADIA INC		X									
CAR000236588	LGC BIOSEARCH TECHNOLOGIES INC					X						
CAR000246694	MILNERS ANODIZING							X				
CAR000249938	LABORATORY CORP OF AMERICA		X									
CAR000251314	MORTON MANUFACTURING			X								
CAR000254003	LOBOSTAR INC							X				
CAR000254714	VSPONE OPTICAL TECHNOLOGY CENTER - SAN DIEGO							X				
CAT080010044	INTERPLASTIC CORPORATION								X			
CO2210020150	US ARMY - FORT CARSON							X				
COD001704790	LOCKHEED MARTIN SPACE SYSTEMS CO							X				
COD076470525	CORDEN PHARMA COLORADO INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
COD981540222	TESTAMERICA - DENVER							X				
COD983777731	UTC AEROSPACE							X				
CTD001145341	HAMILTON SUNDSTRAND CORP							X				
CTD001159730	AMERICAS STYRENICS LLC				X							
CTD001161322	ALUMINUM FINISHING CO INC THE							X	X			
CTD001449602	SANDVIK WIRE AND HEATING TECH							X				
CTD046418059	YALE UNIVERSITY		X									
CTD063397285	ULBRICH WIRE INC							X				
CTD077311785	SUPREME LAKE MFG INC						X					
CTD982715112	TRIDENT ITW		X									
CTD983875436	DIMENSION-POLYANT INC		X									
CTR000003236	YALE UNIVERSITY SCIENCE/CENTRAL CAMPUS		X									
CTR000503607	ASTROSEAL PRODUCTS MFG CORP		X									
CTR000506527	BIC CONSUMER PRODUCTS MFG CO INC								X			
DC7470090005	NATIONAL MUSEUM OF NATURAL HISTORY (MRC-117)						X					
DED021957444	JUSTIN TANKS, LLC		X									
DED069876795	PRINTPACK INC		X									
DED980537781	HANDYTUBE CORPORATION							X				
FL0000361279	122 AUTO RESTORATION INC			X								
FL1570024124	USAF TYNDALL AFB							X				
FL6800014585	JOHN F KENNEDY SPACE CENTER		X					X				
FL7570024375	HURLBURT FIELD AFB									X		
FL8570024366	EGLIN AIR FORCE BASE							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
FLD000825133	ESCALADE SPORTS		X									
FLD003952033	MOSAIC FERTILIZER, LLC - BARTOW FACILITY							X				
FLD004087631	HENEFELT PRECISION PRODUCTS INC							X				
FLD004092839	ENVIROFOCUS TECHNOLOGIES LLC	X						X				
FLD046088829	MOSAIC FERTILIZER LLC, PLANT CITY FACILITY							X				
FLD046855086	PALL AEROPOWER CORPORATION		X									
FLD047096524	ST MARKS POWDER INC		X	X				X				
FLD047966593	CHEMRING ORDNANCE INC							X				
FLD061432266	PIERCE MANUFACTURING FLORIDA DIV		X									
FLD064696107	MOSAIC FERTILIZER LLC - RIVERVIEW FACILITY							X				
FLD092980150	MOSAIC FERTILIZER LLC SOUTH PIERCE FACILITY							X				
FLD980729016	JOHN BEAN TECHNOLOGIES CORP		X									
FLD980838791	S 2 YACHTS PURSUIT DIVISION		X								X	
FLD982075756	LINVATEC CORPORATION							X				
FLD982101933	AAR LANDING GEAR SERVICES							X				
FLD984229716	SANDVIK PALM COAST			X								
FLR000011734	TAMPA STEEL ERECTING CO		X									
FLR000135947	TAMINCO US LLC							X				
FLR000150649	DESIGNERS CHOICE CABINETRY		X									
GA0000575696	FORT DEARBORN COMPANY		X									
GA0002265148	EVERLUBE PRODUCTS		X									
GA4170090001	NAVAL SUBMARINE BASE - KINGS BAY							X				
GAD000616367	MKC ENTERPRISES INC.	X				X	X		X		X	

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
GAD003275468	CHEMICAL PRODUCTS CORPORATION							X				
GAD004149951	CHAPARRAL BOATS INC		X									
GAD040690737	OLIN CORPORATION							X				
GAD051011609	FIBRANT, LLC				X							
GAD057293250	BEAVER MANUFACTURING COMPANY INC.							X				
GAD066477142	COTTRELL INC		X									
GAD131327546	KIK PIEDMONT LLC			X								
GAD981021314	FIRST AMERICAN RESOURCES COMPANY		X									
GAD981221195	COVERIS FLEXIBLES US LLC (GRIFFIN)		X									
GAD981241300	PRINTPACK INCORPORATED		X									
GAD981242712	TRULITE GLASS AND ALUMINUM SOLUTIONS STONEHILL				X				X			
GAD981261704	CENTEK INDUSTRIES INC		X									
GAD981264880	YAMAHA MOTOR MANUFACTURING CORP		X									
GAD981270812	CYCAN INDUSTRIES, LLC		X									
GAD984304014	YKK AP AMERICA INC		X									
GAD984310755	COVERIS FLEXIBLES US INC - ALBANY		X									
GAD991274820	BIO-LAB INCORPORATED								X			
GAR000002998	PPG AEROSPACE PRC-DESOTO					X						
GAR000016287	FORT DEARBORN COMPANY					X						
GAR000021550	PPC FLEXIBLE PACKAGING		X									
GAR000030296	HL-A CO., INC.		X									
GAR000034884	FLEXSTAR PACKAGING, INC.		X									
GAR000042747	LG HAUSYS AMERICA INC		X									

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
GAR000051110	WINPAK FILMS INC		X									
GAR000081224	COASTAL LOGISTICS GROUP, INC						X					
GU6571999519	U.S.A.F. ANDERSEN AIR FORCE BASE							X				
HID056786395	PAR HAWAII REFINING, LLC							X				
HID981367683	HAWAIIAN COMMERCIAL & SUGAR COMPANY							X				
IA0000444802	STELLAR INDUSTRIES INC - GARNER PLANT		X									
IA7213820445	IOWA ARMY AMMUNITION PLANT							X				
IAD000222992	GEATER MACHINING AND MANUFACTURING		X									
IAD005264460	SIVYER STEEL CORP			X								
IAD005273594	MONSANTO COMPANY							X				
IAD007260656	DIVERSIFIED INDUSTRIES INC D/B/A SUDENGA INDUSTRIES		X									
IAD053737532	INFASTECH DECORAH LLC							X				
IAD087132023	BERTCH CABINET MFG INC		X									
IAD984571802	PMX INDUSTRIES INC	X						X				
IAR000005710	AMERICAN PACKAGING CORPORATION			X								
IAR000005785	BERTCH CABINET MFG INC - MARKETPLACE DIVISION		X									
IAR000008227	PELLA CORPORATION - SIOUX CENTER OPERATION		X									
IAR000510651	TRINITY STRUCTURAL TOWERS INC		X									
IDD078350154	ST LUKES REGIONAL MEDICAL CTR BOISE		X									
IL0000875583	ABLE ELECTRO POLISHING CO		X									
ILD000805812	PEORIA DISPOSAL CO							X				
ILD000815324	TRINITY STRUCTURAL TOWERS INC		X									
ILD005070719	CATERPILLAR INC		X									

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
ILD005072517	AMERICAN NICKELOID CO							X				
ILD025423054	JOHN DEERE HARVESTER WORKS							X				
ILD042075333	CABOT CORP											X
ILD052622917	SWAN SURFACES LLC		X									
ILD052673027	PLYMOUTH TUBE CO							X				
ILD054326491	MICROLINK DEVICES INC							X				
ILD982624777	DYNO NOBEL INC						X					
ILR000066886	CHEMTURA CORP							X				
IN5170023498	US NAVAL SUPPORT ACTIVITY CRANE DIVISION						X	X				
IND000807107	VERTELLUS INTEGRATED PYRIDINES LLC				X							
IND003913423	ARCELORMITTAL BURNS HARBOR LLC											X
IND004939229	INDUSTRIAL DIELECTRICS INCORPORATED								X			
IND006376362	SABIC INNOVATIVE PLASTICS MOUNT VERNON LLC				X							
IND006413348	ALLISON TRANSMISSION INCORPORATED SPEEDWAY MAIN CAMPUS						X					
IND006419774	MAXON CORP		X									
IND037585353	PROEDGE INC		X									
IND088736103	HONEYWELL AIRCRAFT LANDING SYSTEMS							X				
IND982602617	THUNDERBIRD PRODUCTS CORPORATION		X									
INR000012443	SUNOCS LLC							X				
INR000023697	INSITUFORM TECHNOLOGIES LLC							X				
INR000025338	SPEC OPS AMMO COMPANY LLC							X				
INR000108308	BEST METAL FINISHING INCORPORATED							X				
INR000109009	HAAS CABINET COMPANY		X			X						

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
INR000113209	EMI QUALITY PLATING SERVICE LLC							X				
KS0000046607	ALS SERVICES USA CORP		X									
KS0000205856	COBALT BOATS LLC-NORTH		X									
KSD000610618	SCHUFF STEEL CO-MIDWEST		X									
KSD007120751	B/E AEROSPACE							X				
KSD007237746	EVONIK CORPORATION				X							
KSD007240286	CROSS MANUFACTURING INC		X									
KSD007241185	METAL FINISHING COMPANY INC		X									
KSD007482011	BEECHCRAFT CORPORATION		X									
KSD007482029	OCCIDENTAL CHEMICAL CORPORATION											X
KSD042387142	COBALT BOATS LLC-NEW SOUTH		X									
KSD054757646	SOLOMON CORPORATION - MAIN FACILITY		X									
KSD056577810	THE SHERWIN WILLIAMS COMPANY		X									
KSD980687958	WILKO PAINT INC		X									
KSD980852669	UNIVERSITY OF KANSAS H W A F		X					X				
KSD984972992	PACE ANALYTICAL SERVICES LLC							X				
KSD990874471	CATERPILLAR WORK TOOLS INC		X									
KSR000001404	NAZDAR/KC COATINGS		X									
KSR000001743	API AMERICAS INC		X									
KSR000003137	HI-LO INDUSTRIES INC		X									
KSR000016931	CRESTWOOD INC		X									
KSR000506394	KBK INDUSTRIES LLC NORTH FAC		X									
KSR000511964	DAY & ZIMMERMANN KANSAS LLC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
KSR000512798	HESS SERVICES INC		X									
KY0000468181	BLUEGRASS STATION DIVISION - TENANT							X				
KY0000940056	AKEBONO BRAKE- GLASGOW PLANT							X				
KY8213820105	BLUE GRASS ARMY DEPOT						X					
KYD000623009	AMG ALUMINUM NORTH AMERICA, LLC.								X			
KYD006370159	ARKEMA INC						X					
KYD006373922	PMC ORGANOMETALLIX, INC.						X					
KYD006388441	COLOR CORPORATION OF AMERICA		X									
KYD006390017	ROHM AND HAAS - LOUISVILLE PLANT				X							
KYD006396089	ECKART AMERICA CORPORATION		X									
KYD042943985	DOW CORNING CORPORATION							X				
KYD044914356	YKK (USA) INC.		X									
KYD046655064	AMERICAN FUJI SEAL, INC.		X									
KYD047812854	CRANE COMPOSITES		X						X			
KYD066051913	INTERPLASTIC MANUFACTURING COMPANY		X					X				
KYD068342708	LINK-BELT CONSTRUCTION EQUIPMENT COMPANY		X									
KYD981753155	NRE PADUCAH			X								
KYR000033860	PELLA CORPORATION - MURRAY OPERATIONS							X				
KYR000034207	DAICEL SAFETY SYSTEMS AMERICA LLC		X					X				
KYR000051946	LABORATORY CORP OF AMERICA		X									
LA0214022725	US ARMY, FORT POLK							X				
LAD000618256	CECOS INTERNATIONAL, INC.											X
LAD001890367	E.I. DUPONT DE NEMOURS & CO.											X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
LAD008086506	EAGLE US 2 LLC						X					
LAD008103111	CARBOLINE CO.		X									
LAD008213191	RUBICON LLC				X							X
LAD020597597	ANGUS CHEMICAL COMPANY				X							X
LAD040776809	BASF GEISMAR SITE				X		X					
LAD050901669	NALCO COMPANY							X				
LAD057117434	AXIALL, PLAQUEMINE				X							
LAD081419418	SHINTECH LOUISIANA, LLC - PLAQUEMINE PLANT						X	X				
LAD092681824	OCCIDENTAL CHEMICAL CORPORATION						X					
LAD980796635	NOV TUBOSCOPE (AMELIA NORTH FACILITY)					X						
LAD980810212	INTERVET D/B/A MERCK & CO						X					
LAD985174028	CANDIES SHIPBUILDERS		X									
LAR000002519	CEMBELL INDUSTRIES, INC.							X				
LAR000009415	DENKA PERFORMANCE ELASTOMER LLC			X								X
LAR000030403	PELICAN GAS PLANT										X	
LAR000033415	TOPSIDE EAST YARD		X									
LAR000041087	SASOL CHEMICALS (USA) LLC							X				
LAR000057828	EVONIK CYRO LLC							X				
LAR000086074	BLUE CUBE OPERATIONS LLC						X					
MAC300008554	GENZYME CORPORATION, A SANOFI COMPANY - NORTH NYA							X				
MAC300019585	SUNCO INC		X									
MAC300097318	HARVARD VANGUARD MEDICAL ASSOCIATES		X									
MAD001403104	OLIN CHEMICAL SUPERFUND SITE							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
MAD001963263	HARVARD UNIVERSITY - CAMBRIDGE CAMPUS		X									
MAD054430095	POLY METAL FINISHING INC		X									
MAD063894786	GENERAL METAL FINISHING LLC							X				
MAD087452611	RANDOLPH PRODUCTS CO		X									
MAD981062284	SUPERCON INC ANOMET PRODUCTS							X				
MAD982544884	GENZYME CORPORATION, A SANOFI COMPANY - 1 & 5 MOUNTAIN RD. FRAMINGHAM							X				
MAD985277540	CENTRAL METAL FINISHING INC		X									
MAD985307966	GENZYME CORPORATION, A SANOFI COMPANY- SOUTH NYA FRAMINGHAM							X				
MAR000009605	ISP FREETOWN FINE CHEMICALS INC		X									
MAR000016493	CALIFORNIA PRODUCTS, A DIVISION OF ICP CONSTRUCTION		X									
MAR000502559	STELLAR INDUSTRIES CORPORATION		X									
MD0000308312	TELEDYNE ENERGY SYSTEMS INC							X				
MD3210021355	U.S. ARMY GARRISON, ABERDEEN PROVING GROUND							X				
MDD003062213	ALMAG PLATING CORPORATION							X				
MDD003065117	OLSON WIRE PRODUCTS CO., INC.							X				
MDD003067121	ORBITAL ATK						X					
MDD064871122	CALVERTHEALTH MEDICAL CENTER		X									
MDD985386143	MID-ATLANTIC FINISHING CORP							X				
ME5000000307	GD-OTS, INC. SACO OPERATIONS			X								
MED000841056	BATH IRON WORKS - HARDINGS FACILITY		X									
MED040228983	PIONEER PLASTICS CORPORATION							X				
MED058951401	BATES COLLEGE	X										
MED097734388	NAUTEL MAINE, INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
MER000503813	DAHL-CHASE DIAGNOSTIC SERVICES		X									
MER000503870	MID COAST HOSPITAL		X									
MER000506741	NORTHEAST PACKAGING COMPANY		X									
MER000510156	THE AROOSTOOK MEDICAL CENTER		X									
MID000820381	PHARMACIA & UPJOHN COMPANY LLC											X
MID006013643	PFIZER/WARNER LAMBERT COMPANY LLC											X
MID048090633	WAYNE DISPOSAL INC							X				
MID082767591	MICHIGAN SEAMLESS TUBE LLC							X				
MID085890846	ALLIED FINISHING INC							X				
MID086147980	FABRICON PRODUCTS INC		X									
MID118740240	JOHNSON CONTROLS INTERIORS HOLDING US II LLC - SOUTHVIEW		X									
MIK137969374	GENERAL MOTORS LLC							X				
MIK299173666	GENERAL MOTORS LLC							X				
MIR000006270	SURFACE ACTIVATION TECHNOLOGIES LLC	X										
MIT270013113	GENERAL FORMULATIONS INC		X									
MN0000968826	PACE ANALYTICAL LIFE SCIENCE							X				
MND000272146	METHODIST HOSPITAL		X									
MND006148092	GOPHER RESOURCE							X				
MND006151336	INTERPLASTIC CORPORATION - MINNEAPOLIS							X				
MND006156590	FEDERAL CARTRIDGE COMPANY						X	X				
MND006166557	WATEROUS CO. INC.		X									
MND006172621	CO-OPERATIVE PLATING COMPANY							X				
MND006253694	ROBERTS AUTOMATIC PRODUCTS, INC.			X								

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
MND006454854	DURA SUPREME, INC.		X									
MND006478705	EDCO PRODUCTS INC		X									
MND022772008	ESSENTIA HEALTH - DULUTH							X				
MND037335072	BECKMAN COULTER INC. 1000 LAKE HAZELTINE							X				
MND053417515	CUMMINS POWER GENERATION		X									
MND064791809	MAYO CLINIC HEALTH SYSTEM MANKATO		X									
MND071363246	MAYO CLINIC HOSPITAL - ROCHESTER ST MARY'S CAMPUS							X				
MND071498828	U OF M MEDICAL CENTER - RIVERSIDE CAMPS		X									
MND071767222	REGIONS HOSPITAL							X				
MND071772503	MERCY HOSPITAL - MERCY CAMPUS							X				
MND078689619	CHILDRENS HOSPITALS AND CLINICS OF MN		X					X				
MND132405473	HENNEPIN COUNTY MEDICAL CENTER		X					X				
MND980613822	U OF M - SAINT PAUL CAMPUS		X									
MND980824890	BAE SYSTEMS (OLD - FMC)							X				
MND985677889	ROSEMOUNT INC							X				
MND985686690	UNITY HOSPITAL, PART OF ALLINA HEALTH							X				
MND985697598	NAHAN PRINTING INC		X									
MND985767482	ECO FINISHING INC.							X				
MND990730673	BRUNSWICK NEW YORK MILLS OPERATION		X									
MNR000004143	LARSON FAMILY REAL ESTATE LLLP							X				
MNR000100545	MIDWEST FINISHING, INC.	X										
MNR000103945	SUPERIOR DRIVE SUPPORT CENTER							X				
MNR000107573	ADVANCE CORPORATION							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
MNR000114652	MEDTRONIC APV							X				
MNS000101865	BAYER BUILT WOODWORKS, INC.		X									
MNS000300616	CARGILL INC - RESEARCH AND DEVELOPMENT CENTER							X				
MNT280011776	X-CEL OPTICAL COMPANY							X				
MO0000032581	ADVANCED INDUSTRIES INC		X									
MO4213820489	LAKE CITY ARMY AMMUNITION PLANT						X	X				
MO9890010524	FORMER BANNISTER FEDERAL COMPLEX							X				
MOD000829705	FRONT STREET REMEDIAL ACTION CORP							X				
MOD006274732	ELANTAS PDG, INC.		X									
MOD006308407	HUBBELL POWER SYSTEMS INC			X								
MOD007121841	TNEMEC COMPANY INC		X									
MOD030712822	EXIDE TECHNOLOGIES CANON HOLLOW SMELTER							X				
MOD057894321	3M COMPANY		X									
MOD095479978	US PAINT CORP		X									
MOD981117377	FUJIFILM MFG USA INC		X									
MOD981709272	TESTAMERICA LABORATORIES							X				
MOD981712425	LHB INDUSTRIES		X									
MOD985773472	AERO TRANSPORTATION PRODUCTS INC		X									
MS6210809871	ERDC- WATERWAYS EXPERIMENT STATION								X		X	
MSD021019914	AMERICAN WOOD - DIVISION OF POWE TIMBER							X				
MSD033417031	FIRST CHEMICAL CORPORATION						X					
MSD043417476	HOWARD INDUSTRIES, INC. LAUREL FACILITY		X									
MSD048320030	MUELLER COPPER TUBE COMPANY, INC		X									

Exhibit B-1
Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
MSD054179403	CHEVRON PRODUCTS COMPANY							X				
MSD096046792	THE CHEMOURS COMPANY FC, LLC											X
MSD980729198	WOOD PRESERVING, INC							X				
MSD981749401	US PROPERTY AND FISCAL OFFICE-MS							X				
MSD991277575	DREXEL CHEMICAL COMPANY					X						
MSR000000026	METAL IMPACT SOUTH			X								
MSR000004549	ALUMINUM EXTRUSIONS, INC.		X									
MSR000103507	BALDWIN POLE MISSISSIPPI, L.L.C.							X				
MSR000103515	TEIKURO CORPORATION							X				
MSR000107136	B AND D PLASTIC LLC		X									
NC0991302714	C CON METALS USA, INC., PLANT B							X				
NC0991302719	AMCOR TOBACCO PACKAGING REIDSVILLE		X									
NCD000616763	HK RESEARCH CORPORATION		X									
NCD000813519	DUKE UNIVERSITY							X				
NCD003156460	INTERNATIONAL PAPER - CHARLOTTE CONTAINER (7210)										X	
NCD003214319	THE SHERWIN WILLIAMS COMPANY		X									
NCD003217536	HICKORY WHITE CASEGOODS		X									
NCD003233970	THOMAS BUILT BUSES, INC.		X									
NCD006390561	AKZO NOBEL COATINGS, INC		X									
NCD024617524	COATS NORTH AMERICA		X									
NCD030504062	PRINTPACK INC. SNACKS DIVISION		X									
NCD041747775	N.S. FLEXIBLES, LLC		X									
NCD042091975	MALLINCKRODT RALEIGH PHARMACEUTICAL PLANT				X			X				

Exhibit B-1
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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NCD044387538	GRADY-WHITE BOATS, INC.		X									
NCD057451270	FORMER HEATCRAFT REMEDIATION SITE							X				
NCD059141184	BAKER INTERIORS FURNITURE COMPANY		X									
NCD071561864	THE SHERWIN-WILLIAMS COMPANY		X									
NCD079047148	RPM WOOD FINISHES GROUP, INC.		X									
NCD091245969	RADIATOR SPECIALTY COMPANY							X				
NCD097728091	VISHAY MEASUREMENTS GROUP INC.		X									
NCD116001280	KURZ TRANSFER PRODUCTS		X									
NCD168407633	STEELFAB, INC.		X									
NCD981747389	HYDRO EXTRUSION USA LLC							X				
NCD982081390	WHITLEY MONAHAN HANDLE, LLC		X									
NCD986166361	DAY INTERNATIONAL		X									
NCD986189801	IMAFLEX USA		X									
NCD986194850	PELTON & CRANE							X				
NCD986229375	PRYSMIAN CABLES AND SYSTEMS USA, LLC		X									
NCP101317114	HANES DYE AND FINISHING							X				
NCR000135988	TRIUMPH INSULATION SYSTEMS, LLC		X									
NCR000143966	NEW EXCELSIOR, INC.					X						
NCR000151753	REICH-LLC		X									
NDD000690594	DAKOTA GASIFICATION COMPANY - GREAT PLAINS SYNFUELS PLANT				X				X			
NDD006175467	TESORO MANDAN REFINERY							X				
NED000766808	UNIVERSITY OF NEBRASKA							X				
NED000822817	VISHAY DALE ELECTRONICS PLANT 2		X									

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NED007258338	CONCRETE EQUIPMENT COMPANY, INC.		X									
NED007265077	ELSTER AMERICAN METER COMPANY LLC		X									
NED007273279	HUGHES BROTHERS, INC.		X									
NED043534635	GENERAL DYNAMICS-OTS, INC.		X									
NED068652981	KAWASAKI MOTORS MANUFACTURING CORP., U.S.A.		X									
NED980971733	DUNCAN AVIATION, INC.		X									
NER000003343	VALLEY OAK CABINET DOORS		X									
NER000502443	LABORATORY CORPORATION OF AMERICA		X									
NER000506261	AGILITY CYLINDERS LLC.		X									
NJ0001578798	INTERTEK (CALEB BRETT)				X							
NJ3210020704	US ARMY, PICATINNY ARSENAL						X					
NJD000564906	NATIONAL WASTE CLEAN INC.			X								
NJD001717040	C & C METAL PRODUCTS CORP.		X	X								
NJD002012995	PAN TECHNOLOGY		X									
NJD002182228	REAGENT CHEMICAL - MIDDLESEX								X			
NJD002397834	ALBEA AMERICAS INC					X						
NJD030315980	THE COLLEGE OF NEW JERSEY		X			X		X				
NJD048585558	JANSSEN PHARMACEUTICAL COMPANIES OF J&J					X	X					
NJD063144174	TAYLOR FORGE STAINLESS INC							X	X			
NJD064344575	SIEGFRIED USA, LLC			X								
NJD065821191	CHILTON MEDICAL CENTER						X					
NJD075509794	VIRTUA MEMORIAL							X				
NJD076668458	INRAD OPTICS INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NJD099285264	BRUKER OST, LLC					X			X			
NJD162357305	ENGLERT, INC.							X				
NJD980208946	J. JOSEPHSON. INC.		X									
NJD980753875	SOLVAY SPECIALTY POLYMERS USA, LLC						X					
NJD981080401	CHEM FLEUR / FIRMENICH, INC.					X		X				
NJD981142185	LINDEN BULK TRANSPORTATION, LLC.					X	X	X	X			
NJD981142797	KEARNY STEEL CONTAINER CORP.					X						
NJD981181886	PTC THERAPEUTICS					X	X					
NJD981564099	LABORATORY CORPORATION OF AMERICA		X									
NJD982534315	NEW JERSEY AMERICAN WATER - SHORT HILLS		X									
NJD982730442	VIRTUA MARLTON							X				
NJD986570125	EXPRESS CONTAINER SERVICES OF KEASBEY LLC						X					
NJD986582898	EVOQUA WATER TECNOLOGIES						X					
NJD986626620	VIRTUA BERLIN							X				
NJD986646776	OCEAN MEDICAL CENTER							X				
NJN986625069	MERCK SHARP & DOHME CORP.							X				
NJR000013102	256 VANDERPOOL STREET								X			
NJR000015362	NJAW DELAWARE RIVER REGIONAL WATER TREATMENT PLANT								X			
NJR000020164	ALPHA ENGINEERED COMPOSITES, LLC						X					
NJR000062190	KOBO PRODUCTS INC.		X									
NJR000064832	JOHNSON & JOHNSON CONSUMER INC.	X				X	X		X			
NJR000074187	FMC INNOVATION CENTER					X	X		X			
NJR000074336	E.M. SERGEANT PULP & CHEMICAL CO., INC.							X				

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Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NJR986632875	RTSP, LLC		X									
NJR986636363	VIRTUA VOORHEES							X				
NJR986641942	VIRTUA BERLIN							X				
NJR986641959	VIRTUA HEALTH & REHAB CENTER MT. HOLLY							X				
NJR986651008	NATIONAL PAINT INDUSTRIES						X					
NM0890010515	LOS ALAMOS NATIONAL LABORATORY							X	X			
NMD980744551	CTS ELECTRONIC COMPONENTS, INC.								X			
NV1210090006	HAWTHORNE ARMY DEPOT						X					
NVD000626531	BARRICK GOLDSTRIKE MINES INC.							X				
NVD000627034	NEWMONT MINING CORPORATION (GOLD QUARRY)							X				
NVD982029233	CASHMAN EQUIPMENT COMPANY		X									
NVD982408668	NEWMONT MINING CORPORATION - TWIN CREEKS MINE							X				
NVD982470056	SUNRISE HOSPITAL AND MEDICAL CENTER LLC		X									
NVD982504664	ROUND MOUNTAIN GOLD CORPORATION	X							X		X	
NVD986769990	FEDEX FREIGHT RNO				X	X						
NVD986776904	NEVADA BELL TELEPHONE COMPANY DBA AT&T NEVADA			X								
NVR000084996	ERICKSON INTERNATIONAL LLC		X									
NVR000086231	JAMES HARDIE BUILDING PRODUCTS		X									
NVR000087585	SUMMERLIN HOSPITAL MEDICAL CENTER								X			
NVR000092478	REPUBLIC SERVICES RENEWABLE ENERGY (FORMERLY KNOWN AS CC LANDFILL ENERGY, LLC)			X								
NVR000092932	IMLAY DRUM SITE/ BLM CLEAN UP			X								
NY0000146126	LOCKHEED MARTIN RMS - OWEGO							X				
NY0000665216	NORTH EAST FINISHING CO INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NY0000926436	ORTHO CLINICAL DIAGNOSTICS							X				
NY0001006022	PRECISION PHOTO FAB INC								X			
NY7213820940	WATERVLIET ARSENAL							X				
NY7890008975	BROOKHAVEN NATIONAL LABORATORY							X				
NYD000339176	DUNMORE CORPORATION		X									
NYD000632083	AURUBIS BUFFALO INC							X				
NYD000688606	ANHEUSER-BUSCH LLC							X				
NYD000706275	CON EDISON - 59TH STREET GENERATING STATION							X				
NYD000799239	SYRACUSE UNIVERSITY - QUAD							X				
NYD000810986	CORNELL UNIVERSITY ENVIRONMENTAL HEALTH & SAFETY		X					X				
NYD000824482	OCCIDENTAL CHEMICAL-NIAGARA PLANT PO BOX 344 NIAGARA FALLS NY							X				
NYD000831644	HOOKER HYDE PARK							X				
NYD001612423	MERSEN USA ROCHESTER-NY CORP							X				
NYD001827633	AMPHENOL CORP							X				
NYD002040277	GREAT NECK SAW MANUFACTURING							X				
NYD002043396	PALL TRINITY MICRO DIV PALL CORP							X				
NYD002066777	AMSTERDAM PRINTING & LITHO INC							X				
NYD002080034	M P M SILICONES LLC						X	X				
NYD002100568	FLEXO TRANSPARENT LLC		X									
NYD002103216	DUREZ CORPORATION						X					
NYD002106938	DUREZ NORTH TONAWANDA OCCIDENTAL CHEMICAL CORPORATION							X				
NYD002114924	HOPES WINDOWS INC		X									
NYD002115152	JAMESTOWN ELECTRO PLATING WORKS INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NYD002116184	CANDLELIGHT CABINETRY INC		X									
NYD002123461	OLIN CORPORATION - CHLOR ALKALI PRODUCTS							X				
NYD002123503	THE CHEMOURS CO FC LLC							X				
NYD002126845	FMC CORPORATION							X				
NYD002134880	TECUMSEH REDEVELOPMENT INC							X				
NYD002211324	XEROX CORPORATION							X				
NYD002214484	MARKIN TUBING							X				
NYD002217834	G W LISK COMPANY INC							X				
NYD002218436	ARKEMA INC GENESEO FACILITY							X				
NYD002220804	ARCH CHEMICALS INC							X				
NYD002221919	J M T PROPERTIES INC							X				
NYD002227296	INDIUM CORPORATION OF AMERICA							X				
NYD002228625	EMERSUB 15 LLC							X				
NYD002229029	MULTI-COLOR CORPORATION		X									
NYD002230902	BRISTOL-MYERS SQUIBB COMPANY							X				
NYD002231272	GENERAL ELECTRIC CO							X				
NYD002232304	ARCONIC MASSENA OPERATIONS- WEST PLANT							X			X	
NYD002233856	THE RAYMOND CORPORATION		X									
NYD002234763	EVANS CHEMETICS LP							X				
NYD002238582	ANOPLATE CORPORATION							X				
NYD002240638	REMINGTON ARMS CO LLC							X				
NYD002241982	HADCO A WHOLLY OWNED SUBSIDIARY OF SANMINA-SCI							X				
NYD002249613	UTICA METAL PRODUCTS INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NYD002430742	RENSSELAER POLYTECHNIC INSTITUTE							X				
NYD003926805	SILGAN CONTAINERS MANUFACTURING CORPORATION		X									
NYD003939592	CON EDISON - EAST RIVER GENERATING STATI							X				
NYD003939824	CON EDISON - 74TH STREET GENERATING STAT							X				
NYD003959251	KEYMARK CORPORATION		X					X				
NYD003980216	NOVELIS CORPORATION							X				
NYD013415849	ELECTRONIC DEVICES INC							X	X			
NYD020661757	NORTHERN DUTCHESS HOSPITAL							X				
NYD030231153	UNITED SILICONE INC							X				
NYD030485288	REVERE SMELTING & REFINING CORPORATION							X				
NYD040464315	STONY BROOK UNIVERSITY		X									
NYD041292772	ADVANCED ATOMIZATION TECHNOLOGIES LLC							X				
NYD050420512	CHEMPRENE INC		X									
NYD051583862	NEWCHEM INC DBA NEWCUT							X				
NYD052767829	CROUSE HOSPITAL	X				X		X				
NYD055961361	CROSMAN CORPORATION							X				
NYD059385120	LOCKHEED MARTIN CORPORATION							X				
NYD063656128	OLEAN ADVANCED PRODUCTS							X				
NYD065939902	MILL-MAX MFG CORP		X					X				
NYD067919183	CORNING INCORPORATED - SULLIVAN PARK			X								
NYD067919340	SABIN METAL CORP							X				
NYD068296839	JOS H LOWENSTEIN & SONS INC							X				
NYD071586127	REVERE COPPER PRODUCTS INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NYD071596449	CRUCIBLE INDUSTRIES LLC							X				
NYD074033101	PEROXYCHEM LLC							X				
NYD074042292	BUFFALO GENERAL MEDICAL CENTER-KALEIDA HEALTH		X									
NYD080336241	CECOS INTERNATIONAL INC							X				
NYD080467954	VASSAR BROTHERS MEDICAL CENTER							X				
NYD080469935	NORLITE LLC							X				
NYD084006741	INTERNATIONAL BUSINESS MACHINES CORP THOMAS J WATSON RESEARCH CENTER							X				
NYD091662726	MCALPIN INDUSTRIES							X				
NYD099333858	PRECIOUS PLATE INC							X				
NYD108618745	IIMAK		X									
NYD157387770	TESTAMERICA LABORATORIES - BUFFALO							X				
NYD175773779	VANDEMARK CHEMICAL INC							X				
NYD980534192	COLUMBIA UNIVERSITY- MORNINGSIDE		X									
NYD980534390	P V S CHEMICAL SOLUTIONS INC							X				
NYD980536288	CHEMOURS NECCO PARK							X				
NYD980642656	DEWEY LOEFFEL LANDFILL							X				
NYD980646129	NORTHVILLE HOLTSVILLE TERMINAL							X				
NYD980651210	KNOWLES CAZENOVIA							X				
NYD980759427	PUTNAM HOSPITAL CENTER							X				
NYD980769830	ROCHESTER OVERNIGHT PLATING							X				
NYD980779540	US DOE WEST VALLEY DEMONSTRATION PROJECT							X				
NYD980784664	BERRY SPECIALTY TAPES LLC		X									
NYD980790141	TRANSCONTINENTAL ULTRA FLEX INC		X									

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NYD981131568	ANAREN MICROWAVE INC							X				
NYD981484637	GLENS FALLS HOSPITAL							X				
NYD981485758	MORRISVILLE STATE COLLEGE		X	X								
NYD982534190	TRINITY PACKAGING CORPORATION		X									
NYD982718777	GLASS FAB INC							X				
NYD982725699	L D MCCAULEY LLC							X				
NYD982736423	NAP INDUSTRIES		X									
NYD982796906	STAUFFER MANAGEMENT COMPANY LLC							X				
NYD986873602	GENE LINK INC							X				
NYD986895852	KERRY BIO-SCIENCE							X				
NYD986899367	GOUVERNEUR HEALTH								X			
NYD986904464	SOUTHERN GRAPHIC SYSTEMS LLC							X				
NYD986914521	GOOD SAMARITAN HOSPITAL REGIONAL LAB		X									
NYD986928208	DUNDEE CS							X				
NYD986990190	JAMAICA HOSPITAL MEDICAL CENTER							X				
NYD986993228	TUCKER PRINTERS		X									
NYD987002169	NANZ CUSTOM HARDWARE INC							X				
NYD990774200	U S CHROME CORP OF NEW YORK							X				
NYR000033225	CBL PATH INC		X									
NYR000046094	ESSEX SPECIALITY PRODUCTS INC							X				
NYR000054411	FORMER ROWE INDUSTRIES SUPERFUND SITE							X				
NYR000060459	GENERAL ELECTRIC CO - 98 LYMAN STREET							X				
NYR000096438	S-AREA OCCIDENTAL CHEMICAL CORPORATION							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
NYR000102517	WECO MANUFACTURING							X				
NYR000104638	NORTHWELL HEALTH CORE LABORATORIES							X				
NYR000105718	DUNKIRK SPECIALTY STEEL LLC							X				
NYR000109298	I3 ELECTRONICS INC							X				
NYR000110700	UMICORE TECHNICAL MATERIALS							X				
NYR000122218	ASTRO ELECTROPLATING INC							X				
NYR000131813	DEPUY SYNTHES							X				
NYR000137034	HAMBURG FINISHING WORKS							X				
NYR000138727	BEMIS CO INC		X									
NYR000145177	CARESTREAM HEALTH INC INTENSIFYING SCREENS & CASSETTES - B-117							X				
NYR000155978	BISON BAG CO INC		X									
NYR000170852	COLUMBIA UNIVERSITY - PATHOLOGY DEPT		X									
NYR000179887	GLOBALFOUNDRIES							X				
NYR000184986	ROCHESTER SILVER WORKS LLC							X				
NYR000185694	ROCHESTER MIDLAND CORPORATION							X				
NYR000188425	ALADDIN PACKAGING LLC		X									
NYR000218974	GLOBALFOUNDRIES- EAST FISHKILL FACILITY							X				
NYR000232942	SENECA TOWN OF VAN RENSSALAER WATER TANK							X				
OH7890008983	US DOE PORTSMOUTH GASEOUS DIFFUSION PLANT							X				
OHD004172565	THE LUBRIZOL CORP							X				
OHD004172623	THE LUBRIZOL CORPORATION						X					
OHD004173415	BEMIS COMPANY INC		X									
OHD004200044	A SCHULMAN INC DBA PREMIX INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
OHD004234480	AK STEEL CORP											X
OHD004236170	STANDARDAERO COMPONENT SERVICES		X									
OHD004284188	GFS CHEMICALS INC							X				
OHD004293775	AUSTIN POWDER CO							X				
OHD004469896	HARRISON PAINT CO		X									
OHD007901598	BATTELLE MEMORIAL INSTITUTE							X				
OHD017730458	CLEVELAND CLINIC FOUNDATION		X									
OHD041604729	CHROMAFLO TECHNOLOGIES		X									
OHD042157644	INEOS NITRILES USA LLC											X
OHD046202602	UNITED INITIATORS INC				X							
OHD050393149	CUSTOM POLY BAG INC		X									
OHD052322989	CUSTOM PULTRUSIONS INC							X				
OHD076777788	MILESTONE AV TECHNOLOGIES LLC		X									
OHD147190417	COMPONENT REPAIR TECHNOLOGIES							X				
OHD153745138	MOLDED FIBERGLASS COMPOSITE SYSTEMS							X				
OHD986967420	JLG INDUSTRIES INC		X									
OHD986979326	TESTAMERICA LAB - NORTH CANTON							X				
OHD987049467	ALS SERVICES USA CORP DBA ALS TRIBOLOGY		X									
OHD990694416	ROCHLING GLASTIC COMPOSITES							X				
OHR000024927	EASTMAN KODAK COMPANY							X				
OHR000032334	COMPLETE LAUNDERING SERVICE INC		X									
OHR000108035	COLONIAL SURFACE SOLUTIONS		X									
OHR000137414	TENCOM LTD							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
OHR000143222	THREEBOND INTERNATIONAL INC		X									
OHT400010559	SWAGELOK STRONGSVILLE							X				
OHT400013892	BATTELLE MEMORIAL INSTITUTE		X									
OKD000632737	TULSA DISPOSAL, LLC							X				
OKD007194475	KIMRAY INC.							X				
OKD007207129	GEMINI COATINGS, INC		X									
OKD007217748	FIBER GLASS SYSTEMS		X									
OKD007240088	CHARLES MACHINE WORKS, INC.		X									
OKD007336258	MIXON BROTHERS WOOD PRESERVING INC			X								
OKD041498916	BAKER HUGHES OILFIELD OPERATIONS - TULSA ALS		X									
OKD064551880	INTERPLASTIC CORPORATION			X				X				
OKD094769726	MCALESTER REGIONAL HEALTH CENTER		X									
OKD181233057	AMERICAN AIRLINES, INC.-WHEEL AND BRAKE CENTER							X				
OKD987084183	PLIANT CORPORATION		X									
OKD987086758	ISTI PLANT SERVICES		X									
OKD990696890	FLEX-N-GATE OKLAHOMA, L.L.C.		X									
OKR000013896	DIANON SYSTEMS, INC		X									
OKR000028126	ISTI PLANT SERVICES		X									
OKR000028134	ISTI PLANT SERVICES		X									
OR5360010321	VA PORTLAND HEALTHCARE SYSTEM			X								
ORD000602110	WESTERN STAR TRUCK MANUFACTURING PLANT		X									
ORD000773937	PCC STRUCTURALS INC SSBO							X				
ORD003992518	SUNSTONE CIRCUITS LLC	X						X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
ORD009020470	RODDA PAINT CORPORATION		X									
ORD009027970	PCC STRUCTURALS INC LPC							X				
ORD009049107	EAST SIDE PLATING, INC., PLANT 4							X				
ORD010746402	JOHNSON CONTROLS BATTERY GROUP INC							X				
ORD018216887	EAST SIDE PLATING INC PLANTS 1, 2 3							X				
ORD041265372	CARESTREAM HEALTH, INC.							X				
ORD050955848	ATI MILLERSBURG							X	X			
ORD050972322	MASTERBRAND CABINETS INC		X									
ORD065280190	ISOVOLTA, INC.		X	X								
ORD079786745	BEND RESEARCH INC							X				
ORD089452353	CHEMICAL WASTE MANAGEMENT OF THE NW							X				
ORD980833891	EAST SIDE PLATING, INC., PLANT 5							X				
ORD980980353	WESTAK OF OREGON							X				
ORQ000018739	BEND RESEARCH INC							X				
ORQ000023408	ORENCO SYSTEMS INC		X					X				
ORQ000024166	BEND RESEARCH INC							X				
PA0000193334	REAXIS INC							X				
PA0890090004	BETTIS ATOMIC POWER LABORATORY							X				
PA5210021510	GENERAL DYNAMICS ORDNANCE & TACTICAL SYSTEMS		X					X				
PA6213820503	LETTERKENNY ARMY DEPOT							X				
PA8890031869	US DOE NATIONAL ENERGY TECHNOLOGY LAB							X				
PAD000429589	GROWS LANDFILL							X				
PAD001643691	HARLEY-DAVIDSON MOTOR CO OPERATIONS INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
PAD002103265	MORGAN ADVANCED MATERIALS & TECHNOLOGY		X									
PAD002105179	UNITED REFINING CO - WARREN REFINERY							X				
PAD002312791	ADVANSIX RESINS & CHEMICALS LLC				X							
PAD002330165	EAST PENN MANUFACTURING CO INC	X							X			
PAD002334142	INDUSTRIAL METAL PLATING INC							X				
PAD002344463	LAKE REGION MEDICAL		X									
PAD002360485	MORGAN CORP		X									
PAD003023827	CNH AMERICA LLC		X									
PAD003043353	CHEROKEE PHARMACEUTICLS LLC		X					X				
PAD004339297	PENNSYLVANIA TRANSFORMER TECHNOLOGY INC		X									
PAD004378501	ATI FLAT ROLLED PRODUCTS HOLDINGS LLC							X				
PAD004396610	KAWNEER COMMERCIAL WINDOWS LLC							X				
PAD043875434	BEMIS CO INC		X									
PAD044366003	SCHOTT NORTH AMERICA INC							X				
PAD045389988	GENTEX CORP		X									
PAD049029697	ALUMAX MILL PRODUCTS INC		X									
PAD055054316	ALLEGHENY SURFACE TECHNOLOGY							X				
PAD056602923	VORTEQ COIL FINISHERS							X				
PAD087115762	INTERTEK CALEB BRETT				X							
PAD096844311	ACTION MANUFACTURING CO						X					
PAD112570072	HIGH STEEL STRUCTURES INC		X									
PAD980550412	JOHNSON MATTHEY INC						X					
PAD980714562	C-P CONVERTERS INC		X									

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
PAD980829287	JOHNSON MATTHEY INC	X										
PAD981739212	TYSON SUPERFUND SITE							X				
PAD982362899	HIGH STEEL STRUCTURES LLC - LANCASTER FACILITY		X									
PAD987284924	ALLEGHENY BRADFORD CORP							X				
PAD987370780	ACTON TECHNOLOGIES INC		X									
PAR000002105	DURA BOND PIPE LLC		X									
PAR000023853	GLOBAL PACKAGING INC		X									
PAR000030874	COPPERHEAD CHEMICAL CO INC						X					
PAR000034256	DUNMORE CORP KEYSTONE		X									
PAR000035915	TUCKER INDUSTRIAL LIQUID COATINGS INC		X									
PAR000509117	CALLERY LLC						X	X				
PAR000514299	SPECTRUM INDUSTRIAL COATINGS		X									
PAR000520510	FORT DEARBORN CO		X									
PRD980594618	PENUELAS TECHNOLOGY PARK LLC							X				
RID075704999	ADMIRAL PACKAGING INC		X									
RID987489473	TECHNIC INC ENGINEERED POWDERS DIVISION		X									
SC1750216169	MARINE CORPS AIR STATION BEAUFORT							X				
SC1890008989	SAVANNAH RIVER SITE			X				X				
SC3210020449	USATC & FORT JACKSON							X				
SC3570024460	JOINT BASE CHARLESTON AIR							X				
SC8170022620	JOINT BASE CHARLESTON WEAPONS							X		X		
SCD003341849	ROY METAL FINISHING CO INC							X				
SCD003358389	SOLVAY USA INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
SCD041387796	THE TIMKEN COMPANY- TYGER RIVER PLANT							X				
SCD049126097	GE GREENVILLE GAS TURBINES LLC							X				
SCD061523098	IWG HIGH PERFORMANCE CONDUCTORS							X				
SCD069314045	MILLIKEN CHEMICAL DEWEY PLANT							X				
SCD069316271	MEDICAL UNIVERSITY OF SC PHYSICAL PLANT							X				
SD2571924644	ELLSWORTH AIR FORCE BASE			X								
SDD071508063	TEREX SOUTH DAKOTA		X									
SDD981549983	TECH ORD, A DIVISION OF AMTEC CORPORATION							X				
TN0210020582	MILAN ARMY AMMUNITION PLANT			X		X	X	X			X	
TN1890090003	U.S. DOE, DEPARTMENT OF ENERGY, OAK RIDGE NATIONAL LABORATORY	X					X	X				
TN5210020421	HOLSTON ARMY AMMUNITION PLANT							X			X	
TN8570024044	ARNOLD ENGINEERING DEVELOPMENT COMPLEX / TSDCI					X		X	X			
TND000830778	PIONEER PLASTICS CORPORATION							X				
TND003095635	NUCLEAR FUEL SERVICES, INC. (NFS)							X				
TND003337292	OLIN CHLOR-ALKALI PRODUCTS							X			X	
TND003338423	INDUSTRIAL PLATING COMPANY							X				
TND004044509	TRANE		X									
TND004045605	OLIVER FIBERGLASS PRODUCTS		X									
TND006387880	WAYMATIC INC		X									
TND007023658	BUCKMAN LABORATORIES							X				
TND007024672	CHEMOURS MEMPHIS PLANT							X				
TND034818732	PAULO PRODUCTS COMPANY							X				
TND042454587	TRI CITY PLATING CO., INC.							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
TND047000898	BON L MFG COMPANY							X				
TND053983862	JARDEN ZINC PRODUCTS, LLC							X				
TND054876834	TEKNOR APEX TENNESSEE COMPANY							X				
TND058660390	ROHM & HAAS CHEMICALS LLC					X	X	X			X	
TND063179998	NGK METALS CORPORATION							X				
TND071530125	SNAP-ON TOOLS ELIZABETHTON MANUFACTURING TNLP							X				
TND075382168	GIBSON USA ELECTRIC DIVISION	X	X									
TND077656197	COPPERWELD BIMETALLICS, LLC							X				
TND081464810	TECHNICAL PLATING							X				
TND083275198	SRG GLOBAL - RIPLEY							X				
TND101762169	NIELSEN BAINBRIDGE, LLC		X					X				
TND980316269	UNIVERSITY OF TENNESSEE, AGRICULTURAL CAMPUS							X				
TND980600514	VERTRAUEN CHEMIE SOLUTIONS - BUOY STREET							X				
TND980729255	SMITH & NEPHEW							X				
TND980837892	EASTERN PLATING LLC	X										
TND980845838	VOLVO PENTA MARINE PRODUCTS, LLC		X					X				
TND980848485	GRAPHIC PACKAGING INTERNATIONAL, LLC		X									
TND981023674	CYMER-DAYTON LLC							X				
TND981468333	CLARK CONTAINER INC		X									
TND982127961	AKEBONO BRAKE CORPORATION							X				
TND982142275	DENSO MANUFACTURING TENNESSEE INC.		X					X				
TND982148769	DENSOMANUFACTURING TENNESSEE INC.							X				
TND982157570	ENERGY SOLUTIONS, INC							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
TND987769486	Q.E.P. CO. (DELAWARE), INC.		X									
TND987776010	THE ROBINETTE COMPANY		X									
TND987776440	DEWAYNE'S QUALITY METAL COATINGS LLC							X				
TND987783073	SOUTHERN PLATING INC.							X				
TND987789583	LUCITE INTERNATIONAL INC		X					X				
TND990653875	SUNBEAM PRODUCTS INC			X								
TND991279233	MULTI-COLOR CORPORATION		X									
TND991279472	ADVANCED TECHNICAL CERAMICS COMPANY	X						X				
TNR000000638	TEST AMERICA NASHVILLE							X				
TNR000000950	STANDARDAERO ALLIANCE INC		X									
TNR000001842	DELTA FAUCET COMPANY OF TENNESSEE INC							X				
TNR000006221	BETTY MACHINE COMPANY INC		X									
TNR000006270	ADVANCED PLATING INC							X				
TNR000007153	YOUNG TOUCHSTONE							X				
TNR000008730	DENSO MANUFACTURING ATHENS TENNESSEE, INC.							X				
TNR000009241	UNIVERSITY HEALTH SYSTEM INC.							X				
TNR000012302	GLASTEEL - DIV OF STABILIT AMERICA INC							X				
TNR000017426	BERRY FILM PRODUCTS COMPANY, INC		X									
TNR000017970	KEN GARNER MANUFACTURING		X									
TNR000019547	SAM'S CLUB #6512	X										
TNR000023242	BELL HELICOPTER TEXTRON		X									
TX4890110527	US DEPARTMENT OF ENERGY PANTEX PLANT						X					
TXD000461533	UNION CARBIDE TEXAS CITY				X			X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
TXD000751172	INEOS USA GREEN LAKE FACILITY											X
TXD000836445	EQUISTAR CHEMICALS CORPUS CHRISTI											X
TXD001700806	ASCEND PERFORMANCE MATERIALS CHOCOLATE BAYOU PLANT				X			X				X
TXD001806868	3M BROWNWOOD		X									
TXD007365984	L-3 COMMUNICATIONS INTEGRATED SYSTEMS MAJOR FIELD							X	X			
TXD008076846	HUNTSMAN PETROCHEMICAL PORT NECHES PERFORMANCE PRODUCTS				X							
TXD008076853	HUNTSMAN PETROCHEMICAL CONROE PLANT						X					
TXD008080533	BLANCHARD REFINING GALVESTON BAY REFINERY											X
TXD008081101	CHEMOURS BEAUMONT ANILINE FACILITY							X				
TXD008081697	BASF FREEPORT SITE				X		X					X
TXD008099079	ECO SERVICES OPERATIONS HOUSTON							X				
TXD026040709	CELANESE BAY CITY PLANT							X				
TXD041515420	UNION CARBIDE SEADRIFT PLANT							X			X	
TXD043750512	ARKEMA CROSBY PLANT							X				
TXD055141378	CLEAN HARBORS DEER PARK							X			X	
TXD058265067	LYONDELL CHEMICAL BAYPORT CHOATE PLANT							X				
TXD059685339	VALERO MCKEE PLANT											X
TXD064129422	HUCK INTERNATIONAL WACO							X				
TXD065096273	ROHM AND HAAS DEER PARK PLANT				X							
TXD066349770	TYLER PIPE								X			
TXD070137161	KM LIQUID PASADENA TERMINAL							X				
TXD082688979	HOUSTON REFINING							X				
TXD086981172	TOTAL PETROCHEMICALS USA LA PORTE PLANT				X		X					

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
TXD087491973	ASARCO AMARILLO COPPER REFINERY											X
TXD980626774	BORGER REFINERY			X								
TXD980626782	UNION CARBIDE							X				
TXD980808778	BASF PASADENA PLANT				X							
TXD981917024	EQUISTAR VICTORA PLANT				X							
TXD988059804	DPC INDUSTRIES CLEBURNE							X				
TXD988088464	WASTE CONTROL SPECIALISTS							X				
TXD988088761	LUCITE INTERNATIONAL BEAUMONT SITE											X
TXD990796351	OPTIMUS STEEL	X										
TXR000000034	CONECSUS TEJAS FACILITY								X			
TXR000003780	KOPPERS INDUSTRIES							X				
TXR000004986	ALBEMARLE HOUSTON PLANT							X				
TXR000009837	IDENTIFICATION PLATES							X				
TXR000034538	STANDARD AERO SAN ANTONIO							X				
TXR000052175	LINDE GAS CLEAR LAKE PLANT				X							
TXR000057414	ARKEMA CLEAR LAKE						X					
TXR000057752	INVISTA SARL SABINE RIVER WORKS				X							X
TXR000057968	INVISTA SARL VICTORIA SITE				X							X
TXR000076828	EXXON MOBIL PASADENA INJECTION WELL											X
TXR000077644	OXEA BISHOP PLANT							X				
TXR000079350	ZODIAC ENTERPRISES LLC	X										
TXR000081242	ITW POLYMERS COATINGS NORTH AMERICA		X									
TXR000081462	ULLRICH WATER TREATMENT PLANT							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
TXR000083481	BLUE CUBE OPERATIONS			X	X							
TXR000083657	DOW BEAUMONT ANILINE											X
TXR000083791	CONECSUS APACHE FACILITY								X			
TXR000083840	CHANNELL ROCKWALL TEXAS							X				
TXT490011293	FORMOSA PLASTICS POINT COMFORT PLANT			X								
UT0571724350	HILL AIR FORCE BASE		X					X				
UT3213820894	TOOELE ARMY DEPOT						X					
UT3750211259	US ARMY DUGWAY PROVING GROUND							X				
UTD070931480	HENKEL							X				
UTD093113900	WILLIAMS INTERNATIONAL CO LLC							X				
UTD981551294	ALS LIMITED							X				
UTR000009688	TEMKIN INTERNATIONAL		X									
VA7170024684	US NAVY DAHLGREN							X				
VA7800020888	NASA GSFC WALLOPS FLIGHT FACILITY						X					
VAD000820712	THE UNIVERSITY OF VIRGINIA	X	X									
VAD023801210	SOUTHERN FINISHING COMPANY					X						
VAD043344472	ELECTROPLATE-RITE CORP								X			
VAD058659210	STRONGWELL- BRISTOL		X									
VAD062350210	VIRGINIA MILITARY INSTITUTE, MAIN POST	X										
VAD065385296	ADVANSIX INC.							X				
VAD074747908	VIRGINIA TECH							X				
VAD076670959	BASF CORPORATION		X									
VAD082878786	ROSLYN CONVERTERS, INC.		X			X						

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
VAD980918304	CAVALIER PRINTING INK CO., INC.		X									
VAD981106222	MASCO CABINETRY		X									
VAD981112618	AEROJET ROCKETDYNE, INC.							X				
VAP104201705	BRIDGE # 1074 I-81 R/W @ MM 52.9								X			
VAP104201706	BRIDGE # 2013 I-81 R/W @ MM 52.9								X			
VAP104201707	BRIDGE # 6309 I-81 R/W @ MM 52.9								X			
VAP104201709	BRIDGE # 1114 AND 1115 VDOT - 251 APACHE RUN								X			
VAP310201711	CITY OF CHARLOTTESVILLE DAIRY ROAD BRIDGE	X										
VAP405201724	FAIRFAX WATER DUNN LORING TANK								X			
VAP502201702	FORT LEE WATER TANK NO. 3								X			
VAP504201703	I-64 OVER GOOD HOPE ROAD & WAHRANI SWAMP									X		
VAR000002352	RELINE AMERICA, INC							X				
VAR000512350	TECTON PRODUCTS, LLC							X				
VAR000518456	SOUTHSIDE REGIONAL MEDICAL CENTER							X				
VAR000519652	SOUTHERN FINISHING COMPANY					X						
VAR000530162	SITELINE CABINETRY LLC								X			
VTD001075894	GENERAL ELECTRIC COMPANY (GE AVIATION RUTLAND PLANT 2)							X				
VTD002085108	GENERAL ELECTRIC COMPANY (GE AVIATION RUTLAND PLANT 1)							X				
VTD981203557	YANKEE CORP							X				
VTR000524868	GLOBALFOUNDRIES US 2 LLC-VERMONT FACILITY							X				
WA0000072991	PACIFIC AEROSPACE & ELECTRONICS INC							X				
WA0000097675	METAL TECH		X					X				
WA1360007313	VA PSHCS SEATTLE DIVISION							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
WA4170027268	US NAVY HOSPITAL BREMERTON 1 BOONE RD		X									
WA5170027291	NAVAL BASE KITSAP AT BANGOR							X				
WA6170090058	US NAVY AIR STATION WHIDBEY ISLAND SPB							X				
WA9170023361	US NAVY AIR STATION WHIDBEY ISLAND AULT							X				
WAD002838068	PUGET SOUND COATINGS LLC		X									
WAD004492575	BATTELLE PACIFIC NW LABORATORIES							X				
WAD009251323	WESTERN PNEUMATIC TUBE CO LLC							X				
WAD009255647	SHIELDS BAG & PRINTING CO		X									
WAD009262171	BOEING RENTON		X					X				
WAD009286857	ERSHIGS INC		X									
WAD009286881	ACE GALVANIZING INC 96TH							X				
WAD041337684	WESTPORT SHIPYARD INC		X									
WAD041485301	WA WSU PULLMAN CAMP		X					X				
WAD041585464	BOEING EVERETT		X					X				
WAD041920554	ASKO PROCESSING INC							X				
WAD052593480	DELTA MARINE INDUSTRIES INC		X									
WAD057313033	MOHAWK NORTHERN PLASTICS LLC		X									
WAD058367152	EMERALD SERVICES INC AIRPORT WAY							X				
WAD063341424	PROTECTIVE COATINGS INC		X									
WAD076654185	VIRGINIA MASON MEDICAL CENTER		X									
WAD078216405	MULTICARE MEDICAL CENTER		X									
WAD079253134	WA WWU MAIN CAMPUS	X						X				
WAD079262028	TEST AMERICA							X				

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
WAD092899574	EMERALD KALAMA CHEMICAL LLC				X							
WAD093687622	BATTELLE MARINE SCIENCES LAB							X				
WAD096767967	WA UW HARBORVIEW MEDICAL CENTER							X				
WAD098553381	MULTI MANUFACTURING INC								X			
WAD144414026	MOSES LAKE INDUSTRIES INC							X				
WAD194613600	NORTH PACIFIC INDUSTRIAL COATINGS LLC		X									
WAD980738033	WEYERHAEUSER TECHNOLOGY CENTER							X				
WAD980738652	WA UW SEATTLE CAMPUS							X				
WAD980835409	CH2O INC							X				
WAD980835680	REC SOLAR GRADE SILICON LLC							X				
WAD980835771	GENERAL PLASTICS MFG CO TACOMA		X									
WAD980980577	EXOTIC METALS FORMING COMPANY							X				
WAD980981161	THE EVERGREEN STATE COLLEGE EVERGREEN PK							X				
WAD980982037	BOEING NORTH BOEING FIELD		X									
WAD981763527	KING CNTY DEPT OF NAT RESOURCES ENV LAB							X				
WAD981763667	RAINIER BALLISTICS LLC							X				
WAD982652208	WA DOT EAGLE HARBOR REPAIR FACILITY							X				
WAD988468708	WA WSU TRI CITIES							X				
WAD988469664	MICROSOFT CORPORATION							X				
WAD988471967	KINROSS GOLD CORP KETTLE RIVER OPERATION							X				
WAD988472452	ALS GROUP USA CORP DBA ALS ENVIRONMENTAL							X				
WAD988473641	FRED HUTCHINSON CANCER RESEARCH CENTER		X									
WAD988477105	PROVIDENCE ST PETER HOSPITAL							X	X			

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
WAD988482527	BOEING SPARES DISTRIBUTION CENTER							X				
WAD988488391	SAINT JOSEPH HOSPITAL							X				
WAD988505459	MERCURY PLASTICS INC		X									
WAD988513909	TK HOLDINGS INC							X				
WAH000000455	STEELSCAPE INC		X									
WAH000004465	CANYON CREEK CABINET COMPANY		X									
WAH000009084	TEREX WASHINGTON INC MOSES LAKE		X									
WAH000010124	MICROCONNEX FORMERLY MICROSOUND							X				
WAH000011874	EUROFINS FRONTIER GLOBAL SCIENCES							X				
WAH000013235	SEATTLE CANCER CARE ALLIANCE		X									
WAH000014043	NATIONAL INDUSTRIAL CONCEPTS		X									
WAH000015016	TEST AMERICA TACOMA							X				
WAH000016352	ACCRA FAB INC APPLEWAY DR							X				
WAH000021989	WESTPORT LLC PORT ANGELES		X									
WAH000022328	BATTELLE MEMORIAL INSTITUTE PAC NW DIV A							X				
WAH000024450	MILGARD MANUFACTURING INC PULTRUSION DIV		X					X				
WAH000025124	US DOE OFFICE OF SCIENCE PNNL SITE							X				
WAH000025959	DYNACARE NORTHWEST INC 17TH AVE							X				
WAH000027129	CEPHEID							X				
WAH000027361	INCYTE PATHOLOGY P S		X					X				
WAH000031020	COLOR TECH MOUNTLAKE TERRACE		X									
WAH000034564	PRIMUS INTL UNIV SWAGING DIV		X									
WAH000036260	NORTHWOOD CABINETS INC		X									

Exhibit B-1
Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
WAH000038112	AVIATION TECHNICAL SVCS HANGAR 1							X				
WAH000038254	ACCURATE INDUSTRIES INC		X									
WAH000046500	MODUMETAL INC MALTBY							X				
WAH000047339	NOR TECH FABRICATION		X									
WAH000048828	EXOTIC METALS FORMING CO LLC							X				
WAH000048846	ROCKWELL COLLINS		X									
WAH000049351	INCYTE PATHOLOGY INC BELLEVUE		X					X				
WAH000052526	INTERNATIONAL PAPER FEDERAL WAY							X				
WID000608877	OSHKOSH CORP - WEST PLT		X									
WID006085401	ATI LADISH LLC							X				
WID006126999	PIERCE MFG INC		X									
WID006132278	VALLEY CABINET INC		X									
WID006135388	MARINETTE MARINE CORP		X									
WID006156400	MASTERCRAFT INDUSTRIES INC		X									
WID006441596	NORTHERN ENGRAVING & MACHINE CO			X								
WID020488011	R STRESAU LABORATORY INC						X					
WID023350192	BRENNTAG GREAT LAKES LLC					X						
WID046535654	BEMIS WISCONSIN LLC		X									
WID048030951	SENECA FOODS CORP - VEGETABLE DIV		X									
WID050549039	INX INTERNATIONAL INK CO		X									
WID053091005	PHILLIPS PLATING CORP							X				
WID059982066	SILGAN CONTAINERS MFG CORP		X									
WID063378871	OUTAGAMIE CNTY AIR-GULFSTREAM AEROSPACE CORP		X									

Exhibit B-1
Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
WID068157601	MAYO CLINIC HEALTH SYSTEM EAU CLAIRE HOSP		X									
WID091781625	BEMIS PACKAGING INC		X									
WID980898266	CHEMDESIGN PRODUCTS INC		X									
WID981000375	CRYSTAL FINISHING SYSTEMS INC		X									
WID982638033	WALZCRAFT INDUSTRIES INC		X									
WID988575452	RUST-OLEUM CORP		X									
WIR000034579	BRP US INC		X									
WIR000039347	MAYVILLE ENGR CO BEAVER DAM-PHOENIX COATERS		X									
WIR000104802	BELMARK INC PLT 3		X									
WIR000110197	PROFESSIONAL POWER PRODUCTS INC		X									
WIR000119248	EGGERS INDUSTRIES - EAST PLANT		X									
WIR000122119	SENECA FOODS CORP		X									
WIR000123398	FIBERPRO INC DBA ADVANCED FIBER PRODUCTS		X						X			
WIR000140541	FOREFRONT DERMATOLOGY		X									
WIR000149922	RAZOR COMPOSITES LLC								X			
WIR000150227	PRINTPACK		X									
WIT560011595	BEMIS FILMS		X									
WV0170023691	ALLIANT TECHSYSTEMS OPERATIONS LLC, ABL OPERATIONS							X				
WVD004325353	MPM SILICONES, LLC						X	X			X	
WVD004336343	EAGLE NATRIUM LLC							X				
WVD116025180	DOMINION GATHERING & PROCESSING INC - HASTINGS EXTRACTION PLANT							X				
WVD980552384	ADDIVANT USA LLC - NORTH PLANT							X				
WVR000014019	CLEARON TABLETING & PACKAGING							X				

Exhibit B-1
Onsite Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL		
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection
WVR000502815	WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION							X				
WVR000506782	AMERICAN WOODMARK CORP - SOUTH BRANCH PLANT		X									
WVR000532440	E.I. DUPONT DE NEMOURS AND COMPANY, INC.				X							
WYD048743009	SINCLAIR CASPER REFINING COMPANY							X				
WYD079959185	SINCLAIR WYOMING REFINING COMPANY							X			X	

Exhibit B-2
Captive Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
AK8570028649	US DOD USAF JOINT BASE ELMENDORF-RICHARDSON												X
AKR000207043	TETLIN NALEMP MIDWAY LAKE								X				
AL3210020027	ANNISTON ARMY DEPOT						X	X					
ALD075045575	EVONIK					X							
ALD079474037	UNIVERSITY OF SOUTH ALABAMA												X
ARD980867873	ARMTEC COUNTERMEASURES COMPANY						X						
AZ0000962530	TURBINEAERO COATINGS (TEC)						X				X		
AZR000037382	USMC - BARRY M GOLDWATER RANGE WESTERN							X					
AZR000519082	PROFILE PRECISION EXTRUSIONS			X									
CA2890012584	LAWRENCE LIVERMORE NATIONAL LABORATORY												X
CA2890090002	LAWRENCE LIVERMORE NATIONAL LABORATORY - SITE 300												X
CA6170024289	NAVAL STATION (NAVSTA) 32ND ST HAZARDOUS WASTE FACILITY	X									X		X
CA7170090016	NAVAL AIR STATION NORTH ISLAND							X					X
CAD000633230	RAYTHEON SPACE AND AIRBORNE SYSTEMS												X
CAD008383127	TFX AVIATION INC										X		
CAD010710051	L-3 TECHNOLOGIES, OCEAN SYSTEMS												X
CAD053240560	VITRO FLAT GLASS LLC												X
CAD088838222	BAYSIDE OIL II INC												X
CAD108148958	PROVIDENCE ST JOSEPH MEDICAL CTR					X							
CAD981168107	SAN DIEGO GAS & ELECTRIC MIRAMAR												X
CAD981168594	SAN DIEGO GAS & ELECTRIC												X

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Captive Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
CAD981385420	NEWBASIS WEST LLC		X			X	X				X		X
CAD981395965	NEW AVON LLC												X
CAD981422017	SOUTHERN CALIFORNIA GAS CO												X
CAD981427669	AMERICAN OIL COMPANY			X									X
CAD981441728	JIM BURKE FORD												X
CAD981454119	ABBOTT CARDIOVASCULAR SYSTEMS INC												X
CAD981623556	7-ELEVEN #23855			X									
CAD981982366	TRUCK ACCESSORIES GROUP						X						
CAD982403321	MICRODYN-NADIR US INC	X											
CAD982408999	LENTHOR ENGINEERING INC										X		
CAD982500001	HOME CLUB NO 81												X
CAD982501066	SILICON MICROSTRUCTURES INC							X					
CAD982522203	AREMAC HEAT TREATING LLC												X
CAD983581968	TRAPAC LLC												X
CAD983623687	WESTLAND TECHNOLOGIES INC												X
CAD983672940	FISHER SCIENTIFIC LLC												X
CAL000082875	INLAND STAR DISTRIBUTION CENTER												X
CAL000190169	RAPID PRODUCT SOLUTIONS INC						X						
CAL000266452	7-ELEVEN INC #22647					X							
CAL000280435	SONORA REGIONAL MEDICAL CENTER						X						
CAL000339471	VENTURA COUNTY MEDICAL CENTER CAMPUS												X
CAL000352399	SOLAZYME INC					X							
CAL000355603	GOLDEN VALLEY SHELL												X

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Captive Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
CAL000365650	ALLIED STEEL CO INC					X							
CAL000378920	GOODWILL SOUTHERN CALIFORNIA												X
CAL000380672	WATERSTONE LLC										X		
CAL000405576	NOR-CAL MOTORSPORTS INC			X							X		
CAL000414575	MARINE EMPORIUM INC						X						
CAL000428316	PLYMOUTH GRANT LLC PROPERTY										X		
CAL930256136	ASBURY ENVIRONMENTAL SERVICES-FORTUNA												X
CAR000012716	REMO INC												X
CAR000012898	CHROMADORA, INC.	X											
CAR000014647	MARINE GROUP BOAT WORKS - NATIONAL CITY												X
CAR000019430	NAVAL BASE CORONADO MIXED WASTE STORAGE FACILITY												X
CAR000171801	NORTHROP GRUMMAN MOJAVE HANGAR 210												X
CAR000176933	DBA PAR PHARMACEUTICAL					X							X
CAR000197681	NORTH HOLLYWOOD AERATION FACILITY										X		
CAR000210229	RITE AID #5548							X					
CAR000254599	AMBRY GENETICS CORPORATION												X
CAT000625137	SOUTHERN CALIFORNIA GAS CO	X											X
COD007431505	UNIVERSITY OF COLORADO - BOULDER												X
CTD058509712	DYNO NOBEL INC							X					
CTD990672081	PRATT & WHITNEY							X					
DED003930807	DUPONT EXPERIMENTAL STATION						X						X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
FL2800016121	CAPE CANAVERAL AFS						X						
FL6170022952	NAS KEY WEST												X
FLD000823393	UNIVERSITY OF FLORIDA												X
FLD006921340	CSX TRANSPORTATION INC												X
GAD057281156	SOLENIS LLC												X
GAD984309815	INNOVATIVE CHEMICAL TECHNOLOGIES, INC.						X						
GAR000053249	GULFSTREAM AEROSPACE CORPORATION												X
GU5170022680	NAVAL FACILITIES ENGINEERING COMMAND MARIANAS												X
HI1170024334	NAVY REGION HAWAII - PEARL HARBOR-HICKAM							X					X
IAR000500801	NATIONAL PHARMACEUTICAL RETURNS INC												X
IAT200010924	UNIVERSITY OF IOWA - TSDF ENVIRONMENTAL HEALTH & SAFETY							X					X
ID4890008952	US DOE INL LAB												X
ILD000802801	GENERAL DYNAMICS- OTS TR						X						
ILD005265749	SHERWIN WILLIAMS CO					X							
ILD984828558	WOOD RIVER WWTP							X					
IND006050967	EVONIK CORPORATION TIPPECANOE LABS		X				X						X
IND006365845	JASPER SEATING COMPANY INCORPORATED PLANT 80												X
IND069984276	INDIANA HARBOR BELT RAILROAD												X
INR000000463	MICRONUTRIENTS USA LLC	X		X									
INR000130716	QUALITY HARDWOOD SALES INCORPORATED												X
KY0000563163	SCHNELL CONTRACTORS INC												X
KY0000637256	BARBER CABINET COMPANY												X

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Captive Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
KY0001012012	UNIVERSITY OF LOUISVILLE - EPSC												X
KYD000830851	UNIVERSITY OF KENTUCKY - ENVIRONMENTAL MANAGEMENT												X
KYD985072008	WESTLAKE VINYLS, INC.							X					
LAD008175390	CORNERSTONE CHEMICAL COMPANY											X	
LAR000036566	ACTION PRESS	X											
LAR000042226	SHELL NORCO CHEMICAL PLANT - WEST SITE							X					
MAC300010279	METAL SEPARATIONS INC							X					X
MAC300017415	GRAFTON AND UPTON RAILROAD COMPANY												X
MAD002084093	GENERAL ELECTRIC CO												X
MAD051774156	EXXONMOBIL OIL CORP 20-001												X
MD4170024109	NAVAL SUPPORT FACILITY INDIAN HEAD						X						X
MD6150004095	NATIONAL INSTITUTES OF HEALTH												X
MDD980829873	UNIVERSITY OF MARYLAND, COLLEGE PARK												X
ME7170022019	PORTSMOUTH NAVAL SHIPYARD												X
MID000722157	DTE ELECTRIC COMPANY								X				X
MID000724724	THE DOW CHEMICAL COMPANY		X				X						
MID000809632	DOW SILICONES CORPORATION												X
MID053343976	MICHIGAN STATE UNIVERSITY							X					X
MID087056685	DTE ELECTRIC COMPANY										X		
MID092175074	DTE MONROE POWER PLANT								X				
MID092946516	GREAT LAKES FINISHING INC								X				
MID980617435	THE DOW CHEMICAL COMPANY							X		X			

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Captive Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
MID982205395	KAY AUTOMOTIVE GRAPHICS												X
MIK591277034	SALONCENTRIC INC						X						
MIR000001834	UNIVERSITY OF MICHIGAN												X
MIR000032417	X-CEL INDUSTRIES INC												X
MIR000046664	BIEWER OF LANSING LLC									X			
MN0000981415	U OF M - FTCEM												X
MND000826206	CHESTNUT HAZARDOUS WASTE STORAGE FACILITY, NSP CO. (DBA XCEL ENERGY)					X							X
MND006172969	3M COMPANY	X			X		X	X					X
MND081138604	ALLIANT TECHSYSTEMS OPERATIONS LLC/PROVING GROUND						X						
MND083467688	MAYO CLINIC ROCHESTER							X					X
MND108503889	SPECTRALYTICS	X				X	X	X	X				X
MOD029719200	DYNO NOBEL INC.			X									
MOD050226075	BASF CORP HANNIBAL SITE						X						
MOD056389828	BAYER CROPSCIENCE LP						X						X
MSR000102830	NAVISTAR DEFENSE, LLC												X
NCD000830737	NCSU MAIN CAMPUS	X											X
NCD986166544	WYETH, LLC												X
NCR000150656	NCDSCA DC120003 (SUPERIOR CLEANERS)						X						
NED000766816	UNIVERSITY OF NEBRASKA												X
NJD000582387	RUTGERS UNIVERSITY - BUSCH/LIV./ESB												X
NJD002385730	CHEMOURS COMPANY FC, LLC (THE)							X					X
NJD980534408	BIOREFERENCE LABORATORIES		X										

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Captive Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
NJD986579969	NITTO INC				X								
NJD986650836	KMART #4478						X						
NM4890139088	U.S. DOE WASTE ISOLATION PILOT PLANT										X		
NM5890110518	SANDIA NATIONAL LABORATORIES												X
NV3890090001	U. S. DOE, NNSA/NFO										X		
NV5210090010	NEW BOMB FACILITY (HAWTHORNE ARMY DEPOT)						X						
NY0000367367	CLINTON COUNTY SOLID WASTE DEPT										X		
NYD000631994	UNIVERSITY OF ROCHESTER							X					X
NYD000705939	CON EDISON - EASTVIEW SERVICE CENTER							X					X
NYD000767657	LOVE CANAL OCCIDENTAL CHEMICAL CORPORATION							X					
NYD002113736	TULIP MOLDED PLASTICS CORP			X									
NYD006866008	HICKSVILLE OPERATIONS CENTER												X
NYD080480734	INTERNATIONAL BUSINESS MACHINES CORP												X
NYD980592497	EASTMAN KODAK CO AND RED ROCHESTER LLC AT EASTMAN BUSINESS PARK FACILITY		X					X					
NYD980593636	CON EDISON - ASTORIA	X					X	X	X				X
NYR000122879	GUARANTEED RETURNS						X						X
NYR000129452	NYCDEP - CROTON WATER TREATMENT PLANT												X
OH7571724312	DEPARTMENT OF THE AIR FORCE AREA B												X
OHD004304689	PPG INDUSTRIES OHIO INC						X						
OHD005057542	BP HUSKY REFINING LLC - TOLEDO REFINERY							X					
OHD157370594	SHERWIN-WILLIAMS COMPANY												X

Exhibit B-2
Captive Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
OK6213822798	MCALESTER ARMY AMMUNITION PLANT												X
OKD000396549	WYNNEWOOD REFINING COMPANY, L.L.C.					X							
OKD000803601	PHILLIPS 66 RESEARCH CENTER												X
OKD058078775	HOLLYFRONTIER TULSA REFINING LLC					X							
OKD990750960	HOLLYFRONTIER TULSA REFINING LLC					X							
OKR000021188	WEATHERFORD FRACTURING TECHNOLOGIES												X
OKR000033647	ENABLE MIDSTREAM PARTNERS-CANUTE TURBINE					X							
PAD089352983	ALPHA ASSEMBLY SOLUTIONS	X											
PAD981734429	PRETIUM PACKAGING								X				
PAR000521229	WAWA FOOD MARKET NO 8046	X											
PRD090559360	CROWLEY PUERTO RICO SERVICE - CROWLEY LINER SERVICE												X
RID001200252	TECHNIC INC	X											X
SCD981866007	BASF CORP	X											
TN0890090004	U.S. DOE, EAST TENNESSEE TECHNOLOGY PARK												X
TN3890090001	U.S. DOE, Y-12 NATIONAL SECURITY COMPLEX							X					X
TND003376928	EASTMAN CHEMICAL COMPANY, TENNESSEE OPERATIONS						X						
TND981026594	KILGORE FLARES COMPANY LLC						X						
TND987790979	SMITHPORT CABINETRY PARTNERS												X
TNR000005397	EAST TENNESSEE MATERIALS & ENERGY CORPORATION						X	X	X		X		X
TXD007330202	EASTMAN CHEMICAL						X						
TXD008079642	SABINE RIVER OPERATIONS						X						
TXD008092793	DOW TEXAS OPERATIONS FREEPORT			X			X						

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
TXD008106999	SASOL CHEMICALS USA GREENS BAYOU PLANT											X	
TXD056542749	RANGER AVIATION MATHIS FIELD MUNICIPAL AIRPORT							X					X
TXD083472266	LYONDELL CHEMICAL CHANNELVIEW						X					X	
TXD980624647	FUJIFILM ULTRA PURE SOLUTIONS					X							
TXD981911209	OXY VINYLS DEER PARK VCM PLANT						X						
TXD982286932	OCCIDENTAL CHEMICAL OXYCHEM INGLESIDE PLANT						X						
TXD987988318	SCHLUMBERGER WELL SERVICES PERFORATING AND TESTING						X	X					
TXD988070082	BAYLOR COLLEGE OF MEDICINE												X
TXR000075788	WASTE CONTROL SPECIALISTS ANDREWS FACILITY										X		
TXR000077784	OXEA BAY CITY PLANT						X						
TXR000080184	TRIUMPH AEROSTRUCTURES												X
TXR000083437	EXPAL TEXARKANA						X	X					
TXR000083463	ALOE VERA OF AMERICA					X							
UT0570090001	UTAH TEST AND TRAINING RANGE						X						
UT3170027277	ATK LAUNCH SYSTEMS INC. - NIROP												X
UTD009081357	ATK LAUNCH SYSTEMS INC. - PROMONTORY						X						X
VA1170024813	NORFOLK NAVAL SHIPYARD												X
VA1210020730	RADFORD ARMY AMMUNITION PLANT						X	X					
VA6170061463	NAVAL STATION NORFOLK												X
VAD000650309	NORFOLK SOUTHERN RAILWAY COMPANY												X
VAD981108178	UTILITY ONE SOURCE FORESTRY EQUIPMENT LLC					X							X

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Captive Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
VAR000515049	VIRGINIA AMERICAN WATER						X						
VTD000636563	UNIVERSITY OF VERMONT & STATE AGRICULTURAL COLLEGE ESF												X
VTD007939614	GMP ELECTRICAL MAINTENANCE FACILITY												X
VTR000502252	CHITTENDEN SOLID WASTE DISTRICT ENVIRONMENTAL DEPOT												X
WA1170023419	US NAVY KEYPORT OU1							X					
WA1891406349	US DOE BPA ROSS COMPLEX										X		X
WA2170023418	US NAVY PSNS & IMF												X
WA7890008967	US DEPT OF ENERGY HANFORD FACILITY										X		X
WAD041337130	BOEING COMPANY AUBURN							X					
WAD988498218	SEATTLE CITY LIGHT NEWHALEM MRWF & OFFIC												X
WID000809038	PPG GP LLC							X					
WID000874503	RACINE WASTEWATER TRMT PLT CITY OF							X					
WID006091425	SC JOHNSON & SON INC												X
WID006119978	TRANSCONTINENTAL MENASHA		X		X								
WID006157598	JOHNSON REFRIGERATION TRUCK BODIES LLC		X					X					X
WID006183826	NORTHERN ENGRAVING CORP		X										
WID011553310	PARKER HANNIFIN CORP - HPD												X
WID050271717	GLENN RIEDER INC					X							
WID060446499	AMERICAN PACKAGING CORP				X								
WID066874207	STRATTEC SECURITY CORP												X
WID091783647	SUEDPACK OAK CREEK CORPORATION												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration	Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Land Treatment/ Application	Landfill	Deepwell Injection	
WID980996615	FERGUSON #0279			X									
WID980997167	BEMIS PACKAGING INC				X								
WID988636403	KENDALL PACKAGING CORP		X										
WIR000001552	BEMIS WISCONSIN INC		X										
WIR000134155	PACKERS CHEMICAL					X							X
WVD056866312	COVESTRO LLC				X			X					
WVD076826015	HUNTINGTON ALLOYS CORPORATION	X											

Exhibit B-3
Commercial Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
AKR000004184	NRC ALASKA, LLC.								X				X
AKR000204420	BURLINGTON ENVIRONMENTAL, LLC												X
ALD000622464	CHEMICAL WASTE MANAGEMENT (EMELLE)										X		X
ALD046481032	SANDERS LEAD COMPANY INCORPORATED	X							X				X
ALD067138891	ROBBIE D WOOD, INC.												X
ALD070513767	GIANT RESOURCE RECOVERY- ATTALLA, INC.					X							X
ALD094476793	ALLWORTH, LLC	X	X			X			X				X
ALD981020894	CLEAN EARTH OF ALABAMA												X
ALD981475304	KW PLASTICS			X									
ALD983167891	TCI OF ALABAMA, LLC												X
ALD983177015	US ECOLOGY SULLIGENT, INC.												X
ALR000007237	ACTION RESOURCES, LLC												X
ALR000042754	STEEL DUST RECYCLING, LLC	X											
ARD006354161	REYNOLDS METALS COMPANY LLC GUM SPRINGS PLANT						X				X		X
ARD054575238	SAFETY-KLEEN SYSTEMS, INC												X
ARD069748192	CLEAN HARBORS EL DORADO, LLC	X	X	X			X						X
ARD981057870	RINECO CHEMICAL INDUSTRIES, LLC					X							X
ARD981512270	ASH GROVE CEMENT COMPANY				X								X
ARR000022152	CLEAN HARBORS EL DORADO LLC/UNION COUNTY HHW												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
ARR000024679	RINECO ENVIRONMENTAL SERVICES, LLC												X
AZ0000337360	VEOLIA ES TECHNICAL SOLUTIONS, LLC	X											X
AZD049318009	CLEAN HARBORS ARIZONA												X
AZD081705402	HERITAGE ENVIRONMENTAL SERVICES LLC												X
AZD980735500	WORLD RESOURCES COMPANY	X											X
AZD981969504	SAFETY-KLEEN												X
AZD982434185	WM LAMPTRACKER INC	X							X				
AZD982441253	EVOQUA WATER TECHNOLOGIES			X									
AZD982441263	EVOQUA WATER TECHNOLOGIES			X					X				X
AZD983469594	LIGHTING RESOURCES LLC	X											X
AZD983476680	LIGHTING RESOURCES INC	X											
AZR000501510	AA SYDCOL LLC												X
AZR000504902	BATTERY SOLUTIONS INC												X
AZT050010685	HVF PRECIOUS METALS LLC	X											
AZT060010685	HVF PRECIOUS METALS LLC	X											
CA0000084517	SAFETY-KLEEN SYSTEMS,INC.												X
CAD003963592	ECS REFINING	X											X
CAD008252405	PACIFIC RESOURCE RECOVERY SERVICES INC		X			X							X
CAD008302903	VEOLIA ES TECHNICAL SOLUTIONS LLC		X	X		X							X
CAD008364432	RHO-CHEM LLC												X
CAD008488025	PHIBRO-TECH INC	X		X					X				X

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Commercial Management Facilities

Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
CAD028409019	CROSBY & OVERTON					X			X				X
CAD044429835	CLEAN HARBORS OF WILMINGTON												X
CAD050806850	CLEAN HARBORS LOS ANGLES LLC												X
CAD053866794	PATRIOT ENVIRONMENTAL SERVICES												X
CAD059494310	CLEAN HARBORS SAN JOSE					X			X				X
CAD060398229	HERAEUS METAL PROCESSING LLC	X											
CAD06398229	HERAEUS METAL PROCESSING LLC	X											
CAD066113465	SAFETY-KLEEN												X
CAD066233966	QUEMETCO INC	X											X
CAD069124717	GLENCORE RECYCLING LLC	X											X
CAD082052707	J&B REFINING DBA J&B ENTERPRISES	X											
CAD088504881	KINSBURSKY BROTHERS SUPPLY INC	X							X				X
CAD097030993	US ECOLOGY VERNON INC								X				X
CAD097854541	EXIDE TECHNOLOGIES INCORPORATED	X											
CAD980675276	CLEAN HARBORS BUTTONWILLOW										X		X
CAD980884183	GEM RANCHO CORDOVA LLC												X
CAD980887418	SAFETY-KLEEN OF CALIFORNIA INC												X
CAD981402522	COMMODITY RESOURCE & ENVIRONMENTAL												X
CAD981412356	PACIFIC TRANS ENVIRONMENTAL SERVICES INC												X
CAD981429673	PHOTO WASTE RECYCLING CO INC												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
CAD982052797	J&B REFINING DBA J&B ENTERPRISES	X											X
CAD982062797	J&B REFINING DBA J&B ENTERPRISES	X											
CAD982411993	AERC COM INC	X											
CAD982435026	KW PLASTICS OF CALIFORNIA			X									
CAD982439895	CLEAN HARBORS ENVIRONMENTAL SERVICES INC PORT OF REDWOOD CITY												X
CAD982444481	HAZMAT TSDF INC, FORMER FILTER RECYCLING SERVICES INC												X
CAD982446874	SAFETY-KLEEN OF CALIFORNIA INC - DAVIS												X
CAD983581968	TRAPAC LLC												X
CAD983613688	MILES CHEMICAL COMPANY INC												X
CAD983649880	PSC ENVIRONMENTAL SERVICES OF POMONA LP												X
CAL000024110	P KAY METAL INC	X											X
CAL000191813	CLEAN HARBORS SAN JOSE RAIL SPUR TRANSFER FACILITY												X
CAL000224539	FRS ENVIRONMENTAL, INC.												X
CAL000268462	COLE'S SERVICES INC-DBA COLES ENVT'L												X
CAL000298854	BAYVIEW ENVIRONMENTAL SERVICES INC												X
CAL000330453	AGRITEC INT DBA CLEANTECH ENVIRONMENTAL												X
CAL000336454	ADVANCED CHEMICAL TRANSPORT, INC. DBA ACTENVIRO												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
CAR000009910	CALIFORNIA ENVIRONMENTAL AND LITHO												X
CAR000047613	CAL WEST ENVIRONMENTAL SERVICES INC												X
CAR000070540	ADVANCED CHEMICAL TRANSPORT INC. DBA ACTENVIRO												X
CAR000129759	HTS ENVIRONMENTAL SERVICES												X
CAR000156125	LIGHTING RESOURCES LLC	X											X
CAR000163097	KVAC ENVIRONMENTAL SERVICES INC												X
CAR000168229	HAZARDOUS TECHNOLOGIES INC												X
CAR000170092	AERC AQUISITION CORPORATION DBA AERC RECYCLING SOLUTIONS, A CLEAN EARTH COMPANY	X											X
CAR000175422	WORLDWIDE RECOVERY SYSTEM INC												X
CAR000176826	HUNTER CONSULTING INC DBA HCI ENV												X
CAR000191015	ROCAMI TRUCKING												X
CAR000194217	TEMARRY RECYCLING INC												X
CAR000206086	NORTH STATE ENVIRONMENTAL INC												X
CAR000217513	ENVIRONMENTAL LOGISTICS INC												X
CAR000241448	ENVIRONMENTAL & CHEMICAL CONSULTING INC												X
CAR000241653	ADVANCED CHEMICAL TRANSPORT INC												X
CAT000613927	SAFETY-KLEEN SYSTEMS INC HIGHLAND SERVICE CENTER												X
CAT000613976	SAFETY-KLEEN SYSTEMS INC												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
CAT000624247	M P ENVIRONMENTAL SVCS INC												X
CAT000646117	CHEMICAL WASTE MANAGEMENT (KETTLEMAN)							X			X		X
CAT080012602	D K DIXON												X
CAT080012800	HAZ MAT TRANS INC												X
CAT080013350	WORLD OIL RECYCLING			X									
CAT080013352	DEMENNO/KERDOON			X		X							X
CAT080014079	VEOLIA ES TECHNICAL SOLUTIONS LLC RICHMOND												X
CAT080025711	ADVANCED ENVIRONMENTAL, INC. DBA WORLD OIL ENVIRONMENTAL SERVICES												X
CAT08003352	WORLD OIL RECYCLING			X									
CAT080033681	WORLD OIL TERMINALS - VERNON												X
CATO8OO13352	WORLD OIL RECYCLING			X									
COD000716621	SAFETY-KLEEN SYSTEMS INC - ENGLEWOOD												X
COD980591184	VEOLIA ES TECHNICAL SOLUTIONS LLC		X			X			X				X
COD991300484	CLEAN HARBORS DEER TRAIL								X		X		X
CT5000001495	NORTHEAST LAMP RECYCLING INC												X
CTD000604488	CLEAN HARBORS ENVIRONMENTAL SERVICES INC			X					X				X
CTD002593887	TRADEBE TREATMENT AND RECYCLING OF BRIDGEPORT LLC					X			X	X			X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
CTD021816889	TRADEBE TREATMENT AND RECYCLING OF NORTHEAST LLC					X			X				X
FL0000207449	VEOLIA ES TECHNICAL SOLUTIONS LLC	X											
FLD980559728	TRIUMVIRATE ENVIRONMENTAL INC	X											X
FLD980711071	PERMA-FIX OF FLORIDA INC					X			X	X			X
FLD980729610	CLEAN HARBORS FLORIDA LLC					X							X
FLD980847214	SAFETY-KLEEN SYSTEMS INC												X
FLD980847271	SAFETY-KLEEN SYSTEMS INC												X
FLD981018773	TRIUMVIRATE ENVIRONMENTAL SERVICES INC												X
FLD981932494	US ECOLOGY TAMPA INC									X			X
FLD982105884	A R PAQUETTE & CO INC												X
FLD982133159	SAFETY - KLEEN SYSTEMS INC												X
FLD984171165	SAFETY-KLEEN SYSTEMS INC												X
FLR000070565	LIGHTING RESOURCES LLC	X											
GAD000616367	MKC ENTERPRISES INC.												X
GAD000776781	SAFETY-KLEEN SYSTEMS, INC												X
GAD096629282	VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.												X
GAD980709257	SAFETY-KLEEN SYSTEMS,INC												X
GAD981265424	SAFETY-KLEEN SYSTEMS, INC												X
GAR000026088	STERICYCLE SPECIALTY WASTE SOLUTIONS, INC.												X
GAR000039776	EQ INDUSTRIAL SERVICES INC												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
HIR000141895	STERICYCLE ENVIRONMENTAL SOLUTIONS												X
IAD098027592	SAFETY-KLEEN SYSTEMS INC												X
IAD981718000	SAFETY-KLEEN SYSTEMS INC												X
IDD073114654	US ECOLOGY IDAHO INC SITE B										X		X
IDD981770498	SAFETY-KLEEN SYSTEMS INC NB												X
ILD000666206	ENVIRITE OF ILLINOIS INC	X	X						X	X			X
ILD000805812	PEORIA DISPOSAL CO									X			
ILD000805911	SAFETY-KLEEN SYSTEMS INC												X
ILD005087630	SIMS RECYCLING SOLUTIONS INC	X											X
ILD005121439	SIPI METALS CORP	X											X
ILD005450697	CLEAN HARBORS RSC LLC		X										
ILD010284248	CID RECYCLING & DISPOSAL FAC								X				
ILD040891368	AMERICAN ZINC RECYCLING CORP	X											X
ILD098642424	VEOLIA ES TECHNICAL SOLUTIONS						X						X
ILD980502744	CLEAN HARBORS PECATONICA LLC												X
ILD980613913	SAFETY KLEEN SYSTEMS INC		X			X							X
ILD980903579	KELDORN TRUCKING												X
ILD981088388	SAFETY-KLEEN SYSTEMS INC												X
ILD981097819	SAFETY-KLEEN SYSTEMS INC												X
ILD981957236	SET ENVIRONMENTAL INC												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
ILD98642424	VEOLIA TECHNICAL SOLUTIONS LLC												X
ILR000130062	HERITAGE CRYSTAL CLEAN LLC												X
IN0000351387	LIGHTING RESOURCES INCORPORATED	X											X
IND000199653	QUEMETCO INCORPORATED	X											X
IND000646943	TRADEBE TREATMENT & RECYCLING LLC		X			X							X
IND000648943	TRADEBE TREATMENT & RECYCLING LLC												X
IND000714428	SAFETY KLEEN CORP 5-034-06												X
IND000717959	EXIDE TECHNOLOGIES	X											
IND000718130	REFINED METALS CORPORATION												X
IND000780403	RECLAIMED ENERGY DIVISION SUPERIOR OIL COMPANY INCORPORATED												X
IND005081542	LEHIGH CEMENT COMPANY LLC				X								X
IND005460209	MASON CORPORATION	X											
IND006419212	LONE STAR GREENCASTLE WDF				X								X
IND058484114	HERITAGE TRANSPORT LLC												X
IND093219012	HERITAGE ENVIRONMENTAL SERVICES LLC	X				X			X	X			X
IND980503890	HERITAGE ENVIRONMENTAL SERVICES										X		X
INO000000356	WM MERCURY WASTE INC	X											
INO000351387	LIGHTING RESOURCES INCORPORATED	X											
INR000000463	MICRONUTRIENTS USA LLC	X											
INR000110197	STERICYCLE INCORPORATED												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
INR000123497	TRADEBE TRANSPORTATION LLC												X
INR000127621	COVANTA ENVIRONMENTAL SOLUTIONS LLC												X
KS0000336891	SAVANNAH TRANSP INC												X
KSD000809723	SAFETY-KLEEN SYSTEMS INC												X
KSD031203318	ASH GROVE CEMENT CO				X								X
KSD057889313	NEXEO SOLUTIONS LLC												X
KSD980633259	SYSTECH ENVIRONMENTAL CORPORATION					X							X
KYD005009923	CALGON CARBON CORPORATION			X									X
KYD053348108	SAFETY-KLEEN SYSTEMS, INC.					X							X
KYD981027469	SAFETY-KLEEN SYSTEMS INC.												X
KYD985073196	AES ENVIRONMENTAL, LLC								X	X			X
LA0000365668	LEI, INC.	X											X
LAD000777201	CHEMICAL WASTE MANAGEMENT (LAKE CHARLES)										X		X
LAD008161234	ECO-SERVICES OPERATIONS, CORP				X								X
LAD008184137	EXIDE TECHNOLOGIES, BATON ROUGE RECYCLING CENTER								X				
LAD010395127	CLEAN HARBORS BATON ROUGE LLC								X				X
LAD980622161	CATALYST RECOVERY OF LA, LLC	X		X									
LAD981055791	CLEAN HARBORS OF COLFAX LLC							X	X				X
LAD985174234	HERITAGE-CRYSTAL CLEAN, LLC												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
LAR000041269	MIKE'S FILTER & SUPPLY INC												X
LAR000055467	LEI INC	X											X
LAR000077560	LEI, INC.	X											
MAC300014966	NRC EAST ENVIRONMENTAL SERVICES INC												X
MAC300017498	VEOLIA ES TECHNICAL SOLUTIONS LLC												X
MAC300092749	TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC												X
MAC300098399	NRC EAST ENVIRONMENTAL SERVICES INC												X
MAD039322250	CLEAN HARBORS ENVIRONMENTAL SERVICES INC												X
MAD047075734	TRIUMVIRATE ENVIRONMENTAL MERRIMACK INC												X
MAD053452637	CLEAN HARBORS OF BRAINTREE INC					X				X			X
MAD060095569	SAFETY KLEEN SYSTEMS INC												X
MAD062179890	TRADEBE TREATMENT AND RECYCLING OF STOUGHTON								X				X
MAD066588005	MURPHYS WASTE OIL SERVICES INC												X
MAD088978143	SAFETY KLEEN SYSTEMS INC												X
MAD096287354	SAFETY KLEEN SYSTEMS INC												X
MAD980670004	ENPRO SERVICES INC												X
MAD980915755	COMPLETE RECYCLING SOLUTIONS LLC	X											
MAD985294693	OIL RECOVERY CORPORATION												X
MDD980555189	CLEAN HARBORS OF BALTIMORE, INC.								X	X			X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
MDD981034291	SAFETY-KLEEN SYSTEMS INC												X
MDR000502450	AEG ENVIRONMENTAL PRODUCTS - SERVICES INC												X
MDR000507780	ACE ENVIRONMENTAL SERVICES, LLC												X
MED019051069	NRC ENVIRONMENTAL OF MAINE, INC.												X
MID000724831	MICHIGAN DISPOSAL INC								X	X			X
MID048090633	US ECOLOGY WAYNE DISPOSAL										X		X
MID060975844	US ECOLOGY ROMULUS INC		X										X
MID074259565	US ECOLOGY MICHIGAN INC								X				X
MID092947928	DRUG & LABORATORY DISPOSAL INC	X		X		X			X	X			X
MID980615298	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC	X		X		X			X				X
MID980684088	SOLVENT DISTILLERS GROUP OF NORTRU INC												X
MID980991566	EQ DETROIT INC	X							X	X			X
MID985568021	STERICYCLE SPECIALTY WASTE SOLUTIONS INC												X
MIK435642742	EQ INDUSTRIAL SERVICES INC												X
MIR000014530	CLEAN HARBORS ENVIRONMENTAL SERVICES INC												X
MIR000016055	ENVIRONMENTAL GEO-TECHNOLOGIES LLC											X	X
MND006148092	GOPHER RESOURCE	X							X	X			
MND044176113	PIONEER TANK LINES INC												X
MND980996805	ENVIRO-CHEM, INC.	X											
MND981097884	SAFETY-KLEEN SYSTEMS, INC.												X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
MND981098478	EVOQUA WATER TECHNOLOGIES LLC 2430 ROSE PLACE	X		X					X				X
MND981953045	SAFETY-KLEEN SYSTEMS INC												X
MNR000078675	RETROFIT COMPANIES INC - LITTLE CANADA												X
MNR000107037	GREEN LIGHTS RECYCLING, INC.	X											
MNS000110924	STERICYCLE SPECIALTY WASTE SOLUTIONS INC												X
MOD000610766	SOLVENT RECOVERY LLC			X		X			X				X
MOD000669051	SAFETY-KLEEN SYSTEMS, INC.												X
MOD000669069	SAFETY-KLEEN SYSTEMS, INC.												X
MOD030712822	EXIDE TECHNOLOGIES CANON HOLLOW SMELTER	X						X					
MOD054018288	GREEN AMERICA RECYCLING LLC				X								X
MOD059200089	BUICK RESOURCE RECYCLING FACILITY LLC	X											
MOD095038998	BED ROCK INC DBA TRI STATE MOTOR TRANSIT CO												X
MOD095486312	SAFETY-KLEEN SYSTEMS, INC.												X
MOD980971626	SAFETY-KLEEN SYSTEMS, INC.												X
MOD980973564	SAFETY-KLEEN SYSTEMS, INC.												X
MOD981123391	HAZMAT INC												X
MOD981127319	LONE STAR INDUSTRIES INC				X								X
MOD981505555	HERITAGE ENVIRONMENTAL SVCS LLC					X			X				X
MOD985798164	EBV EXPLOSIVES ENVIRONMENTAL COMPANY						X						X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
MOR000505958	TRI RINSE INC			X									
MSD000776765	SAFETY-KLEEN SYSTEMS, INC.												X
MSD077655876	HOLCIM (US) INC/GEOCYCLE LLC					X							X
NCD000648451	CLEAN HARBORS REIDSVILLE, LLC												X
NCD000776740	SAFETY-KLEEN SYSTEMS, INC												X
NCD061263315	NEXEO SOLUTIONS, LLC												X
NCD079060059	SAFETY-KLEEN SYSTEMS, INC												X
NCD095119210	METALLIX REFINING INC.	X											X
NCD121700777	AERC ACQUISITION CORPORATION D/B/A DART, A CLEAN EARTH COMPANY	X							X				X
NCD980799142	STAT INCORPORATED												X
NCD980842132	ECOFLO, INC	X		X		X			X				X
NCD986166338	VEOLIA ES TECHNICAL SOLUTIONS, LLC												X
NCR000135384	COVANTA ENVIRONMENTAL SOLUTIONS LLC												X
NCR000149302	301 ENVIROMENTAL CLEAN-UP INC												X
NDD000716738	SAFETY-KLEEN SYSTEMS, INC. - FARGO												X
NDD980957070	SAFETY-KLEEN SYSTEMS, INC. - BISMARCK												X
NDD982591794	WASTE RECOVERY SERVICES, INC.					X							
NDR000003111	SABIN METAL WEST CORP	X											
NED053316535	SAFETY-KLEEN SYSTEMS INC												X
NED981495724	SAFETY-KLEEN SYSTEMS INC												X

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Handler ID	Handler Name	RECOVERY				TREATMENT				DISPOSAL			TRANSFER/ STORAGE
		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
NED981723513	CLEAN HARBORS ENV SERVICES			X			X						X
NED981726513	CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.												X
NED986382133	TRI-STATE MOTOR TRANSIT COMPANY GERING TERMINAL												X
NHD510177926	COLT REFINING INC	X											X
NHD980521843	TRADEBE TREATMENT & RECYCLING NORTHEAST LLC												X
NJ0000027193	CLEAN VENTURE INC												X
NJD000692061	ENVIRONMENTAL TRANSPORT GROUP INC												X
NJD000768101	SAFETY KLEEN SYSTEMS INC												X
NJD002182897	SAFETY KLEEN SYSTEMS INC		X			X							X
NJD002200046	CYCLECHEM,INC.					X			X	X			X
NJD002454544	VEOLIA ES TECHNICAL SOLUTIONS LLC		X			X			X				X
NJD054126164	FREEHOLD CARTAGE, INC.												X
NJD071629976	S J TRANSPORTATION CO INC												X
NJD08063136	VEOLIA ES TECHNICAL SOLUTIONS CORP												X
NJD080631369	VEOLIA ES TECHNICAL SOLUTIONS CORP												X
NJD980536593	VEOLIA ES TECHNICAL SOLUTIONS LLC					X			X				X
NJD986582898	EVOQUA WATER TECNOLOGIES								X				
NJD986607380	MAUMEE EXPRESS INC												X
NJD991291105	CLEAN EARTH OF NORTH JERSEY									X			X

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							Incineration Unit	Open Burning/ Open Detonation Unit					
NJR000074898	TECH RECYCLERS LLC	X											
NMD002208	ADVANCED CHEMICAL TREATMENT, LLC												X
NMD002208267	ADVANCED CHEMICAL TREATMENT, LLC												X
NMD00220827	ADVANCED CHEMICAL TREATMENT, LLC												X
NMD002208627	ADVANCED CHEMICAL TREATMENT, LLC												X
NMD002208637	ADVANCED CHEMICAL TREATMENT, LLC												X
NMD002208827	ADVANCED CHEMICAL TREATMENT, LLC												X
NND002208627	ADVANCED CHEMICAL TREATMENT, LLC												X
NVD002208627	ADVANCED CHEMICAL TREATMENT, LLC												X
NVD098089533	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.												X
NVD098895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.												X
NVD980825338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.												X
NVD980895336	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.												X
NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.	X				X			X				X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
NVD980895388	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.												X
NVD9808956	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.												X
NVD980896338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.	X											
NVT330010000	US ECOLOGY NEVADA			X							X		X
NYD013277454	SOLVENTS AND PETROLEUM SERVICE INC												X
NYD030485288	REVERE SMELTING & REFINING CORPORATION	X											
NYD049253719	UNIVAR SOLUTIONS USA INC												X
NYD049836679	CWM CHEMICAL SERVICES (MODEL CITY) d								X		X		X
NYD067919340	SABIN METAL CORP	X											X
NYD077444263	TRIUMVIRATE ENVIRONMENTAL NYC LLC												X
NYD080469935	NORLITE LLC				X								X
NYD082785429	CHEMICAL POLLUTION CONTROL LLC												X
NYD980592497	EASTMAN KODAK CO AND RED ROCHESTER LLC AT EASTMAN BUSINESS PARK FACILITY												X
NYD981556541	SAFETY-KLEEN SYSTEMS INC												X
NYD982743312	SAFETY-KLEEN SYSTEMS INC												X
NYD986872869	SAFETY-KLEEN SYSTEMS INC												X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
NYR000078964	HORIZON ENVIRONMENT INC												X
NYR000192005	AMERICAN LAMP RECYCLING LLC	X											
NYR000212852	CLEAN HARBORS ENVIRONMENTAL SERVICES INC												X
OH0000000539	MIDWEST ENVIRONMENTAL TRANSPORT												X
OHD000724153	CLEAN HARBORS ENVIRONMENTAL SERVICES INC								X				X
OHD000816629	SPRING GROVE RESOURCE RECOVERY INC					X			X				X
OHD001926740	KRICK ROAD HOLDINGS LLC		X			X			X				X
OHD004178612	GENERAL ENVIRONMENTAL MANAGEMENT LLC												X
OHD004274031	CLEAN WATER ENVIRONMENTAL LLC								X				X
OHD005048947	SYSTECH ENVIRONMENTAL CORPORATION					X							X
OHD017730540	ENVIROSERVE INC												X
OHD020273819	VICKERY ENVIRONMENTAL INC											X	X
OHD042319244	AMG VANADIUM LLC	X											
OHD045243706	ENVIROSAFE SERVICES OF OHIO										X		X
OHD048415665	ROSS INCINERATION SERVICES						X						X
OHD066060609	CHEMTRON CORPORATION	X				X							X
OHD071654958	RETRIEV TECHNOLOGIES INC	X							X				X
OHD074700311	NEXEO SOLUTIONS LLC												X
OHD083377010	ENVIRONMENTAL ENTERPRISES INC	X			X	X			X	X			X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
OHD08377010	ENVIRONMENTAL ENTERPRISES INC												X
OHD093945293	VEOLIA ES TECHNICAL SOLUTIONS LLC		X			X							X
OHD980568992	ENVIRITE OF OHIO INC	X							X	X			X
OHD980587364	CLEAN HARBORS RECYCLING SERVICES OF OHIO LLC		X			X							X
OHD980613541	HERITAGE THERMAL SERVICES						X						X
OHD980821862	KLOR KLEEN												X
OHD980897656	CHEMICAL SOLVENTS INC		X			X							X
OHD981000920	CAPITAL CITY ROAD OIL INC												X
OHD986976348	AGMET LLC	X		X									X
OHD987048733	HOLCIM (US) INC				X								
OHR000029561	VEOLIA WATER TECHNOLOGIES INC			X									
OHR000034025	LAMPS INC DBA ENVIRONMENTAL RECYCLING	X											
OHR000038513	RETRIEV TECHNOLOGIES INC	X											
OHR000109819	USA LAMP & BALLAST RECYCLING INC	X											
OHR000161299	AGMET LLC	X		X									
OHR000162800	NEXEO SOLUTIONS LLC												X
OHR000184267	SKYE METAL RECOVERY INC	X											
OKD000402396	US ECOLOGY TULSA, INC								X	X			X
OKD000763821	SAFETY-KLEEN SYSTEMS, INC												X
OKD064558703	TULSA CEMENT LLC D/B/A CENTRAL PLAINS CEMENT COMPANY				X								

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
OKD065438376	CLEAN HARBORS LONE MOUNTAIN								X		X		X
OKD981588791	TRIAD TRANSPORT INC.												X
OKD987084068	STERICYCLE SPECIALTY WASTE SOLUTIONS, INC.												X
OKD987097151	EURECAT US (WAS TRICAT INC.)			X									
OKR000023184	ENVIRO CLEAN WASTE SERVICES, LLC												X
OKR000025452	SYSTECH ENVIRONMENTAL CORP					X							
OKR000031492	BASIN TRANSPORTATION LLC												X
ORD000711671	UNIVAR USA INC.												X
ORD089452353	CHEMICAL WASTE MANAGEMENT OF THE NW			X		X			X	X	X	X	X
ORD981766124	SAFETY KLEEN SYSTEMS INC												X
PA0000453084	BETHLEHEM APPARATUS CO INC	X								X			X
PAD000738823	SAFETY-KLEEN SYSTEMS INC												X
PAD000738849	SAFETY-KLEEN SYSTEMS INC												X
PAD000797548	FIELDING ENVIROMENTAL LLC												X
PAD002330165	EAST PENN MANUFACTURING CO INC												X
PAD002365849	ABINGTON METALS REFINING & MFG INC	X											
PAD002389559	KEYSTONE CEMENT CO				X								X
PAD002390961	BETHLEHEM APPARATUS CO INC	X								X			
PAD002395887	AMERICAN ZINC RECYCLING CORP	X											X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
PAD004835146	MAX ENVIRONMENTAL TECHNOLOGIES INC YUKON FAC												X
PAD010154045	ENVIRITE OF PENNSYLVANIA INC								X	X			X
PAD067098822	CYCLECHEM INC								X	X			X
PAD085690592	REPUBLIC ENVIRONMENTAL SYSTEMS (PA) LLC	X				X			X	X			X
PAD086673407	SAFETY-KLEEN SYSTEMS INC												X
PAD087561015	THE INTL METALS RECLAMATION CO INC	X											X
PAD981038227	WORLD RESOURCES CO	X											X
PAD981736143	SAFETY-KLEEN SYSTEMS INC												X
PAD981737109	SAFETY-KLEEN SYSTEMS INC												X
PAD982576258	SAFETY-KLEEN SYSTEMS INC												X
PAD982661381	REPUBLIC ENV SYS LLC												X
PAD987266715	SAFETY-KLEEN SYSTEMS INC												X
PAD987270725	EVOQUA WATER TECHNOLOGIES LLC	X		X									X
PAD987367216	AERC RECYCLING SOLUTIONS	X											X
PAD987378940	LEWIS ENV INC												X
PAR000043026	WASTE RECOVERY SOLUTIONS INC												X
PAR000521294	ABINGTON RELDAN METALS LLC	X											X
PAR000521740	AES ASSET ACQUISITION CORPORATION												X
PAR000522318	AERC RECYCLING SOLUTIONS	X											
PAR000524041	US ENV INC												X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
PRD090399718	SAFETY-KLEEN ENVIROSYSTEMS CO OF PUERTO RICO, INC		X										
RID001200252	TECHNIC INC	X											
RID040098352	NORTHLAND ENVIRONMENTAL LLC												X
RID059735761	ADVANCED CHEMICAL COMPANY	X											X
RID084802842	SAFETY-KLEEN SYSTEMS, INC.												X
RID095978995	GEIB REFINING CORP	X											
RID981886104	GANNON AND SCOTT INC.	X											
SCD003351699	GIANT CEMENT COMPANY				X				X				X
SCD003368891	HOLCIM US INC GEOCYCLE LLC				X				X				X
SCD036275426	GIANT RESOURCE RECOVERY SUMTER INC												X
SCD036275626	GIANT RESOURCE RECOVERY SUMTER INC		X			X							X
SCD077995488	SAFETY KLEEN SYSTEMS INC LEXINGTON		X						X				X
SCD981031040	SAFETY KLEEN SYSTEMS INC GREER								X				
SCDO36275626	GIANT RESOURCE RECOVERY SUMTER INC		X										
SCR000762245	INDUSTRIAL WASTE SERVICE												X
SCR000762468	VLS RECOVERY SERVICES LLC												X
SCR000767814	CLEANLITES RECYCLING SOUTH LLC												X
SCR000771618	AMERICAN ZINC RECYCLING CORP	X											X
SDD000716696	SAFETY-KLEEN SYSTEMS, INC.												X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
TN0000317289	SAFETY-KLEEN SYSTEMS, INC., PINEY FLATS								X				
TND000614321	SAFETY-KLEEN SYSTEMS, INC., MILLINGTON								X				X
TND000645770	CLEAN HARBORS TENNESSEE, LLC								X				X
TND000646612	HERAEUS PRECIOUS METALS NORTH AMERICA, LLC	X											
TND000712186	TRADEBE TREATMENT & RECYCLING OF TENNESSEE, LLC												X
TND000772186	TRADEBE TREATMENT & RECYCLING OF TENNESSEE, LLC					X				X			X
TND000772277	CLEAN HARBORS, ANTIOCH LLC												X
TND980847024	EXCEL TSD INC	X				X			X	X			
TND981474125	SAFETY-KLEEN SYSTEMS INC NASHVILLE								X				
TND982109142	DIVERSIFIED SCIENTIFIC SERVICES INC. (DSSI)				X				X	X			X
TND982141392	CLEAN HARBORS CHATTANOOGA, LLC												X
TND982144099	AMERICAN ZINC RECYCLING CORP.	X											X
TND982157570	ENERGY SOLUTIONS, INC									X			
TND987777695	SAFETY-KLEEN SYSTEMS, INC., KNOXVILLE								X				
TNR000003137	SOUTHEAST RECYCLING TECHNOLOGIES, INC.												X
TNR000039925	LIGHTING RESOURCES LLC	X											X
TXD000719518	TM DEER PARK SERVICES					X			X	X		X	X
TXD000729400	SAFETY KLEEN SYSTEMS SAN ANTONIO								X				
TXD000747378	SAFETY-KLEEN SYSTEMS								X				X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
TXD000747402	SAFETY-KLEEN SYSTEMS CORPUS CHRISTI BRANCH								X				
TXD000838896	VEOLIA ES TECHNICAL SOLUTIONS						X					X	X
TXD008029191	LIGHTING RESOURCES	X											X
TXD008099079	ECO SERVICES OPERATIONS HOUSTON				X								
TXD010791184	LONESTAR ECOLOGY					X			X				X
TXD010803203	SAFETY-KLEEN MISSOURI CITY 6 073 02								X				X
TXD026316422	ECS REFINING	X											
TXD046844700	CHEMICAL RECLAMATION SERVICES AVALON FACILITY					X							X
TXD055135388	SET ENVIRONMENTAL					X			X				X
TXD055141378	CLEAN HARBORS DEER PARK	X	X	X			X						X
TXD062287883	SAFETY KLEEN ABILENE 6 002 01								X				
TXD069452340	US ECOLOGY TEXAS			X							X	X	X
TXD074195678	GLADIEUX METALS RECYCLING	X											
TXD074196338	PHILLIP RECLAMATION SERVICES	X				X			X				X
TXD077603371	SAFETY-KLEEN SYSTEMS DENTON RECYCLE CENTER					X							X
TXD083145656	SAFETY KLEEN SYSTEMS								X				
TXD097673149	VOPAK LOGISTICS SERVICES USA DEER PARK								X			X	X
TXD102599339	PSC RECOVERY SYSTEMS								X				X
TXD106829963	EURECAT US			X									
TXD980745095	NEXEO SOLUTIONS GARLAND												X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
TXD980811046	STERICYCLE ENRVIRONMENTAL SOLUTIONS LANCASTER FACI												X
TXD980876015	SAFETY-KLEEN WACO								X				
TXD981052061	SAFETY KLEEN SYSTEMS IRVING								X				
TXD981053416	SAFETY KLEEN SYSTEMS FORT WORTH								X				
TXD981053770	CLEAN HARBORS SAN LEON			X									X
TXD981056690	SAFETY-KLEEN SYSTEMS MIDLAND								X				X
TXD981514383	ALPHA OMEGA RECYCLING	X											X
TXD982290140	CLEAN HARBORS LAPORTE								X				X
TXD982560294	NSSI RECOVERY SERVICES											X	X
TXD988088464	WASTE CONTROL SPECIALISTS									X	X		X
TXR000001016	TM CORPUS CHRISTI SERVICES								X			X	
TXR000025841	STERICYCLE ENVIRONMENTAL SOLUTIONS PASADENA FACILI												X
TXR000031286	INTERGULF								X				X
TXR000050930	SAFETY KLEEN SYSTEMS HAZARDOUS WASTE TRANSPORTER												X
TXR000068635	MULTI-CHEM GROUP												X
TXR000080110	B O D ENVIRONMENTAL												X
TXR000081205	SAFETY-KLEEN SYSTEMS												X
UTD980957088	SAFETY-KLEEN SYSTEMS, INC.												X

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		Metals Recovery	Organics Recovery	Inorganics Recovery	Energy Recovery	Fuel Blending	Incineration		Wastewater Treatment	Sludge Treatment/ Stabilization/ Encapsulation	Landfill	Deepwell Injection	
							Incineration Unit	Open Burning/ Open Detonation Unit					
UTD981552177	CLEAN HARBORS ARAGONITE						X		X				X
UTD982595795	CLEAN HARBORS CLIVE, LLC												X
UTD982598898	ENERGYSOLUTIONS CLIVE FACILITY								X	X	X		X
UTD991301748	CLEAN HARBORS GRASSY MOUNTAIN										X		X
VAD000737346	SAFETY-KLEEN SYSTEMS, INC.												X
VAD000737361	SAFETY-KLEEN SYSTEMS, INC.												X
VAD981043011	SAFETY-KLEEN SYSTEMS, INC.												X
VTD000791699	SAFETY-KLEEN SYSTEMS INC												X
VTR000517052	ENPRO SERVICES OF VERMONT, INC.												X
WAD020257945	BURLINGTON ENVIRONMENTAL LLC TACOMA	X				X			X	X			X
WAD981769110	EMERALD SERVICES INC ALEXANDER AVE		X			X							X
WAD991281767	BURLINGTON ENVIRONMENTAL LLC KENT					X			X	X			X
WAH000026371	ECOLIGHTS NORTHWEST			X									
WAR000001743	BURLINGTON ENVIRONMENTAL LLC TACOMA TRAN												X
WAR000010355	PERMA FIX NORTHWEST RICHLAND INC								X	X			X
WAR000011999	TOXCO WASTE MANAGEMENT LTD	X											
WI0000815381	CONVANTA ENVIRONMENTAL SOLUTIONS CARRIERS II LLC												X
WI0000934174	AURA II INC	X											

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							Incineration Unit	Open Burning/ Open Detonation Unit					
WID000000356	WM MERCURY WASTE INC	X											
WID003967148	VEOLIA ES TECHNICAL SOLUTIONS LLC					X				X			X
WID006157598	JOHNSON REFRIGERATION TRUCK BODIES LLC												X
WID981097769	SAFETY-KLEEN SYSTEMS INC												X
WID981187297	SAFETY-KLEEN SYSTEMS INC												X
WID988566543	VEOLIA ES TECHNICAL SOLUTIONS LLC	X											X
WID988566573	VEOLIA ES TECHNICAL SOLUTIONS LLC	X											
WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC					X							X
WID988615613	EMCO CHEMICAL DISTRIBUTORS INC												X
WID990829475	WRR ENVIRONMENTAL SERVICES CO INC		X			X			X				X
WIDOO3967148	VEOLIA ES TECHNICAL SOLUTIONS LLC												X
WIR000000356	WM MERCURY WASTE INC	X							X				X
WIR000136572	COVANTA ENVIRONMENTAL SOLUTIONS LLC												X
WIR000142877	ENVIRO-SAFE RESOURCE RECOVERY												X
WVD981034101	SAFETY-KLEEN SYSTEMS, INC.												X
WVD981107600	CLEAN EARTH OF MORGANTOWN												X
WVD988770673	ENVIRONMENTAL PROTECTION SERVICES												X

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Appendix C
CAP Management Categories

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CAP Management Categories

For each of the CAP management categories, the main technologies used for each category are described, including the types of waste recovered, treated, or disposed. Each CAP management category is comprised of a number of waste management technologies that are generally interchangeable for managing broad types of wastes based on treatment performance.

METALS RECOVERY

Metals recovery technologies are designed to separate desired metals from other constituents of hazardous wastes. The most common technologies, which are described below, are high-temperature metals recovery, retorting, secondary smelting, ion exchange, and acid leaching.

High-temperature metals recovery is used to treat hazardous wastes that contain metals such as cadmium, chromium, lead, nickel, and zinc compounds. Metals are separated from the waste at high temperatures through a thermochemical-process using carbon, limestone, and silica as the chemical agents. The constituents being recovered from the waste are heated so that they melt and/or volatilize and can be recovered in metallic or oxide form from process vapors or from a molten bath. The high temperature metals recovery process typically consists of a mixing unit, a high temperature processing unit, a product collection system, and a residual treatment system. Other volatile metals, such as arsenic or antimony, may be difficult to separate from the desired metal products and may adversely affect the ability to reuse the recovered materials. Slag, the primary residual from the process, is sometimes cooled in a quench tank and reused either directly or after further processing, or, if the material has no recoverable value, it is land disposed after necessary treatment.

Retorting is similar to high-temperature metals recovery in that it provides for recovery of metals from wastes primarily by volatilization and subsequent collection and condensation of the volatilized components. It is used primarily to remove elemental mercury, as well as mercury present in the oxide, hydroxide, and sulfide forms from hazardous wastes.

Secondary smelting also is very similar to high-temperature metals recovery; but is generally used for processes that recover lead from hazardous wastes. In this process, waste passes through a smelting furnace where the lead is concentrated into a bullion and separated from slag in molten form.

Ion exchange is primarily used to treat aqueous hazardous wastes with dissolved metals. These wastes also might contain nonmetallic anions such as halides, sulfates, nitrates, and cyanides, and water soluble ionic organic compounds. In ion exchange metals recovery, hazardous metal ions are removed and replaced by nonhazardous ions.

Acid leaching is used to treat hazardous wastes in solid or slurry form that either contain metal constituents that are soluble in a strong acid solution or can be converted by reaction with a strong acid to a soluble form. The acid leaching process is most effective with wastes that have high levels (over 1,000 parts per million) of metal constituents.[12] Leachate from acid leaching generally requires further processing (e.g., ion exchange) to recover metals from the solution.

[12] *Treatment Technology Background Document*, January 1991, EPA, Office of Solid Waste, page 184. Available at https://www.epa.gov/sites/production/files/2016-01/documents/ttbd.pdf.

ORGANICS RECOVERY

Organics recovery technologies are used to separate liquid organic wastes, primarily spent solvents (both halogenated and nonhalogenated), for full or partial recovery. The most common technologies, described below, are distillation and solvent extraction. Other technologies include waste oil recovery and non-solvents organic recovery.

Distillation is a thermal treatment technology applicable to the treatment of wastes containing organics that are volatile enough to be removed by the application of heat. Constituents that are not volatilized may be reused or incinerated, as appropriate. Distillation is the process of separating volatile materials using evaporation followed by condensation. The liquids to be separated must have different volatilities and the degree of separation of these liquids is limited by the difference in their volatilities. Distillation for recovery can be limited by the presence of either volatile or thermally reactive suspended solids.

Important distillation technologies are:

- **Fractionation.** This technology uses tray columns or packed towers equipped with a reboiler, condenser, and an accumulator. The process is not applicable for liquids with high viscosity at high temperature, liquids with a high concentration of solids, polyurethanes, and inorganics. In general, the process is used where recovery of multiple constituents is desired and the waste contains minimal amounts of suspended solids. This process achieves a high product purity.

- **Steam Stripping.** This process is essentially fractionation with steam as heat source. It is typically applied to wastes with less than 1 percent volatile organics.[13]

- **Batch Distillation.** This technology uses a steam-jacketed vessel, a condenser, and a product receiver. Pressurized steam is usually the source of heat.

- **Thin Film Evaporation.** This technology uses a steam-jacketed cylindrical vessel and condenser, where the material trickles down the inside cylinder walls in thin streams, and a distribution device that spreads the film over the heated surface. It can be used to treat highly concentrated organic wastes that contain low concentrations of suspended solids.

Solvent extraction is used to treat wastes with a broad range of total organic content, such as certain oil refinery wastes. Constituents are removed from the waste by mixing it with a solvent that will preferentially dissolve the constituents of concern. The selection of a solvent depends on its solubility with the organic compounds to be removed and the other constituents in the waste. The waste and solvent must be physically immiscible so that after mixing the two immiscible phases can be physically separated by gravity. The process can be either batch or continuous. The simplest, least effective solvent extraction unit is a single-stage system (mixer-setter system). Other types of solvent extraction systems include multistage contact extraction (basically a series of single-stage units), countercurrent multi-stage extraction columns, and centrifugal contactors.

[13] *Treatment Technology Background Document*, January 1991, EPA, Office of Solid Waste, page 135. Available at https://www.epa.gov/sites/production/files/2016-01/documents/ttbd.pdf.

INORGANICS RECOVERY

Acid regeneration is the primary technology for inorganics recovery and is used to recover mainly halogen and sulfuric acids. These acids are recovered by halogen acid furnaces and sulfur recovery furnaces, respectively. Halogen acid furnaces typically process chlorinated and brominated secondary waste streams, with 20 to 70 percent halogen content by weight, to produce either hydrogen chlorine or hydrogen bromine.[14] Sulfur recovery furnaces are used by sulfuric acid plants to process used sulfuric acid and other sulfur-containing wastes. Typical acid contaminants include organics, inorganics, and water. The contaminated acids and other halogen- or sulfur-containing compounds are thermally decomposed at elevated temperatures and the desired halogen or sulfur compounds captured from the exhaust gases, such as by passing the gases through converted catalyst beds.

ENERGY RECOVERY

Energy recovery systems burn hazardous waste for its fuel value. The capacity to burn liquids as fuel dominates at a national level, as sludges and solids are not often burn for recovery. Types of energy recovery systems are discussed below.

- **Industrial kilns.** Cement and lightweight aggregate kilns can burn liquid hazardous wastes for their heat value. (A few cement kilns also burn small containers of viscous or solid hazardous waste fuels.) Typically, cement kilns blend the wastes with fossil fuels while aggregate kilns burn 100 percent liquid wastes.

- **Industrial boilers.** Some industrial boilers can use limited amounts and types of hazardous wastes as supplements to fossil fuels. The wastes are commonly blended before using as fuel.

FUEL BLENDING

Fuel blending is the process of blending hazardous waste streams together, generally in tanks, to obtain a fuel that meets the specifications of fuel burners (e.g., energy recovery systems). Fuel blending is not a stand-alone treatment technology; the resulting fuels are subsequently burned, either on or offsite, by combustion systems.

INCINERATION

Incineration uses controlled, high-temperature combustion processes to break down the organic compounds in a hazardous waste. The incineration of hazardous waste must be performed in accordance with the incinerator design and emissions regulations in 40 CFR Part 264, Subpart O or 40 CFR Part 265, Subpart O. Incinerators can burn pumpable waste (liquids and gases), nonpumpable waste (solids and sludges), or both. Several types of incinerators are discussed below.

Liquid Injection Incinerators. These incinerators are used widely for destruction of liquid organic wastes. They operate by spraying the waste mixed with air into a chamber where flame oxidation occurs.

[14] 56 *FR* 7140, February 21, 1991. Available at https://archive.epa.gov/epawaste/hazard/web/pdf/56fr7134022119911.pdf.

Rotary Kilns. Rotary kilns can treat most types of solids, liquids, and gases. They consist of a long inclined tube where the waste is placed and rotated slowly as heat is applied. The process is intended for solids, but liquids and gases can be mixed with the solids.

Fluidized-bed Incinerators. Air is blown through a granular bed (usually sand) until the particles are suspended and move and mix like a fluid. The heated particles come in contact with the wastes to be incinerated and improve the heat transfer. This type of incineration is ideal for sludge and slurries.

Other types of incinerators include two-stage and fixed hearth.

The ash produced from the incineration of hazardous waste also may be hazardous, and therefore must be further treated by stabilization before disposed in a landfill.

WASTEWATER TREATMENT

This CAP management category covers a broad range of treatment technologies and treats the largest volume of hazardous waste of any CAP management category. Wastes that are treated in this category either undergo further treatment (under this or other CAP management categories) or are sent for disposal. Many of these technologies are used together in one treatment system (e.g., chrome reduction followed by chemical precipitation). The discussion of these technologies is organized by the principal type of waste treated: aqueous inorganic, aqueous organic, aqueous inorganic and organic sludge, and other.

Aqueous Inorganic Treatment

- **Chrome reduction (hexavalent)** is applicable to wastes containing hexavalent chromium wastes, including plating solutions. The process uses a chemical reaction with a reducing agent, such as sulfur dioxide or sodium bisulfite, to reduce chromium from a hexavalent to a trivalent state, so that the chromium can be more easily precipitated. The reduced chromium compounds are precipitated from the solution by raising the pH and the resulting insoluble form of chromium is allowed to settle from the solution.

- **Cyanide destruction** is applicable to wastes containing high concentrations of cyanide, such as concentrated spent plating solutions. This technology is often applied as pretreatment prior to chemical oxidation. The waste is subject to electronic reaction with dissolved oxygen in an aqueous solution and broken down into carbon dioxide, nitrogen, and ammonia. The procedure is conducted at elevated temperature, depends on the conductivity of waste, and occurs in a closed cell.

- **Chemical oxidation** changes the chemical form of hazardous material through a chemical reaction with an oxidizing agent that produces carbon dioxide, water, salts, and simple organic acids. Principal chemical oxidants include hypochlorite, chlorine gas, chlorine dioxide, hydrogen peroxide, ozone, and potassium permanganate. This technology is used to treat wastes containing organics, sulfide wastes, and certain cyanide and metal wastes.

- **Chemical precipitation** is used to treat wastewaters containing metals and other inorganic substances such as fluoride. The process removes these metals and inorganics from solution in the form of insoluble solid precipitate by adding a precipitating agent (e.g., lime, caustic (NaOH), sodium sulfide). The solids that form are then separated from the wastewater by

settling, clarification, and/or polishing filtration. Pretreatment may be required for some wastewaters, such as those that contain chromium or cyanide.

- **Ion exchange** is used to treat hazardous wastewaters with metals that are present as soluble ionic species; nonmetallic anions such as halides, sulfates, nitrates, and cyanides; and water soluble ionic organic compounds. Typically, the waste constituents are removed when a waste solution is percolated through a granular bed of the ion exchanger in which ions from the waste are exchanged with those in the ion exchanger.

- **Reverse osmosis** involves a dilute solution and concentrated solution separated by a semi-permeable membrane. When high pressure is added to the concentrated side, the solution flows through the membrane to the more dilute side, collecting waste constituents that are unable to pass through the membrane.

Aqueous Organic Treatment

- **Biological treatment processes** are used to decompose hazardous organic substances with microorganisms. These processes require stable operating conditions and usually take place in tanks or lagoons. The most common type is aerobic biological treatment, including activated sludge treatment. This method treats wastewaters with low levels of nonhalogenated organics and certain halogenated organics.

- **Carbon adsorption** is used to treat aqueous organic wastewaters with high molecular weights and boiling points and low solubility and polarity, chlorinated hydrocarbons, and aromatics (e.g., phenol). The wastewater is passed through activated carbon beds which attract and hold (adsorb) the organic waste constituents (and possibly inorganics and metals), removing them from the water.

- **Air stripping** is a process used to treat aqueous organic waste with relatively high volatility and low water solubility. The volatile contaminants are evaporated into the air and captured for subsequent treatment.

- **Steam stripping** is used to treat aqueous organic wastes contaminated with chlorinated hydrocarbons, aromatics, ketones, and/or alcohols. This technology can treat less volatile and more soluble wastes than air stripping, and can handle a wide concentration range. First, steam is used to evaporate volatile organics. The evaporated organics are then captured, condensed, and reused or further treated.

Aqueous Inorganic/Organic Treatment

- **Wet air oxidation** is used to treat aqueous waste streams with less than five percent organics, pesticides wastes, and wastewaters containing sulfur, cyanide, or phenolic compounds. It is not recommended for treating aromatic halogenated organics, inorganics, or large volumes of waste. The aqueous solution is heated in the presence of compressed air and dissolved or finely divided organics are oxidized. These oxidized products usually remain in the liquids phase. These liquids can then be further treated or sent for disposal. An important advantage of wet air oxidation is that it accepts waste with organic concentrations ranging between those considered ideal for biological treatment or for incineration.

Other Wastewaters Treatment

- **Neutralization** is used to treat waste acids and alkalies (bases) in order to eliminate or reduce their reactivity and corrosiveness. In this process, an excess of acidic ions (H+) is balanced with an excess of base ions (OH) to form a neutral solution.

- **Evaporation** is physical separation of a liquid from a dissolved or suspended solid by adding energy to volatilize the liquid. It can be applied to any mixture of liquids and nonvolatile solids. The liquid should volatilize at a reasonable temperature.

- There are many types of **settling/clarification processes**. One type is sedimentation, which is a gravity-settling process that allows heavier solids to separate from fluid by collecting at bottom of a containment vessel such, as settling ponds or a circular clarifier. Additional treatment is needed for the liquid and separated sludge.

- **Flocculation** is the addition of a chemical to a waste to enhance sedimentation and centrifugation; primarily for inorganic precipitation.

- **Phase separation** refers to processes such as emulsion breaking and filtration. *Emulsion breaking* uses gravitational force to separate liquids with sufficiently different densities, such as oil and water. This process is enhanced by adding certain acids. *Filtration* is the process of separating and removing suspended solids from a liquid by passing the liquid through a porous medium (see sludge dewatering). Polishing filtration, applied to wastewaters containing relatively low concentrations of acids, is used after chemical precipitation and settling/clarification of wastewaters containing inorganic precipitates to remove additional particles, such as those that are difficult to settle because of their shape or density.

SLUDGE TREATMENT

- **Sludge dewatering (sludge filtration)** is used for wastes with high concentrations of suspended solids (generally higher than 1 percent). Sludges can be dewatered to 20 to 50 percent solids. The solid particles are separated from the waste through a filter that permits fluid flow but retains the particles. For this technology, waste can be pumped through a porous filter, drawn by vacuum through a cloth filter, or gravity-drained and mechanically pressured through two continuous fabric belts.

- **Solvent extraction** is used to treat wastes with a broad range of total organic content such as certain oil refinery waste. Constituents are removed from the waste by mixing it with a solvent that will preferentially dissolve the constituents of concern. The waste and solvent must be physically immiscible so that after mixing the two immiscible phases can be physically separated by gravity.

Other sludge treatment methods include addition of excess lime or caustic to increase the alkalinity of the waste and absorption/adsorption processed to remove liquid from the sludge.

STABILIZATION/CHEMICAL FIXATION

Stabilization and chemical fixation refer to treatment processes that chemically or physically immobilize the hazardous constituents in a waste by binding the hazardous constituents into a solid mass. The resulting product has a low permeability that resists leaching.

Stabilization is used to treat wastes containing leachable metals and having a high filterable solids content, low organic carbon content, and low oil and grease content. The leachable metals in a waste are immobilized following the addition of stabilizing agents and other chemicals, and the resulting lattice structure and/or chemical bonds bind the metals to the solid matrix and thereby limit the amount of metal constituents that can be leached. The process normally requires a weighing device, a mixing unit (typically commercial concrete mixers), and a curing vessel or pad. Advantages of stabilization include inexpensive and plentiful raw materials and minimal pretreatment requirements. The main disadvantage is that the large volumes of additives required greatly increase the waste volume to be disposed. The main stabilization technologies are:

- **Lime-Based Pozzolan Process.** This technology treats sludges and contaminated soils by adding large amounts of siliceous (silica) materials combined with a setting agent such as lime, forming a dewatered stabilized solidified product. Contaminants can include metals, waste oils, and solvents. Materials such as borates, sulfates, and carbohydrates interfere with the process.

- **Portland Cement Pozzolan Process.** This technology is similar to the lime-based pozzolan process except that the waste is mixed with portland cement. The process is effective for metal cations, latex, and solid plastic wastes. Large amounts of dissolved sulfate salts or metallic anions (such as arsenate and borates) can interfere with solidification. Organic material, lignite, silt, or clay in the wastes will increase setting time.

- **Sorption.** This technology, suitable for organics and inorganics, is commonly used to treat metal sludges removed from aqueous waste streams. Contaminants are bound up in pozzolan-type matrices by physical or chemical sorption, yielding a stabilized, easier to handle material. After treatment, the material is permeable and contains a high concentration of contaminants at its surface; consequently, contaminants may leach.

Two types of ***high temperature stabilization*** include vitrification and high temperature calcination. The *vitrification* process involves dissolving the waste at high temperatures into glass or glasslike matrix. It is applicable to nonwastewaters containing arsenic (usually in form of arsenate salts), other characteristic toxic metal constituents that are relatively nonvolatile at operating temperature of the process, and certain wastes containing organometallic compounds. The process is not applicable to volatile metallic compounds or wastes containing high levels of constituents that will interfere with the vitrification process such as chlorides and halogen salts. *High temperature calcination*, applicable to inorganic wastes that do not contain volatile constituents, involves merely heating the material at high temperatures. The waste is sometimes blended with lime before heating. The process removes water from the waste, converts hydroxides to oxides, and converts the waste into a coherent mass, reducing surface area to minimum.

Fixation processes are applicable to liquid, semi-liquid, or solid wastes that may leach hazardous constituents. The processes can effectively treat a variety of hazardous wastes containing heavy metals, such as sludges from electroplating operations, ion-exchange resins from water demineralization, spent activated carbon, pesticides, nickel-cadmium battery sludge, and pigment production sludge. The process involves grinding a dewatered waste, mixing the resulting particles with a hardening resin, placing the mixture in a mold, and heating the material until it fuses. The product is hard, solid block with reduced leachability potential, improved handling, and minimal volume increase (unlike conventional stabilization techniques). The most serious drawback is uncertainty about long-term effectiveness.

In the main fixation technologies, asphalt-based and thermoplastic encapsulation, the dewatered waste is mixed within either an asphalt bitumen, paraffin, or polyethylene matrix. These technologies are applicable to hazardous wastes that are complex and difficult to treat, but should not be used for waste with high-water content, strongly oxidizing contaminants, anhydrous inorganic salts, tetraborates, iron and aluminum salts, or volatile organics.

Another stabilization/fixation technology is ***polymerization***. This technology has been applied to spills and used catalysts. To convert a monomer or a low-order polymer of a particular compound to a larger polymer. Larger polymers generally have greater chemical, physical, and biological stability. The process is used to treat organics, including aromatics, aliphatics, and oxygenated monomers such as styrene, vinyl chloride, isoprene, and acrylonitrile.

These technologies expand the volume of hazardous wastes to be disposed. The stabilization/fixation of characteristic hazardous waste often generates residuals that are not characteristically hazardous and therefore can be disposed of in Subtitle D landfills.

LAND TREATMENT OR APPLICATION

Wastes disposed by land treatment/farming must meet Land Disposal Restrictions (LDR) treatment standards and land treatment facilities must meet minimum technology standards.[15] This disposal method is only used at onsite and captive facilities; it is not used commercially and the national assessment does not include projections for this CAP management category. Land treatment/farming is used to dispose of biodegradable hazardous wastes by depositing the wastes on or near the soil surface, mixing the wastes with the soil using conventional plow techniques, and allowing the wastes to be naturally decomposed by microbes such as algae and bacteria. The hazardous wastes, including organic liquid wastes and sludges, often require pretreatment before disposal to reduce or eliminate their hazardous attributes. The effectiveness of waste degradation is affected by many factors including the density and makeup of the microbe populations, which vary with soil depth and geographic location, and the care given to the waste after being deposited. The regulatory standards for this technology require the owner or operator to establish a program to ensure that hazardous constituents placed within the facility's treatment zone are degraded, transformed, or mobilized within that zone.[16]

LANDFILL

The landfill category includes landfill and surface impoundment disposal. Waste disposed in a landfill is placed on or beneath the surface of the ground and covered with soil or other material, to isolate the wastes from the environment. Landfills are required to have double liners, leachate-collection systems, and ground-water monitoring programs. Wastes not permitted to be disposed in landfills include bulk or non-containerized liquid nonhazardous and hazardous waste, or free liquids containing hazardous waste. In addition, wastes such as acids must be segregated to prevent reactions with other wastes or waste constituents.

A surface impoundment is a natural topographic depression; man-made excavation, or diked area, such as a pond, pit, or lagoon that can be used for disposal if the closure requirements for a landfill are followed. Surface impoundments are open on the surface and are designed to

[15] 40 CFR 264.271.

[16] 40 CFR 264.271.

accumulate organic and inorganic liquid wastes, sludges, and slurries. Surface impoundments are required to have double liners, leachate collection systems, and routine inspections.[17]

Under the RCRA LDR Program, hazardous wastes generally cannot be disposed in landfills or surface impoundments until after the waste has been properly treated. Thus, disposal facilities receive treatment residuals, such as incinerator ash or stabilized wastes.[18]

DEEPWELL/UNDERGROUND INJECTION

Deepwell/underground injection is the disposal of hazardous wastewaters by injection into underground rock formations. Wastes are injected through bored, drilled, or driven wells, or through dug wells where the depth of the well is greater than its largest surface dimension. The disposal method relies on hydrogeological principles of the movement of liquids in layers of deep underground rock; the most desirable injection zone has sedimentary rocks with sufficient permeability, thickness, depth, and areal extent. Underground injection is most suitable for wastewaters that are low in volume and high in concentration, difficult and costly to treat by surface methods, biologically inactive, noncorrosive, free of suspended solids, and unlikely to react adversely with the rock strata or the fluid used to pressurize the wells. Much of the waste is pretreated to remove suspended solids or adjust the pH. As noted for the landfill CAP management category, hazardous wastes generally cannot be disposed in underground injection wells unless the applicable LDR treatment standards are met.[19] Capacity amounts are determined by permit. Note that many of the wastewater treatment technologies are technically capable of also treating the wastes being disposed through deepwell and underground injection.

TRANSFER/STORAGE

This CAP management category captures those hazardous wastes that are shipped offsite to transfer/storage facilities which store the waste for short periods of time, sometimes bulking the waste with other shipments, and then shipping the waste to hazardous waste management facilities. The hazardous waste must be stored for less than 90 days, or the transfer/storage facility becomes subject to the standards and permitting requirements for hazardous waste management facilities. If the waste is stored more than 10 days (but less than 90 days), the transfer/storage facility is subject to the storage requirements of RCRA Subtitle C. If the waste is stored 10 days or less, the facility is subject only to transporter regulations.[20] Transporters that mix hazardous wastes with different U.S. Department of Transportation (DOT) shipping descriptions in the same container are classified as generators and must comply with the relevant RCRA Subtitle C regulations.

[17] 40 CFR 268.4.
[18] 40 CFR 268.40.
[19] 40 CFR 148.1.
[20] 40 CFR 268.50.

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Appendix D
Methodology for Estimating Demand on Hazardous Waste Capacity

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Methodology for Estimating Demand on Hazardous Waste Capacity

This appendix briefly describes the methodology used by the U.S. Environmental Protection Agency (EPA) to estimate demand on hazardous waste capacity for the 2019 national capacity assessment. To develop the data to assess hazardous waste management demand at a national level, EPA referred to the *Guidance for Capacity Assurance Planning* document dated May 1993 (also referred to as the 1993 Guidance). This document provides instructions for developing six data tables that provide state-specific information, using the Hazardous Waste Report (also known as the Biennial Report or BR) as the primary source of data.

The instructions in the 1993 Guidance are based on the 1991 BR forms. Since then, the BR forms have changed drastically. For example, the Process System (PS) Form of the BR was the primary source of information on a facility's commercial status and commercial capacity availability, among other data. However, in accordance with EPA's efforts to reduce the recordkeeping and reporting burden on the regulated community, EPA streamlined the federal data collection forms for the 1997 BR cycle by eliminating the PS Form. Then, in 2001, there was a significant change to the management method codes used to compete the BR forms because of the Waste Information Needs/Information Needs for Making Environmental Decisions (WIN/INFORMED) Initiative. Thus, EPA had to make some adjustments to account for the data currently collected from hazardous waste generator and managers using the BR forms.

In addition, due in part to increased knowledge of hazardous waste management, the ability to analyze trends, improvements in data software and hardware capabilities, EPA was able to develop estimates for cleanup wastes based on BR data instead of the complex calculations used 20 years ago for the CAP program. These technical updates or adjustments to the methodology described in the 1993 Guidance are reflected in the 2019 assessment.

For the 2019 assessment, the year 2017 is the "baseyear" for the demand data because, at the time the analysis was conducted, this was the most recent year for which BR data were available. EPA used the 2017 BR data to estimate the quantity of hazardous waste management by the following categories:

- **Onsite management.** This includes waste managed in units at the facility generating the waste, which are permitted as not accepting waste from offsite.

- **Captive management.** This includes waste shipped offsite for management at facilities owned by the same company as the generator but located at a different site. EPA considered all demand for management in units owned by the same company as the generator but located at a different site as captive, including demand reported as onsite management by the captive management facilities. This assignment is reasonable because wastes managed onsite by captive facilities reduce the capacity that is available at the facilities.

- **Commercial management.** This includes wastes shipped by generators to unaffiliated management facilities through private contracts or agreements. EPA considered all demand for management in units permitted as "accepting waste from offsite" as commercial, including demand reported as onsite management by the commercial management facilities. This assignment is reasonable because wastes managed onsite by commercial facilities reduce the capacity that is commercially available at the facilities. For example, if a commercial landfill facility disposes of its own onsite wastes at the landfill, the amount of landfill capacity used for

that waste will not be available for facilities that send their waste for disposal at the commercial landfill.

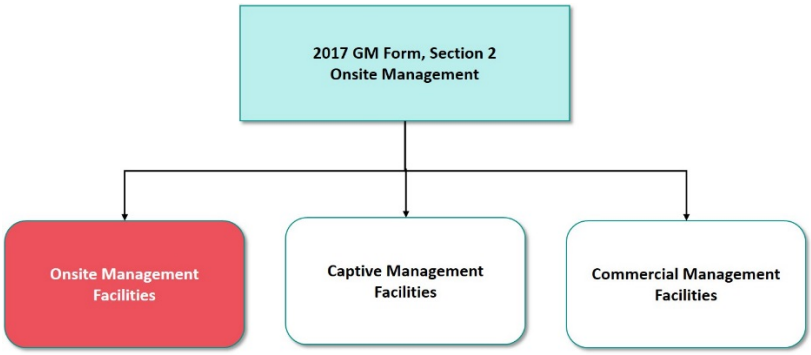
For purposes of the 2019 assessment, these waste quantities represent the amount of "demand" for each of the 12 CAP management categories.

In analyzing the demand for commercial hazardous waste management, an important analytical quality consideration was to evaluate the BR data for any double counting of waste demand. To do this, EPA first removed foreign import and export waste quantities to avoid the potential of double counting of additional waste demands. Data on foreign imports and exports are incorporated separately in the last step of the assessment. Following this, EPA identified waste considered to meet the federal regulatory definition of hazardous[21] and separated the RCRA federally-defined hazardous wastes from state regulatory-defined wastes (i.e., wastes from requirements that are more stringent or broader in scope than federal requirements). EPA also identified wastes reported by generators that do not meet the federal definition of an LQG. These steps were also necessary to avoid double counting of waste demand because waste demand from both wastes not defined hazardous wastes under the RCRA program and waste generated by generators not federally defined as *LQGs* are incorporated in the last steps of the capacity assessment.

The following sections describe the methodologies used to estimate waste demand for onsite management, captive management, and commercial management. The BR Forms and Instructions referenced in the description of the methodologies can be found in at EPA's RCRAInfo Web (https://rcrapublic.epa.gov/rcrainfoweb/action/main-menu/view).

[21] To be considered a hazardous waste, a material first must be classified as a solid waste (40 CFR 261.2). If a waste is considered solid waste, it must then be determined if it is hazardous waste (40 CFR 262.11). Wastes are defined as hazardous by EPA if they are specifically named on one of four lists of hazardous wastes located in 40 CFR Part 261, Subpart D (F, K, P, U) or if they exhibit one of four characteristics located in 40 CFR Part 261, Subpart C (characteristic wastes).

1. Hazardous Waste Generated and Managed Onsite



Legend

Hazardous Waste Report Form
Onsite Management Capacity

Following are the steps EPA undertook to estimate the quantities of hazardous waste generated and managed onsite for each of the Capacity Assurance Plan (CAP) management categories:

- ***Step 1: Compile data on hazardous waste generated and managed onsite.*** EPA referred to Section 2 of GM Forms (Onsite Management) in order to compile the following data for each waste stream:
  - Reporting year;
  - EPA ID Number of generating facility;
  - Name of generating facility;
  - Page number;
  - Source code;
  - Form code;
  - EPA hazardous waste codes representing the waste;
  - Waste description; and
  - Quantity of hazardous waste generated and managed onsite (in tons).

- ***Step 2: Separate wastes reported as onsite management at captive management facilities.*** EPA used available information on the type of hazardous waste management services provided by a facility, and separated quantities of wastes managed by captive hazardous waste management facilities. These wastes were not considered as onsite management but reassigned and included in Table II - 2017 National Baseyear Data Representing Management of Hazardous Waste at Captive Facilities. A list of captive hazardous waste management facilities is included in Appendix B.

- ***Step 3: Separate wastes reported as onsite management at commercial management facilities.*** EPA used available information on the type of hazardous waste management services provided by a facility, and separated quantities of wastes managed by commercial hazardous waste management facilities. These wastes were not considered as onsite management but reassigned and included in Table III - 2017 National Baseyear Data

Representing Management of Hazardous Waste at Commercial Facilities. A list of commercial hazardous waste management facilities is included in Appendix B.

- ***Step 4: Assign "other recovery" and "other treatment" management method codes to CAP management categories.*** For purposes of the capacity assessment, wastes represented by the "other recovery" management method code (Management Method Code H039) were assigned to the "Inorganics Recovery" CAP Management Category.

  In addition, wastes represented by the "other treatment" management method code (Management Method Code H129) were assigned to the "Wastewater Treatment" CAP Management Category, given that about 90 percent of these wastes are wastewaters. The one exception is open burning/open detonation (OB/OD) units. Generally, facilities report OB/OD with Management Method Code H040 (incineration) or Management Method Code H129 (other treatment). Thus, for consistency purposes, EPA ensured that all wastes reported by facilities conducting OB/OD activities were represented by the "Incineration" CAP Management Category.

- ***Step 5: Assign waste quantities to appropriate CAP Management Categories.*** EPA used the BR management method codes and the definitions of the CAP management categories in Attachment 1 at the end of this appendix to assign waste quantities to CAP management categories.

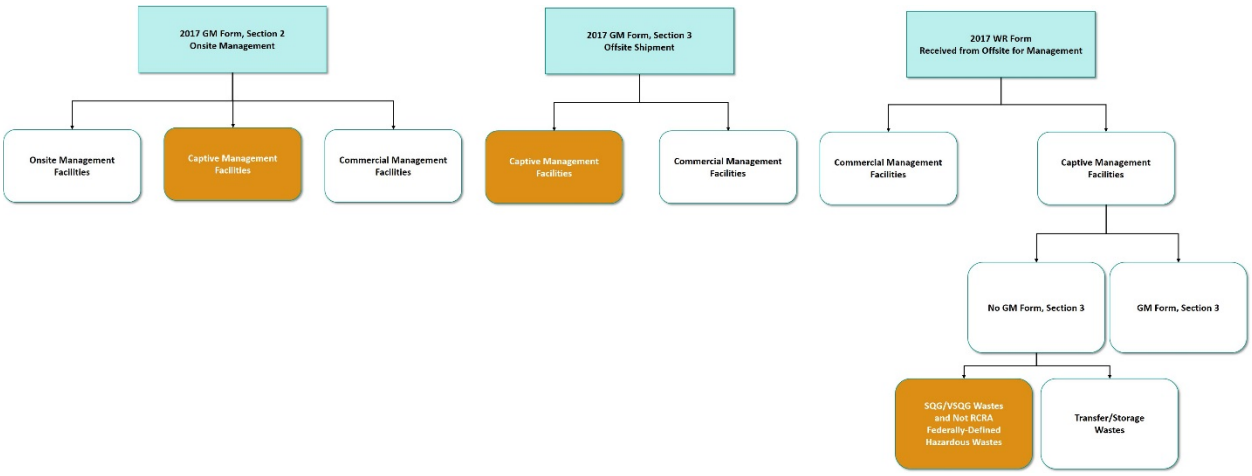
- ***Step 6: Determine total quantities managed onsite for each CAP management category.*** EPA summed the waste quantities by CAP management category. The total waste quantities by CAP management category are presented in Exhibit D-1. These quantities were rounded up to the nearest hundred and used to create Table I - 2017 National Baseyear Data Representing Hazardous Waste Generated and Managed Onsite in "Section 4 - Discussion of the National Capacity Assessment" of the national assessment report.

Exhibit D-1
Demand on Onsite Management Capacity, 2017 [a]

CAP Management Category	Number of Waste Streams	Managed Tons	Rounded Managed Tons
Metals Recovery	51	34,314	34,400
Organics Recovery	424	44,945	45,000
Inorganics Recovery	43	48,883	48,900
Energy Recovery	71	366,242	366,300
Fuel Blending	220	6,519	6,600
Incineration	507	226,098	226,100
Wastewater Treatment	1,321	41,025,079	41,025,100
Sludge Treatment/Stabilization/Encapsulation	129	15,331	15,400
Land treatment or application	6	26,656	26,700
Landfill	31	78,219	78,300
Deepwell or Underground Injection	66	25,163,142	25,163,200

[a] Data current as of November 10, 2019. Exhibit contains rounding error.

2. Management of Hazardous Waste at Captive Facilities



Legend

Hazardous Waste Report Form

Captive Management Capacity

Acronyms in Exhibit

SQG	Small Quantity Generator
VSQG	Very Small Quantity Generator

Following are the steps EPA undertook to estimate the quantities of hazardous waste managed at captive facilities for each of the CAP management categories:

GM Form

- ***Step 1: Develop list of captive facilities.*** For each CAP management category, EPA developed a list of captive facilities. Captive facilities are facilities owned by the same company as the generator but are at a different physical location. Their capacity can only be used by generators under the same ownership or by generators with whom the facility has an agreement to manage their waste. The list of captive facilities (included in Appendix B) was developed based on 2017 BR data and information obtained from RCRAInfo's Permit Module. Wastes sent to facilities that are not included in the list of captive facilities for a particular CAP management category were not included in the analysis of demand on captive management units.

- ***Step 2: Compile data on hazardous waste shipped for management at captive facilities.*** EPA referred to Section 3 of GM Forms (Offsite Shipment) to compile the following data for each waste stream:

  - Reporting year;
  - Include in National Biennial Report flag (refer to text box, for additional information);
  - EPA ID Number of generating facility;
  - Name of generating facility;
  - Page number;
  - Source code;
  - Form code;
  - EPA hazardous waste codes representing the waste;

- Waste description;
- Quantity of hazardous waste shipped (in tons);
- EPA ID Number of management facility (i.e., Receiver ID); and
- Name of management facility (i.e., Receiver Name).

Include in National Biennial Report (NBR) Flag

The Hazardous Waste Report booklet contains only the requirements for federal RCRA reporting. However, many states require sites to submit a variety of other information with the federally required data.

States may store the federally required data as well as the state-only data in the RCRAInfo system. To be able to differentiate the federally required data from other data, EPA has created flags in RCRAInfo. The flag is referenced as "Include in National Report."

It is the responsibility of each implementer – states and certain EPA regions - to determine which wastes are part of the federally required data. To do this, the implementer must provide either a "Yes" or "No" flag for each GM and WR Form.

- ***Step 3: Include quantities of wastes generated and managed onsite by captive management facilities.*** EPA included quantities of wastes managed onsite by captive hazardous waste management facilities.

- ***Step 4: Identify Receiver IDs not in RCRAInfo's Handler Module.*** For purposes of this analysis, EPA identified Receiver IDs not included in RCRAInfo's Handler Module (i.e., typos in EPA ID Numbers). Information on these identification numbers is provided in Appendix F

- ***Step 5: Reassign management method codes reported in Section 3 of GM Forms based on information provided by managers in their WR Forms.*** EPA compared the management method codes reported by generators in Section 3 of GM Forms to management method codes reported by managers in their WR Forms. Because, generally, managers have better information on the ultimate management of the wastes, EPA gave preference to the management method code reported by waste managers for purposes of the capacity analyses.

- ***Step 6: Assign "other recovery" and "other treatment" management method codes to CAP management categories.*** For purposes of the capacity assessment, wastes represented by the "other recovery" management method code (Management Method Code H039) were assigned to the "Inorganics Recovery" CAP Management Category.

  In addition, wastes represented by the "other treatment" management method code (Management Method Code H129) were assigned to the "Wastewater Treatment" CAP Management Category, given that about 90 percent of these wastes are wastewaters. The one exception is open burning/open detonation (OB/OD) units. Generally, facilities report OB/OD with Management Method Code H040 (incineration) or Management Method Code H129 (other treatment). Thus, for consistency purposes, EPA ensured that all wastes reported by facilities conducting OB/OD activities were represented by the "Incineration" CAP Management Category.

WR Form

- ***Step 7: Create list of facilities that completed Section 3 of a GM Form reporting that they shipped their hazardous waste to a captive management facility.*** EPA created a list of EPA ID Numbers for facilities that, in Section 3 of their GM Forms, reported shipping wastes to captive management facilities.

- ***Step 8: Identify facilities that shipped their wastes directly to captive management facilities.*** In the WR Form data, EPA compared the EPA ID Number of the shippers to the list of EPA ID Numbers developed under Step 7 (i.e., facilities that shipped their hazardous waste directly to a captive management facility). EPA then excluded WR Form data for cases in which the EPA ID Number of the shipper is in the list of EPA ID Numbers developed under Step 6. By doing this, EPA eliminated WR Form data for facilities that shipped their wastes directly to captive management facilities and reported their wastes in Section 3 of a GM Form (i.e., EPA avoided double-counting of wastes).

- ***Step 8: Assign "other recovery" and "other treatment" management method codes to CAP management categories.*** For purposes of the capacity assessment, wastes represented by the "other recovery" management method code (Management Method Code H039) were assigned to the "Inorganics Recovery" CAP Management Category.

  In addition, wastes represented by the "other treatment" management method code (Management Method Code H129) were assigned to the "Wastewater Treatment" CAP Management Category, given that about 90 percent of these wastes are wastewaters. The one exception is open burning/open detonation (OB/OD) units. Generally, facilities report OB/OD with Management Method Code H040 (incineration) or Management Method Code H129 (other treatment). Thus, for consistency purposes, EPA ensured that all wastes reported by facilities conducting OB/OD activities were represented by the "Incineration" CAP Management Category.

GM and WR Form (All)

- ***Step 9: Assign waste quantities to appropriate CAP Management Categories.*** EPA used the BR management method codes and the definitions of the CAP management categories in Attachment 1 at the end of this appendix to assign waste quantities to CAP management categories.

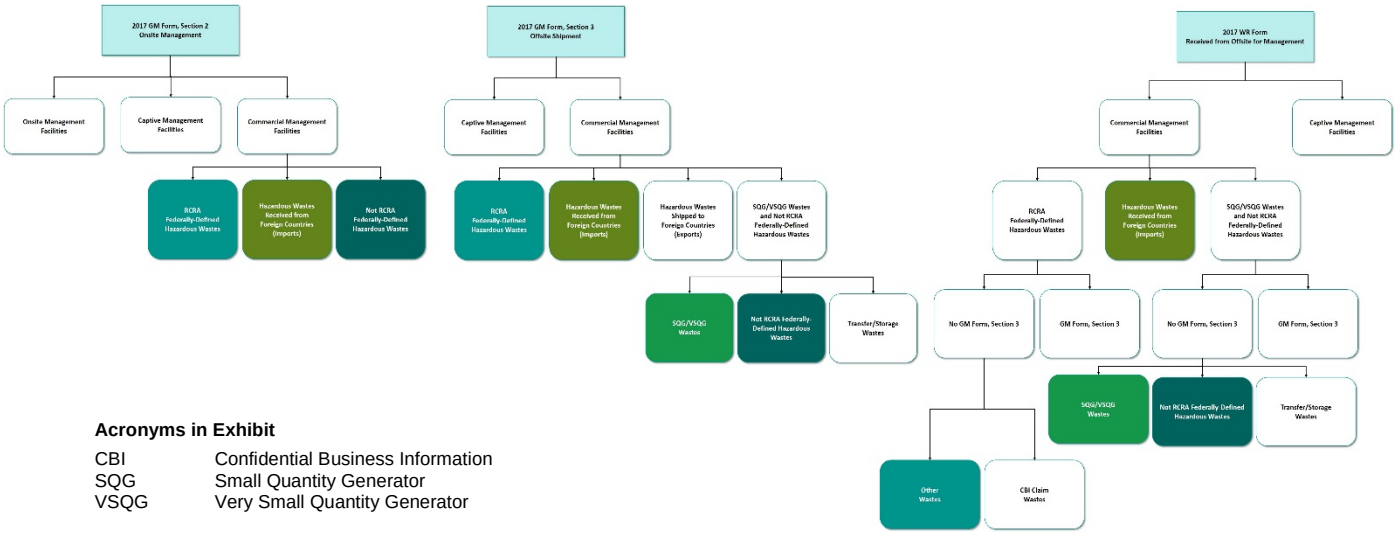
- ***Step 10: Determine total quantities managed at captive facilities for each CAP management category.*** EPA summed the waste quantities from Section 3 of GM Forms and WR Forms to calculate the total quantities by CAP management category. The total waste quantities by CAP management category are presented in Exhibit D-2. These quantities were rounded up to the nearest hundred and used to create Table II - 2017 National Baseyear Data Representing Management of Hazardous Waste at Captive Facilities in "Section 4 - Discussion of the National Capacity Assessment" of the national assessment report.

Exhibit D-2
Demand on Captive Management Capacity, 2017 [a]

CAP Management Category	Wastes Generated and Managed Onsite (GM Form, Section 2)		Direct Shipments (GM Form, Section 3)		SQG/VSQG Wastes and Not RCRA Federally-Defined Hazardous Wastes (WR Form with No GM Form)		Total		
	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Rounded Managed Tons
Metals Recovery	2	906	36	2,025	10	16	48	2,947	3,000
Organics Recovery	9	3,444	30	13,425	7	3,225	46	20,094	20,100
Inorganics Recovery	12	23,204	13	5,877	6	1,239,130	31	1,268,211	1,268,300
Energy Recovery	9	79,579	6	7,047	1	21	16	86,647	86,700
Fuel Blending	2	1	14	73	6	21	22	95	100
Incineration	1,600	361,355	1,467	96,576	236	1,131	3,303	459,062	459,100
Wastewater Treatment	228	7,809,745	106	50,383	77	48,489	411	7,908,617	7,908,700
Sludge Treatment/ Stabilization Encapsulation	29	657	93	391	31	110	153	1,158	1,200
Land treatment or application					5	5,891	5	5,891	5,900
Landfill	87	23,853	48	4,617	44	423	179	28,893	28,900
Deepwell or Underground Injection	4	2,914,462	7	299,005			11	3,213,467	3,213,500
Transfer/Storage			1,533	4,038			1,533	4,038	4,100

[a] Data current as of November 10, 2019. Exhibit contains rounding error.

3. Management of Hazardous Waste at Commercial Facilities



Acronyms in Exhibit

CBI	Confidential Business Information
SQG	Small Quantity Generator
VSQG	Very Small Quantity Generator

Legend

Hazardous Waste Report Form
Commercial Management Capacity – RCRA Federally-Defined Hazardous Wastes
Commercial Management Capacity – Hazardous Waste Imports
Commercial Management Capacity – SQG/VSQG Wastes
Commercial Management Capacity – Not RCRA Federally-Defined Hazardous Wastes

Following are the steps EPA undertook to estimate the quantities of hazardous waste managed at commercial facilities for each of the CAP management categories.

RCRA Federally-Defined Process and Cleanup Wastes

- ***Step 1: Develop list of commercial management facilities.*** For each CAP management category, EPA developed a list of commercial management facilities. The list of facilities (included in Appendix B) was developed based on information obtained from 2017 BR data and RCRAInfo's Permit Module.

- ***Step 2: Compile data on hazardous waste shipped for management at commercial facilities.*** EPA referred to Section 3 of GM Forms (Offsite Shipment) to compile the following data for each waste stream:

  - Reporting year;
  - Include in National Biennial Report flag (refer to text box, for additional information);
  - EPA ID Number of generating facility;
  - Name of generating facility;
  - Page number;
  - Source code;
  - Form code;
  - EPA hazardous waste codes representing the waste;

- Waste description;
- Federal waste indicator;
- Quantity of hazardous waste shipped (in tons);
- EPA ID Number of management facility (i.e., Receiver ID); and
- Name of management facility (i.e., Receiver Name).

- ***Step 3: Include quantities of wastes managed onsite by commercial management facilities.*** EPA used available information, from GM Form, Section 2 (Onsite Management), on the type of commercial hazardous waste management services provided by a facility, and included quantities of wastes managed by commercial hazardous waste management facilities.

- ***Step 4: Separate waste received from foreign countries (imports).*** EPA used information reported in the GM Form to identify wastes received from foreign countries. To do this, EPA referred to the BR source code. In particular, EPA identified wastes represented by the following Source Code Group:
  - Waste Not Physically Generated Onsite (i.e., Source Codes G63 through G75)

  To avoid any potential double counting, EPA analyzed these wastes separately. Refer to Appendix E for additional information on the data on hazardous wastes received from foreign countries that were used in this assessment.

- ***Step 5: Separate waste shipped to foreign countries (exports).*** EPA identified wastes shipped to foreign countries by referring to the Receiver ID. In particular, EPA identified wastes shipped to facilities with a Foreign Country (FC) ID Number.

  Unless required by their state, hazardous waste exporters are not required to submit a BR for the hazardous waste that was exported directly out of the U.S. to a site located in a foreign country. Therefore, not all hazardous waste exporters include data on hazardous waste exports in the BR. Given that data on hazardous waste imports in the BR are incomplete, EPA excluded them from the rest of the analysis.

  To compile national level data on hazardous wastes shipped to foreign countries, EPA referred to Annual Export Reports submitted to the Agency under 40 CFR 262.83(g). Refer to Appendix E for additional information on the hazardous waste export data used in this assessment.

- ***Step 6: Identify Receiver IDs not in RCRAInfo's Handler Module.*** For purposes of this analysis, EPA identified Receiver IDs not included in RCRAInfo's Handler Module (i.e., typos in EPA ID Numbers). Information on these identification numbers is provided in Appendix F

- ***Step 7: Reassign management method codes reported in Section 3 of GM Forms based on information provided by managers in their WR Forms.*** EPA compared the management method codes reported by generators in Section 3 of GM Forms to management method codes reported by managers in their WR Forms. Because, generally, managers have better information on the ultimate management of the wastes, EPA gave preference to the management method code reported by waste managers for purposes of the capacity analyses.

- ***Step 8: Assign "other recovery" and "other treatment" management method codes to CAP management categories.*** For purposes of the capacity assessment, wastes represented by the "other recovery" management method code (Management Method Code H039) were assigned to the "Inorganics Recovery" CAP Management Category.

  In addition, wastes represented by the "other treatment" management method code (Management Method Code H129) were assigned to the "Wastewater Treatment" CAP Management Category, given that about 90 percent of these wastes are wastewaters. The one exception is open burning/open detonation (OB/OD) units. Generally, facilities report OB/OD with Management Method Code H040 (incineration) or Management Method Code H129 (other treatment). Thus, for consistency purposes, EPA ensured that all wastes reported by facilities conducting OB/OD activities were represented by the "Incineration" CAP Management Category.

  Finally, EPA identified one facility that reported Management Method Code H132 (landfill (with prior treatment and/or stabilization) but does not have a RCRA Subtitle C permitted landfill: Max Environmental Technologies (EPA ID Number PAD004835146)[22]. Although the facility's reporting is consistent with the BR instructions, for purposes of this analysis a more appropriate management method code would be Management Method Code H110 (Stabilization prior to land disposal at another site). Therefore, EPA revised the management method code reported by the facility to Management Method Code H110.

- ***Step 9: Identify RCRA federally-defined hazardous wastes.*** EPA used waste stream information to identify RCRA federally-defined hazardous wastes. In this analysis, RCRA federally-defined hazardous wastes are wastes represented by Include in NBR Flag equal to "Y" AND Federal Waste Indicator equal to "Y." Not RCRA federally-defined hazardous wastes were analyzed separately.

- ***Step 10: Categorize wastes based on waste generation activity (i.e., process wastes and cleanup wastes).*** For purposes of this analysis, EPA categorized waste streams based on the type of process or activity from which the hazardous waste was generated. In particular, EPA categorized waste streams as "process waste" or "cleanup waste." The approach relies on source codes reported by facilities in their BR.

  Process wastes are those represented by the following Source Code Groups:
  - Wastes from Ongoing Production and Service Processes (i.e., Source Codes G01 through G09)
  - Other Intermittent Events or Processes (i.e., Source Codes G11 through G19)
  - Pollution Control and Waste Management Process Residuals (i.e., Source Codes G21 through G27)
  - Spills and Accidental Releases (i.e., Source Codes G31 through G39)

  Cleanup wastes are those represented by the following Source Code Group:
  - Remediation of Past Contamination (i.e., Source Codes G41 through G49)

[22] Max Environmental Technologies received approval for the stabilization (Management Method Code H110) and delisting of specific hazardous wastes. The resulting stabilized wastes are disposed as residual wastes. Refer to 40 CFR Part 261, Appendix IX (Wastes Excluded Under §§260.20 and 260.22) for additional information.

- ***Step 11: Assign waste quantities to appropriate CAP Management Categories.*** EPA used the BR management method codes and the definitions of the CAP management categories in Attachment 1 at the end of this appendix to assign RCRA Federally-defined hazardous process and cleanup waste quantities to CAP management categories.

- ***Step 12: Determine total quantities managed at commercial facilities for each CAP management category.*** EPA summed the waste quantities to calculate the total quantities of process wastes and cleanup wastes by CAP management category. The total waste quantities of process wastes and cleanup wastes by CAP management category for year 2017 are presented in Exhibits D-3 and D-4, respectively. These quantities were rounded up to the nearest hundred and used to create Table III - 2017 National Baseyear Data Representing Management of Hazardous Waste at Commercial Facilities in "Section 4 - Discussion of the National Capacity Assessment" of the national assessment report.

  Total waste quantities of cleanup wastes by CAP management category for year 2015 are presented in Exhibit D-5. These quantities are used in Step 13.

Exhibit D-3
Demand on Commercial Management Capacity, 2017:
RCRA Federally-Defined Hazardous Wastes – Process Wastes [a]

CAP Management Category	Onsite Management (GM Form, Section 2)		Offsite Shipment (GM Form, Section 3)		Total		
	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Rounded Managed Tons
Metals Recovery	69	204,351	4,221	839,982	4,290	1,044,333	1,044,400
Organics Recovery	28	1,555	3,482	168,227	3,510	169,782	169,800
Inorganics Recovery	5	7,206	1,802	113,066	1,807	120,272	120,300
Energy Recovery	19	108,515	9,479	856,325	9,498	964,840	964,900
Fuel Blending	329	72,363	28,004	469,301	28,333	541,664	541,700
Incineration	112	29,980	85,607	451,010	85,719	480,990	481,000
Wastewater Treatment	130	472,786	8,311	465,915	8,441	938,701	938,800
Sludge Treatment/ Stabilization/Encapsulation	189	99,779	11,668	351,650	11,857	451,429	451,500
Landfill	79	122,646	9,834	793,496	9,913	916,142	916,200
Deepwell or Underground Injection	15	355,561	580	306,279	595	661,840	661,900
Transfer/Storage			147,691	335,659	147,691	335,659	335,700

[a] Data current as of November 10, 2019. Exhibit contains rounding error.

Exhibit D-4
Demand on Commercial Management Capacity, 2017:
RCRA Federally-Defined Hazardous Wastes – Cleanup Wastes [a]

CAP Management Category	Onsite Management (GM Form, Section 2)		Offsite Shipment (GM Form, Section 3)		Total		
	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Rounded Managed Tons
Metals Recovery			6	8,336	6	8,336	8,400
Organics Recovery			15	1,291	15	1,291	1,300
Inorganics Recovery			126	2,916	126	2,916	3,000
Energy Recovery			16	9,336	16	9,336	9,400
Fuel Blending			113	1,479	113	1,479	1,500
Incineration	1	6	462	25,789	463	25,795	25,800
Wastewater Treatment			124	21,624	124	21,624	21,700
Sludge Treatment/ Stabilization/Encapsulation			239	226,762	239	226,762	226,800
Landfill	1	0.3	258	45,011	259	45,011	45,100
Deepwell or Underground Injection	1	9,983	10	5,481	11	15,464	15,500
Transfer/Storage			723	14,509	723	14,509	14,600

[a] Data current as of November 10, 2019. Exhibit contains rounding error.

Exhibit D-5
Demand on Commercial Management Capacity, 2015:
RCRA Federally-Defined Hazardous Wastes – Cleanup Wastes [a]

CAP Management Category	Onsite Management (GM Form, Section 2)		Offsite Shipment (GM Form, Section 3)		Total		
	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Rounded Managed Tons
Metals Recovery	1	31	13	226	14	257	300
Organics Recovery			11	643	11	643	700
Inorganics Recovery			159	2,852	159	2,852	2,900
Energy Recovery			6	7,345	6	7,345	7,400
Fuel Blending			123	1,750	123	1,750	1,800
Incineration	1	0.04	439	6,544	440	6,544	6,600
Wastewater Treatment	5	20,201	117	120,325	122	140,526	140,600
Sludge Treatment/ Stabilization/Encapsulation			215	137,127	215	137,127	137,200
Landfill	1	39	277	97,973	278	98,012	98,100
Deepwell or Underground Injection	1	55,709	5	10,603	6	66,312	66,400
Transfer/Storage			916	30,875	916	30,875	30,900

[a] Data current as of November 10, 2019. Exhibit contains rounding error.

- ***Step 13: Estimate average quantities for cleanup wastes.*** For cleanup wastes, EPA took the average of the 2017 and 2015 waste quantities developed under Step 12. This step was taken as a conservative approach in order to account for variations in the generation of these one-time wastes. (Note: For process wastes, EPA used the waste quantities for 2017.)

  The average of the quantities of cleanup wastes by CAP management category are presented in Exhibit D-6. These quantities were rounded up to the nearest hundred and used to create Table IV - National Baseline and Projected Demand for Commercial Hazardous Waste Management Capacity in "Section 4 - Discussion of the National Capacity Assessment" of the national assessment report.

Exhibit D-6
Demand on Commercial Management Capacity - Baseline:
RCRA Federally-Defined Hazardous Wastes – Cleanup Wastes [a]

CAP Management Category	Tons Managed in 2017	Tons Managed in 2015	Average Tons	Rounded Average Tons
Metals Recovery	8,336	257	4,297	4,300
Organics Recovery	1,291	643	967	1,000
Inorganics Recovery	2,916	2,852	2,884	2,900
Energy Recovery	9,336	7,345	8,341	8,400
Fuel Blending	1,479	1,750	1,615	1,700
Incineration	25,795	6,544	16,170	16,200
Wastewater Treatment	21,624	140,526	81,075	81,100
Sludge Treatment/ Stabilization/Encapsulation	226,762	137,127	181,945	182,000
Landfill	45,011	98,012	71,512	71,600
Deepwell or Underground Injection	15,464	66,312	40,888	40,900
Transfer/Storage	14,509	30,875	22,692	22,700

[a] Data current as of November 10, 2019. Exhibit contains rounding error.

Small Quantity Generator/Very Small Quantity Generator (SQG/VSQG) Wastes and Not RCRA Federally-Defined Hazardous Wastes - GM Form

- ***Step 1: Develop list of commercial management facilities.*** For each CAP management category, EPA developed a list of commercial management facilities. The list of facilities (included in Appendix B) was developed based on information obtained from 2017 BR data and RCRAInfo's Permit Module.

- ***Step 2: Compile data on hazardous waste shipped for management at commercial facilities.*** EPA referred to Section 3 of GM Forms (Offsite Shipment) to compile the following data for each waste stream:

  - Reporting year;
  - Include in National Biennial Report flag (refer to text box, for additional information);
  - EPA ID Number of generating facility;
  - Name of generating facility;

- Page number;
- Source code;
- Form code;
- EPA hazardous waste codes representing the waste;
- Waste description;
- Federal waste indicator;
- Quantity of hazardous waste shipped (in tons);
- EPA ID Number of management facility (i.e., Receiver ID); and
- Name of management facility (i.e., Receiver Name).

- ***Step 3: Separate waste received from foreign countries (imports).*** EPA used information reported in the GM Form to identify wastes received from foreign countries. To do this, EPA referred to the BR source code. In particular, EPA identified wastes represented by the following Source Code Group:
  - Waste Not Physically Generated Onsite (i.e., Source Codes G63 through G75)

  To avoid any potential double counting, EPA analyzed these wastes separately. Refer to Appendix E for additional information on the data on hazardous wastes received from foreign countries that were used in this assessment.

- ***Step 4: Separate waste shipped to foreign countries (exports).*** EPA identified wastes shipped to foreign countries by referring to the Receiver ID. In particular, EPA identified wastes shipped to facilities with a Foreign Country (FC) ID Number.

  Unless required by their state, hazardous waste exporters are not required to submit a BR for the hazardous waste that was exported directly out of the U.S. to a site located in a foreign country. Therefore, not all hazardous waste exporters include data on hazardous waste exports in the BR. Given that data on hazardous waste imports in the BR are incomplete, EPA excluded them from the rest of the analysis.

  To compile national level data on hazardous wastes shipped to foreign countries, EPA referred to Annual Export Reports submitted to the Agency under 40 CFR 262.83(g). Refer to Appendix E for additional information on the hazardous waste export data used in this assessment.

- ***Step 5: Identify Receiver IDs not in RCRAInfo's Handler Module.*** For purposes of this analysis, EPA identified Receiver IDs not included in RCRAInfo's Handler Module (i.e., typos in EPA ID Numbers). Information on these identification numbers is provided in Appendix F

- ***Step 6: Reassign management method codes reported in Section 3 of GM Forms based on information provided by managers in their WR Forms.*** EPA compared the management method codes reported by generators in Section 3 of GM Forms to management method codes reported by managers in their WR Forms. Because, generally, managers have better information on the ultimate management of the wastes, EPA gave preference to the management method code reported by waste managers for purposes of the capacity analyses.

- ***Step 7: Assign "other recovery" and "other treatment" management method codes to CAP management categories.*** For purposes of the capacity assessment, wastes represented by the "other recovery" management method code (Management Method Code H039) were assigned to the "Inorganics Recovery" CAP Management Category.

  In addition, wastes represented by the "other treatment" management method code (Management Method Code H129) were assigned to the "Wastewater Treatment" CAP Management Category, given that about 90 percent of these wastes are wastewaters. The one exception is open burning/open detonation (OB/OD) units. Generally, facilities report OB/OD with Management Method Code H040 (incineration) or Management Method Code H129 (other treatment). Thus, for consistency purposes, EPA ensured that all wastes reported by facilities conducting OB/OD activities were represented by the "Incineration" CAP Management Category.

  Finally, EPA identified one facility that reported Management Method Code H132 (landfill (with prior treatment and/or stabilization) but does not have a RCRA Subtitle C permitted landfill: Max Environmental Technologies (EPA ID Number PAD004835146)[23]. Although the facility's reporting is consistent with the BR instructions, for purposes of this analysis a more appropriate management method code would be Management Method Code H110 (Stabilization prior to land disposal at another site). Therefore, EPA revised the management method code reported by the facility to Management Method Code H110.

- ***Step 8: Include quantities of wastes managed onsite by commercial management facilities.*** EPA used available information, from GM Form, Section 2 (Onsite Management), on the type of commercial hazardous waste management services provided by a facility, and included quantities of wastes managed by commercial hazardous waste management facilities.

- ***Step 9: Identify SQG/VSQG wastes and not RCRA federally-defined hazardous wastes.*** EPA used waste stream information to identify SQG/VSQG wastes and not RCRA federally-defined hazardous wastes. In this analysis, these wastes are represented by Include in NBR Flag equal to "N" OR Federal Waste Indicator equal to "N."

- ***Step 10: Separate wastes managed by transfer/storage.*** EPA analyzed the data associated with facilities that did not have an offsite shipment reported in GM Form showing that wastes were shipped directly to a commercial facility. EPA then identified and separated wastes represented by Management Method Code H141.

- ***Step 11: Identify SQG/VSQG wastes.*** EPA identified wastes with Federal waste indicator equal to "Y." These wastes were considered SQG/VSQG wastes.

- ***Step 12: Identify not RCRA federally-defined hazardous wastes.*** Wastes not categorized as SQG/VSQG wastes under Step 11 were considered to be not RCRA federally-defined hazardous wastes.

[23] Max Environmental Technologies received approval for the stabilization (Management Method Code H110) and delisting of specific hazardous wastes. The resulting stabilized wastes are disposed as residual wastes. Refer to 40 CFR Part 261, Appendix IX (Wastes Excluded Under §§260.20 and 260.22) for additional information.

Small Quantity Generator/Very Small Quantity Generator (SQG/VSQG) Wastes and Not RCRA Federally-Defined Hazardous Wastes - WR Form

- ***Step 1: Develop list of commercial management facilities.*** For each CAP management category, EPA developed a list of commercial management facilities. The list of facilities (included in Appendix B) was developed based on information obtained from 2017 BR data and RCRAInfo's Permit Module.

- ***Step 2: Compile data on hazardous waste received for management at commercial facilities.*** EPA referred to WR Forms to compile the following data for each waste stream:

  - Reporting year;
  - Include in National Biennial Report flag (refer to text box, for additional information);
  - EPA ID Number of management facility (i.e., Receiver ID);
  - Name of management facility (i.e., Receiver name);
  - Page and subpage number;
  - Form code;
  - EPA hazardous waste codes representing the waste;
  - Waste description;
  - Federal waste indicator;
  - Quantity of hazardous waste received (in tons);
  - EPA ID Number of shipping facility (i.e., Shipper ID); and
  - Name of shipping facility (i.e., Shipper name).

- ***Step 3: Separate waste received from foreign countries (imports).*** In the WR Form data, EPA identified wastes received from foreign countries by referring to the Shipper ID. In particular, EPA identified wastes received from facilities with a FC ID Number. These wastes were analyzed separately. Refer to Appendix E for additional information on the data on hazardous wastes received from foreign countries that were used in this assessment.

- ***Step 4: Assign "other recovery" and "other treatment" management method codes to CAP management categories.*** For purposes of the capacity assessment, wastes represented by the "other recovery" management method code (Management Method Code H039) were assigned to the "Inorganics Recovery" CAP Management Category.

  In addition, wastes represented by the "other treatment" management method code (Management Method Code H129) were assigned to the "Wastewater Treatment" CAP Management Category, given that about 90 percent of these wastes are wastewaters. The one exception is open burning/open detonation (OB/OD) units. Generally, facilities report OB/OD with Management Method Code H040 (incineration) or Management Method Code H129 (other treatment). Thus, for consistency purposes, EPA ensured that all wastes reported by facilities conducting OB/OD activities were represented by the "Incineration" CAP Management Category.

  Finally, EPA identified one facility that reported Management Method Code H132 (landfill (with prior treatment and/or stabilization) but does not have a RCRA Subtitle C permitted landfill:

Max Environmental Technologies (EPA ID Number PAD004835146)[24]. Although the facility's reporting is consistent with the BR instructions, for purposes of this analysis a more appropriate management method code would be Management Method Code H110 (Stabilization prior to land disposal at another site). Therefore, EPA revised the management method code reported by the facility to Management Method Code H110.

- ***Step 5: Identify SQG/VSQG wastes and not RCRA federally-defined hazardous wastes.*** EPA used waste stream information to identify SQG/VSQG wastes and not RCRA federally-defined hazardous wastes. In this analysis, SQG/VSQG wastes and not RCRA federally-defined hazardous wastes are wastes represented by Include in NBR Flag equal to "N" OR Federal Waste Indicator equal to "N."

- ***Step 6: Create list of facilities that reported that shipped their hazardous waste to a commercial management facility.*** EPA created a list of EPA ID Numbers for facilities that, in Section 3 of their GM Forms, reported shipping wastes to commercial management facilities.

- ***Step 7: Identify quantities of wastes shipped to commercial management facilities that are only reported by receiving facilities.*** In the WR Form data, EPA compared the EPA ID Number of the shippers to the list of EPA ID Numbers developed under Step 6 (i.e., facilities that shipped their hazardous waste directly to a commercial management facility). EPA then identified data for facilities that do not have a GM Form for wastes shipped to commercial facilities. These are the cases in which the EPA ID Number of the shipper in the WR Form is not in the list of EPA ID Numbers developed under Step 6. By doing this, EPA did not use/eliminated WR Form data for facilities that shipped their wastes directly to commercial management facilities and reported their wastes in a GM Form (i.e., EPA avoided double-counting of wastes). The remaining wastes reported in WR Forms are wastes shipped by facilities that did not complete Section 3 of a GM Form or by transfer facilities.

- ***Step 8: Separate wastes managed by transfer/storage.*** EPA analyzed the data associated with facilities that did not have an offsite shipment reported in GM Form showing that wastes were shipped directly to a commercial facility. EPA then identified and separated wastes represented by Management Method Code H141.

- ***Step 9: Identify SQG/VSQG wastes.*** EPA identified wastes with Federal waste indicator equal to "Y." These wastes were considered SQG/VSQG wastes.

- ***Step 10: Identify not RCRA federally-defined hazardous wastes.*** Wastes not categorized as SQG/VSQG wastes under Step 9 were considered to be not RCRA federally-defined hazardous wastes.

[24] Max Environmental Technologies received approval for the stabilization (Management Method Code H110) and delisting of specific hazardous wastes. The resulting stabilized wastes are disposed as residual wastes. Refer to 40 CFR Part 261, Appendix IX (Wastes Excluded Under §§260.20 and 260.22) for additional information.

Exhibit D-7
Demand on Commercial Management Capacity from SQG/VSQG Wastes and Not RCRA Federally-Defined Hazardous Wastes, 2017: GM Form [a]

CAP Management Category	SQG/VSQG Wastes Offsite Shipment (GM Form, Section 3)		Not RCRA Federally-Defined Hazardous Wastes					
			Onsite Management (GM Form, Section 2)		Offsite Shipment (GM Form, Section 3)		Total	
	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons
Metals Recovery	184	6,006	3	157	166	1,515	169	1,672
Organics Recovery	21	7			42	3,374	42	3,374
Inorganics Recovery	18	1,212			933	196,968	933	196,968
Energy Recovery	255	31			57	156	57	156
Fuel Blending	657	4,321	1	0.2	421	1,857	422	1,857
Incineration	2,364	9,739	1	968	3,352	4,769	3,353	5,737
Wastewater Treatment	613	3,467,495	8	15,665	263	10,414	271	26,079
Sludge Treatment/Stabilization/Encapsulation	80	909			16	318	16	318
Landfill	176	6,583	10	22,322	3,251	150,897	3,261	173,219
Deepwell or Underground Injection	14	6,982					0	0

[a] Data current as of November 10, 2019.

Exhibit D-8
Demand on Commercial Management Capacity from SQG/VSQG Wastes and Not RCRA Federally-Defined Hazardous Wastes, 2017: WR Form [a]

CAP Management Category	RCRA Federally-Defined Hazardous Wastes		SQG/VSQG Wastes		Not RCRA Federally-Defined Hazardous Wastes	
	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons	Number of Waste Streams	Managed Tons
Metals Recovery	1,983	77,996	13	1,007	219	982
Organics Recovery	24,603	25,609			61	386
Inorganics Recovery	5,352	13,339	3	5	16,102	148,860
Energy Recovery	2,012	54,340	2	45		
Fuel Blending	133,006	111,347	15	121	1,267	1,043
Incineration	86,541	54,041	506	1,582		
Wastewater Treatment	25,003	43,821	49	120	949	3,094
Sludge Treatment/Stabilization/Encapsulation	17,800	59,738				
Landfill	10,910	104,508	147	1,547	1,067	121,346
Deepwell or Underground Injection	80	9,889				

Attachment 1
CAP Management Categories

For purposes of this analysis, the U.S. Environmental Protection Agency (EPA) categorized Biennial Report (BR) management method codes into Capacity Assurance Plan (CAP) management categories based on the similarities in their design, operation, or wastes treated. The CAP management categories are described in the table below, and were used in assessing RCRA federally-defined hazardous waste demand. The CAP management categories are consistent with the management categories in the Biennial Report Analytical Methodologies approved by the RCRAInfo Change Management Process (CMP) on April 22, 2013.

CAP Management Category	2017 BR Management Method Code and Description	
RECOVERY		
Metals Recovery	H010	Metals recovery including retorting, smelting, chemical, etc.
Organics Recovery	H020	Solvents recovery (distillation, extraction, etc.)
Inorganics Recovery	H039	Other recovery or reclamation for reuse including acid regeneration, organics recovery, etc. (specify in comments)
Energy Recovery	H050	Energy recovery at this site – used as fuel (includes on-site fuel blending before energy recovery; report only this code)
TREATMENT		
Fuel Blending	H061	Fuel blending prior to energy recovery at another site (waste generated on-site or received from off-site)
Incineration	H040	Incineration – thermal destruction other than use as a fuel (includes any preparation prior to burning)
Wastewater Treatment	H070	Chemical treatment (reduction/destruction/oxidation/ precipitation); do not include immediate treatment in an exempt wastewater treatment unit with discharge to a NPDES-POTW (unless required by State)
	H081	Biological treatment; do not include immediate treatment in an exempted wastewater treatment unit with discharge to a NPDES-POTW (unless required by State)
	H100	Physical treatment only (adsorption/absorption/separation/ stripping/dewatering); do not include immediate treatment in an exempted wastewater treatment unit with discharge to a NPDES-POTW (unless required by State)
	H120	Combination of chemical, biological, and/or physical treatment; do not include immediate treatment in an exempted wastewater treatment unit with discharge to a NPDES-POTW (unless required by State)

CAP Management Category	2017 BR Management Method Code and Description	
Wastewater Treatment (continued)	H121	Neutralization only (no other treatment)
	H122	Evaporation (as the major component of treatment; not reportable as H070, H081, H100 or H120)
	H129	Other treatment that does not include onsite disposal (specify in comments)
	H130	Surface Impoundment that will be closed as a landfill (with prior treatment and/or stabilization meeting LDR treatment standard)
	H135	Discharge to sewer/POTW or NPDES with prior management (e.g., storage or transported prior to discharge to POTW or by NPDES)
Sludge Treatment/ Stabilization/Encapsulation	H110	Stabilization prior to land disposal at another site (encapsulation/stabilization/fixation)
DISPOSAL		
Land Treatment or Application	H131	Land treatment or application (with any prior treatment and/or stabilization)
Landfill	H132	Landfill (with prior treatment and/or stabilization)
Deepwell or Underground Injection	H134	Deepwell or underground injection (with or without treatment; this waste was counted as hazardous waste)
TRANSFER/STORAGE		
Transfer/Storage	H141	The site receiving this waste stored/bulked and transferred the waste with no reclamation, recovery, destruction, treatment or disposal at that site. [Do not use this code in Item 1.D (source code G25) or Item 2 (On-site Management) of Form GM]. For Form WR, linked to source code G61 on Form GM.

Appendix E
Hazardous Wastes Shipped to and Received from Foreign Countries (Hazardous Waste Exports and Imports)

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Hazardous Wastes Shipped to and Received from Foreign Countries (Hazardous Waste Exports and Imports)

The movement of hazardous waste out of and into the United States (U.S.) for recovery or disposal occurs for a number of reasons, including geographic proximity, economies of scale, and international market demand for recovered materials. The U.S. Environmental Protection Agency (EPA) has established and administers an extensive set of regulations, under the Resource Conservation and Recovery Act (RCRA), governing the shipment of hazardous waste within the U.S. In addition to its domestic regulation of hazardous waste, the U.S. participates in a number of bilateral waste agreements between countries and in a multilateral waste agreement controlling the shipment of hazardous waste for recovery between member countries in the Organization for Economic Cooperation and Development (OECD).

1. Hazardous Wastes Shipped to Foreign Countries (Exports)

Exporters of RCRA hazardous waste are subject to specific exporter requirements described in 40 CFR Part 262, Subpart H. Exports of hazardous waste may be handled or managed by several different parties, each having distinct requirements under RCRA. The exporter has specific responsibilities under RCRA. The exporter is defined as "the person under the jurisdiction of the country of export who has, or will have at the time the planned transboundary movement commences, possession or other forms of legal control of the wastes and who proposes transboundary movement of the hazardous wastes for the ultimate purpose of submitting them to recovery operations. When the U.S. is the country of export, exporter is interpreted to mean a person domiciled in the U.S." (See 40 CFR 262.81).

Unless required by their state, hazardous waste exporters are not required to submit a Hazardous Waste Report (also known as the Biennial Report or BR) for the hazardous waste that was exported directly out of the U.S. to a site located in a foreign country. Facilities that export hazardous waste must file a separate Annual Report under 40 CFR 262.83(g). (This Annual Report is in addition to the BR, if the state requires the hazardous waste exporter to submit a BR with hazardous waste exported to a site located in a foreign country.)

To compile data on hazardous waste exports, EPA referred to the Waste Import and Export Tracking System (WIETS), which holds all information related to hazardous waste exports (e.g., Annual Reports, notices of intent to export hazardous wastes to a specified destination country, acknowledgments of consent, notices of objection). In particular, EPA queried WIETS for information on hazardous wastes exported in 2018, the first year in which exporters were required to submit their Annual Reports electronically.[25] For these wastes, the Agency compiled the foreign country name, foreign country site name, waste description, and quantity of waste exported. EPA then used the waste descriptions and readily available public information on the foreign country sites to assign the wastes to a CAP management category. Finally, EPA summed the waste quantities by CAP management category.

Exhibit E-1 provides information on hazardous wastes exported from the U.S. in 2018.

[25] Data current as of September 25, 2019.

Exhibit E-1
Hazardous Wastes Shipped to Foreign Country Sites in 2018

Foreign Country Site Name	Examples of Types of Wastes	CAP Management Category	Tons
BELGIUM			
Umicore Battery Recycling	Lithium-ion batteries	Metals Recovery	226
Umicore Precious Metals Refining	Copper hydroxide sludge	Metals Recovery	152
CANADA			
Aevitas Inc.	Organic poisons, organic solvents, pentachlorophenol, solids containing non-halogenated organic solvents, waste lubricating oils from internal combustion engines, waste aerosols/flammable	Incineration	308
C.R.I. Environment Inc.	Aerosols, propane gas cylinders	Inorganics Recovery	464
	Organic toxic liquids/solids, organic solvents, organic Isocyanates, corrosive liquids, paint related materials	Fuel Blending	765
Chemrec Inc.	Acetone, alcohols, dichloromethane, flammable liquids, methanol, methyl ethyl ketone, tetrachloroethylene, toluene, trichloroethylene	Organics Recovery	628
Clean Harbors Canada, Inc.	Blended/bulked non-halogenated/halogenated corrosive liquids, oil emulsions, slurries, waste acidic solutions, alkaline solutions, organic solvents	Incineration	87,692
Clean Harbors Canada, Inc.	Debris, filter cake, aerosols, waste catalysts, soils, inorganic solid wastes	Landfill	52,514
Cyanide Destruct Systems Inc.	Waste cyanide solutions, waste cyanide liquids/solids, spent stripping solutions where cyanides are used in the process	Wastewater Treatment	411
Englobe Corporation	Contaminated soils, organic solvents, creosotes, hydrocarbons, aromatic compound, polycyclic organic compounds	Sludge Treatment/Stabilization/Encapsulation	7,792
Envirogreen Technologies Ltd.	Clarified slurry oil tank sediment, crude tank sediments, heat exchanger bundle sludge, primary sludge, spent carbon, tar storage residues	Sludge Treatment/Stabilization/Encapsulation	12,850
Envirosystems Inc.	Waste paint	Inorganics Recovery	63

Exhibit E-1
Hazardous Wastes Shipped to Foreign Country Sites in 2018

Foreign Country Site Name	Examples of Types of Wastes	CAP Management Category	Tons
Extox Industries Inc.	Waste tetrachloroethylene, halogenated solvents, residues containing perchloroethylene	Organics Recovery	423
Fielding Chemical Technologies Inc.	Acetone, adhesives, cyclohexane, ethanol, ethyl acetate, flammable solvents, glycols, ink solvents, isopropanol, methanol, methyl ethyl ketone, methylene chlorine, mineral spirits, paint solvents, perchloroethylene, toluene, trichloroethylene, xylene	Organics Recovery	10,998
Glencore Canada Corporation	Ash from wastewater treatment sludge incineration, copper hydroxide sludge, foundry sand	Sludge Treatment/Stabilization/Encapsulation	399
Horizon Environment Inc.	Contaminated soils, trichloroethylene	Sludge Treatment/Stabilization/Encapsulation	6,476
KC Recycling Ltd.	Used electric rechargeable batteries	Metals Recovery	11,359
Raw Materials Company Inc.	Alkaline batteries	Metals Recovery	360
Recuperesol	Soil impacted with hydrocarbons	Sludge Treatment/Stabilization/Encapsulation	7,649
Retriev Technologies Ltd.	Lithium ion batteries, wastewater reactive solid, waste reactive solid, waste lithium	Metals Recovery	3,006
Revolution Environmental Solutions Acquisition GP Inc.	Halogenated solvents, non-halogenated solvents, lean solvent, waste acidic/basic solutions	Organics Recovery	2,722
Revolution VSC Acquisition GP Inc.	Waste batteries	Metals Recovery	71,321
Services Sanitaires De Recyclage Expert Inc	Halogenated organic solvents, organics solid/sludge waste contaminated with perchloroethylene from dry cleaners	Organics Recovery	87
Solumet Metal And Powder Inc.	Hazardous waste solid	Metals Recovery	226
St. Marys Cement	Wastewater treatment plant sludge	Energy Recovery	14,437
Stablex Canada, Inc.	Acids, alkaline liquids and solids, cake sludges, contaminated soil, contaminated sediment, filter cake, green gray mud, incinerator klinker, oxygen canister, plating floor debris	Landfill	90,111
Sudbury Integrated Nickel Operations Smelter	GMI baghouse dust	Metals Recovery	237

Exhibit E-1
Hazardous Wastes Shipped to Foreign Country Sites in 2018

Foreign Country Site Name	Examples of Types of Wastes	CAP Management Category	Tons
Suez Canada Waste Services Inc.	Ignitable materials; poisonous and toxic materials (liquids and solids); water reactive solids and liquids (labpacks)	Incineration	7
Triumvirate Environmental (Canada) Inc.	Acetone, Adhesives containing a flammable liquid, amines, coating solutions, corrosive/flammable liquids, ethanol, ethyl alcohol, ethyl acetate, flammable aerosols, isopropanol, xylene	Fuel Blending	439
FRANCE			
Eurecat France SAS	Spent catalyst	Metals Recovery	277
GERMANY			
Accurec Recycling GMBH	Batteries for recycling	Metals Recovery	214
Heraeus Deutschland GMBH & CO. KG	Metal residues containing characteristic metals	Metals Recovery	29
JAPAN			
Nippon Recycle Center Corp. (Nakajima Plant)	NiMH batteries	Metals Recovery	190
MEXICO			
Corporacion Pipsa SA de CV	Spent lead acid batteries	Metals Recovery	21
Electrica Automotriz Omega S.A. DE C.V.	Spent lead acid batteries	Metals Recovery	1,930
Industrias P. Kay de Mexico	Tin lead	Metals Recovery	65
Johnson Controls Enterprises Mexico, S. de R.L. de C.V.	Spent lead acid batteries	Metals Recovery	432,503
M3 Resources Mexico S.de.R.L.de C. V.	Spent lead acid batteries	Metals Recovery	66,811
Oxidos Y Pigmentos Mexicanos, S.A. de C.V.	Spent lead acid batteries	Metals Recovery	9,664
Prodyservma, S.A. de C.V.	Spent acid solutions containing inorganic acids, spent caustic solutions containing inorganic bases, waste flammable solvent mixtures	Organics Recovery	28
Recicladora Industrial de Acumuladores, S.A. de C.V.	Spent lead acid batteries	Metals Recovery	89,165
Recicladora Temarry de Mexico, S.A. de C.V.	Waste aqueous solutions, waste flammable liquids, waste mixture of organic and inorganic solvent	Organics Recovery	19,769
Technologies Displays Mexicana SA de CV	Cathode ray tubes (CRTs)	Inorganics Recovery	11,815

Exhibit E-1
Hazardous Wastes Shipped to Foreign Country Sites in 2018

Foreign Country Site Name	Examples of Types of Wastes	CAP Management Category	Tons
Zinc Nacional, S.A.	Electric arc furnace (EAF) dust	Metals Recovery	131,003
NETHERLANDS			
A Jansen BV	Cathode ray tubes (CRTs)	Inorganics Recovery	2,698
SOUTH KOREA			
Bytec Co., Ltd.	Spent lead acid batteries	Metals Recovery	4,601
Dansukgunsan Industrial Co. Ltd.	Spent lead acid batteries	Metals Recovery	29,104
Emax, Inc. Co., Ltd.	Spent lead acid batteries	Metals Recovery	2,108
Hongjing Resource Co., Ltd.	Spent catalyst	Metals Recovery	1,859
Hwachang Co., Ltd.	Spent lead acid batteries, industrial lead batteries, industrial rails	Metals Recovery	11,746
Joong-Il Metals, Inc.	Spent lead acid batteries	Metals Recovery	14,093
Kobar Ltd.	NICD batteries, nickel metal hybrid batteries, lithium primary, lithium Ion batteries, primary alkaline	Metals Recovery	687
Kookjea Metallic Co., Ltd.	Spent lead acid batteries, lead scrap	Metals Recovery	17,391
Korea Zinc Co., Ltd Onsan Complex	Spent lead acid batteries	Metals Recovery	738
Oriental Metal Industry Co., Ltd.	Spent lead acid batteries, lead rails	Metals Recovery	3,885
Samji Metal Industrial Co., Ltd.	Spent lead acid batteries	Metals Recovery	26,664
Sangshin Metallic Co., Ltd.	Spent lead acid batteries	Metals Recovery	16,539
Segi Recycling Technology Co., Ltd.	Spent lead acid batteries	Metals Recovery	11,908
Sungeel Hitech Co., Ltd.	Used lithium-ion batteries	Metals Recovery	231
Whachang Co., Ltd.	Industrial lead battery plate	Metals Recovery	1,160
Young Sin Metal Working Co., Ltd.	Spent refinery catalysts	Metals Recovery	330
Yun Jin Tech Corp.	Cathode ray tubes (CRTs)	Inorganics Recovery	162
SPAIN			
Camacho Recycling S.L.	Cathode ray tubes (CRTs)	Inorganics Recovery	1,804
Reciclajes Pozo Canada, S.L.	Cathode ray tubes (CRTs)	Inorganics Recovery	12,331
		Total	**1,307,643**

Exhibit E-2 summarizes the quantities of hazardous wastes exported from the U.S. in 2018, by CAP management category. These quantities were rounded up to the nearest hundred and used in the development of Table VI - National Capacity Assessment of Projected Remaining Commercial Hazardous Waste Management Capacity through December 31, 2044 in "Section 4 - Discussion of the National Capacity Assessment" of the national assessment report.

Exhibit E-2
Hazardous Wastes Shipped to Foreign Countries
in 2018, by CAP Management Category [a]

CAP Management Category	Tons Shipped to Foreign Countries
RECOVERY	
Metals Recovery	961,473
Organics Recovery	34,655
Inorganics Recovery	29,666
Energy Recovery	14,437
TREATMENT	
Fuel Blending	1,204
Incineration	88,007
Wastewater Treatment	411
Sludge Treatment/Stabilization/Encapsulation	35,165
DISPOSAL	
Landfill	142,624
Deepwell or Underground Injection	0
Total	**1,307,643**

2. Hazardous Wastes Received from Foreign Countries (Imports)

Under RCRA, any person importing a hazardous waste into the U.S. from a foreign country is responsible for complying with the hazardous waste generator requirements in 40 CFR Part 262, Subparts A – D and the import-specific generator requirements in 40 CFR Part 262, Subpart H. Importers can be any entity that receives hazardous waste from a foreign source, including a Treatment, Storage, or Disposal Facility (TSDF), recovery facility, transporter, or a broker of hazardous waste. While more than one person may be considered an importer, all of the parties, as contributors to the import of hazardous waste, could be held jointly and severally liable for compliance. When multiple parties are involved in the importing process, one party should accept the importer responsibilities on behalf of all the parties. Additionally, hazardous waste generators should check with their state regulatory agency because certain states have additional or more stringent requirements than the Federal Government.

Under existing federal regulations, Large Quantity Generators (LQGs) and TSDFs must include hazardous waste imports in the Hazardous Waste Report (also known as the Biennial Report or BR).[26] Hazardous waste imports must be reported on the Waste Generation and Management

[26] LQGs must report hazardous waste imports pursuant to 40 CFR 262.41. TSDFs must report hazardous waste imports pursuant to 40 CFR 264.75 and 265.75.

Form (GM Form) or the Waste Received from Off-site Form (WR Form) of the Hazardous Waste Report.

2.1. Hazardous Wastes Imports Reported in GM Forms

A site required to file a Hazardous Waste Report must submit a GM Form for all hazardous waste that was used to determine the site's generator status, including hazardous wastes imported from a site located in a foreign country. In completing the GM Form, the U.S. importer must provide the appropriate source code for the hazardous waste imported from a site located in a foreign country. The source codes associated with hazardous wastes imports are presented in Exhibit E-1.

Exhibit E-1
Hazardous Waste Report Source Codes
Associated with Hazardous Waste Imports

Source Code	Source Code Description
G63	Hazardous waste received from Antarctica
G64	Hazardous waste received from Aruba
G65	Hazardous waste received from Bahamas
G66	Hazardous waste received from Belgium
G67	Hazardous waste received from Brazil
G68	Hazardous waste received from Canada
G69	Hazardous waste received from Holland
G70	Hazardous waste received from Malaysia
G71	Hazardous waste received from Mexico
G72	Hazardous waste received from New Zealand
G73	Hazardous waste received from Taiwan
G74	Hazardous waste received from Venezuela
G75	Hazardous waste received from other foreign country – see Comments for country name

EPA identified wastes received from foreign countries (hazardous waste imports) that were shipped offsite for management by referring to the source codes reported in GM Forms. For these wastes, the Agency compiled data on the name of the hazardous waste importer, the quantity of waste imported, and the management method code associated with the waste. EPA then used the management method codes and the definitions of the CAP management categories to assign waste quantities to CAP management categories. Finally, EPA summed the waste quantities by hazardous waste importer and CAP management category.

2.2. Hazardous Waste Imports Reported in WR Forms

If a site received hazardous waste directly from a generator located in a foreign country, the site must complete a WR Form for the waste treated, recovered, or disposed at the site. Only the first TSDF receiving foreign hazardous waste should report the waste in a WR Form. If the waste is then shipped to another domestic site, it is not counted as imported waste on the WR Form completed by the second site.

If the generator located in a foreign country has an EPA assigned Identification (ID) Number listed in the "Foreign Site Identification Number List" section of Hazardous Waste Report instructions, the WR Form should be completed using the ID number on the list. If the generator located in a foreign country does not have an ID number on the list, the WR Form should be completed using the code "FC" for foreign country followed by the name of the country in the space for the EPA ID Number.

EPA identified wastes received from foreign countries (hazardous waste imports) reported in WR Forms by referring to the EPA ID Number of the off-site handler from which the waste was received. In particular, EPA referred to EPA ID Numbers that started with code "FC." In addition, EPA referred to ID Numbers that have identified as being associated with foreign country sites (MIR000035204 - Clean Harbors Canada in Corunna, Ontario and NYD980756415 – Stablex Canada in Blainville, Quebec). For these wastes, the Agency compiled data on the name of the hazardous waste importer, the quantity of waste imported, and the management method code associated with the waste. EPA then used the management method codes and the definitions of the CAP management categories to assign waste quantities to CAP management categories. Finally, EPA summed the waste quantities by hazardous waste importer and CAP management category.

2.3. All Hazardous Wastes Imports

TSDFs acting as the importer of record assume generator requirements for those import shipments. Therefore, in addition to completing a WR Form, these facilities also must report the import shipments as generated hazardous wastes from a foreign source using the GM Form.[27]

To avoid double-counting of hazardous waste imports, EPA compared the information on hazardous waste imports reported in GM and WR Forms. The Agency found that the hazardous waste imports reported in GM Forms were different to the hazardous waste imports reported in WR Forms. As a result, EPA added the quantities of hazardous waste imports reported in both forms.

Exhibit E-2 shows the quantities of hazardous wastes imported into the U.S. that were reported in GM and WR Forms of the 2017 Hazardous Waste Report. These quantities were rounded up to the nearest hundred and used in the development of Table VI - National Capacity Assessment of Projected Remaining Commercial Hazardous Waste Management Capacity through December 31, 2044 in "Section 4 - Discussion of the National Capacity Assessment" of the national assessment report.

[27] An EPA-acceptable alternative for TSDFs to meet their generator biennial reporting requirement for those import shipments is for the facility to add a statement to the comment field of the WR Form for those import shipments noting that the TSDF was the importer of record for the listed import shipment(s).

Exhibit E-2
Quantity of Hazardous Wastes Received from Foreign Countries Reported in the 2017 Hazardous Waste Report, by CAP Management Category [a]

CAP Management Category	Hazardous Wastes Received from Foreign Countries		
	GM Forms (Tons)	WR Forms (Tons)	Total (Tons)
RECOVERY			
Metals Recovery	21,372	1,311	22,683
Organics Recovery	36	32	68
Inorganics Recovery	0	8,291	8,291
Energy Recovery	3,680	1,139	4,819
TREATMENT			
Fuel Blending	1,830	2,830	4,660
Incineration	49	571	620
Wastewater Treatment	2	8,731	8,733
Sludge Treatment/Stabilization/Encapsulation	0	708	708
DISPOSAL			
Landfill	524	11,378	11,902
Deepwell or Underground Injection	0	1,915	1,915
TRANSFER/STORAGE			
Transfer/Storage	94	371	465
Total	**27,587**	**37,277**	**64,864**

[a] Data current as of November 10, 2019.

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Appendix F
2017 Biennial Hazardous Waste Report Data Considerations

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2017 Biennial Hazardous Waste Report Data Considerations

The Hazardous Waste Report (also known as the Biennial Report or the BR) is one of the key data sources used in the U.S. Environmental Protection Agency's (EPA's) assessment of national commercial capacity for the recovery, treatment, and disposal of hazardous wastes. For this assessment, EPA used data reported by facilities in their 2017 BR, the most recent year for which BR data were available.

This appendix describes 2017 BR potential data issues that EPA considered and examined as part of conducting the national capacity assessment in order to be able to develop an assessment that provides reliable and meaningful results.

1. Data Considerations

In conducting the assessment, EPA focused enhanced data quality efforts on data elements of the 2017 BR that would have a direct impact on estimates of hazardous waste demand on commercial management capacity. These data elements include:

- EPA Identification Number (EPA ID) of the facilities to which the wastes were shipped (i.e., the Receiver IDs) in Section 3 of Waste Generation and Management (GM) Forms.
- EPA IDs of the facilities from which wastes were received (i.e., Shipper IDs) in Waste Received from Offsite (WR) Forms.
- Management method codes representing the wastes.
- Discrepancies between wastes shipped and wastes received.

1.1. Receiver IDs in Section 3 of GM Forms

In aggregating national baseyear data for captive and commercial management, EPA relies on offsite shipment data reported in Section 3 of GM Forms. In particular, EPA relies on the Receiver IDs to determine if the receiving facility is a captive or a commercial facility. EPA also compares the Receiver IDs in Section 3 of GM Forms to the EPA IDs of waste receiving facilities that filed a WR Form to estimate demand from Small Quantity Generators/Very Small Quantity Generators (SQGs/VSQGs). Therefore, accuracy of the Receiver IDs in Section 3 of GM Forms is key in conducting the national capacity assessment.

Based on review of the data, EPA determined that a total of 1,284 unique Receiver IDs were reported in 2017 GM Forms. Exhibit F-1 shows information on Receiver IDs reported in 2017 GM Forms.

Exhibit F-1
Unique Receiver IDs in 2017 GM Forms [a]

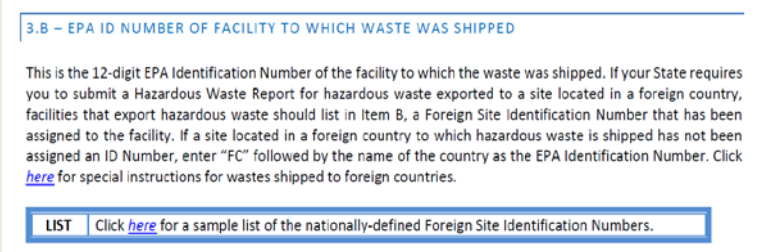
Category		Number of Unique Receiver IDs	Shipped Tons
Receiver IDs in RCRAInfo's Handler Module		902	9,910,374
Receiver IDs Not in RCRAInfo's Handler Module	Foreign Country ID [b]	52	221,179
	Typographical Error	258	15,863
	Unidentifiable	72	3,031
Total		**1,284**	**10,150,446**

[a] Data current as of November 10, 2019.
[b] Receiver IDs that begin with the code "FC" for foreign country ID or Receiver IDs that have been identified as being associated with a foreign country site.

As shown in Exhibit F-1, of the 1,284 unique Receiver IDs reported in 2017 GM Forms, 382 Receiver IDs are not included in RCRAInfo's Handler Module. The majority of the Receiver IDs not in RCRAInfo's Handler Module are EPA IDs with typographical errors very close to IDs of commercial management facilities (usually the difference was only one digit and waste volumes are small). These EPA IDs are presented in Attachment 1 to this appendix, and EPA used the Commercial Management ID when conducting the national capacity assessment.

Foreign Country IDs are not in RCRAInfo's Handler Module. As a result, the BR instructions direct the reporting facility to use "FC" followed by the name of the country as the EPA ID. The inclusion of hazardous waste that was exported directly out of the U.S. to a site located in a foreign country in the BR is a state requirement. At the federal level, hazardous waste exports are accounted for by using Annual Export Reports submitted to the Agency under 40 CFR 262.83(g).

Excerpt from RCRA Subtitle C Reporting Instructions and Forms – Section 3 of 2017 GM Form



3.B – EPA ID NUMBER OF FACILITY TO WHICH WASTE WAS SHIPPED

This is the 12-digit EPA Identification Number of the facility to which the waste was shipped. If your State requires you to submit a Hazardous Waste Report for hazardous waste exported to a site located in a foreign country, facilities that export hazardous waste should list in Item B, a Foreign Site Identification Number that has been assigned to the facility. If a site located in a foreign country to which hazardous waste is shipped has not been assigned an ID Number, enter "FC" followed by the name of the country as the EPA Identification Number. Click here for special instructions for wastes shipped to foreign countries.

LIST | Click here for a sample list of the nationally-defined Foreign Site Identification Numbers.

1.2. Shipper IDs in WR Forms

To estimate demand for commercial management capacity from SQGs/VSQGs, EPA compares the EPA IDs of facilities that reported shipping wastes offsite for management in GM Forms to the EPA IDs of the facilities from which wastes were received in WR Forms (i.e., Shipper IDs). In addition, EPA uses the Shipper IDs in WR Forms to identify hazardous wastes received from foreign countries (imports). Therefore, accuracy of the Shipper IDs in WR Forms is important for the national capacity assessment.

Based on review of the data, EPA determined total of 181,459 unique Shipper IDs were reported in 2017 WR Forms. Exhibit F-2 presents information on Shipper IDs reported in 2017 WR Forms.

Exhibit F-2
Unique Shipper IDs in 2017 WR Forms [a]

Category		Number of Unique Shipper IDs	Managed Tons
Shipper IDs in RCRAInfo's Handler Module		146,742	7,900,918
Shipper IDs Not in RCRAInfo's Handler Module	Confidential Business Information (CBI) Claim	40	228,509
	Foreign Country ID [b]	111	37,277
	VSQG Aggregate ID	11,089	40,646
	Probable State assigned ID	23,477	116,267
	Subtotal	*34,717*	*422,699*
	Total	**181,459**	**8,323,617**

[a] Data current as of November 10, 2019.
[b] Shipper IDs that begin with the code "FC" for foreign country ID.

As shown in Exhibit F-2, of the 181,459 unique Shipper IDs reported in 2017 WR Forms, 34,717 Shipper IDs are not included in RCRAInfo's Handler Module. The majority of these Shipper IDs are state assigned IDs; most of which were temporary IDs or are currently inactive. Examples of state assigned IDs include:

- IDs issued by **California** to waste generators that have registered with or notified the Department of Toxic Substances Control of their hazardous waste activities.[28]

- SQGs who accumulate no more than 55 gallons of hazardous waste may use **Maine**'s generic generator number, MEX020000000.[29]

- Permanent IDs issued by **Massachusetts** to SQGs/VSQGs of hazardous waste and waste oil that have registered with or notified the Massachusetts Department of Environmental Protection (MassDEP) of their hazardous waste activities.[30]

- IDs issued by **Minnesota** to hazardous waste generators. In Minnesota, all hazardous waste generators, including Minimal Quantity Generators (MiniQGs), VSQGs, SQGs, and LQGs, must obtain an ID.[31]

[28] State of California, Department of Toxic Substances Control, Hazardous Waste Tracking System. Available at https://hwts.dtsc.ca.gov/.
[29] State of Maine, Department of Environmental Protection, *Handbook for Hazardous Waste Generators*, June 2018. Available at https://www.maine.gov/dep/waste/hazardouswaste/documents/hazardous-waste-handbook-2018.pdf.
[30] Massachusetts Department of Environmental Protection, "List of Massachusetts Hazardous Waste Generators," December 4, 2017. Available at http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=11&cad=rja&uact=8&ved=2ahUKEwj9ysLfl5TmAhXHuFkKHbVRAJAQFjAKegQIAxAC&url=http%3A%2F%2Fmassdep.org%2FBAW%2Fhwgenids.xls&usg=AOvVaw2hJ4rCOYPqAhMfqXy4huRL.
[31] Refer to https://www.pca.state.mn.us/sites/default/files/w-hw1-03.pdf. The State of Minnesota has developed an online application ("What's in My Neighborhood" at https://www.pca.state.mn.us/data/whats-my-neighborhood) that contains a searchable inventory of businesses that have applied for and received different types of environmental permits and registrations from the Minnesota Pollution Control Agency.

- IDs for **New York** facilities beginning with "NYP" are provisional ID numbers and should only be used for 30 days after the number is issued. EPA ID numbers for New York facilities beginning with "NYP" or "NYN" should not be used as the permanent EPA ID.[32]

- IDs for **West Virginia** facilities beginning with "WVP" are provisional ID numbers and should only be used for 30 days after the number is issued.[33]

In addition, there is a significant number of VSQG aggregate IDs. EPA notes, however, that the use of VSQG aggregate IDs is consistent with the BR instructions given that these facilities generally do not have EPA IDs.[34]

Finally, EPA notes that the Agency identified 40 unique Shipper IDs that are masked EPA IDs because the receiving facility asserted a confidential business information (CBI) claim in accordance with 40 CFR part 2, subpart B.

Excerpt from RCRA Subtitle C Reporting Instructions and Forms – WR Form

WASTES RECEIVED FROM VERY SMALL QUANTITY GENERATORS (VSQGs) – Waste management facilities sometimes receive hazardous waste from large numbers of VSQGs or other sites that do not have RCRA EPA Identification Numbers. To minimize the response burden for filling out the **WR Form** for these wastes, you may aggregate the wastes across generating sites, in accordance with these guidelines:

(1) All the wastes must have the same EPA hazardous waste code (Item B), State hazardous waste code (Item C), Form code (Item G), and Management Method code (Item H).

(2) Wastes received from different States must be reported separately. For the off-site handler EPA Identification Number (Item D), the entry should include the two-letter postal code of the originating State, followed by the letters "VSQG".

For example, wastes received from several VSQGs in the State of Alaska (AK) that share a common EPA hazardous waste code, State hazardous waste code, Form code, and Management Method code could be aggregated in a single waste block of the WR Form (e.g., Waste 1). In Item D, the off-site handler EPA ID number is entered as "AKVSQG." **Note:** This method of completing Item D can also be used for VSQG waste that is not aggregated.

1.3. Management Method Codes Representing the Wastes

To ensure readiness for the capacity analyses, EPA, in collaboration with the states and EPA regions, conducted QA activities on the management method codes reported in Section 3 of 2017 GM Forms. The accuracy of the reported management methods codes is important to the national capacity assessment because EPA relies on the management method codes to assign waste quantities to the CAP management categories.

For purposes of this assessment, EPA followed a two-tiered approach in conducting QA activities on the management method codes reported in Section 3 of 2017 GM Forms. First, given that the Agency's national capacity assessment focuses on the nation's capacity for energy recovery, incineration, and landfilling at commercial facilities, EPA reviewed data for wastes reported in Section 3 of 2017 GM Forms that were represented by Management Method Codes H050 (energy recovery), H040 (incineration), and H132 (landfill). Based on this review, EPA identified GM Forms for which the management method code was not consistent with the RCRA permitted units at the receiving facility. For example, cases in which wastes were represented by Management Method Code H050 but the receiving facility did not have a RCRA permitted energy recovery unit. EPA provided these data to the states and EPA regions, and worked with them to understand the

[32] Refer to https://www.dec.ny.gov/chemical/112876.html.
[33] Refer to http://dep.wv.gov/WWE/Programs/hazwaste/notreq/Documents/NEW-TemporaryIdentificationNumberRequest10.7.2014.pdf.
[34] Under federal regulations, VSQGs do not need to obtain EPA IDs because they are exempt from the notification requirements in RCRA Section 3010 (40 CFR 262.14). However, authorized states may have more stringent requirements for obtaining an ID number than the federal program.

reasons for the questionable data items (e.g., generator/shipper reported the ultimate management method rather than the management method at the initial receiving facility).

Second, EPA compared the management method codes reported by generators in Section 3 of 2017 GM Forms to management method codes reported by managers in their WR Forms. Because, generally, managers have better information on the ultimate management of the wastes, EPA gave preference to the management method code reported by waste managers for purposes of the capacity analyses.

1.4. Discrepancies between Wastes Shipped and Wastes Received

As part of the QA activities conducted by EPA in preparation for the national capacity assessment, the Agency compared waste quantities reported in Section 3 of 2017 GM Forms to waste quantities reported in 2017 WR Forms. The purpose of this activity was to identify discrepancies between wastes shipped and wastes received. This is an important QA activity for the national capacity assessment because the methodology used to estimate demand on commercial management relies heavily on shipped waste data reported in Section 3 of GM Forms. Therefore, if possible, it is necessary to resolve any potential discrepancies between waste quantities reported by shippers in GM Forms and waste quantities reported by receivers in the corresponding WR Forms.

EPA identified waste quantity discrepancies between: (1) shipped wastes reported in Section 3 of 2017 GM Forms and received wastes reported in 2017 WR Forms and (2) received wastes reported in 2017 WR Forms and shipped wastes reported in Section 3 of 2017 GM Forms. EPA then provided these data to the states and EPA regions, and worked with them to understand the reasons for these discrepancies.

2. Future Quality Assurance Activities Specific to the Capacity Assessment Effort

In order to facilitate future QA activities specific to capacity assurance planning, EPA created eight reports in RCRAInfo Production Version 6. The purpose of these reports is to help states and EPA regions check the BR data submitted by facilities after the 2017 BR cycle. These reports are described in Exhibit F-3.

Exhibit F-3
RCRAInfo Production V6 Reports Developed to Facilitate CAP Data QA Activities

Report Name	Description
Hazardous Waste Generated and Managed On-Site	This report shows the quantity (in tons) of hazardous waste generated and managed on-site for the user-selected criteria. This report presents data to be used in the development of Table I (National Baseyear Data Representing Hazardous Waste Generated and Managed Onsite) of the national capacity assessment.
Hazardous Waste Managed at Captive Facilities	This report shows the quantity (in tons) of hazardous waste generated and managed by a captive management site for the location and biennial report cycle selected.

Exhibit F-3
RCRAInfo Production V6 Reports Developed to Facilitate CAP Data QA Activities

Report Name	Description
	This report presents data to be used in the development of Table II (National Baseyear Data Representing Management of Hazardous Waste at Captive Facilities) of the national capacity assessment.
Hazardous Waste Managed at Commercial Facilities	This report shows the quantity (in tons) of hazardous waste generated and managed by a commercial facility. Waste generated with a source code of G01-G09, G11-G19, G21-G27, or G31-G39 is classified as process waste. Waste generated with a source code of G41-G49 is classified as a cleanup waste. This report presents data to be used in the development of Table III (National Baseyear Data Representing Management of Hazardous Waste at Commercial Facilities) of the national capacity assessment.
Hazardous Waste Managed at Commercial Facilities	This report shows hazardous waste shipped to a commercial facility for management. This report may be used to conduct QA of waste quantities received at commercial management facilities.
List of Shippers of HW to Commercial Facilities	This report lists handlers that shipped waste to commercial facilities for management in the management category specified. Note: The location provided indicates the location of the shipping facility, not the location of the receiving facility. This report may be used to conduct QA of waste quantities received at commercial management facilities.
Waste Received by Management Method Report	This report shows the quantity of hazardous waste received by management method for the location and biennial report cycle specified. This report may be used to conduct QA of waste quantities received at captive and commercial management facilities.
Waste Received by TSD Facility Report	This report shows the quantity of hazardous waste received by TSD facility for the location and biennial report cycle specified. This report may be used to conduct QA of waste quantities received at captive and commercial management facilities.

Exhibit F-3
RCRAInfo Production V6 Reports Developed to Facilitate CAP Data QA Activities

Report Name	Description
Waste Shipped Off-site by Management Method Report	This report shows the quantity of hazardous waste shipped off-site for management by the designated management method as reported on the GM Form for the location and report cycle specified. The data are organized by the facility to which waste was shipped for management (i.e., the receiving facility). This report may be used to conduct QA of waste quantities received at captive and commercial management facilities.

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Attachment 1
Receiver IDs Not in RCRAInfo's Handler Module

In conducting the national capacity assessment, the U.S. Environmental Protection Agency (EPA) identified 258 unique EPA Identification Numbers (EPA IDs) reported in Section 3 (Offsite Shipment of Hazardous Waste) of the Generation and Management (GM) Forms of the 2017 Hazardous Waste Report (Receiver IDs) that are not in RCRAInfo's Handler Module but are very similar to a commercial management facility RCRA ID.

Reported Receiver ID	Commercial Receiver ID	Commercial Receiver Name
ALD000622264	ALD000622464	CHEMICAL WASTE MANAGEMENT, INC.
ALD070513764	ALD070513767	GIANT RESOURCE RECOVERY- ATTALLA, INC.
ALD072005169	ALD072095169	RESEARCH SOLUTIONS GROUP INC
AR0069748192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
AR069748192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARALDITE 204	ARD981057870	RINECO CHEMICAL INDUSTRIES, LLC
ARD009746192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD009748192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD06748192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD06948192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD069552177	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
ARD069718192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD069740192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD069746192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD069748119	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD06974812	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD069748492	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD069748913	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD089748192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARD098105787	ARD981057870	RINECO CHEMICAL INDUSTRIES, LLC
ARD098157870	ARD981057870	RINECO CHEMICAL INDUSTRIES, LLC
ARD98105870	ARD981057870	RINECO CHEMICAL INDUSTRIES, LLC
ARD981067870	ARD981057870	RINECO CHEMICAL INDUSTRIES, LLC
ARD982484570	ARD981057870	RINECO CHEMICAL INDUSTRIES, LLC
ARDO69748119	ARD069748192	CLEAN HARBORS EL DORADO, LLC
ARZ000504902	AZR000504902	BATTERY SOLUTIONS INC
AZ000033736	AZ0000337360	VEOLIA ES TECHNICAL SOLUTIONS, LLC
AZC95082311	AZC950823111	LA PAZ COUNTY REGIONAL LANDFILL
AZC950823111	AZC950823111	LA PAZ COUNTY REGIONAL LANDFILL
AZD000337630	AZ0000337360	VEOLIA ES TECHNICAL SOLUTIONS, LLC
AZD069748192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
AZD081705102	AZD081705402	HERITAGE ENVIRONMENTAL SERVICES LLC
AZD08170540	AZD081705402	HERITAGE ENVIRONMENTAL SERVICES LLC
AZD08705402	AZD081705402	HERITAGE ENVIRONMENTAL SERVICES LLC
AZD980895332	AZD980695332	GANNON & SCOTT
AZD982441253	AZD982441263	EVOQUA WATER TECHNOLOGIES
AZD983470080	AZD983476680	LIGHTING RESOURCES INC
AZDO81705402	AZD081705402	HERITAGE ENVIRONMENTAL SERVICES LLC
AZFD04931800	AZD049318009	CLEAN HARBORS ARIZONA
AZQ000516211	AZR000516211	SALT RIVER EXTRACTION
AZR000035913	AZR000035915	DOME ROCK INDUSTRIES

Reported Receiver ID	Commercial Receiver ID	Commercial Receiver Name
AZR000051592	AZR000515924	YUMA YES WASTE TRANSFER FACILITY
AZR000515124	AZR000515924	YUMA YES WASTE TRANSFER FACILITY
AZT060010685	AZT050010685	HVF PRECIOUS METALS LLC
CA0059494310	CAD059494310	CLEAN HARBORS SAN JOSE
CA008302903	CAD008302903	VEOLIA ES TECHNICAL SOLUTIONS LLC
CAD 00848802	CAD008488025	PHIBRO-TECH INC
CAD000302903	CAD008302903	VEOLIA ES TECHNICAL SOLUTIONS LLC
CAD00302903	CAD008302903	VEOLIA ES TECHNICAL SOLUTIONS LLC
CAD006252405	CAD008252405	PACIFIC RESOURCE RECOVERY SERVICES INC
CAD008252406	CAD008252405	PACIFIC RESOURCE RECOVERY SERVICES INC
CAD008262405	CAD008252405	PACIFIC RESOURCE RECOVERY SERVICES INC
CAD008300903	CAD008302903	VEOLIA ES TECHNICAL SOLUTIONS LLC
CAD00830290	CAD008302903	VEOLIA ES TECHNICAL SOLUTIONS LLC
CAD008308903	CAD008302903	VEOLIA ES TECHNICAL SOLUTIONS LLC
CAD00834432	CAD008364432	RHO-CHEM LLC
CAD008346432	CAD008364432	RHO-CHEM LLC
CAD008364433	CAD008364432	RHO-CHEM LLC
CAD008386443	CAD008364432	RHO-CHEM LLC
CAD008448025	CAD008488025	PHIBRO-TECH INC
CAD008488026	CAD008488025	PHIBRO-TECH INC
CAD008634432	CAD008364432	RHO-CHEM LLC
CAD009302903	CAD008302903	VEOLIA ES TECHNICAL SOLUTIONS LLC
CAD009364432	CAD008364432	RHO-CHEM LLC
CAD02409019	CAD028409019	CROSBY & OVERTON
CAD026409019	CAD028409019	CROSBY & OVERTON
CAD02809019	CAD028409019	CROSBY & OVERTON
CAD028400919	CAD028409019	CROSBY & OVERTON
CAD028409018	CAD028409019	CROSBY & OVERTON
CAD02840919	CAD028409019	CROSBY & OVERTON
CAD044426835	CAD044429835	CLEAN HARBORS OF WILMINGTON
CAD044429853	CAD044429835	CLEAN HARBORS OF WILMINGTON
CAD044429983	CAD044429835	CLEAN HARBORS OF WILMINGTON
CAD044492835	CAD044429835	CLEAN HARBORS OF WILMINGTON
CAD044492865	CAD044429835	CLEAN HARBORS OF WILMINGTON
CAD050494310	CAD059494310	CLEAN HARBORS SAN JOSE
CAD053856794	CAD053866794	PATRIOT ENVIRONMENTAL SERVICES
CAD058484310	CAD059494310	CLEAN HARBORS SAN JOSE
CAD0594310	CAD059494310	CLEAN HARBORS SAN JOSE
CAD059484310	CAD059494310	CLEAN HARBORS SAN JOSE
CAD05949431	CAD059494310	CLEAN HARBORS SAN JOSE
CAD059494311	CAD059494310	CLEAN HARBORS SAN JOSE
CAD059494313	CAD059494310	CLEAN HARBORS SAN JOSE
CAD059494431	CAD059494310	CLEAN HARBORS SAN JOSE
CAD06398229	CAD060398229	HERAEUS METAL PROCESSING LLC
CAD0691247	CAD069124717	GLENCORE RECYCLING LLC
CAD09494310	CAD059494310	CLEAN HARBORS SAN JOSE
CAD09594310	CAD059494310	CLEAN HARBORS SAN JOSE
CAD095949431	CAD059494310	CLEAN HARBORS SAN JOSE
CAD09703099	CAD097030993	US ECOLOGY VERNON INC
CAD097030997	CAD097030993	US ECOLOGY VERNON INC

Reported Receiver ID	Commercial Receiver ID	Commercial Receiver Name
CAD09703993	CAD097030993	US ECOLOGY VERNON INC
CAD0970993	CAD097030993	US ECOLOGY VERNON INC
CAD890675276	CAD980675276	CLEAN HARBORS BUTTONWILLOW LLC
CAD920675276	CAD980675276	CLEAN HARBORS BUTTONWILLOW LLC
CAD980672527	CAD980675276	CLEAN HARBORS BUTTONWILLOW LLC
CAD980675176	CAD980675276	CLEAN HARBORS BUTTONWILLOW LLC
CAD98075276	CAD980675276	CLEAN HARBORS BUTTONWILLOW LLC
CAD980999598	CAD980888598	WIT SALES AND REFINING
CAD982052794	CAD982052797	J&B REFINING DBA J&B ENTERPRISES
CAD982062797	CAD982052797	J&B REFINING DBA J&B ENTERPRISES
CADO44429835	CAD044429835	CLEAN HARBORS OF WILMINGTON
CADQ97030993	CAD097030993	US ECOLOGY VERNON INC
CALL2RECYCLE	MIK926163767	BATTERY SOLUTIONS/CALL2RECYCLE
CAT0006117	CAT000646117	CHEMICAL WASTE MANAGEMENT INC KETTLEMAN
CAT0006461	CAT000646117	CHEMICAL WASTE MANAGEMENT INC KETTLEMAN
CAT080013350	CAT080013352	DEMENNO/KERDOON
CAT080013353	CAT080013352	DEMENNO/KERDOON
CAT080013362	CAT080013352	DEMENNO/KERDOON
CAT080013952	CAT080013352	DEMENNO/KERDOON
CAT080014029	CAT080014079	VEOLIA ES TECHNICAL SOLUTIONS LLC RICHMOND
CAT08003352	CAT080013352	DEMENNO/KERDOON
CAT080041079	CAT080014079	VEOLIA ES TECHNICAL SOLUTIONS LLC RICHMOND
CAT80014079	CAT080014079	VEOLIA ES TECHNICAL SOLUTIONS LLC RICHMOND
CAT80025711	CAT080025711	ADVANCED ENVIRONMENTAL, INC. DBA WORLD OIL ENVIRONMENTAL SERVICES
CAT808814079	CAT080014079	VEOLIA ES TECHNICAL SOLUTIONS LLC RICHMOND
CATO8OO13352	CAT080013352	DEMENNO/KERDOON
COC991300484	COD991300484	CLEAN HARBORS DEER TRAIL LLC
COD991300494	COD991300484	CLEAN HARBORS DEER TRAIL LLC
COD991330484	COD991300484	CLEAN HARBORS DEER TRAIL LLC
COD991399484	COD991300484	CLEAN HARBORS DEER TRAIL LLC
FLR981932497	FLD981932494	US ECOLOGY TAMPA INC
IDD073114554	IDD073114654	US ECOLOGY IDAHO INC SITE B
IDD073145654	IDD073114654	US ECOLOGY IDAHO INC SITE B
IDL000666206	ILD000666206	ENVIRITE OF ILLINOIS INC
IL098642424	ILD098642424	VEOLIA TECHNICAL SOLUTIONS LLC
ILD093642424	ILD098642424	VEOLIA TECHNICAL SOLUTIONS LLC
ILD093643434	ILD098642424	VEOLIA TECHNICAL SOLUTIONS LLC
ILD398642424	ILD098642424	VEOLIA TECHNICAL SOLUTIONS LLC
ILD98642424	ILD098642424	VEOLIA TECHNICAL SOLUTIONS LLC
IND000546943	IND000646943	TRADEBE TREATMENT & RECYCLING LLC
IND000648943	IND000646943	TRADEBE TREATMENT & RECYCLING LLC
IND000772186	IND000772186	TRADEBE TREATMENT & RECYCLING LLC
IND00646943	IND000646943	TRADEBE TREATMENT & RECYCLING LLC
IND008410212	IND006419212	LONE STAR GREENCASTLE WDF
INO000000356	WIR000000356	WM MERCURY WASTE INC
INO000351387	IN0000351387	LIGHTING RESOURCES INCORPORATED
KSD098150602	KSD981506025	EMERALD TRANSFORMER KANSAS LLC
KSD930633259	KSD980633259	SYSTECH ENVIRONMENTAL CORPORATION
KYD053340108	KYD053348108	SAFETY-KLEEN SYSTEMS, INC.
KYD098507319	KYD985073196	AES ENVIRONMENTAL, LLC

Reported Receiver ID	Commercial Receiver ID	Commercial Receiver Name
KYD965073196	KYD985073196	AES ENVIRONMENTAL, LLC
KYDO53348108	KYD053348108	SAFETY-KLEEN SYSTEMS, INC.
LAD980662161	LAD980622161	CATALYST RECOVERY OF LA, LLC
MAD03922250	MAD039322250	CLEAN HARBORS ENVIRONMENTAL SERVICES INC
MAD03932250	MAD039322250	CLEAN HARBORS ENVIRONMENTAL SERVICES INC
MAD039322750	MAD039322250	CLEAN HARBORS ENVIRONMENTAL SERVICES INC
MAD069748192	ARD069748192	CLEAN HARBORS EL DORADO, LLC
MED981723513	NED981723513	CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
MI0000724831	MID000724831	MICHIGAN DISPOSAL INC
MID930991566	MID980991566	EQ DETROIT INC
MID980515288	MID980615298	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
MID980615928	MID980615298	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
MID980815298	MID980615298	PETRO-CHEM PROCESSING GROUP OF NORTRU LLC
MID98100359	MID981000359	SAFETY KLEEN SYSTEMS INC
MND001617296	MND006172969	3M COMPANY
MND961098478	MND981098478	EVOQUA WATER TECHNOLOGIES LLC
MND981008478	MND981098478	EVOQUA WATER TECHNOLOGIES LLC
MNS00110924	MNS000110924	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
MOD090503899	MOD095038998	BED ROCK INC DBA TRI STATE MOTOR TRANSIT CO
MSWL018759	MSWL018759	HANCOCK COUNTY LANDFILL
NCD039322259	MAD039322250	CLEAN HARBORS ENVIRONMENTAL SERVICES INC
NCD98042132	NCD980842132	ECOFLO, INC
NED098172351	NED981723513	CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
NED981723573	NED981723513	CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
NED981726513	NED981723513	CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
NED998172351	NED981723513	CLEAN HARBORS ENVIRONMENTAL SERVICES, INC.
NJD08063136	NJD080631369	VEOLIA ES TECHNICAL SOLUTIONS CORP
NMD0008627	NMD002208627	ADVANCED CHEMICAL TREATMENT, LLC
NMD002208	NMD002208627	ADVANCED CHEMICAL TREATMENT, LLC
NMD002208267	NMD002208627	ADVANCED CHEMICAL TREATMENT, LLC
NMD00220827	NMD002208627	ADVANCED CHEMICAL TREATMENT, LLC
NMD002208637	NMD002208627	ADVANCED CHEMICAL TREATMENT, LLC
NMD002208827	NMD002208627	ADVANCED CHEMICAL TREATMENT, LLC
NND002208627	NMD002208627	ADVANCED CHEMICAL TREATMENT, LLC
NV0980895338	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NV980895338	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD002208627	NMD002208627	ADVANCED CHEMICAL TREATMENT, LLC
NVD098089533	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD098895338	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD980825338	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD980875338	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD980884183	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGEMENT OF NEVADA LLC
NVD980895330	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD980895335	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD980895336	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD980895388	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD9808956	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD980896338	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD980985338	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVD988089533	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.

Reported Receiver ID	Commercial Receiver ID	Commercial Receiver Name
NVD998089533	NVD980895338	21ST CENTURY ENVIRONMENTAL MANAGMENT OF NEVADA, LLC.
NVT 33001000	NVT330010000	US ECOLOGY NEVADA, INC
NVT30010000	NVT330010000	US ECOLOGY NEVADA, INC
NVT310010000	NVT330010000	US ECOLOGY NEVADA, INC
NVT3300100	NVT330010000	US ECOLOGY NEVADA, INC
NVT33001000	NVT330010000	US ECOLOGY NEVADA, INC
NVT330010001	NVT330010000	US ECOLOGY NEVADA, INC
NVT330010008	NVT330010000	US ECOLOGY NEVADA, INC
NVT33010000	NVT330010000	US ECOLOGY NEVADA, INC
NVT330310000	NVT330010000	US ECOLOGY NEVADA, INC
NVTY33001000	NVT330010000	US ECOLOGY NEVADA, INC
NYP000006957	NYR000006957	CENTRE DE RECYCLAGE INTERMEDIAIRE INC
OH0000816629	OHD000816629	SPRING GROVE RESOURCE RECOVERY INC
OHD000724133	OHD000724153	CLEAN HARBORS ENVIRONMENTAL SERVICES INC
OHD08377010	OHD083377010	ENVIRONMENTAL ENTERPRISES INC
OHD098058736	OHD980587364	CLEAN HARBORS RECYCLING SERVICES OF OHIO LLC
OHD980587384	OHD980587364	CLEAN HARBORS RECYCLING SERVICES OF OHIO LLC
OHD980612541	OHD980613541	HERITAGE THERMAL SERVICES INC
RID980769947	NYD980769947	HAZMAT ENVIRONMENTAL GROUP INC
SCD036275426	SCD036275626	GIANT RESOURCE RECOVERY SUMTER INC
SCDO36275626	SCD036275626	GIANT RESOURCE RECOVERY SUMTER INC
TN000772186	TND000772186	TRADEBE TREATMENT & RECYCLING OF TN, LLC
TND000712186	TND000772186	TRADEBE TREATMENT & RECYCLING OF TENNESSEE, LLC
TND000722186	TND000772186	TRADEBE TREATMENT & RECYCLING OF TENNESSEE, LLC
TND000772180	TND000772186	TRADEBE TREATMENT & RECYCLING OF TENNESSEE, LLC
TND000777218	TND000772186	TRADEBE TREATMENT & RECYCLING OF TENNESSEE, LLC
TXD000F38896	TXD000838896	VEOLIA ES TECHNICAL SOLUTIONS
TXD00838896	TXD000838896	VEOLIA ES TECHNICAL SOLUTIONS
TXD055135538	TXD055135388	SET ENVIRONMENTAL
TXD05514	TXD055141378	CLEAN HARBORS DEER PARK
TXD055141278	TXD055141378	CLEAN HARBORS DEER PARK
TXD88290140	TXD982290140	CLEAN HARBORS LAPORTE
TXD932290140	TXD982290140	CLEAN HARBORS LAPORTE
UTC982595795	UTD982595795	CLEAN HARBORS CLIVE, LLC
UTD 98155	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
UTD098155217	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
UTD81552177	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
UTD891391748	UTD991301748	CLEAN HARBORS GRASSY MOUNTAIN
UTD918552177	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
UTD98155	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
UTD981552147	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
UTD98155217	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
UTD981552172	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
UTD991301746	UTD991301748	CLEAN HARBORS GRASSY MOUNTAIN
UTS981552177	UTD981552177	CLEAN HARBORS ARAGONITE, LLC
WID000000356	WIR000000356	WM MERCURY WASTE INC
WID000646943	IND000646943	TRADEBE TREATMENT & RECYCLING LLC
WID000808924	WID000808824	HYDRITE CHEMICAL CO
WID003962143	WID003967148	VEOLIA ES TECHNICAL SOLUTIONS LLC
WID003967142	WID003967148	VEOLIA ES TECHNICAL SOLUTIONS LLC

Reported Receiver ID	Commercial Receiver ID	Commercial Receiver Name
WID003967143	WID003967148	VEOLIA ES TECHNICAL SOLUTIONS LLC
WID003967152	WID003967148	VEOLIA ES TECHNICAL SOLUTIONS LLC
WID985580056	WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC
WID988566573	WID988566543	VEOLIA ES TECHNICAL SOLUTIONS LLC
WID988580050	WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC
WID988580058	WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC
WID988580256	WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC
WID988590056	WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC
WID988680056	WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC
WID989566543	WID988566543	VEOLIA ES TECHNICAL SOLUTIONS LLC
WID990828475	WID990829475	WRR ENVIRONMENTAL SERVICES CO INC
WID990829478	WID990829475	WRR ENVIRONMENTAL SERVICES CO INC
WID998029476	WID990829475	WRR ENVIRONMENTAL SERVICES CO INC
WID998580056	WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC
WIDOO3967148	WID003967148	VEOLIA ES TECHNICAL SOLUTIONS LLC
WIR988580056	WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC
WIS988580056	WID988580056	TRADEBE TREATMENT AND RECYCLING OF WI LLC