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United States  
Environmental Protection  
Agency

Solid Waste and  
Emergency Response  
(5305W)

EPA530-S-01-001  
PB2001-106318  
June 2001

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## EXECUTIVE SUMMARY

# THE NATIONAL BIENNIAL RCRA HAZARDOUS WASTE REPORT (BASED ON 1999 DATA)



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## EXECUTIVE SUMMARY

The United States Environmental Protection Agency (EPA), in partnership with the States<sup>1</sup>, biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The purpose of *The National Biennial RCRA Hazardous Waste Report (Based on 1999 Data)* is to communicate the findings of EPA's 1999 Biennial Report (BR) data collection efforts to the public, government agencies, and the regulated community.<sup>2</sup> The Report consists of six volumes:

- The ***Executive Summary*** provides an overview of national hazardous waste generation and management practices;
- The ***National Analysis*** presents a detailed look at waste-handling practices in the EPA Regions, States, and largest facilities nationally, including (1) the quantity of waste generated, managed, shipped and received, and imported and exported between States and (2) the number of generators and managing facilities;
- The ***State Summary Analysis*** provides a two-page overview of the generation and management practices of individual States;
- The ***State Detail Analysis*** is a detailed look at each State's waste handling practices, including overall totals for generation, management, and shipments and receipts, as well as totals for the largest fifty facilities;
- The ***List of Large Quantity Generators*** identifies every hazardous waste generator in the United States that reported itself to be a large quantity generator in 1999; and
- The ***List of Treatment, Storage, and Disposal Facilities*** identifies every hazardous waste manager in the United States that reported itself to be a treatment, storage, or disposal facility in 1999.

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<sup>1</sup> The term "State" includes the District of Columbia, Puerto Rico, Guam, the Navajo Nation, the Trust Territories, and the Virgin Islands, in addition to the 50 United States.

<sup>2</sup> Some respondents from the States of Georgia and Connecticut submitted Confidential Business Information (CBI) pursuant to §40 CFR 260.2(b). While not included in any public database, CBI has been incorporated into the *Executive Summary* and *National Analysis* volumes of this Report wherever possible. Where CBI has been omitted from these volumes, a footnote has been provided.

## RCRA HAZARDOUS WASTE

Throughout this Report, the term RCRA hazardous waste refers to solid waste assigned a Federal Hazardous Waste Code and regulated by RCRA. Some States elect to regulate wastes not regulated by EPA; these wastes are assigned State Hazardous Waste Codes and are not included in this Report. The reader can find more detailed explanations in the *RCRA Orientation Manual* (<http://www.epa.gov/epaoswer/general/orientat/>) and in the Code of Federal Regulations in 40 CFR Parts 260 and 261 (<http://www.epa.gov/docs/epacfr40/chapt-I.info/subch-I.htm>). Please refer to Appendix D of the *National Analysis* volume for a complete list of EPA Hazardous Waste Codes used by the regulated community for their 1999 Biennial Report submissions. Details about the information submitted by the regulated community can be found in the *1999 Hazardous Waste Report Instructions and Forms* (<http://www.epa.gov/epaoswer/hazwaste/data/brs99/forms.htm>).

## WASTEWATER EXCLUSION LOGIC USED FOR NATIONAL REPORTING

Wastewaters are defined for biennial reporting as wastes that have a particular form and/or are managed on-site or off-site in treatment systems typically used to manage wastewater. All wastes bearing one of the following wastewater Form Codes (B101-102; B105, B110-116) and/or System Type Codes (M071-079; M081-085, 089; M091-094, 099; M121-125, 129; M134-136) are excluded from the National Report data and the 1999 National Biennial Report, **with one exception: wastewaters managed by System Type Code M134 (Deepwell/Underground Injection) are included in the 1999 National Biennial Report.** Refer to Appendix B and C of the *National Analysis* volume for complete descriptions of the System Type Codes and Form Codes referenced above.

In biennial report cycles prior to 1997, the PS Form was used to separate and exclude from the National Report data all wastes going to on-site treatment systems **exempt** from RCRA permitting requirements. **For the 1999 National Biennial Report, EPA included all non-wastewater data and excluded all wastewater data. The wastewater data was excluded regardless of whether the wastes were managed in RCRA permitted systems prior to management in on-site or off-site treatment systems exempt from RCRA permitting requirements.** This is significant, because historically EPA has included only those wastes managed in units subject to RCRA permitting requirements in the National Biennial Reports. EPA does not believe the inclusion of all non-wastewaters will distort the RCRA hazardous waste management picture presented in this Report, because only a small volume of non-wastewaters are managed in treatment systems exempt from RCRA permitting requirements.

*Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.*

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## RCRA HAZARDOUS WASTE GENERATION

RCRA hazardous waste generation information is obtained from data reported by RCRA large quantity generators (LQGs). A generator is defined as a Federal large quantity generator if:

- the generator generated in any single month 1,000 kg (2,200 pounds or 1.1 tons) or more of RCRA hazardous waste; or
- the generator generated in any single month, or accumulated at any time, 1 kg (2.2 pounds) of RCRA acute hazardous waste; or
- the generator generated, or accumulated at any time, more than 100 kg (220 pounds) of spill cleanup material contaminated with RCRA acute hazardous waste.

All generators that reported LQG status in 1999 are required to provide EPA with 1999 waste generation and management information. It is important to note that the LQGs identified in this Report have been included based on the most current information made available to EPA by the States. Both EPA and the States have made a significant effort to ensure the accuracy of this data. However, the LQG counts may include generators that, when determining whether they were LQGs, used a lower State-defined threshold for LQGs, counted wastes regulated only by their States, or counted wastes exempt from Federal regulation.

To help provide a more accurate picture of hazardous waste generation in the United States, EPA requests specific waste generation information from LQGs. For each RCRA hazardous waste generated, LQGs are required to provide a waste description, the applicable Federal Hazardous Waste Codes that most accurately represent the waste generated, and the quantity of waste generated.

In 1999, 20,083 LQGs reported they generated 40 million tons of RCRA hazardous waste. When comparing the 1997 National Biennial Report with the 1999 Report, the number of LQGs decreased by 233, and the quantity of hazardous waste generated decreased by 650 thousand tons or 1.5%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the generation of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

***Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.***

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As identified in Exhibit 1, the five (5) States which contributed most to the national hazardous waste generation total in 1999 were Texas (14.9 million tons), Louisiana (4.4 million tons), Illinois (2.9 million tons), Tennessee (2.2 million tons), and Ohio (1.6 million tons). Together, the LQGs in these States accounted for 65% of the national total quantity generated.

Exhibit 1 Quantity of RCRA Hazardous Waste Generated and Number of Hazardous Waste Generators, by State, 1999

State	Hazardous Waste Quantity			Large Quantity Generators		
	Rank	Tons Generated	Percentage	Rank	Number	Percentage
ALABAMA	15	491,178	1.2	24	274	1.4
ALASKA	51	1,335	0.0	44	42	0.2
ARIZONA	38	39,016	0.1	29	193	1.0
ARKANSAS	11	970,995	2.4	26	241	1.2
CALIFORNIA	16	427,302	1.1	2	1,850	9.2
COLORADO	35	49,190	0.1	32	163	0.8
CONNECTICUT	27	92,201	0.2	16	391	1.9
DELAWARE	40	26,071	0.1	42	76	0.4
DISTRICT OF COLUMBIA	52	1,167	0.0	48	30	0.1
FLORIDA	19	272,387	0.7	18	366	1.8
GEORGIA	22	209,206	0.5	17	384	1.9
GUAM	55	696	0.0	55	3	0.0
HAWAII	50	1,456	0.0	47	37	0.2
IDAHO	12	851,764	2.1	46	38	0.2
ILLINOIS	3	2,907,327	7.3	5	1,006	5.0
INDIANA	10	984,895	2.5	9	586	2.9
IOWA	36	46,828	0.1	30	188	0.9
KANSAS	7	1,594,119	4.0	27	224	1.1
KENTUCKY	21	214,842	0.5	20	340	1.7
LOUISIANA	2	4,351,245	10.9	14	440	2.2
MAINE	48	4,374	0.0	38	102	0.5
MARYLAND	32	80,256	0.2	23	289	1.4
MASSACHUSETTS	9	1,191,465	3.0	13	448	2.2
MICHIGAN	8	1,385,375	3.5	8	823	4.1
MINNESOTA	34	56,573	0.1	25	262	1.3
MISSISSIPPI	6	1,598,642	4.0	36	136	0.7
MISSOURI	24	158,682	0.4	22	312	1.6
MONTANA	41	23,986	0.1	48	30	0.1
NAVAJO NATION	56	89	0.0	53	6	0.0
NEBRASKA	37	43,224	0.1	41	85	0.4
NEVADA	44	11,473	0.0	38	102	0.5
NEW HAMPSHIRE	45	11,082	0.0	31	168	0.8
NEW JERSEY	13	650,534	1.6	4	1,071	5.3
NEW MEXICO	20	238,558	0.6	45	41	0.2
NEW YORK	14	548,928	1.4	1	2,647	13.2
NORTH CAROLINA	33	74,757	0.2	12	508	2.5
NORTH DAKOTA	49	2,675	0.0	52	16	0.1
OHIO	5	1,644,029	4.1	3	1,181	5.9
OKLAHOMA	18	417,460	1.0	33	147	0.7
OREGON	30	81,270	0.2	28	208	1.0
PENNSYLVANIA	17	417,477	1.0	6	965	4.8
PUERTO RICO	29	86,630	0.2	37	105	0.5
RHODE ISLAND	39	37,622	0.1	34	145	0.7
SOUTH CAROLINA	42	14,761	0.0	19	347	1.7
SOUTH DAKOTA	53	1,074	0.0	51	21	0.1
TENNESSEE	4	2,218,753	5.5	15	396	2.0
TEXAS	1	14,923,520	37.3	7	907	4.5
TRUST TERRITORIES	54	827	0.0	54	4	0.0
UTAH	31	80,427	0.2	40	91	0.5
VERMONT	46	5,275	0.0	43	65	0.3
VIRGIN ISLANDS	43	12,511	0.0	56	1	0.0
VIRGINIA	25	121,787	0.3	21	332	1.7
WASHINGTON	28	91,245	0.2	10	545	2.7
WEST VIRGINIA	26	92,503	0.2	35	139	0.7
WISCONSIN	23	159,174	0.4	11	540	2.7
WYOMING	47	4,746	0.0	50	22	0.1
CBI DATA	N/A	1,066	N/A	N/A	4	N/A
<b>Total</b>		<b>40,026,050</b>	<b>100.0</b>		<b>20,083</b>	<b>100.0</b>

Note: Columns may not sum due to rounding.  
Percentages do not include CBI data.

Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.

## RCRA HAZARDOUS WASTE MANAGEMENT

RCRA hazardous waste management information is obtained from data reported by active, permitted RCRA treatment, storage, or disposal facilities (TSDs). A TSD is defined as any facility which treats, stores, or disposes of RCRA hazardous waste, regardless of the quantity managed. Only wastes that were treated or disposed of in 1999 are included in the management quantities in this Report. Wastes generated and subsequently stored in 1999 are *not* included in the management quantities in this Report. In addition, the management quantities in this Report do *not* include waste from transfer facilities (System Code M141).

To help provide a more accurate picture of hazardous waste management practices in the United States, EPA requests specific waste management information from TSDs. For each RCRA hazardous waste managed, TSDs are required to provide the quantity of waste managed and the System Type Code which represents the management method used to manage the waste.

It is important to note that the total quantity of RCRA hazardous waste generated is less than the total quantity managed. Some of the reasons for this variance include: wastes generated during non-reporting years but shipped and treated or disposed during a reporting year and wastes received for management from generators in foreign countries.

In 1999, 1,575 TSDs reported they managed 26.3 million tons of RCRA hazardous waste. Of the 1,575 facilities, 1,049 were storage-only facilities. When comparing the 1997 National Biennial Report with the 1999 Report, the number of TSDs decreased by 450, and the total quantity of hazardous waste managed decreased by 11.4 million tons or 30%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the management of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

As identified in Exhibit 2, the five (5) States whose TSDs managed the largest quantities of hazardous wastes were Texas (5.8 million tons), Louisiana (4.2 million tons), Florida (2.8 million tons), Kansas (2.3 million tons), and Ohio (1.7 million tons). The TSDs in these five (5) States account for 64% of the national management total.



Exhibit 2 Quantity of RCRA Hazardous Waste Managed and Number of RCRA TSD Facilities, by State, 1999

State	Hazardous Waste Quantity <sup>1</sup>			TSD Facilities		
	Rank	Tons Managed	Percentage	Rank	Number	Percentage
ALABAMA	18	211,762	0.8	11	47	3.0
ALASKA	47	4	0.0	40	6	0.4
ARIZONA	38	6,193	0.0	35	16	1.0
ARKANSAS	9	977,784	3.7	18	35	2.2
CALIFORNIA	13	400,559	1.5	1	144	9.1
COLORADO	39	5,282	0.0	33	18	1.1
CONNECTICUT	35	8,627	0.0	31	20	1.3
DELAWARE	41	2,064	0.0	45	5	0.3
DISTRICT OF COLUMBIA	50	0	0.0	51	1	0.1
FLORIDA	3	2,822,198	10.7	12	46	2.9
GEORGIA	23	82,693	0.3	17	37	2.4
GUAM	50	0	0.0	49	2	0.1
HAWAII	46	156	0.0	46	3	0.2
IDAHO	10	860,261	3.3	40	6	0.4
ILLINOIS	12	428,280	1.6	3	86	5.5
INDIANA	7	1,187,981	4.5	20	30	1.9
IOWA	42	1,389	0.0	25	26	1.7
KANSAS	4	2,278,712	8.7	27	24	1.5
KENTUCKY	22	92,897	0.4	23	27	1.7
LOUISIANA	2	4,232,705	16.1	5	68	4.3
MAINE	43	571	0.0	36	10	0.6
MARYLAND	33	12,306	0.0	29	22	1.4
MASSACHUSETTS	36	7,092	0.0	14	43	2.7
MICHIGAN	8	1,132,279	4.3	6	61	3.9
MINNESOTA	29	29,958	0.1	16	40	2.5
MISSISSIPPI	27	45,763	0.2	32	19	1.2
MISSOURI	17	270,066	1.0	8	51	3.2
MONTANA	50	0	0.0	55	0	0.0
NAVAJO NATION	50	0	0.0	55	0	0.0
NEBRASKA	30	27,991	0.1	40	6	0.4
NEVADA	26	48,283	0.2	40	6	0.4
NEW HAMPSHIRE	50	0	0.0	46	3	0.2
NEW JERSEY	19	192,698	0.7	13	44	2.8
NEW MEXICO	49	2	0.0	37	7	0.4
NEW YORK	15	316,470	1.2	7	59	3.7
NORTH CAROLINA	32	20,405	0.1	4	75	4.8
NORTH DAKOTA	44	504	0.0	37	7	0.4
OHIO	5	1,652,870	6.3	10	49	3.1
OKLAHOMA	11	485,193	1.8	20	30	1.9
OREGON	28	38,874	0.1	40	6	0.4
PENNSYLVANIA	16	293,078	1.1	8	51	3.2
PUERTO RICO	21	116,796	0.4	19	31	2.0
RHODE ISLAND	40	2,220	0.0	46	3	0.2
SOUTH CAROLINA	14	329,906	1.3	25	26	1.7
SOUTH DAKOTA	50	0	0.0	51	1	0.1
TENNESSEE	6	1,551,844	5.9	22	28	1.8
TEXAS	1	5,806,458	22.1	2	105	6.7
TRUST TERRITORIES	45	185	0.0	51	1	0.1
UTAH	20	156,799	0.6	23	27	1.7
VERMONT	48	4	0.0	37	7	0.4
VIRGIN ISLANDS	34	11,400	0.0	51	1	0.1
VIRGINIA	24	70,587	0.3	14	43	2.7
WASHINGTON	31	27,371	0.1	28	23	1.5
WEST VIRGINIA	25	55,017	0.2	29	22	1.4
WISCONSIN	37	6,671	0.0	33	18	1.1
WYOMING	50	0	0.0	49	2	0.1
CBI DATA	N/A	88	N/A	N/A	1	N/A
<b>Total</b>		<b>26,309,296</b>	<b>100.0</b>		<b>1,575</b>	<b>100.0</b>

<sup>1</sup> Quantity managed by storage only is excluded.

**Note:** Columns may not sum due to rounding.  
Percentages do not include CBI data.

**Exclusion of wastewater from the 1999 National Biennial Report will make cursory comparisons of the 1999 National Biennial Report to National Biennial Reports prior to 1997 misleading. Refer to Executive Summary (ES-2) for a complete explanation.**

In 1999, *land disposal* accounted for 69% of the national non-wastewater management total. Land disposal methods include:

Deepwell/Underground Injection	16.0 million tons
Landfill	1.4 million tons
Surface Impoundment	705 thousand tons
Land Treatment/Application/Farming	30 thousand tons

*Thermal treatment* accounted for 11% of the national non-wastewater management total. Thermal treatment units include:

Energy Recovery (for Reuse as Fuel)	1.5 million tons
Incineration	1.5 million tons

*Recovery operations* accounted for 8% of the national non-wastewater management total. Recovery operations include:

Fuel Blending	1.1 million tons
Metals Recovery (for Reuse)	720 thousand tons
Solvents Recovery	368 thousand tons
Other Recovery	152 thousand tons

The remaining non-wastewater management quantities (11%) were managed in *other treatment and disposal units*, including:

Other Disposal (Specified in Comments)	1.4 million tons
Stabilization	1.3 million tons
Sludge Treatment	48 thousand tons

## RCRA HAZARDOUS WASTE SHIPMENTS AND RECEIPTS

RCRA hazardous waste shipment information is obtained from data reported by both RCRA LQGs and RCRA TSDs. To help provide a more accurate picture of hazardous waste shipments in the United States, EPA requests specific shipment information. For each waste shipped, LQGs and TSDs are required to provide a waste description, the applicable Federal Hazardous Waste Codes, the quantity of waste shipped, and the EPA Identification Number of the receiving facility. All RCRA non-wastewater shipments reported by RCRA LQGs and TSDs are included in the waste shipment quantities in this Report, even if the waste was shipped to a transfer facility. In some instances, waste is transferred within a physical location that has more than one EPA Identification Number. These waste transfers are treated as shipments.

RCRA hazardous waste receipt information is obtained from data reported by RCRA TSDs. To help provide a more accurate picture of hazardous waste receipts in the United States, EPA requests certain receipt information from TSDs. For each waste received, TSDs are required to provide a waste description, the applicable Federal Hazardous Waste Codes, the quantity of waste received, and the EPA Identification Number of the facility from which the waste was received. For each received waste which is subsequently managed, TSDs are required to provide the System Type Code which represents the management method used to manage the waste. All RCRA non-wastewater receipts reported by RCRA TSDs are included in the waste receipt quantities in this Report, even if the waste was received from a transfer facility.

RCRA hazardous waste export quantities include wastes generated in one State and shipped to a receiver in a different State. Exports are calculated from information provided by waste shippers. RCRA hazardous waste imports include all wastes received by a State which differs from the State of origin. RCRA hazardous waste imports are calculated from information provided by RCRA TSDs.

In 1999, 17,914 shippers reported shipping 8.1 million tons of RCRA hazardous waste. When comparing the 1997 National Biennial Report with the 1999 Report, the number of shippers decreased by 115, and the quantity of waste shipped increased by 817 thousand tons or 11%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the shipment of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Reports and National Reports prior to 1997 misleading.

Of the 8.1 million tons of RCRA hazardous waste shipped in 1999, 5.7 million tons of waste were **exported** from the State in which they were generated to other States. When comparing the 1997 National Biennial Report with the 1999 Report, the quantity of waste exported increased by 1.3 million tons or 30%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the export of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

In 1999, 499 TSDs reported receiving 6.6 million tons of RCRA hazardous waste. When comparing the 1997 National Biennial Report with the 1999 Report, the number of TSDs receiving waste decreased by 44, and the quantity of waste received decreased by 1.4 million tons or 18%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the receipt of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Biennial Report and National Reports prior to 1997 misleading.

Of the 6.6 million tons of RCRA hazardous waste received in 1999, 3.7 million tons of waste were **imported** from other States. When comparing the 1997 National Biennial Report with the 1999 Report, the quantity of waste imported decreased by 242 thousand tons or 6%. Beginning with the 1997 BR cycle and continuing with the 1999 BR cycle, the import of wastewater is excluded from the national reporting logic. For a more detailed description of the wastewater exclusion, please refer to the section of the *Executive Summary* entitled "Wastewater Exclusion Logic Used for National Reporting." The wastewater exclusion will make cursory comparisons between the 1999 National Report and National Reports prior to 1997 misleading.

## WHERE TO OBTAIN ADDITIONAL INFORMATION

All volumes of *The National Biennial RCRA Hazardous Waste Report (Based on 1999 Data)* and the 1999 Biennial Report data files can be accessed via the Internet at <http://www.epa.gov/epaoswer/hazwaste/data/#brs> or purchased from the National Technical Information Service (NTIS) at (703) 487-4650.