United States
Environmental Protection
Agency

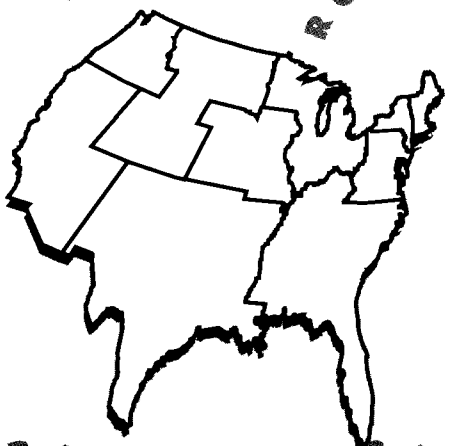
Solid Waste and
Emergency Response
(5305)

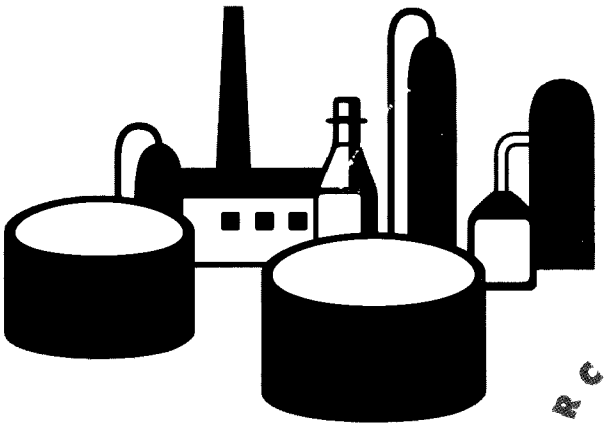
EPA530-S-94-039
September 1994

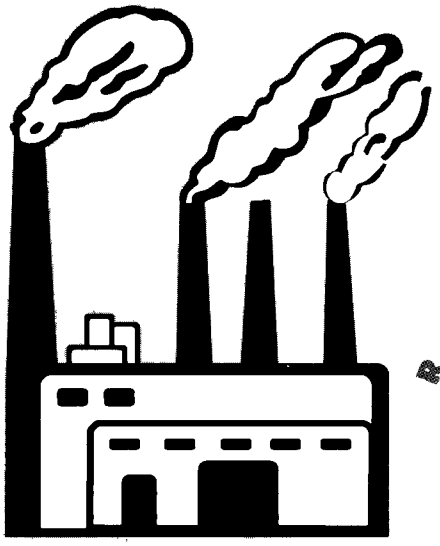
EPA

Executive Summary

The Biennial RCRA Hazardous Waste Report (Based on 1991 Data)







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EXECUTIVE SUMMARY

The United States Environmental Protection Agency (EPA), in cooperation with the States,[1] 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 this report is to communicate the findings of EPA's 1991 Biennial Reporting System (BRS) data collection efforts to the public, government agencies, and the regulated community.[2] The report consists of six documents:

- Executive Summary--an overview of national hazardous waste generation and management practices;
- National Analysis--a detailed look at waste handling practices in the EPA regions, the states and at the largest facilities in the nation, including quantities of generation, management, shipments and receipts, and interstate imports and exports, as well as counts of generators and managers;
- State Summary Analysis--two-page overviews of the generation and management practices of individual states;
- State Detail Analysis--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;
- List of Large Quantity Generators--identifies every hazardous waste generator in the United States that reported itself to be a large quantity generator in 1991; and
- 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 1991.

[1]The term "state" includes the District of Columbia, Puerto Rico, Guam, the Trust Territories, and the Virgin Islands, in addition to the 50 United States.

[2]BRS respondents have submitted Confidential Business Information (CBI) pursuant to 40 CFR 260.2(b). While not included in any public BRS database, CBI has been incorporated into this report wherever possible. Where CBI has been omitted to preserve confidentiality, a footnote has been provided.

RCRA HAZARDOUS WASTE GENERATION

In 1991, 23,426 large quantity generators produced 306 million tons of hazardous wastes regulated by RCRA.[3] This is an increase of 3,000 generators and 108 million tons of waste compared to 1989. As identified in Exhibit 1, the largest hazardous waste generating states were Texas (104 million tons), Michigan (32 million tons), Louisiana (31 million tons), and New Jersey (29 million tons). Together, these states accounted for 64% of the national total.

In comparing 1991 and 1989 data, it is important to note that many new wastes were captured by RCRA in 1990 with the promulgation of the Toxicity Characteristic (TC) Rule. The TC Rule added 25 new hazardous waste codes (D018-D043) and required more stringent analytical tests for the presence of toxic constituents in waste. These codes captured, at a minimum, 137 million tons of previously unregulated wastes. An additional 25 million tons were described by D018-D043 mixed with other waste codes. This suggests that the new toxicity characteristic waste listings captured between 137 and 162 million tons of previously non-regulated wastes. Excluding these newly regulated wastes, the amount of hazardous waste generated in 1991 was between 29 and 54 million tons less than the 198 million tons reported in 1989.

Hazardous waste generators are included in the "National Biennial RCRA Hazardous Waste Report" if they identified themselves as large quantity generators. The following are the federal criteria for being a large quantity generator:

- The generator generated in any single month 1,000 kg (2,200 lbs. 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 lbs) of RCRA acute hazardous waste; or

- The generator generated or accumulated at any time more than 100 kg (220

[3]This quantity only includes waste managed in treatment units subject to RCRA permitting standards or transportation regulations. Hazardous waste managed in units exempt from RCRA permitting standards, such as treatment systems permitted by the National Pollutant Discharge Elimination System (NPDES), was not included in this report.

lbs) of spill cleanup material contaminated with RCRA acute hazardous waste.

According to these criteria, a generator that reports more than 13.2 tons (12 months x 1.1 tons) of annual hazardous waste generation must be a large quantity generator, because the generator must have generated at least 1.1 tons in at least one month. A generator that reports less than 13.2 tons in a year may not be a large quantity generator, because they may have generated less than 1.1 tons in every month. Of the 23,426 generators that identified themselves as large quantity generators, there are 14,190 generators that generated more than 13.2 tons in 1991, 8,086 that generated between 1.1 and 13.2 tons, and 1,150 that generated less than 1.1 tons.

It is important to note that the large quantity generators identified in this report have been included on the basis of the best available and most current information provided electronically to the EPA by the States. Both the EPA and the States have made significant efforts to ensure the accuracy of these data. However, the large quantity generator counts may include some generators that met lower, state-defined thresholds for large quantity generators. The EPA and the States endeavor to control for variation in state programs, but it is not always possible to distinguish generators that the federal threshold determines to be large quantity generators from generators that a state threshold determines to be large quantity generators. The EPA and the States also endeavor to ensure that only federally regulated wastes are counted in the determination of federal large quantity generators, but the large quantity generator counts may include generators that, when determining whether they were large quantity generators, counted wastes regulated only by their states or wastes that are exempt from federal regulation.

RCRA HAZARDOUS WASTE MANAGEMENT

In 1991, 3,862 treatment, storage, or disposal facilities (TSDs) subject to RCRA permitting standards managed 294 million tons of hazardous waste. This represents an 800 facility increase in the number of TSDs and a 98 million ton increase in the amount of waste managed as compared to 1989. As identified in Exhibit 2, the states managing the largest quantities of hazardous wastes were Texas (104 million tons), Michigan (32 million tons), Louisiana (32 million tons), and New Jersey (30 million tons). Together, these

states accounted for 67% of the national management total.

The majority (76%) of the national total was managed in aqueous treatment units. One hundred and thirty-two (132) million tons were managed in aqueous organic treatment units, 19 million tons in aqueous inorganic treatment units, and 74 million tons in both inorganic and organic aqueous treatment units.

Land disposal accounts for 9.0% of the management total. Nationwide, 23 million tons of hazardous wastes were disposed in underground injection wells, 1.7 million tons were disposed in landfills, 240 thousand tons were managed in surface impoundments, and 52 thousand tons were managed by land application (land farming).

Recovery operations account for 2.2% of the national management total. Facilities reported that 3.6 million tons were managed in solvent recovery units, 1.4 million tons were managed in fuel blending units, 1.0 million tons were managed in metals recovery units, and 480 thousand tons were recovered by other methods such as acid regeneration, waste oil recovery, and non-solvent organic recovery.

Thermal treatment accounts for 1.1% of the national management total. A total of 1.9 million tons were incinerated, while facilities reused 1.5 million tons as fuel in boilers or industrial furnaces.

RCRA HAZARDOUS WASTE SHIPMENTS AND RECEIPTS

In 1991, 24,000 facilities reported shipping a total of 13 million tons of waste, of which five million tons were shipped interstate. The states that shipped (in or out of state) the largest quantities of wastes were Texas, Connecticut and Michigan. The states that received the largest quantities of waste (from in or out of state) were California, Ohio and Michigan. The largest net importers (imports minus exports) were Ohio (150 thousand tons), South Carolina (127 thousand tons), and Kansas (110 thousand tons). The largest net exporters (exports minus imports) were Massachusetts (197 thousand tons), California (136 thousand tons), and Texas (131 thousand tons).

Exhibit 1 Quantity of RCRA Hazardous Waste Generated, and Number of Hazardous Waste Generators, by State, 1991

STATE	HAZARDOUS WASTE QUANTITY			HAZARDOUS WASTE GENERATORS		
	RANK	TONS GENERATED	PERCENTAGE	RANK	NUMBER OF GENERATORS	PERCENTAGE
ALABAMA	27	559,823	0.2	23	277	1.2
ALASKA	42	24,141	0.0	45	58	0.2
ARIZONA	34	158,279	0.1	26	249	1.1
ARKANSAS	23	748,018	0.2	34	149	0.6
CALIFORNIA	8	12,925,393	4.2	2	2,116	9.0
COLORADO	30	478,343	0.2	35	146	0.6
CONNECTICUT	15	2,062,163	0.7	15	483	2.1
DELAWARE	43	20,531	0.0	43	63	0.3
DISTRICT OF COLUMBIA	53	975	0.0	52	11	0.0
FLORIDA	28	508,839	0.2	18	399	1.7
GEORGIA	22	757,885	0.2	18	399	1.7
GUAM	55	346	0.0	53	8	0.0
HAWAII	51	2,032	0.0	48	35	0.1
IDAHO	12	4,350,064	1.4	47	40	0.2
ILLINOIS	7	13,086,020	4.3	7	1,229	5.2
INDIANA	19	1,633,861	0.5	11	671	2.9
IOWA	37	126,218	0.0	32	155	0.7
KANSAS	13	3,215,044	1.1	29	177	0.8
KENTUCKY	29	487,622	0.2	16	465	2.0
LOUISIANA	3	31,486,169	10.3	22	309	1.3
MAINE	46	11,657	0.0	32	155	0.7
MARYLAND	39	75,911	0.0	17	430	1.8
MASSACHUSETTS	32	274,985	0.1	14	552	2.4
MICHIGAN	2	31,862,518	10.4	9	755	3.2
MINNESOTA	11	5,662,647	1.9	24	276	1.2
MISSISSIPPI	9	8,050,831	2.6	28	178	0.8
MISSOURI	24	686,651	0.2	20	389	1.7
MONTANA	47	11,177	0.0	46	54	0.2
NEBRASKA	40	35,705	0.0	40	86	0.4
NEVADA	48	9,951	0.0	41	71	0.3
NEW HAMPSHIRE	44	17,309	0.0	30	166	0.7
NEW JERSEY	4	29,490,704	9.6	3	1,661	7.1
NEW MEXICO	35	155,943	0.1	42	68	0.3
NEW YORK	5	18,036,041	5.9	1	2,627	11.2
NORTH CAROLINA	31	281,849	0.1	13	582	2.5
NORTH DAKOTA	25	685,256	0.2	51	16	0.1
OHIO	16	1,809,547	0.6	4	1,542	6.6
OKLAHOMA	20	933,230	0.3	31	161	0.7
OREGON	36	132,297	0.0	27	191	0.8
PENNSYLVANIA	18	1,692,608	0.6	6	1,264	5.4
PUERTO RICO	14	3,120,686	1.0	39	97	0.4
RHODE ISLAND	45	14,653	0.0	37	107	0.5
SOUTH CAROLINA	26	604,456	0.2	21	337	1.4
SOUTH DAKOTA	52	979	0.0	50	21	0.1
TENNESSEE	17	1,697,402	0.6	10	683	2.9
TEXAS	1	104,079,270	34.0	5	1,394	6.0
TRUST TERRITORIES	49	2,835	0.0	54	3	0.0
UTAH	21	900,643	0.3	38	99	0.4
VERMONT	41	35,565	0.0	43	63	0.3
VIRGIN ISLANDS	54	811	0.0	55	1	0.0
VIRGINIA	38	96,169	0.0	25	264	1.1
WASHINGTON	6	14,726,588	4.8	8	939	4.0
WEST VIRGINIA	10	7,619,802	2.5	36	120	0.5
WISCONSIN	33	258,308	0.1	12	607	2.6
WYOMING	50	2,127	0.0	49	28	0.1
TOTAL		305,708,881	100.0		23,426	100.0

Note: Columns may not sum due to rounding.

Exhibit 2 Quantity of RCRA Hazardous Waste Managed and Number of TSDs, by State, 1991

STATE	RCRA HAZARDOUS WASTE QUANTITY[1]			TSD FACILITIES		
	RANK	TONS MANAGED	PERCENTAGE	RANK	NUMBER	PERCENTAGE
ALABAMA	23	675,999	0.2	23	54	1.4
ALASKA	40	21,178	0.0	27	41	1.1
ARIZONA	36	122,891	0.0	31	33	0.9
ARKANSAS	21	757,956	0.3	37	24	0.6
CALIFORNIA	6	12,130,053	4.1	2	409	10.6
COLORADO	26	468,167	0.2	29	40	1.0
CONNECTICUT	27	371,208	0.1	13	77	2.0
DELAWARE	45	2,273	0.0	42	11	0.3
DISTRICT OF COLUMBIA	51	0	0.0	51	2	0.1
FLORIDA	32	195,490	0.1	15	72	1.9
GEORGIA	18	1,103,055	0.4	21	59	1.5
GUAM	51	0	0.0	51	2	0.1
HAWAII	46	1,428	0.0	44	9	0.2
IDAHO	13	3,178,455	1.1	42	11	0.3
ILLINOIS	7	12,083,019	4.1	3	217	5.6
INDIANA	16	1,405,359	0.5	8	102	2.6
IOWA	37	83,336	0.0	34	30	0.8
KANSAS	12	3,310,784	1.1	27	41	1.1
KENTUCKY	28	300,060	0.1	32	32	0.8
LOUISIANA	3	31,589,603	10.7	19	63	1.6
MAINE	47	1,054	0.0	24	52	1.3
MARYLAND	41	19,084	0.0	12	79	2.0
MASSACHUSETTS	42	9,433	0.0	26	43	1.1
MICHIGAN	2	31,922,898	10.8	6	152	3.9
MINNESOTA	11	5,565,626	1.9	20	60	1.6
MISSISSIPPI	9	8,013,068	2.7	22	56	1.5
MISSOURI	24	589,673	0.2	10	87	2.3
MONTANA	44	3,270	0.0	44	9	0.2
NEBRASKA	39	26,065	0.0	39	16	0.4
NEVADA	38	52,784	0.0	41	12	0.3
NEW HAMPSHIRE	51	0	0.0	51	2	0.1
NEW JERSEY	4	29,662,220	10.1	1	781	20.2
NEW MEXICO	33	148,932	0.1	38	20	0.5
NEW YORK	5	18,320,124	6.2	7	109	2.8
NORTH CAROLINA	30	252,993	0.1	14	74	1.9
NORTH DAKOTA	22	683,825	0.2	47	6	0.2
OHIO	15	1,870,654	0.6	5	185	4.8
OKLAHOMA	19	980,618	0.3	30	39	1.0
OREGON	34	133,021	0.0	44	9	0.2
PENNSYLVANIA	17	1,405,204	0.5	11	80	2.1
PUERTO RICO	14	3,051,006	1.0	32	32	0.8
RHODE ISLAND	43	8,642	0.0	40	15	0.4
SOUTH CAROLINA	25	528,458	0.2	18	64	1.7
SOUTH DAKOTA	51	0	0.0	50	3	0.1
TENNESSEE	20	778,652	0.3	9	100	2.6
TEXAS	1	103,946,014	35.3	4	206	5.3
TRUST TERRITORIES	48	887	0.0	51	2	0.1
UTAH	29	284,846	0.1	36	26	0.7
VERMONT	51	0	0.0	48	5	0.1
VIRGIN ISLANDS	49	219	0.0	51	2	0.1
VIRGINIA	35	126,998	0.0	16	66	1.7
WASHINGTON	8	10,477,204	3.6	16	66	1.7
WEST VIRGINIA	10	7,552,337	2.6	35	27	0.7
WISCONSIN	31	221,065	0.1	25	44	1.1
WYOMING	50	119	0.0	49	4	0.1
TOTAL		294,437,307	100.0		3,862	100.0

[1]Quantity managed only by storage is excluded.

Note: Columns may not sum due to rounding.