

HAZARDOUS WASTE MANAGEMENT  
2011 REPORT

Presented to  
The General Assembly  
The Fiscal Research Division  
The Environmental Review Commission

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<http://portal.ncdenr.org/web/wm/hw>

## **EXECUTIVE SUMMARY**

North Carolina's hazardous waste management program protects human health and the environment from the risks presented by potential mismanagement of hazardous waste. Hazardous waste generated by large quantity generators in 2009, the latest year for which comprehensive data are available, decreased by approximately 24,000 tons (20% decrease), although the number of large quantity generators increased by 64. The number of small quantity generators and conditionally exempt generators also increased by 269 and 202 respectively, though the quantity of hazardous waste generated by these facilities is not reported. Inspection, compliance assistance, and enforcement activities at hazardous waste facilities resulted in the safe management of an estimated 9,800 gallons and 6,516 tons of hazardous waste; mismanagement of the waste could have presented potential health or environmental risk. In addition, the program continues to make significant progress in cleaning up contamination at permitted hazardous waste management facilities. The national goal is for final remedies to be constructed and fully operational at 95 percent of these facilities by 2020, although this does not necessarily mean remediation will have been completed.

## **INTRODUCTION**

Pursuant to G.S. 130A-294(i), the Department of Environment and Natural Resources (DENR) is required to report annually to the Environmental Review Commission on its implementation of the hazardous waste management program implemented under G.S. 130A-294(c). The report is to include an evaluation of hazardous waste managed in North Carolina and to identify DENR's activities and recommendations in the following areas: improving hazardous waste management; cleaning up hazardous waste; reducing the amount of waste generated; minimizing the amount of hazardous waste that must be disposed of; and maximizing resource recovery, reuse and conservation.

Pursuant to G.S. 130A-294.1(p), DENR is required to make an annual report to the General Assembly and its Fiscal Research Division on the cost of the hazardous waste management program. The report is to include fund balances, fees collected, anticipated revenue, total expenditures and any recommended adjustments in the annual and tonnage fees that may be necessary to assure the continued availability of funds sufficient to pay the states' share of the cost of the program.

This report fulfills the requirements of both statutory provisions described above.

## **NORTH CAROLINA HAZARDOUS WASTE SECTION (HWS)**

Since 1980, the State of North Carolina has been authorized to implement the federal hazardous waste regulatory program in lieu of EPA. The federal program, established under the

Resource Conservation and Recovery Act (RCRA), regulates the generation, transport, treatment, storage, disposal, and recycling of hazardous waste.

“Hazardous waste” includes industrial materials destined for disposal that are ignitable, corrosive, reactive and/or toxic and thus pose a risk to human health and the environment if improperly managed during storage, treatment, transportation and ultimate discard.

Federal authorization is the process by which EPA delegates primary program implementation and enforcement responsibility to states, while maintaining an oversight role to ensure national consistency. This report addresses state implementation of the RCRA hazardous waste program.

At the state level, the hazardous waste program is implemented by the Hazardous Waste Section in DENR's Division of Waste Management. The section is made up of a staff of 45 employees whose duties include:

- regulating the management of hazardous waste by generators, transporters, treatment, storage, disposal and recycling facilities;
- issuing permits specifying requirements that each hazardous waste treatment, storage, recycling or disposal facility must meet;
- providing a continuing compliance presence at commercial hazardous waste management facilities through the HWS Resident Inspector Program;
- conducting compliance inspections and, in coordination with the North Carolina Office of the Attorney General, taking enforcement actions against violators;
- requiring groundwater assessments, facility investigations and corrective measures at facilities where hazardous wastes have been released into the environment;
- educating the hazardous waste community by providing technical assistance through individual consultations and seminars that encourage waste reduction, sound recycling; safe management practices and proper disposal (as a last resort), and
- ensuring section staff receives necessary training and professional development opportunities to continually improve job performance.

Information on most of the activities above is entered and stored in the national hazardous waste database known as Resource Conservation and Recovery Act Information (RCRAInfo). The database was developed jointly by EPA and the states and is managed by the EPA. Most of the data is entered into the database by North Carolina's HWS staff. RCRAInfo contains comprehensive information on facilities that generate and/or manage hazardous waste in the state, as well as all the HWS's activities affecting these facilities. Data from RCRAInfo will be used to provide information electronically to the department's Facility Identification Template for the state database (FITS) and the departmental Decision Support System (DSS).

To view regulatory information for specific hazardous waste sites located in North Carolina, visit <http://www.epa.gov/enviro/>. For details about the Division of Waste Management and the Hazardous Waste Section, visit the division's website <http://portal.ncdenr.org/web/wm/>.

## HAZARDOUS WASTE GENERATION, MANAGEMENT AND CLEANUP

In 2009, the latest year for which comprehensive data are available, 497 North Carolina large quantity generators<sup>1</sup> reported generating 71,763 tons of hazardous waste. The top ten generators reported generating 44,108 tons, or 61% of the total. North Carolina ranks 27<sup>th</sup> among the states in the amount of hazardous waste generated.

Thirty-eight hazardous waste treatment, storage and disposal facilities managed 19,612 tons of hazardous waste, which places North Carolina 37<sup>th</sup> among the states in the number of tons managed. In addition, the ten commercial hazardous waste management facilities located within the state received and processed 10,395 tons of hazardous waste from offsite. Additional North Carolina hazardous waste generation and management data can be found in the EPA 2009 “Biennial Report of Hazardous Waste Generation” located at <http://www.epa.gov/epawaste/inforesources/data/br09/index.htm>.

Although only data regarding large quantity generators and treatment, storage, and disposal facilities is reported to the national RCRAInfo database, it is important to note that North Carolina also has 2,171 small quantity generators<sup>2</sup> and 4,809 conditionally exempt small quantity generators. These facilities are not required to report the amount of hazardous waste they generate because they are typically small businesses for whom periodic reporting could be overly burdensome. However, these facilities collectively generate a significant amount of hazardous waste that must be managed properly and in compliance with all applicable rules. Significant resources are devoted to technical assistance, outreach, and compliance activities at these facilities.

Eighty active hazardous waste treatment, storage and disposal facilities are located in North Carolina; each facility is governed by a permit, an enforceable order, or another operational control mechanism for management or remediation of hazardous waste. There are 91 facilities subject to the RCRA Corrective Action Program; that program addresses remediation of environmental contamination associated with permitted hazardous waste facilities. The Corrective Action Program tracks progress at those sites using four environmental indicators: 1) human exposure controlled, 2) groundwater contamination controlled, 3) cleanup remedy selected and 4) cleanup remedy constructed. The national goal is for 95% of these facilities to meet all four environmental indicators by October 1, 2020. Currently in North Carolina, 79% of the facilities have human exposures controlled, 72% have groundwater contamination controlled, 48% have a remedy selected and 46% have a remedy constructed.

To achieve the national goal of 95% of the facilities having a remedy constructed by EPA federal fiscal year-2020, the Hazardous Waste Section has established the following goals:

	EPA FFY-12	EPA FFY-14	EPA FFY-16	EPA FFY-18	EPA FFY-20
Human Exposures Controlled	91%	95%	96%	96%	97%

<sup>1</sup> Large quantity generators are defined as facilities that generate 1,000 kg or more of hazardous waste per month, or 1 kg or more of acutely hazardous waste per month.

<sup>2</sup> Small quantity generators are facilities that generate between 100 and 1,000 kg of hazardous waste per month. Conditionally exempt small quantity generators generate less than 100 kg per month.

Groundwater Contamination Controlled	82%	87%	94%	96%	97%
Remedy Selected	58%	68%	76%	85%	95%
Remedy Constructed	56%	62%	73%	84%	95%

The section's Compliance Branch is responsible for implementing the inspection, compliance and enforcement activities of the hazardous waste program. The environmental benefits achieved through compliance and enforcement activities are measured each year in order to measure the overall success of the program in meeting environmental goals. During fiscal year (FY) 2010-11, Compliance Branch actions ensured the safe management of an estimated 9,800 gallons and 6516 tons of hazardous waste that otherwise might have been mismanaged and resulted in harm to human health or the environment.

These measures ensured that more than 625 individuals that could have been adversely impacted were protected against the potentially adverse effects of hazardous waste.<sup>3</sup> In addition, nine hazardous waste generator sites have been cleaned up with "no further action" status achieved.

## HAZARDOUS WASTE REDUCTION INITIATIVES

### A. Commitment to Hazardous Waste Minimization and Recycling

The Hazardous Waste Section promotes waste minimization and recycling in all of its programs. Some of these activities include:

- incorporating pollution prevention training (based on targeted priority chemical waste streams) into annual generator workshops, industry meetings and enforcement settlement negotiations;
- reviewing facility requests for alternative management practices for hazardous waste (use/reuse, substitution, reclassification and delisting);
- supporting intervention projects to reduce/eliminate the presence of priority chemicals via partnerships with other agencies and
- ensuring that generators continue to develop programs to minimize or reduce the volume and quantity or toxicity of hazardous waste by requiring hazardous waste generators to complete an annual waste minimization questionnaire. These questionnaires are reviewed to identify trends as well as facilities seeking technical assistance in their waste reduction activities.

### B. Mercury Switch Removal

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<sup>3</sup> These estimates are based on the amount of hazardous waste being improperly managed at the time of the facility inspection and the number of potentially exposed employees.

The Hazardous Waste Section has implemented a program that requires the removal and recycling of mercury-containing convenience light switches from scrap automobiles known as "end of life" vehicles. Initially enacted in 2005 and revised and updated in 2007 by the General Assembly, this program requires auto recyclers and scrap metal processors to remove the mercury switches before the vehicles are crushed, shredded, and recycled into the manufacture of steel. The vehicle recyclers and scrap metal processors receive \$5 for each switch that is removed, collected, and sent for recycling. Removal of the switches prior to recycling greatly reduces mercury emissions during the steel-making process. Since 2007, 281,853 mercury switches have been removed and recycled. Through the North Carolina Mercury Switch Removal Program, 620.1 pounds of mercury have been prevented from entering the environment. In 2010, 95,123 mercury switches were removed from vehicles. For further information and details of North Carolina's Mercury Switch Removal Program see the Mercury Switch Annual Report found at <http://portal.ncdenr.org/web/wm/hw/reportingandplanning>.

### **C. North Carolina School Chemical Cleanout and Maintenance Project**

On October 1, 2006, the Hazardous Waste Section received a grant from EPA for a pilot program to remove chemicals from public schools in North Carolina and to provide technical assistance, training and educational guidance on proper chemical management. This grant concluded in December 2009. Training materials were developed for school personnel in progressive laboratory chemical management, GreenChemistry, MicroChemistry and other preventive approaches for future chemical management. Workshops have been held in strategic locations in the state to allow for the best attendance. In addition to the numerous presentations and workshops held previously, HWS personnel conducted presentations at the Centers for Science and Math Education at Fayetteville State University on February 19, 2011, and at Winston Salem State University on March 12, 2011. A total of 20 educators attended the workshops. The HWS will continue to promote safe school laboratories by providing technical assistance in the areas of safe storage practices, Green and MicroScale chemistry information, and inventory procedures.

### **D. Other Activities**

The HWS will continue to support safe hazardous waste management in North Carolina by:

- supporting opportunities for waste minimization and recycling and supporting annual generator workshops that help educate the largest generators about hazardous waste regulations and the expectations of hazardous waste inspectors;
- continuing to seek EPA authorization to maintain the Hazardous Waste Section's authority to implement newly promulgated regulations and standards;
- improving the quality of hazardous waste data for hazardous waste trend analysis and sound decision-making; and
- participating in EPA's rulemaking projects. Examples include standards for the recycling of used industrial rags and wipes; reduced standards for episodic generators, revisions to the definition of solid waste to encourage recycling, revisions to the universal waste rule to add pharmaceuticals, and other regulatory proposals as they are developed.

## **COST OF HAZARDOUS WASTE MANAGEMENT PROGRAM**

As shown in Attachment 1, the cost of the hazardous waste management program for FY 2010-2011 was \$3,591,863.

Attachment 2 shows the cash analysis of the Hazardous Waste Fund. Hazardous waste fee receipts, including cost recovery, totaled \$1,640,624, of which \$1,239,654 was expended to support the cost of the hazardous waste program, leaving an unexpended balance of current year receipts of \$400,970. The beginning balance was \$713,851, leaving the total unexpended balance in the fund at the end of the fiscal year at \$1,114,821.

## Attachment 1

### Hazardous Waste Program Expenditures July 1, 2010 to June 30, 2011

Salaries & Fringes		
Receipts	\$	1,036,254
Appropriations	\$	1,198
Federal	\$	1,874,503
Purchased Services		
Receipts	\$	192,173
Appropriations	\$	5,736
Federal	\$	304,193
Supplies		
Receipts	\$	4,690
Appropriations	\$	-
Federal	\$	14,951
Other Expenses & Adjustments		
Receipts	\$	4,280
Appropriations	\$	-205
Federal	\$	128,824
Property Plant & Equipment		
Receipts	\$	4,260
Appropriations	\$	-
Federal	\$	19,253
Intergovernmental Transfer Federal		
Receipts	\$	978
Appropriations	\$	-
Federal	\$	776
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<i>Total Receipts (Hazardous Waste Fees)</i>		
<i>Transfer from 2387</i>	\$	1,239,654
<i>Rebate Amount</i>	\$	2,980
<i>Total Federal</i>	\$	2,342,500
<i>Total Appropriations</i>	\$	6,729
<b>Total Expenditures</b>	<b>\$</b>	<b>3,591,863</b>

## Attachment 2

### July 1, 2010 to June 30, 2011 Fund 2387 (Hazardous Waste Fees)

Beginning Cash Balance	\$	713,851
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#### Receipts

Fees	\$	1,555,558
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Cost Recovery	\$	85,066
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<b>Total Receipts</b>	<b>\$</b>	<b>1,640,624</b>
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#### Expenditures

Transfer to Hazardous Waste Program	\$	1,239,654
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<b>Total Expenditures</b>	<b>\$</b>	<b>1,239,654</b>
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<b>Ending Cash Balance 6-30- 2011</b>	<b>\$</b>	<b>1,114,821</b>
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