CHAPTER V

HAZARDOUS MATERIALS

V. HAZARDOUS MATERIALS

A. ISSUES AND OVERVIEW

1. Overview

Fairfax County hazardous materials concerns may be considered less significant as compared to other jurisdictions; the industrial base within the county is relatively "clean." Nevertheless, the county does have its share of problems. The main concerns are hazardous materials incidents involving spills, leaks, transportation accidents, ruptures or other types of emergency discharges. Secondary is the use and disposal of hazardous materials in either daily household activities or by small quantity commercial generators. The final concern is the clean up and regulation of hazardous materials.

Although the news media are constantly reporting industrial and transportation related hazardous materials incidents, there is a general lack of awareness by the public of health and safety risks associated with the use, storage and disposal of common household hazardous materials. Educating the public on the implications of these hazardous materials on peoples' lives remains a significant goal.

2. Hazardous Materials Incidents

a. Overview of 2005 Hazardous Materials Incidents

The Hazardous Materials and Investigative Services Section personnel respond to reported incidents and investigate complaints of potential and actual releases, many of a non-emergency nature. During CY 2005, staff was involved with 586 complaints (34 more than the previous year). Four hundred forty complaints were petroleum product releases (160 more than the year before), and 146 complaints were various types of other product releases (79 more than the previous year). Sixty-nine cases directly impacted storm drains, creeks and/or streams. This is a 33-case increase from the previous year. (1)

b. Hazmat Response Team Information

The Fire and Rescue Department's Operations and/or Hazardous Materials and Investigative Services Section respond to all reported incidents of hazardous materials releases, spills and discharges. The county has a well-equipped hazardous materials response team. The primary unit operates from Fire Station 34 in Oakton, and three satellite units are stationed at Fire Station 1 in McLean, Fire Station 11 in Alexandria area of Fairfax County and Fire Station 26 in Springfield. These units are strategically positioned

to provide rapid response and adequate coverage throughout Fairfax County. Response personnel are trained and equipped to initiate product control and mitigation measures to prevent or minimize the adverse environmental impact and damage. All units are staffed 24 hours per day, seven days per week. (2)

The Hazardous Materials Response Team responded to 406 incidents in CY 2005 (a reduction of 33 cases from the previous year). The primary unit now operates from the Fairfax Center fire station (FS40). (1)

In addition to the efforts of the Operations Division and Hazardous Materials Investigative Services Section personnel, the Fire and Rescue Department maintains a contract with a major commercial hazardous materials response company to provide additional support for large-scale incidents. The Fire and Rescue Department has stressed its commitment to protecting the environment and residents through proper enforcement of the Fairfax County Fire Prevention Code and through rapid identification, containment and cleanup of hazardous materials incidents. (2)

c. Hazmat aftermath from Hurricane Isabel

The Hazardous Materials Response Team presented an overview of the aftermath of Hurricane Isabel to the Fairfax Joint Local Emergency Planning Committee. After the hurricane, special hazardous materials disposal facilities were set up in the Belle View community area and members of the team were present throughout the week following the hurricane. Natural gas leaks and fuel oil spills were the primary hazardous materials issues. Older homes had fuel oil located in basements or outside of the houses. Some tanks broke loose in the flood and were floating in the flood waters. (3)

3. Hazardous Materials in the Waste Stream

The disposal of household and small quantities of non-household hazardous materials into the waste stream continues to be a concern. Unlike hazardous materials incidents, the immediate impact is not as dangerous. However, the long-term impact can be just as severe. Hazardous materials in the waste stream are contaminating landfills. Sometimes hazardous materials are dumped illegally, which leads to stream and groundwater pollution and soil contamination. Household hazardous wastes are products used in and around the home that are flammable, corrosive, reactive or toxic. These hazardous materials potentially can cause a safety problem if various household chemicals become mixed when disposed of with the regular trash. By disposing of household hazardous wastes separately in the appropriate manner, these materials can be properly handled and packaged to minimize exposure to

potentially harmful chemicals and decrease the likelihood that these chemicals will enter the environment.

a. Used Automotive Oil and Fluids

According to a recent study, more than 50 percent of motorists change their own oil. Some of the oil is disposed of properly at a used-oil recycling center. Millions of gallons of used motor oil are being disposed of in garbage cans, sewers, storm drains and backyards – practices that can contaminate soil and local streams, rivers and bays. The U.S. Environmental Protection Agency believes that the largest single source of oil pollution fouling our nation's waters come from do-it-yourselfers. (4)

As a part of its ongoing effort to educate all Americans on environmental responsibility, the EPA recently launched the **"You Dump it, You Drink It"** campaign, aimed at the Hispanic automotive repair and service industry and consumers. Despite the fact that about half of all automotive mechanics in the United States are Hispanic, little if any Spanish-language materials exits for the automotive repair industry and those consumers who change their own motor oil. EPA hopes to fill this void through a wide-scale distribution of these materials, which include posters, brochures and bumper stickers. These materials are available to download from the EPA Web site. (5)

The recycled used motor oil is used for many purposes. Reprocessing is the most common method of recycling used oil in the United States. Seventy-five percent of used oil is being reprocessed and marketed to asphalts plants, industrial boilers, utility boilers, steel mills and others. Fourteen percent of used oil collected is turned over to re-refiners who return used oil to its original virgin oil state. Eleven percent of used motor oil collected is used in specially designed space heaters in automotive bays and municipal garages. (4)

Lynn Cooke, a service station owner in Washington, D.C., demonstrates quality control measures for used motor oil recycling to representatives from EPA, District of Columbia and API.

(American Petroleum Institute Web site: www.recycleoil.org [4])

b. Dumping into Storm Drains

Storm drains carry stormwater runoff from streets (see the Water Resources chapter of this report). This water is not treated and goes directly into local streams. All streams in Fairfax County eventually flow into the Potomac River, which empties into the Chesapeake Bay. Anything dumped down a storm drain will follow the same path as the stormwater runoff. (6)

The cleaning up of animal wastes and the disposal of such wastes down storm drains, as well as the disposal of leaves down the storm drains, are attempts at doing a service that have the effect of introducing pollutants directly into county streams. There are deliberate disposals of chemicals, oils and other items into the storm drains as "out-of-site, out-of-mind." In either situation, there is a misperception that the storm drains are part of the county sewage system and that the disposal of materials down these drains does not provide a direct impact to the environment.

4. Pipelines

The following was reported by the Fairfax Joint Local Emergency Planning Committee:

> "More than 3,000 companies operate some 1.9 million miles of natural gas and hazardous liquid pipelines in the United States. The pipeline network includes 302,000 miles of natural gas transmission pipelines operated by 1,220 firms, and 155,000 miles are hazardous liquid transmission pipelines operated by 220 outfits. In addition to transmission pipelines, 94 liquefied natural gas facilities operate in the United States."

Pipelines traverse Fairfax County, carrying refined petroleum for two companies and natural gas for three companies. The Office of Pipeline Safety in the U.S. Department of Transportation regulates pipeline design and the construction, operation and maintenance of pipelines to ensure safe transportation of hazardous liquids and natural gas. (7)

5. Rail Transport of Hazardous Materials

Chemicals and materials that are hazardous have regularly been transported by rail. Accidents or leaks have been, and continue to be, a cause for concern. Additional concerns have been introduced as a result of the September 11, 2001 terror attacks.

Potential future shipments of nuclear radioactive waste by rail (and by truck) will travel through parts of the Washington, D.C. metropolitan area. Should an accidental or intentional incident occur, the effects and impacts could extend beyond that initial area.

The July 18, 2001 CSX Train fire in a Baltimore, Maryland tunnel was an unintended incident involving a train car with hazardous materials and had wide-range, long-term consequences. Major sections of the downtown were closed, businesses were impacted, Orioles' games had to be rescheduled, and portions of a major street were closed for five weeks. (7)

Rail through Fairfax County is in the eastern and southern portions of the county and does not include tunnels. Residents are generally not located as close to the rails in Fairfax County as in other jurisdictions. However, some hazardous materials, alone or in combination, when released can affect areas up to miles from the initial site of the incident. It is conceivable that Fairfax County residents could be impacted with hazardous materials from a rail incident in another jurisdiction.

B. PROGRAMS, PROJECTS AND ANALYSES

1. Fairfax Joint Local Emergency Planning Committee

Local Emergency Planning Committees are required by Section 301[c] of Title III of the Emergency Planning and Community Right-to-Know Act, a freestanding provision of the Superfund Amendments and Reauthorization Act of 1986. The main thrust of SARA is to identify and clean up waste sites that are potentially toxic. Title III has two important provisions: 1) it provides for emergency response planning to cope with the accidental release of toxic chemicals into the air, land and water; and 2) the community right-to-know provisions of Title III help to increase the public's knowledge and access to information on the presence of hazardous chemicals in their communities and releases of these chemicals into the environment. Under Title III, states are required to organize into planning areas and to establish local Emergency Planning Committees.

The FJLEPC is comprised of representatives of the city of Fairfax, the county of Fairfax, the town of Herndon and the town of Vienna. Committee members include local government officials, police, fire and rescue officials, environmental and governmental planners, public health professionals, hospital officials, public utility and transportation officials, representatives of business organizations, professional societies, civic organizations and the media. These representatives meet six times per year. The FJLEPC: (1) collects information about hazardous materials; (2) develops and updates, on an annual basis, the Hazardous Materials Emergency Response Plan; and (3) provides information to the public about the use, storage and manufacture of hazardous materials. The Plan also contains notification procedures in the event of an incident, on site means of detecting incidents, evacuation routes, clean-up resources and identification of parties responsible for the site. The Annual Plan exercise was conducted in October 2005. (2, 13)

FJLEPC provides education and outreach to the public. Information is disseminated through public meetings, brochures, newsletters and a Web site: www.lepcfairfax.org. The newsletter, which is mailed to civic and homeowner associations, focuses on emergency preparedness, disaster planning and fireworks safety. FJLEPC produced a video about shelter in place. The video is available through any of the Fairfax County public libraries as well as online through the county's "video on demand" service at www.fairfaxcounty.gov/cable/channel16/vod.htm. (8) LEPC members are available to speak to businesses or residents' groups, as requested.

2. Railroad Transportation Plan

The CSX Transportation, Hazardous Material Systems, has a hazardous material emergency response plan. A written copy of that plan is on file with FJLEPC and the Fairfax County Fire & Rescue Hazmat Station 34. The Web site for CSX is: www.csx.com.

On the Web site, CSX reports a 50 percent increase in all of its hazardous material loads in the last decade. Of the 518,000 hazardous materials rail cars in 2004, CSX reports only nine released any portion of their contents as a result of derailments. (9) There was no mention if there were releases not resulting from derailments.

3. Storm Drain Education Program

The Northern Virginia Soil and Water Conservation District has coordinated storm drain education in Fairfax County for over a decade. In 2006, with funding from Fairfax County and the Chesapeake Bay License Plate fund, the district expanded this water quality improvement program. Instead of using stencils and paint, volunteers now use an adhesive to apply pre-printed multi-colored labels to the cover of storm drains. The new labels read "No Dumping – Drains to Potomac River" or may be customized to reflect the name of the local watershed. The new labels are quicker and easier for volunteers to apply and the improved program has been enthusiastically received by volunteers, homeowner and civic associations, agencies and organizations.

The goal of the expanded program continues to be educating the community about the water quality impacts of storm drain dumping. The program also focuses on non-point pollution prevention. This is water pollution caused by our everyday activities. Each project includes a mandatory education component which must be completed prior to the storm drain labeling and involves distributing information about how to properly dispose of used motor oil, yard debris, household and pet waste to each home in the neighborhood. For schools and organizations, the district works with the project leader to come up with a unique way to educate the larger school or organizational community.

In 2006, this program involved 283 volunteers and educated over 50,000 residents about the connection between the storm drain and our streams.

NVSWCD also publishes a quarterly newsletter, *Conservation Currents*, with articles on environmental topics. The June 2005 issue focused on hazardous waste reduction and included an article entitled "Healthy Homes, Healthy Communities: Household Hazardous Waste Reduction in Fairfax County." The article included information on how to determine which home products are hazardous waste and provided information on safe disposal. (6)

Pictures of storm drain marking by local volunteers (provided by NVSWCD (6))

4. Household Hazardous Waste Program

As a part of the suite of recycling and disposal services offered to Fairfax County residents, the county's Solid Waste Management Program operates two permanent Household Hazardous Waste collection facilities, one at the I-66 Transfer Station and the other at the I-95 Complex. Information on the locations, hours of operations and types of wastes accepted and how to dispose of the wastes can be found on the county's Web site at www.fairfaxcounty.gov/dpwes/trash/disphhw.htm or by calling a recorded 24 hour information line at 703-324-5068.

I-66 TRANSFER STATION
Thursday: 1:00 p.m. – 5:00 p.m.
Friday: 8:00 a.m. – Noon
Saturday: 8:00 a.m. – 4:00 p.m.
Sunday: 9:00 a.m. – 4:00 p.m.

I-95 LANDFILL
Thursday: 8:00 a.m. – Noon
Friday: 1:00 p.m. – 5:00 p.m.
Saturday: 8:00 a.m. – 4:00 p.m.

The HHW program provides an overall community benefit, and therefore residents are not charged when they use the program. The program receives its funding through the Solid Waste Management Program and from the General Fund. In FY 2006, materials deposited by residents for disposal or recycling

primarily consisted of antifreeze, motor oil, lead acid batteries and latex paint. It is germane to note that none of these materials is regulated as hazardous waste.

In FY 2006, 21,471 users participated in the HHW program, disposing of 440,076 pounds of HHW. This represents a 6 percent decrease in the number of users compared to FY 2005 but, interestingly, also constitutes a 7 percent increase in the *weight* of HHW disposed over FY 2005 data. Program details are provided in Table V-1 below (11).

TABLE V-1
Fairfax County Household Hazardous Waste Program:
Record of Fiscal Year Disposal

Fiscal Year	Participation (# of users)	HHW (pounds)	Cost per household
FY 2006	21.471 households	440,076	$26.32
FY 2005	22,866 households	411,315	$18.84
FY 2004	18,600 households	373,220	$22.92
FY 2003	16,140 households	359,840	$23.30
FY 2002	16,272 households	368,060	$20.97
FY 2001	15,312 households	356,275	$18.75
FY 2000	15,564 households	330,325	$18.33

Source: Fairfax County Department of Public Works and Environmental Services, Division of Solid Waste Collection and Recycling

It is anticipated that the amount of HHW entering the county program will continue to increase; however, capacity is available at the existing facilities to meet county needs well into the future.

5. Commercial Hazardous Wastes

In FY 2006, the Solid Waste Management Program conducted three Conditionally Exempt Small Quantity Generator waste collection events at the I-66 Transfer Station Complex. A CESQG is, according to federal hazardous waste regulations, any business that generates less than 220 pounds or 27 gallons of hazardous material per month. CESQGs pay a disposal fee for the hazardous material they bring to these events. This fee is generally lower than what it would cost to have an appropriate contractor pickup the waste at an individual business location. This allows the CESQGs to be able to afford to participate in an environmentally responsible program. Commercial hazardous waste generators that do not qualify as CESQGs must rely on commercial hazardous waste disposal companies for their disposal needs. Information about the CESQG program and a list of commercial hazardous waste disposal

companies are available on the county's Web site at: www.fairfaxcounty.gov/dpwes/trash/disphazcomm.htm. (11, 12)

6. Rechargeable Battery Recycling

In addition to the Solid Waste Management Program's collection activities described in the Solid Waste chapter of this report, the SWMP also collects mercury and lithium batteries for recycling at its HHW facilities. Non-rechargeable household batteries are not accepted by the program and can be safely thrown away (10, 11). Nickel-Cadmium and other rechargeable batteries (commonly found in cordless tools and appliances, computers, camcorders, cameras and toys) are also accepted by the HHW program. The program has put rechargeable battery containers at each office of members of the board of supervisors, and program staff collects these batteries on a routine basis. As described in the Solid Waste chapter of this report, the SWMP also participates and actively supports the recycling service provided by the Rechargeable Battery Recycling Corporation. (11)

7. Remote Household Hazardous Waste Events

As an adjunct to the permanent HHW facilities, and as described in the Solid Waste Chapter of this report, the Solid Waste Management Program has received special funding through the county's Environmental Improvement Program to conduct a series of five remote HHW collection events at locations throughout the county. In FY 2006, five of these events were conducted in the Mount Vernon, Mason, Dranesville, Hunter Mill and Braddock Districts. These events require the use of an outside contractor to augment county staff as the events are held on Saturdays, which is the same time that county permanent sites receive maximum use. The cost of the remote events is approximately $12,000 per event and they are dependent upon special funding from the board of supervisors.

C. REPORTING ENVIRONMENTAL CONCERNS AND ISSUES

Environmental issues affect everyone living and working in the county. All environmental concerns and events negatively impacting the county should be reported. A list of contact information relating to environmental crimes is provided in Table V-2 below.

Table V-2

HOW TO REPORT ENVIRONMENTAL CRIMES

Type of Incident	Phone Number
ANY ACTIVE RELEASE OF MATERIALS INTO THE ENVIRONMENT If the dumping of any substance into a stream, into a manhole, into a storm sewer or onto the ground is witnessed, assumptions regarding the contents of the materials should not be made. 911 should be called immediately. When calling 911, be prepared to provide specific information regarding the location and nature of the incident. The local office of the U.S. Environmental Protection Agency (703-235-1113) can be called in addition to (but not instead of) 911.	**911**
HAZARDOUS MATERIALS-DANGEROUS If a suspected hazardous substance is being released, if lives are in danger or if property is threatened, 911 should be called immediately. It is also appropriate to call 911 anytime an active release is witnessed.	**911**
HAZARDOUS MATERIALS-NO IMMEDIATE DANGER If a known discharge of hazardous materials has occurred in the past and no lives or property are in immediate danger; this must be reported to the Fairfax County Fire and Rescue Department's Hazardous Materials and Investigative Services Section at this number (includes Towns of Clifton, Herndon and Vienna). If there is any question about whether a release may still be active or whether there may be any immediate danger, 911 should be called.	During working hours, call: **703-246-4386** After hours, call: **703-691-2131**
RELEASE OF ANY MATERIAL INTO THE ENVIRONMENT Any release of materials into the environment, whether hazardous or not, should be reported to the Northern Regional Office of the Virginia Department of Environmental Quality at the above number. If the release is an active one, call 911.	**703-583-3800**

Table V-2 (continued)

HOW TO REPORT ENVIRONMENTAL CRIMES

Type of Incident	Phone Number
EROSION AND SEDIMENTATION If the illegal removal of trees, the illegal clearing of land and/or the illegal dumping of fill is suspected, contact Fairfax County's Code Enforcement Division at this number. This number should also be contacted if siltation and other harmful effects of construction activity are occurring or observed on neighboring lands and waterways. All calls received during non-working hours will be responded to during the next business day.	**703-324-1937**
HEALTH HAZARDS In addition to the above contacts, if a health hazard is suspected, contact the Environmental Health Administration at this number. The Health Department's Community Health and Safety Section (703-246-2300) can also be called. Asbestos-specific releases should also be reported to the Health Department.	**703-246-2205**

D. LEGISLATIVE UPDATE

There are no legislative updates for this year's report.

E. COMMENTS

EQAC reiterates its recommendations from the 2005 Annual Report on the Environment:

1. EQAC continues to recommend an aggressive public education campaign on how to properly dispose of household/residential, commercial and industrial hazardous waste. Continuous partnering with the Northern Virginia Board of Realtors and solid waste haulers to distribute information to all new residents in the county is suggested. New residents would be anybody buying or renting a house, townhouse or condominium. Waste removal companies could be asked to include an information letter with their mailings to their customers. Creative use of other organizations is also encouraged.

2. EQAC recognizes the county's ability to collect rechargeable batteries at the I-66 transfer station, the I-95 solid waste site and special programs with the business

community. Schools and other organizations should be encouraged to come up with creative initiatives to promote significant increases in recycling rechargeable batteries. Possible sites to house recycling drop off bins should be explored, such as outlying areas of parking lots. With the growing popularity and use of rechargeable battery products, especially cellular phones, EQAC recommends an aggressive program to promote recycling of NiCad rechargeable batteries.

3. EQAC recommends continuing to advertise and educate the public regarding the types of hazardous materials and other environmental situations residents are requested to report, including whom they are to contact. Possible avenues are community association newsletters, press release stories to the media and age appropriate material sent home through the schools. Avenues that are not connected with environmental information should be explored to reach people not drawn to environmental events.

F. RECOMMENDATIONS

No new recommendations are proposed this year.

REFERENCES

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4. American Petroleum Institute, *Used Motor Oil Collecting and Recycling*, www.recycleoil.org , viewed 16 August 2005

5. U.S. Environmental Protection Agency, Wastes-Used Oil Management Program, www.epa.gov/epaoswer/hazwaste/usedoil/ , viewed 16 August 2005

6. Summary provided by the Northern Virginia Soil & Water Conservation District, October 13, 2006.

7. Fairfax Joint Local Emergency Planning Committee, www.lepcfairfax.org

8. Fairfax County News Release, 24 June 2005, http://fairfaxcounty.gov/news/2005/05167.htm

9. CSX, www.csx.com , viewed 16 August 2005

10. Fairfax County Web site; viewed 1 September 2005 www.fairfaxcounty.gov/dpwes/trash/recyclingtrash.htm

11. Fairfax County Department of Public Works and Environmental Services, 18 October 2006 e-mail from Jeff Smithberger, Director, Division of Solid Waste Collection and Recycling

12. Fairfax County Government, Business Hazardous Waste Web site, October, 2006, www.fairfaxcounty.gov/dpwes/trash/disphazcomm.htm

13. Fairfax County Fire & Rescue, Carolyn Ford, 1 November 2006 e-mail

14. Previous EQAC authors of this chapter and material