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ANNUAL REPORT ON THE ENVIRONMENT

**CHAPTER VI**

**HAZARDOUS  
MATERIALS**

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# **V. HAZARDOUS MATERIALS**

## **A. ISSUES AND OVERVIEW**

### **1. Overview**

Fairfax County hazardous materials issues have not changed much in the last few years, although a disturbing trend continues, in that an increasing workload and increasing risk are being addressed with decreasing resources. Doing more with less is a desirable quality for all government and commercial organizations, but this essential public safety capability is being stretched to the point of concern over its ability to support the increasing workload. Fairfax County is relatively “clean” but we have our 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 reports 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.

The discarding of older model televisions, as well as computer monitors and peripherals requires continued effort to help keep lead from entering the solid waste system. Compact florescent light bulbs contain small amounts of mercury; they therefore must be disposed of properly when the bulbs are used as well as if they are broken. With the 2012 mandatory change to compact florescent light bulbs, proper disposal will become a bigger issue.

Finally, there were two FY 2010 budget impacts that had direct impact on environmental programs: reorganization of the Hazardous Materials and Investigative Services Section and the loss of the Local Emergency Planning Committee Coordinator. The HMIS reorganization did not involve any reduction in service or mission objectives for the section. Resources were reallocated to better distribute workload and address concerns for officer safety and staffing. The duties of the LEPC Coordinator were reassigned to the alternative placement Lieutenant assigned to the Hazardous Materials Technical Support Branch. The long-term impact for the loss of the LEPC Coordinator will come in 2012, when the alternative placement Lieutenant retires. The Fire and Rescue Department purchased Tier II Manager Software in an effort to compensate for the loss of the LEPC Coordinator position. This allows for Web-based entry of Tier II information by submitting facilities. The most

significant advantage of this software is that it automatically generates the Hazardous Material Emergency Response Plan for the critical hazard facilities. (13)

## **2. Hazardous Materials Incidents**

### **a. Overview of 2011 Hazardous Materials Incidents**

In 2011, the Fire and Rescue Department's Fire and Hazardous Materials Investigative Services section received 585 complaints involving hazardous materials. This is compared to 782 in 2010, 735 in 2009, 418 in 2008, and 288 in 2007. This is the first year recently that there was actually a decrease in complaints. Of the 585 complaints, 331 were reported spills, leaks or releases of hazardous materials into the environment, which have been at a consistent frequency in recent years (i.e. 335 in 2010, 303 in 2009 and 330 in 2008). Of these 331 releases, 321 involved petroleum based products. There were 47 hydraulic oil spills/releases (mostly from trash trucks), 36 gasoline releases, 85 fuel oil or home heating oil releases and 26 diesel fuel releases. The remainder consisted of a variety of materials including, paint, antifreeze, cleaners, various gases, various chemicals and mercury. There were 60 incidents where the release of hazardous materials did impact storm drains or surface waters. The section tracked 99 sites for both short and long term remediation. The most significant of these is the Pickett Rd. Terminal Site (Fairfax Tank Farm) release which started in 1991. The section also staffs the Hazardous Materials and Fire Investigations Mobile Lab. The Mobile Lab was requested to no hazmat incidents or events in 2011. Section personnel maintain relationships with the major pipeline companies and blasting companies that operate in the county. (1)

### **b. Hazmat Response Team Information**

The Fire and Rescue Department maintains a well-equipped hazardous materials response team for emergency response. The primary unit operates out of Fairfax Center Fire Station 40. There are four satellite stations located throughout the county in support. These stations are located at Fire Station 1 in McLean, Fire Station 11 in Penn Daw, Fire Station 19 in Lorton 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. (1)

The Hazardous Materials Response Team responded to 381 calls in 2011, which continues to decline from recent years (i.e. 402 in 2010, 814 in 2009, and 994 in 2008). Of the 381 calls, 127 of the responses were for actual chemical releases. The team responded to a myriad of incidents including methane/propane gas emergencies, transformer fires, overturned gasoline/ethanol tank trucks, weapons of mass destructions investigations for suspicious packages or white powder, mercury events, chemical odors or spills, petroleum releases, the dumping of hazardous materials and various other Department of Transportation HazMat Class events. (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. In 2010, the Fire and Rescue Department, in conjunction with the Fairfax Joint Local Emergency Planning Committee, implemented a new online software program called Tier 2 Manager. This program allows companies that use, store or manufacture chemicals in the county to report this information electronically to the department and Fairfax Joint Local Emergency Planning Committee so that the community and first responders will be aware of these chemicals within our community as required by the Emergency Planning and Community Right to Know Act. Emergency planners and response personnel have instant access to chemical inventories and Emergency Response Plans for each facility deemed to be a Critical Hazard Facility. Additionally, Emergency Response Plans are developed for critical infrastructure facilities such as sewage and water treatment plants and bulk petroleum storage facilities. (1)

### **3. Hazardous Materials in the Waste Stream**

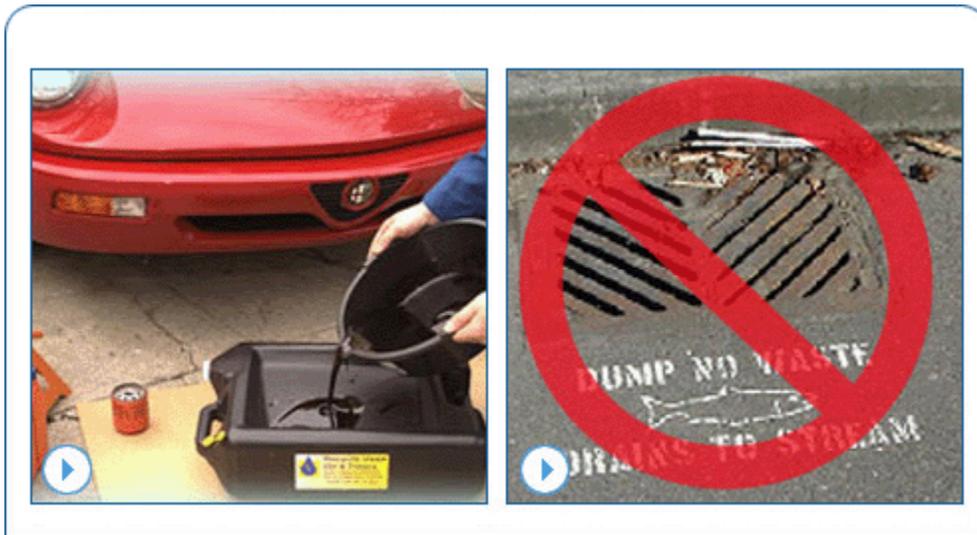
The disposal of household and small quantities of non-household hazardous materials into the waste stream continues to be a concern. Unlike hazardous materials incidents, the immediate impact is not as dangerous. However, the long-term impact can be just as severe. Sometimes hazardous materials are dumped 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

Millions of do-it-yourselfer motorists change their own oil. Some of the oil is disposed of properly at a used-oil recycling center. But much used motor oil is being disposed of in garbage cans, sewers, storm drains and backyards – practices that can contaminate soil, local streams, rivers, bays and beaches. One gallon of used motor oil, if not disposed of properly, can contaminate one million gallons of water. (4)

As a part of its ongoing effort to educate all Americans on environmental responsibility, the U.S. Environmental Protection Agency launched “You Dump it, You Drink It” (“Si lo tira, se lo toma”), a new Spanish-language campaign. Despite the fact that about half of all automotive mechanics in the United States are Hispanic, little if any Spanish-language materials exists 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 website. (5)

Recycling of petroleum products is less well known than for other products. The recycled used motor oil is used for many purposes. The primary use is to refine it into a base stock for lubrication oil. The secondary use of used oil is to burn it for energy. If you recycle just two gallons of used oil, it can generate enough electricity to run an average household for almost 24 hours. (4)



*Many service stations, repair facilities and quick lubes will accept used oil and used oil filters.*

(The American Petroleum Institute-The Oil Recycling Process website: [www.recycleoil.org](http://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. While having chemicals and hazardous materials transported by rail keeps them off the highways, 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, new ethanol transfer stations and the future shipments of nuclear radioactive waste throughout the country.

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. (3)

The July 2001 Baltimore tunnel fire immediately got woven into debate of whether nuclear waste could be transported safely to Nevada. Studies in 2003 were performed to determine what would have happened had the train been carrying nuclear waste. Conclusions differed. A state analysis concluded that a cask carrying radioactive spent fuel would have been breached by temperatures inside the Howard Street Tunnel. Escaping radioactive particles would have contaminated 32 squares miles, increased the chances of cancer deaths for up to 28,000 people and cost \$13.7 billion to clean up. The Nuclear Regulatory Commission said the nuclear waste canister would have endured the fire "and the health and safety of the public would have been maintained." (3)

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 is exercised regularly. The most recent plan was produced on April 14, 2011.

FJLEPC provides education and outreach to the public. Information is disseminated through public meetings, brochures, newsletters and a website: [www.lepcfairfax.org](http://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](http://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 has a hazardous material emergency response plan, "Community Awareness Emergency Planning Guide" dated October 2008. A written copy of that plan is on file with the Fairfax County Fire & Rescue Hazmat Station 40. (12)

At [www.csx.com](http://www.csx.com) CSX reports that each year it moves over 350,000 tons of hazardous materials and has a low number of incidents. For every billion ton-miles of hazardous materials transported, trucks (which operate over inherently more dangerous highways) are involved in 16 times as many accidents as the rails. CSX has achieved a 99.9 percent success rate for safe transportation of hazardous materials. CSX has been involved with years of hearings and legal proceedings concerning the safety with urban rail transportation of certain hazardous materials. Among these is the re-routing of trains around Washington D.C. (9)

### 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. The goal of the program continues to be educating the community about the water quality impacts of storm drain dumping. Pollution that enters our water resources through storm drains is called nonpoint source pollution because it comes from all our homes and communities. Nonpoint source pollution is the leading cause of water quality deterioration in the Chesapeake Bay. During 2011, 607 volunteers worked in their communities to carry out 31 projects. These volunteers included scout groups, middle and high school students and homeowner associations. As a result, 14,195 households in Fairfax County received nonpoint source pollution prevention education. This included information about how to properly dispose of pet waste, used motor oil, fertilizer, antifreeze and other hazardous materials. Following the education campaign, volunteers labeled 2,554 storm drains, thereby providing an on-going reminder to not dump anything in storm drains. Check NVSWCD's website to learn more about the Storm Drain Education Program and how civic and community groups can have their local drains marked (<http://www.fairfaxcounty.gov/nvswcd/stormdrained.htm>). (6)

NVSWCD also publishes a quarterly newsletter, Conservation Currents, for Fairfax County residents. Articles are available at the NVSWCD website on hazardous waste reduction, including an article entitled "Healthy Homes, Healthy Communities: Household Hazardous Waste Reduction in Fairfax County." The article includes 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))*

A relatively new group of local governments and utilities called the Northern Virginia Clean Water Partners has launched an effort to educate the public about how to prevent water pollution. The group includes the counties of Fairfax, Arlington, Loudoun, Prince William and Stafford; the cities of

Alexandria, Fairfax and Falls Church; and the towns of Dumfries, Herndon, Leesburg and Vienna. Other members of the partnership are Fairfax Water, Loudoun Water, the Northern Virginia Regional Commission and the Virginia Department of Environmental Quality Coastal Zone Management Program. (2)



*The logo, and theme, for the Northern Virginia Clean Water Partners (2)*

Each spring, NVCWP launches a campaign to remind residents that they can reduce the amount of polluted storm water reaching waterways. The group plans surveys to help quantify the effectiveness of the campaign. It also wants to determine how aware Virginians are of storm water pollution and the behaviors that cause it. Last year’s survey found that after hearing the radio spot, 12 percent of respondents would be more careful with fertilizer, nine percent would pick up after their pet more often and nine percent said they would recycle their motor oil. (2)

As a member of the Clean Water Partners, Fairfax County participates in the annual storm water education campaign. Print, video and Web-based products ([www.onlyrain.org](http://www.onlyrain.org)) have been developed to aid in raising awareness about behaviors leading to non-point source pollution and the actions residents can take to protect local and regional water quality. (6)

To learn more about NVCWP, check its website at: [www.onlyrain.org](http://www.onlyrain.org).

#### **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 website at [www.fairfaxcounty.gov/dpwes/trash/disphhw.htm](http://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/Friday/Saturday:  
 8:00 a.m. – 4:00 p.m.  
 Sunday: 9:00 a.m. – 4:00 p.m.

**I-95 LANDFILL**  
 Thursday/Friday/Saturday:  
 8:00 a.m. – 4:00 p.m.

The I-95 Landfill HHW site is also available on the Sundays when the facility is hosting electronic recycling events.

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 tip fees. In FY 2012, 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. The Solid Waste Management Program has also reinstated three remote HHW events per year. These remote events were suspended when General Fund support was lost and are now funded through solid waste disposal fees.

Monthly events are held for discarding of older model televisions, as well as computer monitors, peripherals and other electronics to help keep lead and other metals from entering the Energy/Resource Recovery Facility. They are conducted at the I-66 Transfer Station complex or the I-95 Landfill complex.

In FY 2012, 26,889 users participated in the HHW program, disposing of 423,275 pounds of HHW. Compared to FY 2011, this represents a 23 percent increase in the number of users and a two percent increase in the weight of HHW disposed. Program details are provided in Table VI-1 below (11).

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

<b>TABLE VI-1 Fairfax County Household Hazardous Waste Program: Record of Fiscal Year Disposal</b>			
<b>Fiscal Year</b>	<b>Participation (# of users)</b>	<b>HHW (pounds)</b>	<b>Cost per household</b>
FY 2012	26,889 households	423,275	\$25.30
FY 2011	21,909 households	416,110	\$25.62
FY 2010	23,110 households	350,815	\$27.11
FY 2009	19,951 households	404,896	\$32.66
FY 2008	22,112 households	452,552	\$30.59
FY 2007	21,958 households	428,064	\$27.77
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 Disposal and Resource Recovery, excludes remote HHW events.

## 5. Commercial Hazardous Wastes

In FY 2012, 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. The Solid Waste Management Program pays the contractor to hold the event and the 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. In FY 2012, 76 companies participated in the three events. Information about the CESQG program and a list of commercial hazardous waste disposal companies are available on the county's website at [www.fairfaxcounty.gov/dpwes/trash/disphazcomm.htm](http://www.fairfaxcounty.gov/dpwes/trash/disphazcomm.htm).

The Solid Waste Management Program also spearheaded development of the Know Toxics program, managed regionally by the Northern Virginia Regional Commission staff and Waste Management Board, [www.KnowToxics.com](http://www.KnowToxics.com) (11).

## 6. Rechargeable Battery Recycling

In addition to the Solid Waste Management Program's battery collection activities described in the Solid Waste chapter of this report, the program collects mercury and lithium batteries for recycling at its household hazardous waste facilities. Non-rechargeable household batteries are not accepted by the program and can be safely thrown away. Nickel-Cadmium and other rechargeable batteries (commonly found in cordless tools and appliances, computers, camcorders, cameras and toys) are also accepted by the household hazardous waste program. The program has put rechargeable battery containers at the Fairfax County Government Center and each of the Board of Supervisors' offices, and program staff collects these batteries on a routine basis. A complete listing of collection locations is on the county website at: <http://www.fairfaxcounty.gov/dpwes/recycling/mat-bat.htm>.

As described in the Solid Waste section of this report, the Solid Waste Management Program 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 household hazardous waste facilities, and as described in the Solid Waste chapter of this report, the Solid Waste

Management Program has continued the remote HHW program in FY2012, with three events per year scheduled, and paid for by the Solid Waste Management Program, even though funding for such events had been in jeopardy due to budgetary constraints over the past few years. Similarly, three hazardous waste collection events targeted for businesses were also conducted. EQAC commends the county for finding the resources to continue these events and urges the county to continue to schedule and publicize at least three to five of these events per year in the future.

In FY 2012, the eleven Electric Sundays held monthly (except December) collected over one million pounds of electronics for recycling. To better serve residents throughout the county, three events are now held at the I-95 Landfill complex, with the remaining eight held at the I-66 Transfer Station complex. (16)

## **8. Fluorescent Lights**

Americans bought 290 million compact fluorescent light bulbs in 2007--this information comes from the Association of Electrical and Medical Imaging Equipment Manufacturers' website, and the same statistics are still there. That's 20 percent of all light bulbs sold in the United States and almost double the sales from a year earlier. (13) Compact fluorescent light bulbs have become popular for residential use due their energy savings potential. The incandescent light bulbs are being phased out and will no longer be sold in 2012. (10) However, the compact fluorescent light bulbs contain minute quantities of mercury which classify them as household hazardous wastes when they are disposed. These types of lights are accepted from residents for proper disposal at both of the county's HHW facilities. Fluorescent lights are also collected during Electric Sunday events.

Small businesses that generate less than the regulated quantity of fluorescent lights may bring them to the business hazardous waste collection events. Other larger businesses that generate regulated quantities of these materials must comply with federal and state regulations regarding their proper disposal or recycling of the lights (11).

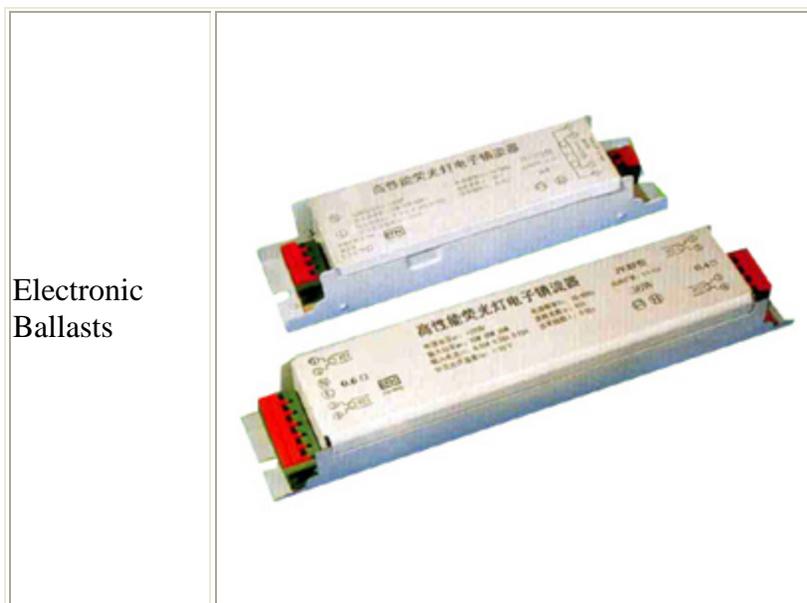
The following Fluorescent Bulb Reference Guide has been taken from a website from the Northern Virginia Regional Commission's and Northern Virginia Waste Management Board's "KnowToxics" campaign. (15)

### Fluorescent Bulb Reference Guide

- Any bulb with the  symbol **cannot** be disposed of in the trash
- These bulbs contain mercury and must be reclaimed or recycled through an appropriate facility
- The following table shows a sample of typical fluorescent and High Intensity Discharge bulbs that contain mercury and the names often used for them:

Type of Bulb	What it might look like...
Fluorescent tubes: This includes 4-footers, 8-footers, T-12s, and T-8s	
Low mercury "green tips"	
High intensity discharge (HID)	
Compact fluorescents	
Neon	

U-tubes	
Circulars	
Mercury vapor	
High pressure sodium	
Low pressure sodium	
Ultraviolet	



A brochure about the value of using fluorescent lights and how to recycle them is available on Fairfax County’s website. The brochure’s instructions on how to handle a broken compact fluorescent light bulb are consistent with the guidelines given by the Environmental Protection Agency including sealing the broken material in two plastic bags and placing outside with the regular trash collection. However, Maine’s Department of Environmental Protection did a study in 2008 comparing clean-up methods and warned that the Environmental Protection Agency’s recommendation of plastic bags was the worst choice, as vapors well above safe levels continued to leach from the bags. Maine’s Department of Environmental Protection now recommends a sealed glass jar as the best repository for a broken bulb. Whether disposing in plastic bags or glass jars, if vapors above safe limits are still present when disposed of with regular trash, can this lead to potential problems in the future? Disposing of these light bulbs is also being looked at by other areas of the country, including crushing the light bulbs in a machine that uses negative pressure ventilation and a mercury-absorbing filter, and in the northwest part of the United States households have the option of disposing these light bulbs in the same way they dispose of other solid waste. (14)

## 9. Pre-Disaster Recovery Plan

Much of the following discussion has been taken from a county website addressing the development of a Fairfax County Pre-Disaster Recovery Plan (<http://www.fairfaxcounty.gov/oem/pdrp/>).

Fairfax County is susceptible to a variety of natural hazards, including floods, hurricanes and tornadoes, as well as man-made hazards such as terrorist acts and accidental releases of hazardous materials. Some of these events have the capacity for catastrophic local and regional impacts. Following a major disaster, complex issues with impacts far beyond county government will arise. The local economy may falter due to supply-chain disruptions, infrastructure failures, business closures and/or inaccessible work-places. There will likely be population displacement, housing shortages and rebuilding issues and potential social and psychological impacts. While the effects of disasters are wide ranging and cannot be predicted, pre-event planning can position Fairfax County to recover from a major incident. Methodical, thoughtful pre-event planning can establish priorities, decision-making structures and procedures and recovery goals. These can focus and accelerate the recovery process during the stressful and often fraught post-disaster period.

A Pre-Disaster Recovery Plan will provide Fairfax County with a single reference for guiding policy and action during recovery from a significant natural or human-caused disaster. The plan will allow the government to support the private and nonprofit sectors as the community works together to restore the economic base, neighborhoods, social fabric and other elements over the long-term.

A draft Fairfax County Pre-Disaster Recovery Plan was released for public review and comment in November 2011. Included in the plan was an organizational structure and identification of roles and processes for a recovery agency. Several Recovery Support Function branches were identified within this structure, including a Natural and Cultural Resources RSF Branch. The PDRP outlines the structure of this branch as well as anticipated pre-disaster planning activities.

In January 2012, the Board of Supervisors endorsed a final Pre-Disaster Recovery Plan, and the plan was tested through a table-top exercise in February 2012. Approximately 85 people participated in this exercise; participants included representatives of county agencies, local nonprofit organizations and the Virginia Department of Emergency Management. An After-Action Report/Improvement Plan is available for review at <http://www.fairfaxcounty.gov/oem/pdrp/ffx-pdrp-ttx-feb10-2012.pdf>.

## **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. In past years, this chapter presented a list of contact information relating to environmental crimes. This list has been removed from this chapter and is now presented in the introductory section of this report, after the presentation of the “Scorecard.”

## **D. LEGISLATIVE UPDATE**

On December 19, 2007, the Energy Independence and Security Act of 2007 was signed. Among other things, this will begin the phase out of the incandescent light bulb from the U.S. market in 2012. Although this is not new legislation, its impact is beginning to result in an increase of household hazardous waste and will increase significantly in the next few years. (10)

## **E. STEWARDSHIP**

What is considered hazardous materials has changed in recent decades. It used to be primarily industrial releases or transportation of chemicals used with industrial work. Hazardous material then came to include terrorist attacks, some household chemicals used for cleaning and chemicals used for yard work. Now hazardous material includes items that individuals use in everyday life such as rechargeable batteries for cell phones and power tools as well as the compact fluorescent light bulb. Proper management of discarded electronics has become an area of increasing concern. In response to this concern, the county implemented the Electric Sunday program and has diverted significant quantities of electronics from disposal to recycling. Stewardship for the storage, use of, and disposal of hazardous materials is no longer solely an industry issue; it now belongs to individuals and with more than a million individuals in Fairfax County, household hazardous waste will continue to increase.

## **F. COMMENT**

1. FY 2010 budget reductions eliminated the Environmental Hazards Investigation Section of the Fairfax County Department of Health, which has provided valuable services by responding to complaints about mold, radon, asbestos and indoor air quality and in assisting the Fire and Rescue Department with responses to hazardous materials incidents. EQAC feels that, in the future, when budgetary

conditions allow, these functions should be restored. Until these functions are restored, these services will need to be provided by private contractors.

## G. RECOMMENDATION

None

## REFERENCES

1. Fairfax County's Fire & Hazmat Investigative Services Section, W. Trice Burgess Jr – Assistant Fire Marshal, June 3 and June 6, 2011 e-mails
2. *Washington Post Newspaper*, "Fairfax Section", 1 May 2008, p 1 & 36; and Northern Virginia Clean Water Partners website: [www.onlyrain.org](http://www.onlyrain.org).
3. "Waste shipping debate examines Baltimore tunnel fire", *Review Journal*, 9 May 2003, [http://www.reviewjournal.com/lvrj\\_home/2003/May-09-Fri-2003/news/21286018.html](http://www.reviewjournal.com/lvrj_home/2003/May-09-Fri-2003/news/21286018.html) , and discussion thread at [http://health.phys.iit.edu/extended\\_archive/0305/msg00178.html](http://health.phys.iit.edu/extended_archive/0305/msg00178.html).
4. American Petroleum Institute, *Used Motor Oil Collecting and Recycling*, [www.recycleoil.org](http://www.recycleoil.org) , viewed 26 August, 2008
5. U.S. Environmental Protection Agency, Wastes-Used Oil Management Program, <http://www.epa.gov/epawaste/consERVE/materials/usedoil/ydiydi.htm> is the site for the "You Dump It, You Drink It" campaign. The Spanish version of this site is at <http://www.epa.gov/epawaste/consERVE/materials/usedoil/sp-index.htm#ydiydi>.
6. Northern Virginia Soil & Water Conservation District, July 2008 email with updated information and website, <http://www.fairfaxcounty.gov/nvswcd/stormdrained.htm>
7. Fairfax Joint Local Emergency Planning Committee, [www.lepcfairfax.org](http://www.lepcfairfax.org)
8. An example of Video on Demand from Fairfax County is the link to "Fairfax Joint Local Emergency Planning Committee Produces Shelter in Place Video" at <http://166.94.9.135/news/2005/05167.htm>
9. CSX, [www.csx.com](http://www.csx.com) , viewed 24 August 2009
10. "Compact Fluorescent Lamp", viewed 23 April 2008, [http://en.wikipedia.org/wiki/Compact\\_fluorescent\\_lamp](http://en.wikipedia.org/wiki/Compact_fluorescent_lamp)

11. Doughty, Joyce, Fairfax County Department of Public Works and Environmental Services, August 3 2011 email; and Division of Solid Waste Disposal & Resource Recovery and Division of Solid Waste Collection and Recycling FY 2008 and FY 2009 Reports
12. Landstreet, Michael Lieutenant; Fairfax County Fire Marshall's Office; August 24, 2009 email
13. Woodrum, Pamela; Fire Prevention Division; July 31, 2009 memo to EQAC
14. "Compact Fluorescent Lamp", viewed 31 August 2009, [http://en.wikipedia.org/wiki/Compact\\_fluorescent\\_lamp](http://en.wikipedia.org/wiki/Compact_fluorescent_lamp)
15. "KnowToxics: Fluorescent Light Bulbs" viewed 19 October 2009, <http://www.novaregion.org/index.aspx?nid=793>
16. Doughty, Joyce, Fairfax County Department of Public Works and Environmental Services, August 3 2011 email