

INNOVATIVE DIRECT OUTREACH PROGRAM TO UNIVERSAL WASTE CESQGS

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ABSTRACT

This paper describes an innovative outreach and education campaign in Northern Virginia to ensure the proper disposal of commonly used hazardous wastes such as fluorescent bulbs, rechargeable batteries, and used electronics. Small quantity and conditionally exempt small quantity generators of universal waste (SQG and CESQG) represent a challenge for local waste authorities who wish to divert universal wastes and used electronics from improper disposal at local MSW facilities. The campaign consists of three major components: direct business outreach and training, a comprehensive website, and performance measures on the effectiveness of the outreach program.

Solid Waste Managers from all Northern Virginia jurisdictions worked with the regional planning district, the Northern Virginia Regional Commission (NVRC), and a consultant to develop a specialized train-the-trainer program for local waste managers, direct outreach to local businesses, and hands-on workshops to educate property managers, business owners, facility and janitorial staff on proper universal waste management.

This paper summarizes key components of the program, how the NVRC and Northern Virginia localities chose the approach of direct training, performance measures, and continued project work. Regional waste managers funded the development of the regional training materials and held train-the-trainer workshops to ensure a consistent message. Following their initial training, local staff included universal waste management as a part of their commercial MSW and recycling outreach. The project includes a regional workshop, to be sponsored by local waste managers, disposal firms, and universal waste vendors. NVRC and local jurisdictions intend for the workshops to remain sustainable elements in an expanded waste education and outreach program for the region.

BACKGROUND

Northern Virginia waste management authorities have focused on outreach to educate property managers and businesses on the importance of properly recycling used electronics and commonly generated universal wastes such as fluorescent and other mercury lights, ballasts, and rechargeable batteries. Recently, the region has found renewed success in an initiative to provide direct training and technical assistance to the local business community.

Located across the Potomac River from the Nation's Capital, Northern Virginia has a population in 2010 of approximately 2.23 million residents¹. The region has experienced robust growth since the postwar era, adding approximately 415,000 new residents in the past ten years, 2.5 times the national average.² To accommodate this growth, the inner core has concentrated its density with greater commercial and multifamily development.

Northern Virginia represents 13 jurisdictions (and 13 separate solid waste management planning units) that managed 2.56 million tons of waste in 2011, with a recycling rate of 43 percent.³ The Northern Virginia Waste Management Board (NVWMB), comprised of local waste managers and public works directors and staffed by NVRC, addresses regional waste and recycling priorities.

As a result of increasing density in the inner jurisdictions, commercial waste generation is now greater than residential tonnage by 2:1 in both Arlington and the city of Alexandria.⁴ To maintain diversion rates, localities have implemented code changes to ensure recycling in the commercial and multifamily sectors.

Office and light industry make up the bulk of the commercial sector in Northern Virginia. This is reflected in the lack of permitted facilities and generators in the region. According to the Virginia Department of Environmental Quality (DEQ), the

¹ 2010 U.S. Census

² *Ibid.*

³ Spiliotopoulos, 2012

⁴ *Ibid.*

region has 3 permitted facilities and 25 large quantity generators. DEQ reports 3,000 CESQGs and SQGs registered with the agency. CESQGs are not required to register with DEQ. According to the U.S. Small Business Administration, as of 2009, there were 46,000 small-medium business establishments in Northern Virginia, employing approximately 477,000 people.⁵ It is likely that many of these companies generate >220 lbs/month of rechargeable batteries, or fluorescent lamps defined by the Resource Conservation and Recovery Act (RCRA).⁶ Disposal of universal waste is banned in all state facilities,⁷ and there are no permitted hazardous waste disposal facilities in the state. All universal and hazardous waste in Virginia must be properly stored, managed, and transported out of state to a permitted disposal, treatment, or storage facility.⁸

Proper management at the numerous CESQGs is a priority for DEQ, however education and enforcement is limited by staffing constraints to approximately 20-35 inspections annually. The northern office of DEQ has partnered with the NVWMB's outreach efforts on universal waste and used electronics recycling, providing essential technical support.

Municipal and commercial sanitary waste in the region is locally managed in two Waste-to-Energy (WTE) plants and two public landfills.⁹ Local waste managers have been concerned about contamination of the waste stream with hazardous materials, particularly commonly used materials such as improperly managed light bulbs, rechargeable batteries and used electronics. Loudoun and Fairfax Counties offer CESQG collection events, where companies can properly dispose of materials for a reasonable fee.

This concern led the NVWMB to develop Know Toxics, a targeted business education and outreach campaign in 2006, initiated with a brochure¹⁰ and www.knowtoxics.com website. The Know Toxics logo and link are used on local government websites. NVRC and localities created other materials such as bill inserts and business cards. Staff engaged local businesses through chambers of commerce and at household hazardous waste (HHW), CESQG, and other public events. Figure 1 shows the logo and website heading.



1: KNOW TOXICS LOGO AND WEBSITE HEADING

The website provides links to laws, benefits of “doing the right thing,” materials management, transportation and disposal options, a calendar of CESQG events, and a list of private vendors. The private vendor list provides transportation and recycling services, as well as information on due diligence and third party certifications in vendor selection.

Though the website is useful and comprehensive, NVRC tracks website usage to ~150-200 new visitors monthly, and ~600 page views per month since its launch. The vendor list remains one of the most popular pages provided.

As localities have enacted updates and changes to commercial waste and recycling codes, they identified a need for direct education and outreach on used electronics and universal waste. Regional electronics collection tonnage continues to grow at a rate of ~30 percent per year. With fewer resources available for commercial facilities, the NVWMB determined that the Know Toxics' message needed a push, and recommended directed training and outreach to businesses as a part of existing commercial outreach programs.

METHODOLGY AND RESULTS

The NVWMB recommended a training element to the Know Toxics campaign to strengthen understanding and compliance with RCRA and proper health and safety for these materials. Outreach and inspection programs associated with commercial code changes have offered localities better information on their commercial sectors.

Before training others, local waste staff needed training themselves. Businesses that would derive the greatest benefit from the program could also become allies in training others, particularly janitorial services, property managers, and electrical/HVAC contractors. NVWMB identified three audiences for the training:

1. Waste program staff,
2. Other government staff responsible for managing facilities that generate universal waste or electronics, and

⁵ Businesses with less than 500 as identified by U.S. SBA.

⁶ 40 CFR 261.5

⁷ 9 VAC 20-80-250.C.1

⁸ T. Gumbita, 2011

⁹ Arlington/Alexandria Covanta Plant, and Fairfax County I-95 Covanta Plant, Loudoun County Landfill, Prince William County Landfill

¹⁰ Based on the Vermont Department of Environmental Conservation lamp recycling brochure

3. Company staff and local building service companies that maintain, manage, generate, or purchase materials.

NVRC contracted with a training consultant used by one of the localities for HHW recertification, Loureiro Engineering Associates. The consultant developed an interactive training that used Know Toxics Information, RCRA, Occupational Safety and Health Administration, DEQ, and Department of Transportation requirements for the train-the-trainer program, training guide, and slide presentation. The consultant provided the training. Northern District DEQ staff played a critical role by reviewing the training material, working directly with the consultant, and attending both training sessions on the training day to provide guidance and clarification. The training covered:¹¹

1. Universal waste management background and purpose;
2. Categories of universal waste;
3. Universal waste handler requirements for small and large handlers;
4. Generation to disposal;
5. Transporter requirements, overlap with DOT requirements;
6. Vendor selection: learning about due diligence and contract components;
7. Used electronics from generation-to-disposal and transportation elements; and
8. Other opportunities and best management practices.

Though training is often offered by many of the disposal vendors listed on the website, NVRC and NVWMB needed to ensure that information presented was impartial. To fund training materials and potentially two training sessions for a minimum number of staff from all jurisdictions, NVRC collected a fee for training that would cover consulting costs. NVRC and NVWMB determined that the first training would “field test” course content and materials on local staff before including the commercial community. NVRC applied for and received SWANA CEU’s for the training, which encouraged attendance. In addition, the consultant provided a certification of training on RCRA generator requirements. The training fee of \$350 per person represented the onetime cost of training and material development that has covered project expenses thus far.

NVRC also developed evaluation criteria to measure effectiveness and receive feedback on improvements to the program. The consultant provided a number of low cost, engaging activities to reinforce concepts

covered in the four-hour training session. The first training, held April 2012, was attended by 45 local staff in two separate sessions. Participants included staff from waste programs, park and wastewater authorities, warehouse managers, school, facilities, and fire departments. Figures 2 and 3 show exercises during training.



2 CONTAMINATION EXERCISE FROM TRAINING SESSION



3 EXPANSION EXERCISE FROM TRAINING SESSION

All participants planned to train others. NVRC is following up with surveys and outreach on materials management changes that resulted from training, and what outreach and training have achieved thus far. Most participants indicated confidence in course materials but some hesitance in training others. Most agreed that practicing on coworkers was necessary before moving forward with outreach to the commercial community.

NVRC developed performance measures as the group developed the training component of Know

¹¹ The training guide is available online at www.Knowtoxics.com

Toxics. Measures include training, follow up, and business outreach surveys. NVRC is measuring the following:

1. Website activity;
2. Vendor surveys on new local/county business;
3. Insight from landfills and WTE plants and MRFs on any qualitative changes to received materials, and waste characteristics;
4. Conditionally exempt business outreach: awareness of issues related to universal waste and self reported changes in behavior.

NVRC surveyed participants after the workshop, and will follow up with a survey in mid July. In addition, NVRC is creating a network of vendors, participants, and business and trade association contacts to offer training and technical assistance on proper universal waste management.

CONTINUED WORK

Local staffs are contacting businesses, partnering with industry groups to offer training, and evaluating products and business needs. The next training session, planned for November 2012, will include local businesses and have an exhibition component for vendors. NVRC is contacting vendors and waste disposal companies in the region that share an interest in removing these materials from MSW or who could provide services related to universal and electronic waste diversion.

REFERENCES

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U.S. Small Business Administration, 2012. "Number of Firms, Number of Establishments, Employment, and Annual Payroll by enterprise Employment Size for Counties, Totals: 2009," <http://www.census.gov/econ/sub/>.

Virginia Administrative Code, 9 VAC 20-80-250.C.1.

NVRC is creating additional products to address participant recommendations, including a new brochure/guidance document that outlines benefits and resources for proper management, and perhaps videos for refreshing local staff on specific training elements. NVRC is also strengthening battery safety and management components in the Know Toxics website and course materials as requested by training participants.

NVRC and localities are contacting local trade groups, such as the regional Building Owners and Managers Association and electrical contractor's certification programs, to offer training and to award CEU's for members. DEQ has provided a listing of businesses registered with the Commonwealth to support local outreach efforts.

As of this publication, NVRC has identified companies able to support and exhibit at the next training. The goal is to develop a self sustaining public/private partnership that continues to educate a growing sector of the commercial community. With certified vendors as partners in the campaign the Know Toxics program will provide the technical assistance needed to increase diversion of universal waste.